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BEFORE THE ENERGY FACILITY SITING COUNCIL
OF THE
STATE OF OREGON

IN THE MATTER OF THE APPLICATION)
FOR A SITE CERTIFICATE FOR THE) DRAFT PROPOSED ORDER
TURNER ENERGY CENTER)

Issued by
Oregon Department of Energy
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March 2, 2005

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TABLE OF ACRONYMS AND ABBREVIATIONS

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3	Applicant	Turner Energy Center, LLC
4	ASC	Application for Site Certificate
5	Btu	British thermal units
6	Btu/kWh	British thermal units per kilowatt hour
7	cfs	cubic feet per second
8	Council	Oregon Energy Facility Siting Council
9	CTG	combustion turbine generator
10	Department	Oregon Department of Energy
11	DEQ	Oregon Department of Environmental Quality
12	DOGAMI	Oregon Department of Geology and Mineral Industries
13	DSL	Oregon Department of State Lands
14	EFSC	Oregon Energy Facility Siting Council
15	EPC	Engineering, Procurement and Construction
16	gpd	gallons per day
17	gpm	gallons per minute
18	HHV	higher heating value
19	HRSG	heat recovery steam generator
20	KW	kilowatt
21	kwh	kilowatt hour
22	kV	kilovolt
23	LCDC	Land Conservation and Development Commission
24	MW	megawatt
25	NOAA	NOAA Fisheries
26	NOI	Notice of Intent
27	NPDES	National Pollutant Discharge Elimination System
28	OAR	Oregon Administrative Rules
29	ODA	Oregon Department of Agriculture
30	ODFW	Oregon Department of Fish and Wildlife
31	ODOE	Oregon Department of Energy
32	ORS	Oregon Revised Statutes
33	PUC	Oregon Public Utility Commission
34	RAI	Request for Additional Information
35	SHPO	State Historic Preservation Officer
36	STG	steam turbine generator
37	SWCD	Santiam Water Control District
38	TEC	Turner Energy Center
39	TEC LLC	Turner Energy Center, LLC
40	USDOT	U. S. Department of Transportation
41	USFWS	U. S. Fish and Wildlife Service
42	USFS	U. S. Forest Service
43	WPCF	Water Pollution Control Facilities
44	WRD	Water Resources Department of Oregon
45		

1 **DRAFT PROPOSED ORDER**

2
3 **TURNER ENERGY CENTER**

4
5 **A. INTRODUCTION**

6 The Oregon Department of Energy (the "Department") issues this Draft Proposed Order
7 ("Order") pursuant to Oregon Revised Statutes ("ORS") 469.370. This Order addresses the
8 Application for a Site Certificate ("ASC" or the "application") for the construction and operation
9 of a proposed combined-cycle generating facility. The net electric power output of the energy
10 facility would be about 565 megawatts ("MW") at average annual conditions. It would use
11 power augmentation, *i.e.*, duct burning, which would allow it to achieve a net electric power
12 output of about 650 MW for a limited number of hours annually at average conditions. Most of
13 the facility would be located in the City of Turner, Marion County, Oregon. Some of the
14 facility's related or supporting facilities would be located outside of Turner's city limits within
15 Marion County. The proposed facility would be known as the Turner Energy Center ("TEC" or
16 the "Project").

17
18 The ASC was submitted by Turner Energy Center, LLC ("TEC LLC" or the "Applicant"), a
19 wholly-owned subsidiary of Calpine Corporation ("Calpine").

20
21 The Department bases this Order on its review of the ASC and the comments and
22 recommendations on the ASC by state agencies, local governments, Indian tribes, and the public.

23
24 With certain exceptions, no fossil fuel-fired energy facility with an electric generating capacity
25 of 25 MW or more may be constructed or operated in Oregon without first obtaining a site
26 certificate from the Oregon Energy Facility Siting Council ("EFSC" or the "Council"). ORS
27 469.300(9)(a) and 469.320.

28
29 It is the public policy of the State of Oregon that "the siting, construction and operation of energy
30 facilities shall be accomplished in a manner consistent with protection of the public health and
31 safety and in compliance with the energy policy and air, water, solid waste, land use and other
32 environmental protection policies of this state." ORS 469.310.

33
34 The Council must ensure that the site certificate contains "conditions for the protection of the
35 public health and safety, for the time for completion of construction, and to ensure compliance
36 with the standards, statutes and rules described in ORS 469.501 and ORS 469.503." ORS
37 469.401(2).

38
39 A site certificate issued by the Council binds the state and all counties, cities, and political
40 subdivisions of Oregon. Once the Council issues the site certificate, the responsible state agency
41 or local government must issue any necessary permits that are addressed in the site certificate
42 without further proceedings upon payment of appropriate fees by the certificate holder. ORS
43 469.401(3).

1 The Department reviewed the application and the comments of reviewing agencies and affected
2 local governments and tribes identified in accordance with Oregon Administrative Rules
3 ("OAR") 345-021-0050. It also reviewed public comments. Based upon the discussion and
4 conclusions contained in this Order, the Department recommends that the Council grant the site
5 certificate for the TEC, subject to the conditions stated in this Order.
6

7 The definitions in ORS 469.300 and OAR 345-001-0010 apply to terms used in this Order. The
8 following terms, paraphrased from the rule, are used frequently throughout this Order:
9

- 10 • "Energy facility" means the proposed electric power generating plant. The term
11 "energy facility" does not include any related or supporting facility. If a reference
12 is intended to apply to both the energy facility and its related or supporting
13 facilities, the term "facility" is used.
14
- 15 • "Energy facility site" means all land upon which an energy facility is located or
16 proposed to be located.
17
- 18 • "Facility" means an energy facility, together with any related or supporting
19 facilities.
20
- 21 • "Related or supporting facility" means any structure proposed to be built in
22 connection with the energy facility, including but not limited to pipeline valves,
23 regulators, compressors, vaults, enclosures, switching stations, substations,
24 associated equipment, associated transmission lines, reservoirs, intake structures,
25 road and rail access, pipelines, barge basins, office or public buildings,
26 construction laydown, staging and parking areas, and commercial and industrial
27 structures or other structures proposed by the applicant to be constructed or
28 substantially modified in connection with the construction or operation of the
29 energy facility. "Related or supporting facility" does not include any structure
30 existing prior to construction of the energy facility, unless such structure must be
31 significantly modified solely to serve the energy facility.
32
- 33 • "Related or supporting facilities site" means all land upon which related or
34 supporting facilities for an energy facility are located or proposed to be located,
35 including any linear rights-of-way.
36
- 37 • "Site" means all land upon which a facility is located or proposed to be located.
38

39 **B. PROCEDURAL HISTORY**

40
41 On July 19, 2001, TEC LLC submitted a request for expedited review of its forthcoming
42 application for a site certificate for its proposed facility. TEC LLC requested expedited review
43 pursuant to House Bill 3788, 2001 Oregon Laws Chapter 683 §15 (HB 3788), which amended
44 ORS 469.300 – ORS 469.563 to provide for expedited review of site certificate applications for

1 energy facilities that meet specified requirements. On July 27, 2001, the Department of Energy
2 granted expedited review for the TEC LLC application.
3

4 Under the expedited review process, an applicant is not required to submit a Notice of Intent.
5 TEC LLC submitted its ASC on December 20, 2001. On December 20, 2001, in accordance with
6 instructions from the Department, TEC LLC distributed the application to state agencies, local
7 governments, tribes and other interested reviewers for review and comment.
8

9 The Department subsequently sent TEC LLC requests for additional information (“RAI”) for
10 inclusion in the site certificate application on January 11, 2002 (RAI #1) and February 7, 2002
11 (RAI #2). TEC LLC requested more time in which to respond to those requests, and the
12 Department extended the deadline from March 8, 2001, to May 1, 2002. The Department then
13 issued additional RAI’s on June 21, 2002 (RAI #3) and June 25, 2002 (RAI #4). On July 29,
14 2002, TEC LLC requested a second extension to provide RAI responses by November 30, 2002.
15 TEC LLC based its extension request on the turmoil within the energy sector and the need to
16 complete application information in-house rather than hire expensive outside resources. After
17 consultation with the Council, the Department granted a second extension until November 30,
18 2002.
19

20 On November 21, 2002, TEC LLC requested a third extension to January 31, 2003, for providing
21 additional information required to allow the Department to find the TEC LLC application
22 complete. In its letter, TEC LLC noted that it planned to provide a revised application at that date
23 that responded to previous information requests and resolved outstanding issues.
24

25 The Department replied on November 21, 2002, with a letter that granted the extension to
26 January 31, 2003. The Department noted in its letter that TEC LLC had been discussing with the
27 Department the possibility of switching its cooling plans for the facility from an air-cooled
28 system to a water-cooled system. Such a switch, the Department noted, would substantially
29 change the TEC LLC application and would cause some of the Department’s previous
30 information requests to be outdated. In granting the extension, the Department told TEC LLC
31 that it expected “that, within the two-month extension, Calpine will finalize its cooling
32 technology plans and create a revised application that both incorporates our previous requests for
33 information and resolves any outstanding issues.”
34

35 On January 30, 2003, the Department received a revised application from TEC LLC that
36 incorporated the change to a water-cooled facility as well as responses to previous information
37 requests as appropriate. On January 31, 2003, in accordance with instructions from the
38 Department, TEC LLC distributed the application to state agencies, local governments, tribes
39 and other interested reviewers for review and comment. The Department subsequently requested
40 additional information on April 28, 2003 (RAI #5) and June 23, 2003 (RAI #6). TEC LLC
41 provided responses on July 29, 2003.
42

43 On April 28, 2003, the Department issued the Project Order.
44

1 On August 26, 2003, TEC LLC submitted an amendment to the application in the form of a
2 “City Water and Sewer Amendment.” The amendment requested that the Council approve a
3 second option of allowing TEC LLC to use City of Turner municipal water for service and
4 potable water and the city’s sewer system for discharge of sanitary and process wastewater. The
5 request was in addition to TEC LLC’s application request for on-site creation of potable water
6 and disposal of sewage/process wastewater.
7

8 The Department declared the TEC LLC application complete on August 27, 2003. On September
9 4, 2003, the Department issued a public notice of completeness that included a public
10 information meeting date of September 22, 2003. On September 5, 2003, the Department sent a
11 notice to state agencies, local governments and tribes to request their comments on the
12 application. On September 5, 2003, the Department received a supplement to the TEC LLC site
13 certificate application that consolidated previous responses to information requests on the revised
14 application and the “City Water and Sewer Amendment” submitted earlier.
15

16 Pursuant to ORS 469.373(7), the Department held a public information meeting about the
17 application on September 22, 2003, in Turner. At that meeting, the Department noted the
18 likelihood that TEC LLC would soon ask the Department to evaluate its application under the
19 Council’s standard process rather than under the expedited review process. As a result, the
20 Department at that time discussed the Council’s standard process, including opportunities for
21 public comment.
22

23 On October 3, 2003, TEC LLC made the request for evaluation of its application under the
24 Council’s standard process. Under OAR 345-015-0310 (30), the Department was required to
25 return the application to a “pre-complete” state to determine if it had all the information required
26 under the Council’s standard process. The Department declared the TEC LLC application
27 complete on October 7, 2003, and issued a public notice of completeness on October 17, 2003.
28

29 After the Department declared the application complete, ODFW subsequently determined in
30 October that it no longer viewed TEC LLC’s water mitigation plans as adequate. TEC LLC spent
31 the next few months reworking the plan and submitted “Amendment No. 2” on water mitigation
32 issues to the revised application on January 27, 2003. TEC LLC submitted a supplement to
33 Amendment No. 2 on February 11, 2004, that contained additional water information.
34

35 On June 11, 2004, based on a request from Marion County, TEC LLC submitted by e-mail plans
36 to omit widening Wipper Road and instead replace the Wipper Road Bridge.
37

38 In July 2004, the Department learned that TEC LLC had declined to renew an option on property
39 TEC LLC had relied upon as evidence that the project would meet the Council’s noise standard.
40 The Department requested that TEC LLC provide evidence of its control over the property in
41 question. TEC LLC provided that evidence on October 27, 2004.
42

43 On February 10, 2005, as the Department prepared to release the Draft Proposed Order, TEC
44 LLC requested a two-week delay to allow its parent company the opportunity to evaluate market
45 conditions for the project. On the same day, the Department granted TEC LLC’s request because

1 it judged a two-week delay would allow reviewing agencies and the public to avoid spending
2 resources on a public hearing and comment process that may not be necessary. On February 25,
3 2005, TEC LLC told the Department by telephone that no decision had been made about the
4 project. The Department then decided to release the Draft Proposed Order the following week on
5 March 2, 2005.

6
7 **B.1. COMMENTS ON APPLICATION**

8 During the more than three-year review process for the TEC application, the Department
9 received comments from several members of the public on both the original December 20, 2001,
10 application and on the revised January 30, 2003, application that incorporated a change from air-
11 cooled technology to water-cooled technology. Several of the letters expressed general
12 opposition to the project based on general health, traffic, quality of life, visual and environmental
13 concerns.

14
15 A few members of the public questioned the application’s original status as an “expedited
16 review” project, but those comments were made moot by TEC’s request in 2003 to remove the
17 application from the expedited review process. The Department received many letters on
18 multiple topics from Mr. Jerry Mumper, a property owner who lives adjacent to the proposed
19 site, and the Department has worked closely with Mr. Mumper to address his concerns.
20 However, Mr. Mumper continues to disagree with the Department about the noise analysis
21 contained in this Order, as does Mr. Art Noxon, an acoustical engineer from Eugene. To the
22 extent that this Order discusses their concerns about noise, that discussion is in Section E.1.a,
23 Noise, of this Order. Mr. Mumper may continue to have concerns about other areas of the
24 proposed project, including wetlands issues, that he might elect to bring forward during the
25 public hearing on this Order.

26
27 The City of Turner, and the city’s mayor writing as a private citizen, repeatedly raised questions
28 about TEC’s compliance with several sections of its city codes, particularly in terms of the
29 project’s compliance with zoning, height restrictions, noise restrictions, and water use. To the
30 extent that this Order discusses those questions, the discussion can be found in Attachment B,
31 “Land Use Standard Analysis.” The City of Turner also has expressed for the record its objection
32 to the length of time the TEC application review has taken.

33
34 **B.2. PUBLIC HEARING ON DRAFT PROPOSED ORDER**

35 [Placeholder for public hearing]
36

37 **C. GENERAL FINDINGS**

38 **C.1. DESCRIPTION OF THE PROPOSED FACILITY**

39 **C.1.a. The Energy Facility**

40 **Major Structures and Equipment.** The proposed energy facility would be a 650-megawatt
41 combined-cycle generation facility consisting of two natural gas-fired combustion turbine
42 generators (“CTG”) and one condensing steam turbine generator (“STG”). Each CTG would be
43 equipped with a fogging system for cooling inlet air and a heat recovery steam generator
44 (“HRSG”) with supplemental duct firing. Steam produced in the HRSGs would be fed into the
45 steam turbine.

1
2 In each combustion turbine generator, combustion air would flow through the inlet air filter,
3 fogging section and associated ductwork, be compressed in the compressor section, and continue
4 to the combustor. In the combustor, natural gas would be injected into the compressed air and
5 ignited. The resulting hot combustion gases would expand through the power turbine section
6 causing the turbine blades to rotate a shaft driving both the inlet air compressor and the electric
7 generator.

8
9 The HRSGs would provide for the transfer of heat from the combustion turbine exhaust gases to
10 the boiler feedwater. In the HRSGs, boiler feedwater would be converted to superheated steam
11 and delivered to the steam turbine at three pressures, high pressure (“HP”), intermediate pressure
12 (“IP”), and low pressure (“LP”), thereby increasing cycle efficiency and operating flexibility.
13 Duct burners would be installed in the HRSGs. These burners would provide the capacity to
14 increase steam generation, as well as improved temperature control and greater operating
15 flexibility. The duct burners would burn natural gas.

16
17 The steam turbine generator system would consist of a condensing steam turbine with reheat,
18 gland steam system, lubricating oil system, hydraulic control system, and steam admission and
19 induction valving. Steam from the HRSG HP, IP and LP superheaters would enter the steam
20 turbine through the respective inlet steam systems. The steam would expand through the multiple
21 stages of the turbine, driving the electric generator.

22
23 Cooling systems would include a steam surface condenser, a mechanical draft cooling tower, a
24 circulating water system, and a closed loop auxiliary cooling system. The steam surface
25 condenser would receive exhaust steam from the low-pressure steam turbine and condense it to
26 water for reuse. The water would circulate through a counter-flow mechanical-draft cooling
27 tower that uses electric motor-driven fans to move the air in a direction opposite the flow of
28 water. Heat removed in the condenser would be discharged to the atmosphere by heating the air
29 and through evaporation. The cooling water would be recycled several times to minimize water
30 use. Water would continually be added to the cooling system to compensate for evaporative
31 losses and blowdown, *i.e.*, the water bled from the cooling system to limit the buildup of salts.
32 The closed loop auxiliary cooling system would provide for cooling plant equipment other than
33 the steam condenser, including the CTG and STG lube oil coolers, STG generator cooler, STG
34 hydraulic control system cooler, boiler feed pump lube oil and seal water coolers, air
35 compressor, vacuum pump seal coolers, and sample coolers. Auxiliary cooling water pumps
36 would pump circulating water from the cooling tower basin through heat exchangers to remove
37 heat from the closed loop system.

38
39 The steam turbine generator and two combustion turbine generators would generate electricity at
40 18 kilovolts (“kV”). Each generator would have a dedicated transformer to step up the voltage to
41 230 kV. The 230-kV side of each transformer would be connected to the energy facility’s
42 substation.

43
44 Other major components of the energy facility would include: substation, electric transmission
45 line interconnections, natural gas pipeline, process water pipeline, rail spur, condenser,

1 mechanical-draft cooling tower, natural gas compressors, diesel-fired fire pump, diesel-fired
2 standby generator, natural gas-fired auxiliary boiler, water storage tanks, water treatment
3 facilities, and wastewater treatment facilities.

4
5 **Output.** The energy facility would have a net electric power output of about 565 MW at the
6 average annual site condition, i.e., temperature of 50 degrees Fahrenheit (°F), barometric
7 pressure of 14.55 psi (or 492.72 millibars), and relative humidity of 81 percent. The new and
8 clean heat rate would be about 6,606 British thermal units per kilowatt-hour (“Btu/kWh”), higher
9 heating value (“HHV”). With power augmentation technologies, *i.e.*, duct burning, the energy
10 facility would have a net electric power output of about 650 KW and a new and clean heat rate of
11 about 6,854 Btu/kWh, HHV.

12
13 **Fuel Use.** The energy facility would be fueled solely with pipeline-quality natural gas from the
14 existing Northwest Pipeline Grants Pass Pipeline.

15
16 **Water Use.**

17 **Process Water Use.** Process water would be supplied to the energy facility by means of a 30-
18 inch-diameter (or smaller), one-mile-long pipeline connecting to a diversion structure on the
19 Perrin Lateral, an agricultural ditch owned by the Santiam Water Control District (“SWCD”).
20 The pipeline would be built and owned by TEC LLC, and the diversion structure would be built
21 and owned by SWCD.

22
23 During operations, process water would be recycled and reused. A clay-lined water storage pond
24 would hold up to 5 million gallons of treated, clarified water to supply makeup water to the
25 cooling tower system, service water system and demineralized water system. A 500,000-gallon
26 storage tank would hold demineralized water for process needs. A separate water tank capable of
27 holding about 500,000 gallons would be dedicated to storing water for fire protection, service
28 water needs and potable water needs.

29
30 With both combustion turbines and duct firing in operation, the energy facility would use process
31 water at the rate of about 3,411 gpm or 7.6 cubic feet per second (cfs). During non-peak periods,
32 the energy facility would use process water at the rate of about 1,684 gpm or 2.75 cfs. On an
33 average annual basis, TEC LLC estimates the energy facility would use water at the rate of about
34 2,284 gpm or 5.1 cfs.

35
36 For its primary source of process water, TEC LLC has negotiated with Norpac, a vegetable
37 freezing and canning facility located in Stayton, Oregon, east of the energy facility site. Norpac
38 would transfer to TEC LLC 7.6 cfs of its existing right (Certificate 66271) to withdraw up to 20
39 cfs from the North Santiam River for cannery (industrial) uses. TEC LLC has applied for a water
40 right transfer. In addition, TEC LLC has negotiated with Norpac to use 7.6 cfs of the vegetable
41 processing plant’s spent, non-contact cooling water as a supplemental source of process water for
42 TEC. TEC LLC has applied for a new water right to make use of the water. The primary or
43 supplemental sources of water would be delivered to TEC by means of a series of laterals and
44 ditches operated and maintained by SWCD.

1 **Potable, Service and Fire Protection Water Use.** TEC LLC has proposed two alternatives for
2 obtaining its service, fire protection and potable water. Under the first alternative, TEC LLC
3 would treat raw water from its proposed water rights in an on-site water treatment building. TEC
4 LLC's second and preferred alternative would be to use City of Turner municipal water for
5 service, fire protection and potable water needs. TEC would need an average (and peak) of 1.26
6 gallons of water per minute. A new 8-inch water pipeline would connect TEC to Turner's
7 existing water system at the intersection of 5th Street and Elgin Street, a distance of about 700
8 feet from the TEC fence line. A 500,000-gallon tank would store water for fire protection and
9 other service water needs.

10
11 However, as of the release of the Draft Proposed Order, the City of Turner and TEC LLC had not
12 come to an agreement that would allow TEC to use City of Turner water.

13
14 **Wastewater. Sanitary Wastewater.** TEC LLC has proposed two alternatives for discharging its
15 wastewater. Under the first alternative, TEC would discharge sanitary wastewater from restroom
16 and shower facilities to an on-site septic system. Under the second and preferred alternative,
17 TEC would discharge sanitary wastewater from restroom and shower facilities – along with
18 process wastewater – to the City of Turner sewer system.

19
20 **Process Wastewater.** TEC LLC has proposed two alternatives for handling its process
21 wastewater. Under the first alternative, TEC would be designed for no discharge of process
22 wastewater. Wastewater would be separated by reverse osmosis and crystallizer systems into
23 water and sludge. The water would be reused. The solid sludge, composed mostly of minerals
24 and salts concentrated out of the raw water supply, would be transported to the Coffin Butte
25 Landfill at the rate of about 874 cubic yards per year. By letter dated July 18, 2003, Coffin Butte
26 Landfill indicated it has the capacity to accept the sludge.

27
28 Under the second alternative, TEC would discharge process wastewater – along with sanitary
29 wastewater – to the City of Turner sewer system.

30 31 **Sewer Connection**

32 TEC would require a wastewater pump station on-site and a 4-inch force main to connect to
33 Turner's sewer system at the intersection of 5th Street and Elgin Street. Any discharge from TEC
34 to the City of Turner's sewer system would ultimately be treated at the City of Salem's Willow
35 Lake Wastewater Plant. However, as of the release of the Draft Proposed Order, the City of
36 Turner and TEC LLC had not come to an agreement that would allow TEC to use the City of
37 Turner's sewage system.

38 39 **C.1.b. Related or Supporting Facilities**

40 The facility would include the following related or supporting facilities:

41
42 **Natural Gas Pipeline.** The energy facility would be designed to operate solely on pipeline-
43 quality natural gas. The natural gas would be delivered by means of a related or supporting 2.3-
44 mile, 16-inch natural gas pipeline interconnecting with the existing Northwest Pipeline Grants
45 Pass Pipeline at a point about 1.5 miles southeast of the energy facility site. The proposed

1 pipeline corridor was routed to avoid protected plant and animal species and wetlands and to
2 parallel existing public right-of-way, where feasible. The pipeline construction corridor would
3 range between 75 and 100 feet in width, and the final operation and maintenance corridor would
4 be 20 feet wide. A metering station would be located at the point of interconnection with the
5 Grants Pass Pipeline, and a second metering station and equipment for natural gas conditioning
6 and pressure regulation would be located at the energy facility site.

7
8 **Electric Transmission Lines.** The energy facility would be interconnected to the regional grid
9 by means of interconnections with PacifiCorp's 230-kV Bethel-Fry electric transmission line
10 west of the energy facility site and Portland General Electric's 115-kV Turner Substation north
11 of the energy facility site.

12
13 The Bethel-Fry electric transmission line would be looped into the energy facility site on single
14 steel pole towers about 80-90 feet tall and spaced about 75 feet apart. The towers would be
15 placed in a 175-foot easement about 1,500 feet long. PacifiCorp would build and own the
16 transmission line.

17
18 The interconnection with PGE's Turner substation would be by means of an electric transmission
19 line interconnection to be built and owned by PGE. The 115-kV electric transmission line would
20 be installed on single wood or steel pole towers about 60 feet tall. The transmission line would
21 occupy both public and private easements 60 to 70 feet in width and about 3,000 feet long. PGE
22 would build and own the transmission line.

23
24 **Process Water Supply Pipeline.** Raw process water would be delivered to the energy facility by
25 means of a one-mile-long, 30-inch (or smaller) water pipeline to be connected to a diversion
26 structure on the Perrin Lateral. The pipeline would be built and owned by TEC LLC, and the
27 diversion structure would be built and owned by the SWCD. A metering station would be located
28 at the point of interconnection with the diversion structure. The pipeline would be routed in the
29 easement to be occupied by the natural gas pipeline. The pipeline would discharge water at the
30 energy facility site into an intake structure to allow for pooling and pumping the raw water to the
31 energy facility's water treatment system.

32
33 **Municipal Water Supply Pipeline.** As an alternative to treating raw water from its proposed
34 water rights in an on-site water treatment building to produce potable water, TEC LLC would
35 obtain potable water from the City of Turner. Potable water would be supplied to the proposed
36 facility by means of a new 8-inch water pipeline connecting to the City's water supply system at
37 the intersection of 5th Street and Elgin Street, a distance of about 700 feet from the fence line of
38 the proposed facility.

39
40 **Municipal Wastewater Pipeline and Pump.** As an alternative to designing the facility for no
41 discharge of process wastewater and for on-site disposal of sanitary wastewater by means of a
42 septic system, TEC LLC would discharge its process and sanitary wastewater to the City of
43 Turner's sewer system. A wastewater pump station would be installed at the proposed facility site
44 and would be used to pump the process and sanitary wastewater through a 4-inch force main

1 connecting to the City’s sewer system at the intersection of 5th Street and Elgin Street, a distance
2 of about 700 feet from the fence line of the proposed facility.
3

4 **Construction Laydown and Parking Area.** The temporary construction laydown and parking
5 area would be located on a parcel measuring about 28 acres and located just south of the energy
6 facility site. Access to the temporary laydown and parking area would be by means of an access
7 road connecting with Wipper Road and located on the energy facility site.
8

9 **C.2. LOCATION OF THE PROPOSED FACILITY**

10 **C.2.a. The Energy Facility Site**

11 The energy facility would be located on a 41-acre parcel of land located on the southern edge of
12 Turner, Oregon, in Sections 29 and 32, Township 8 South, Range 2 West, Marion County,
13 Oregon.
14

15 **C.2.b. Related or Supporting Facility Sites**

16 **Natural Gas Pipeline Corridor.** The 16-inch natural gas pipeline would interconnect with the
17 existing Northwest Pipeline Grants Pass Pipeline about 1.5 miles southeast of the energy facility
18 site. The operation and maintenance easement would be about 20 feet wide and 11,000 feet long.
19 The easement would encompass about 5 acres in Sections 32, 33 and 34, Township 8 South,
20 Range 2 West, Marion County, Oregon.
21

22 **Electric Transmission Line Corridors.** The electric transmission line interconnecting the
23 proposed facility with PacificCorp’s Bethel-Fry 230-kV electric transmission line west of the
24 energy facility site would occupy an easement about 175 feet wide and 1,500 feet long. The
25 easement would encompass about 6 acres in Section 32, Township 8 South, Range 2 West,
26 Marion County, Oregon.
27

28 The electric transmission line interconnecting the proposed facility with PGE’s 115-kV Turner
29 Substation north of the energy facility site would occupy an easement 60 to 70 feet wide and
30 about 3,000 feet long. The easement would encompass about 4.5 acres in Section 29, Township 8
31 South, Range 2 West, Marion County, Oregon.
32

33 **Water Supply Pipeline Corridor.** The water supply pipeline interconnecting the proposed
34 facility with the Perrin Lateral would occupy a portion of the easement serving the natural gas
35 easement and would be located in Sections 32 and 33, Township 8 South, Range 2 West, Marion
36 County, Oregon.
37

38 **Municipal Water Supply Pipeline.** The municipal water supply pipeline interconnecting the
39 proposed facility with the City of Turner water supply system would occupy an easement 60 feet
40 wide and about 700 feet long. The easement would encompass about one acre and would be
41 located in Sections 29 and 30, Township 8 South, Range 2 West, Marion County, Oregon.
42

43 **Municipal Wastewater Pipeline and Pump.** The municipal wastewater pipeline, in connecting
44 the proposed facility with the City of Turner sewer system, would occupy the same easement as
45 the municipal water supply pipeline with a horizontal separation of at least 10 feet.

1
2 **Construction Laydown and Parking Area.** The temporary construction laydown and parking
3 area would occupy an area of about 28 acres in Section 32, Township 8 South, Range 2 West,
4 Marion County, Oregon.
5

6 **D. COUNCIL FACILITY SITING STANDARDS: DISCUSSION & CONCLUSIONS**

7 **D.1. INTRODUCTION: GENERAL STANDARD OF REVIEW, OAR 345-022-0000**

8 “(1) To issue a site certificate for a proposed facility or to amend a site
9 certificate, the Council shall determine that the preponderance of evidence
10 on the record supports the following conclusions:

11 “(a) The facility complies with the requirements of the Oregon Energy
12 Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590
13 to 469.619, and the standards adopted by the Council pursuant to
14 ORS 469.501 or the overall public benefits of the facility outweigh
15 the damage to the resources protected by the standards the facility
16 does not meet as described in section (2);

17 “(b) Except as provided in OAR 345-022-0030 for land use compliance
18 and except for those statutes and rules for which the decision on
19 compliance has been delegated by the federal government to a state
20 agency other than the Council, the facility complies with all other
21 Oregon statutes and administrative rules identified in the project
22 order, as amended, as applicable to the issuance of a site certificate
23 for the proposed facility. If the Council finds that applicable
24 Oregon statutes and rules, other than those involving federally
25 delegated programs, would impose conflicting requirements, the
26 Council shall resolve the conflict consistent with the public
27 interest. In resolving the conflict, the council cannot waive any
28 applicable state statute.

29 “(2) The Council may issue or amend a site certificate for a facility that does
30 not meet the standards adopted under ORS 469.501 if the Council
31 determines that the overall public benefits of the facility at the proposed
32 site outweigh the damage to the resource that is protected by the standard
33 the facility does not meet. The Council shall make this balancing
34 determination only when the applicant has shown that the proposed
35 facility cannot meet Council standards or has shown, to the satisfaction of
36 the Council, that there is no reasonable way to meet the Council standards
37 through mitigation or avoidance of the damage to the protected resources.
38 The applicant has the burden to show that the overall public benefits
39 outweigh the damage to the resources, and the burden increases
40 proportionately with the degree of damage to the resources. The Council
41 shall weigh overall public benefits and damage to the resources as follows:

42 “(a) The Council shall evaluate the damage to the resources by
43 considering factors including, but not limited to, the following:

44 “(A) The uniqueness and significance of the resource that would
45 be affected;

- 1 “(B) The degree to which current or future development may
2 damage the resource, if the proposed facility is not built;
3 “(C) Proposed measures to reduce the damage by avoidance of
4 impacts;
5 “(D) The magnitude of the anticipated damage to the resource,
6 taking into account any proposed mitigation.
7 “(b) The Council shall evaluate overall public benefits by considering
8 factors including, but not limited to, the following:
9 “(A) The overall environmental effects of the facility,
10 considering both beneficial and adverse environmental
11 effects;
12 “(B) The degree to which the proposed facility promotes Oregon
13 energy policy as described in ORS 469.010 by
14 demonstrating or advancing new efficiency or renewable
15 technology or by expanding electric generating capacity
16 from renewable energy sources;
17 “(C) Recommendations from any special advisory group
18 designated by the Council under ORS 469.480;
19 “(D) Evidence that the benefits are likely to occur only if the
20 proposed facility is built;
21 “(E) For facilities that are subject to a need standard, evidence
22 underlying the Council’s decision on compliance with the
23 rules in OAR 345, Division 23, except that the Council
24 shall not find that need for a facility is sufficient, by itself,
25 to outweigh damage to resources affected by the proposed
26 facility.
27 “(3) Notwithstanding section (2) of this rule, the Council shall not apply the
28 balancing determination to the following standards:
29 “(a) The organizational expertise standard described in OAR 345-022-
30 0010;
31 “(b) The land use standard described in OAR 345-022-0030;
32 “(c) The retirement and financial assurance standard described in OAR
33 345-022-0050;
34 “(d) The need standards described in OAR 345-023-0005;
35 “(e) The standards for energy facilities that emit carbon dioxide
36 described in OAR 345-024-0500 through 345-024-0720; or
37 “(f) The protected areas standard described in OAR 345-022-0040, if
38 the statutes or administrative rules governing the management of
39 the protected area prohibit location of the proposed facility in that
40 area.
41 “(4) In making determinations regarding compliance with statutes, rules and
42 ordinances normally administered by other agencies or compliance with
43 requirements of the Council statutes if other agencies have special
44 expertise, the [Department] of Energy shall consult with such other
45 agencies during the notice of intent, site certificate application and site

1 certificate amendment processes. Nothing in these rules is intended to
2 interfere with the state's implementation of programs delegated to it by the
3 federal government.”
4

5 **D.2. ORGANIZATIONAL EXPERTISE, OAR 345-022-0010**

6 This standard has four paragraphs. Two paragraphs, OAR 345-022-0010(1) and OAR 345-022-
7 0010(2), relate to the applicant's qualification and capability. The other two paragraphs, OAR
8 345-22-0010(3) and OAR 345-022-0010(4), relate to third party permits.
9

10 **D.2.a. Applicant Qualification and Capability, OAR 345-022-0010(1)**

11 “To issue a site certificate, the Council must find that the applicant has the
12 organizational expertise to construct, operate and retire the proposed facility in
13 compliance with Council standards and conditions of the site certificate. To
14 conclude that the applicant has this expertise, the Council must find that the
15 applicant has demonstrated the ability to design, construct and operate the
16 proposed facility in compliance with site certificate conditions and in a manner
17 that protects public health and safety and has demonstrated the ability to restore
18 the site to a useful, non-hazardous condition. The Council may consider the
19 applicant's experience, the applicant's access to technical expertise and the
20 applicant's past performance in constructing, operating and retiring other
21 facilities, including, but not limited to, the number and severity of regulatory
22 citations issued to the applicant.”
23

24 **Discussion**

25 Turner Energy Center, LLC, is a subsidiary of Calpine Corporation (“Calpine”). Calpine has an
26 ownership interest in 75 natural gas and geothermal electric generation facilities in operation
27 throughout the world and producing about 17,000 MW of base load capacity. Calpine operates
28 71 of these facilities, including the Hermiston Power Project, a natural gas-fired energy facility
29 situated in Hermiston, Oregon.
30

31 Calpine's construction management department, located in Folsom, California, is currently
32 managing construction of 23 facilities under construction in 11 states and one Canadian
33 province, representing about 8,000 MW of base load capacity. Calpine manages the construction
34 process from conceptual design through start-up and commissioning of each energy facility.
35

36 Customarily, at the time Calpine begins construction of an energy facility, it hires the facility
37 operations manager. The operations manager monitors construction progress and participates
38 actively in the construction management decisions. Before operations begin, the operations
39 manager hires the plant operations staff, and that staff becomes an integral part of the start-up
40 phase. A dedicated start-up team manages the start-up activities and trains the operations staff.
41 Training on plant specific equipment and operations procedures is completed prior to start-up.
42 Maintenance methodologies are employed, including predictive, preventative, condition-based,
43 and corrective maintenance. Calpine customarily develops a site-specific Computerized
44 Maintenance Management System (“CMMS”) for each of its plants. In addition to regulating

1 routine maintenance activities, the CMMS is used to track and document regulatory compliance
2 activities.

3
4 Each of Calpine’s energy facilities has access to support from Calpine’s Turbine Maintenance
5 Group, an expanding group of engineers specializing in the high technology parts of the gas
6 turbine. These engineers interact with and provide support to the energy facilities, the operations
7 and maintenance groups, the repair shops, the blade coating vendors, and the analytical and
8 metallurgy labs. The Turbine Maintenance Group is focused on gas turbine hot parts reliability
9 and life extension.

10
11 Power Systems Manufacturing (“PSM”), a Calpine subsidiary, is engaged in combustion turbine
12 component engineering design and production. PSM manufactures new vanes, blades,
13 combustors, and other replacement parts for Calpine’s fleet of existing combustion turbines and
14 steam turbines.

15
16 Calpine currently operates four energy facilities using zero liquid discharge technology, the
17 wastewater disposal method proposed for the TEC. In addition, Calpine expects to operate three
18 energy facilities currently under construction that would make use of zero liquid discharge
19 technology.

20
21 As of December 31, 2002, Calpine had 17 operating natural gas-fired facilities under its
22 management or ownership in eleven western states and one Canadian province. As of that date,
23 Calpine had received a total of 14 regulatory citations at five of these 17 facilities, all in the State
24 of California and most related to exceeding air quality limits. Fines associated with these
25 regulatory citations totaled \$124,944.16.

26
27 TEC LLC has not yet selected major contractors and vendors for the TEC. When it has made
28 those selections, TEC LLC says it would enter into engineering, procurement and construction
29 contracts with qualified and credit-worthy contractors.

30
31 To find that TEC LLC meets the requirements of OAR 345-022-0010(1), the Department
32 recommends that the Council adopt the following conditions in the site certificate:

- 33
34 **(1) Before beginning construction of the facility, the certificate holder shall**
35 **identify to the Energy Facility Siting Council (“Council”) whom it has chosen**
36 **to act in the role of engineering, procurement and construction (“EPC”)**
37 **contractor.**
38
39 **(2) The certificate holder shall report promptly to the Department any change in**
40 **its corporate relationship with Calpine Corporation. The certificate holder**
41 **shall report promptly to the Department any change in its access to the**
42 **resources, expertise and personnel of Calpine Corporation.**
43
44 **(3) If the certificate holder chooses a third-party contractor to operate the**
45 **facility, the certificate holder shall submit to the Council the identity of the**

1 contractor so the Council may review the qualifications and capability of the
2 contractor to meet the standards of OAR 345-0022-0010. If the Council finds
3 that a new contractor meets these standards, the Council shall not require an
4 amendment to the site certificate for the certificate holder to hire the
5 contractor.
6

7 (4) Any matter of non-compliance under the site certificate shall be the
8 responsibility of the certificate holder. Any notice of violation issued under
9 the site certificate shall be issued to the certificate holder. Any civil penalties
10 assessed under the site certificate shall be levied on the certificate holder.
11

12 (5) The certificate holder shall contractually require the EPC contractor and all
13 independent contractors and subcontractors involved in the construction and
14 operation of the facility to comply with all applicable laws and regulations
15 and with the terms and conditions of the site certificate. Such contractual
16 provision shall not operate to relieve the certificate holder of responsibility
17 under the site certificate.
18

19 (6) The certificate holder shall obtain, or shall ensure that its contractors obtain,
20 necessary state and local permits or approvals required for the construction,
21 operation and retirement of the facility.
22

23 **Summary**

24 Based on the foregoing discussion and subject to the proposed conditions, the Department
25 recommends that the Council find that the applicant has demonstrated the ability to design,
26 construct and operate the proposed facility in compliance with site certificate conditions and in a
27 manner that protects public health and safety. The Department recommends that the Council find
28 that TEC LLC has demonstrated the ability to restore the site to a useful non-hazardous
29 condition.
30

31 **Conclusion**

32 The Department recommends that the Council find that TEC LLC meets the requirements of
33 OAR 345-022-0010(1).
34

35 **D.2.b. Applicant Qualification and Capability: ISO Programs, OAR 345-022-0010(2)**

36 “The Council may base its findings under section (1) on a rebuttable presumption
37 that an applicant has organizational, managerial and technical expertise, if the
38 applicant has an ISO 9000 or ISO 14000 certified program and proposes to
39 design, construct and operate the facility according to that program.”
40

41 **Discussion**

42 TEC LLC does not have an ISO 9000 or ISO 14000 certification and has not requested a
43 rebuttable presumption of expertise pursuant to OAR 345-022-0010(2).
44

1 **Conclusion**

2 The Department recommends that the Council find that TEC LLC has not requested a rebuttable
3 presumption of expertise pursuant to OAR 345-022-0010(2).
4

5 **D.2.c. Third-Party Services and Permits: Contracts, OAR 345-022-0010(3)**

6 “If the applicant does not itself obtain a state or local government permit or
7 approval for which the Council would ordinarily determine compliance but
8 instead relies on a permit or approval issued to a third party, the Council, to issue
9 a site certificate, must find that the third party has, or has a reasonable likelihood
10 of obtaining, the necessary permit or approval, and that the applicant has, or has a
11 reasonable likelihood of entering into, a contractual or other arrangement with the
12 third party for access to the resource or service secured by that permit or
13 approval.”
14

15 **Discussion**

16 As an alternative to producing potable and fire flow water by treating process water in a potable
17 water generation system to be installed on the facility site, TEC LLC might elect to obtain its
18 potable water and fire flow water from the City of Turner’s water supply system. The City of
19 Salem water system supplies water to the City of Turner. The primary source of water for the
20 City of Salem water system is the Geren Island Treatment Facility, with a capacity of about 66
21 million gallons per day. The Geren Island Treatment Facility draws its water supply from the
22 North Santiam River under a water right, with a priority date of 1856, for up to 38.78 million
23 gallons per day. With respect to the provision of potable and fire flow water, by letter dated
24 August 26, 2003, the City of Salem has stated, “it is the City of Salem’s intention to allow
25 connections and service to this facility when requested to do so by the City of Turner.”
26

27 As an alternative to treating sanitary wastewater in an onsite septic system and treating process
28 wastewater in a zero-liquid-discharge system, TEC LLC might elect to discharge both
29 wastewater streams to the City of Turner sanitary sewer system. The City of Turner’s sanitary
30 sewer system interconnects with the City of Salem’s Willow Lake Wastewater Treatment Plant.
31 After treatment, the Willow Lake Wastewater Treatment Plant discharges its output to the
32 Willamette River. With respect to taking delivery of sanitary wastes, boiler blowdown, cooling
33 tower blowdown, wash water, and equipment drain water, by letter dated August 26, 2003, the
34 City of Salem has stated, “your low flow in comparison with Salem’s total system flows should
35 not pose a problem for our Willow Lake Treatment Plant.” That low flow is predicated on TEC
36 LLC’s use of a reverse osmosis system to concentrate the cooling tower blowdown wastewater
37 stream, allowing for additional wastewater recycling within the energy facility and resulting in a
38 lower but more concentrated flow being discharged to the sanitary sewer system. The water
39 quality data provided by TEC LLC to the City of Salem shows that, with the exception of pH
40 limits, the proposed discharge should be in compliance with local pretreatment requirements and
41 the Categorical Pretreatment Standards established by the U. S. Environmental Protection
42 Agency. The City of Salem notes that TEC LLC may be required to implement pH controls to
43 meet pretreatment limits. Ultimately, the City of Salem states, “it is the City of Salem’s intention
44 to allow connections and service to this facility when requested to do so by the City of Turner.”
45

1 **Summary**

2 Based on the foregoing discussion, the Department recommends that the Council find that the
3 City of Salem has obtained a water right with sufficient capacity to serve the facility. The
4 Department further recommends that the Council find that the City of Salem’s sewer system has
5 sufficient capacity to accommodate the wastewater flow from the facility. The Department
6 recommends that the Council find that TEC LLC has a reasonable likelihood of entering into
7 contracts for access to water from the City of Turner and sewer service from the City of Salem.
8

9 **Conclusion**

10 The Department recommends that the Council find that TEC LLC meets the requirements of
11 OAR 345-022-0010(3).
12

13 **D.2.d. Third-Party Services and Permits: Conditions, OAR 345-022-0010(4)**

14 “If the applicant relies on a permit or approval issued to a third party and the third
15 party does not have the necessary permit or approval at the time the Council
16 issues the site certificate, the Council may issue the site certificate subject to the
17 condition that the certificate holder shall not commence construction or operation
18 as appropriate until the third party has obtained the necessary permit or approval
19 and the applicant has a contract or other arrangement for access to the resource or
20 service secured by that permit or approval.”
21

22 **Discussion**

23 In the event TEC LLC proposes to obtain potable water and fire flow water by means of the City
24 of Turner water system, it must first enter into a contract with the City of Turner providing for
25 such services. And, in the event TEC LLC proposes to dispose of sanitary and process
26 wastewater by means of the City of Turner sanitary sewer system, it must first enter into a
27 contract with the City of Turner providing for such services. Despite the fact that the City of
28 Salem has stated it has the capacity to satisfy TEC LLC’s potable water, fire flow water, and
29 wastewater disposal requirements, TEC LLC has not entered into a contractual agreement with
30 the City of Turner for the provision of such services.
31

32 To find that TEC LLC meets the requirements of OAR 345-022-0010(4), the Department
33 recommends that the Council adopt the following conditions in the site certificate:
34

- 35 (7) **Before beginning construction of the facility, the certificate holder shall**
36 **notify the Department of its election to dispose of sanitary wastewater by**
37 **means of an onsite septic system and process wastewater by means of a zero-**
38 **liquid-discharge system or to dispose of both sanitary wastewater and**
39 **process wastewater by means of interconnecting with the City of Turner**
40 **sanitary sewer system. If the certificate holder elects to dispose of sanitary**
41 **wastewater and process wastewater by interconnecting with the City of**
42 **Turner sanitary sewer system, before beginning construction of the facility,**
43 **the certificate holder shall deliver to the Department a copy of the agreement**
44 **with the City of Turner covering the provision of such services.**
45

- 1 **(8) Before beginning construction of the facility, the certificate holder shall**
2 **notify the Department of its election to obtain potable water and fire flow**
3 **water by treating process water in a potable water generation system to be**
4 **installed on the facility site or to obtain potable water and fire flow water**
5 **from the City of Turner water supply system. If the certificate holder elects**
6 **to obtain potable water and fire flow water by interconnecting with the City**
7 **of Turner water supply system, before beginning construction of the facility,**
8 **the certificate holder shall deliver to the Department a copy of the agreement**
9 **with the City of Turner covering the provision of such services.**

10
11 **Conclusion**

12 The Department recommends that the Council find that, subject to the conditions stated in this
13 Order, TEC LLC meets the requirements of OAR 345-022-0010(4).

14
15 **D.3. RETIREMENT AND FINANCIAL ASSURANCE, OAR 345-022-0050**

16 To issue a site certificate, the Council must find that:

- 17 (1) The site, taking into account mitigation, can be restored adequately to a useful,
18 non-hazardous condition following permanent cessation of construction or
19 operation of the facility.
20 (2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit
21 in a form and amount satisfactory to the Council to restore the site to a useful,
22 non-hazardous condition.

23
24 **Discussion**

25 This section addresses the requirement for restoration of the site to a useful, non-hazardous
26 condition following permanent cessation of construction or operation of the facility, the amount
27 of financial assurance the Council should require, and TEC LLC's ability to offer such financial
28 assurance.

29
30 **Retirement.** For the purposes of the retirement and financial assurance standard, a "useful,
31 non-hazardous condition" is a condition consistent with the applicable local comprehensive land
32 use plan and land use regulations. The energy facility site is currently zoned for General
33 Industrial uses. The electric transmission line used to connect to the existing PacifiCorp Bethel-
34 Fry transmission line would be on land zoned for Exclusive Farm Use. The electric transmission
35 line used to connect to PGE's Turner Substation would be on land zoned for General Industrial
36 use, although the right-of-way would be both on land zoned for industrial use and on land zoned
37 for residential use. The natural gas pipeline and the raw water pipeline would be on land zoned
38 for Exclusive Farm Use and on land that is in an Urban Growth Notification Area. The municipal
39 water service and sewer pipelines would be on land zoned for industrial use and land zoned for
40 residential use.

41
42 The estimated useful life of the energy facility is 30 years. However, TEC LLC proposes to
43 operate the energy facility longer if the operation of the facility continues to be economically
44 viable. Related or supporting facilities might remain in use after retirement of the energy facility.
45 At the end of their useful lives and with the exception discussed in the following paragraph, TEC

1 LLC would retire the energy facility and related or supporting facilities in accordance with an
2 approved retirement plan and in compliance with all laws and regulations in effect at the time of
3 retirement.

4
5 According to TEC LLC, the electric transmission lines serving the proposed facility would be
6 installed and owned by PacificCorp and PGE. Because the electric transmission lines are related
7 or supporting facilities, TEC LLC must retain responsibility for retirement of the lines following
8 cessation of construction or operation of the facility.

9
10 Based on discussions with PGE, TEC LLC expects that upon retirement of the proposed facility
11 PGE would not maintain the 115-kV transmission connecting the proposed facility to the Turner
12 Substation. PGE would remove the 115-kV disconnect switch located at the facility substation
13 and place it in storage for later reuse.

14
15 Based on discussions with PacifiCorp, TEC LLC expects that upon retirement of the proposed
16 facility PacifiCorp would maintain the 230-kV electric transmission lines to and from the
17 proposed facility. PacifiCorp would remove the associated breakers and disconnect switches
18 located at the facility substation and place them in storage for later reuse.

19
20 Retirement and site restoration would consist primarily of the dismantling and the removal of
21 unneeded equipment and structures. Electric, gas and water transmission lines and other related
22 or supporting facilities would be retained, if appropriate and as approved by the Council at the
23 time of retirement, to serve any new uses at the site. Two years before the date on which TEC
24 LLC expects to permanently shut down the proposed energy facility it would develop and submit
25 a site restoration plan to the Council for its approval.

26
27 The Department recommends that the Council adopt the following conditions in the site
28 certificate:

- 29
30 **(1) The certificate holder shall retire the facility if the certificate holder**
31 **permanently ceases construction or operation of the facility. The certificate**
32 **holder shall retire the facility according to a final retirement plan approved**
33 **by the Council, as described in OAR 345-027-0110, and prepared pursuant to**
34 **Condition D.3(2).**
35
36 **(2) Two years before closure of the energy facility, the certificate holder shall**
37 **submit to the Department a proposed final retirement plan for the facility**
38 **and site, pursuant to OAR 345-027-0110, including:**
39
40 **(a) A plan for retirement that provides for completion of retirement**
41 **within two years after permanent cessation of operation of the energy**
42 **facility and that protects the public health and safety and the**
43 **environment;**
44

- (b) A description of actions the certificate holder proposes to take to restore the site to a useful, non-hazardous condition; and,
 - (c) A detailed cost estimate, a comparison of that estimate with the dollar amount secured by a bond or letter of credit and any amount contained in a retirement fund, and a plan for assuring the availability of adequate funds for completion of retirement.
- (3) The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder.
- (4) Conditions D.3(1) through D.3(3) shall apply to the certificate holder with respect to the energy facility and all of its related or supporting facilities regardless of whether the certificate holder may own such facilities.

Summary

The Department recommends that the Council find that TEC LLC has demonstrated that the site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.

Financial Assurance. TEC LLC estimated the cost of removal of all equipment and structures from the site would not exceed \$7.20 million (in 2003 dollars). TEC LLC developed the \$7.20 million estimate by noting that, in issuing a site certificate for the Umatilla Generating Project, the Council required financial assurance for site retirement in the amount of \$5.6 million (in 2001 Dollars). TEC LLC accounted for inflation from 2001 to 2003 by adding to its estimate \$280,000 (five percent of \$5.6 million). TEC LLC then accounted for major differences between the Umatilla Generating Project and TEC by adding an additional \$1.32 million to its estimate.

The Department recommends that the Council find that these estimates are within the range of accuracy for estimates of this type. Accordingly, the Department recommends that the Council find that the amount of the retirement fund applicable to the facility is \$7.23 million (in 2003 dollars).

Early in 2004, the Department hired an independent contractor to develop a method and set of assumptions for estimating the cost of demolishing gas-fired combined cycle power plants, wind energy facilities, and certain related or supporting facilities. As of June 2004, the Department was reviewing and modifying the methods and assumptions provided by the contractor. The Department was also considering cost items that were not included in the contractor's methodology, including costs related to clearing a site of hazardous materials, a contingency allotment, and administrative costs the state may face if a certificate holder abandoned a facility without restoring the site. Using these methods and assumptions may yield a significantly lower estimate of retirement costs than is derived when the Umatilla Generating Project is used as the basis for estimating retirement costs.

1
2 TEC LLC stated that it prefers to proceed with permitting using the estimate based on the
3 Council-approved Umatilla Generating Project to avoid delays. TEC LLC stated it might later
4 ask the Council to decrease the amount of its bond or letter of credit through an amendment to its
5 site certificate. The Department believes this is a reasonable approach and that the estimate of
6 \$7.23 million (in 2003 dollars) is conservative.
7

8 If a plant is not well-operated, leaks, spills, and improper handling of materials over a period of
9 several years could contaminate large amounts of soil, particularly if the spills had access to
10 cracks in concrete or asphalt cover or did not occur over an impermeable surface. In the absence
11 of an effective materials management and monitoring plan, careless practices could result in
12 much higher site remediation costs.
13

14 Accordingly, the Department recommends that the Council adopt a condition that requires the
15 certificate holder to prepare and implement a materials management and monitoring plan that
16 addresses the handling of potentially hazardous substances. It also recommends that the Council
17 require the certificate holder to conduct Phase I Environmental Site Assessments, in accordance
18 with an industry-accepted standard, such as ASTM Standard E-1527, *Standard Practice for*
19 *Environmental Site Assessments: Phase I Environmental Site Assessment Process*, each 10 years.
20 If either monitoring pursuant to the plan or the Environmental Site Assessment concludes that
21 there will be higher remediation costs than can be covered by the bond or letter of credit then in
22 place, the Department recommends that the Council require the certificate holder to increase its
23 bond or letter of credit to cover the higher costs.
24

25 TEC LLC provided a letter from Union Bank of California, N.A (“Union Bank”) of which
26 Calpine is a substantial credit client, whereby Union Bank confirmed “its interest in reviewing a
27 request to provide a letter of credit, which would support surety requirements as it relates to
28 development [of TEC] and restoration of the site if required.” Based on market conditions as of
29 September 2, 2003 and on the assumption that the letter of credit would be secured by Calpine’s
30 cash collateral on deposit at Union Bank or by other acceptable security, Union Bank opined that
31 it would be able to issue a letter of credit in the amount of \$7.5 million.
32

33 A bond or letter of credit is financial assurance to the State of Oregon that funds will be available
34 to the State should it have to restore the site because of default by the site certificate holder. It is
35 a last resort; it is not the primary mechanism for restoring the site. It is the responsibility of the
36 site certificate holder to have funds or other financial resources available to it sufficient to restore
37 the site. The Council does not have a standard that specifies that a certificate holder must
38 maintain its own retirement fund, but the existence and adequacy of such a fund is of concern to
39 the Council. The Council assumes that a certificate holder would create some fund or other
40 mechanism. Therefore, the Department recommends that the Council require that the certificate
41 holder report annually on the status of its retirement fund or whatever mechanism it uses to
42 ensure it will have adequate funds for site restoration.
43

44 The Department recommends that the Council adopt the following conditions in the site
45 certificate:

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- (5) Before beginning construction of the energy facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in the amount of \$7,230,000 (in 2003 dollars), employing the Index described in Condition D.3(5)(c), naming the State of Oregon, acting by and through the Council, as beneficiary or payee.

 - (a) The form of the bond or letter of credit and identity of the issuer shall be subject to approval by the Council.
 - (b) The certificate holder shall maintain a bond or letter of credit in effect at all times until the energy facility and its related or supporting facilities have been retired, as appropriate.
 - (c) The calculation of 2003 dollars shall be made using the US Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast," or by any successor agency ("the Index"). The amount of the bond or letter of credit account shall increase annually by the percentage increase in the Index. If, at any time, the Index is no longer published, the Council shall select a comparable calculation of 2003 dollars.
 - (d) The certificate holder shall not revoke or reduce the bond or letter of credit before retirement of the facility without approval by the Council.
 - (6) The certificate holder shall describe in the annual report submitted to the Council, pursuant to OAR 345-026-0080, the status of any retirement fund or other instrument to ensure it has adequate funds to restore the site.
 - (7) Before beginning construction of the energy facility, the certificate holder shall prepare and submit to the Department a materials management and monitoring plan that addresses the handling of hazardous substances, the measures it will implement to prevent site contamination, and how it will document implementation of the plan during construction. The materials management and monitoring plan shall be subject to approval by the Department. For the purpose of this condition and Conditions D.3(7), D.3(9), D.3(10), and D.3(11), the terms "release" and "hazardous substances" shall have the meanings set forth at ORS 465.200.
 - (8) Before beginning operation of the energy facility, the certificate holder shall prepare and submit to the Department a materials management and monitoring plan that addresses the handling of hazardous substances, the measures it will implement to prevent site contamination, and how it will

1 document implementation of the plan during operation. The materials
2 management and monitoring plan shall be subject to approval by the
3 Department.
4

- 5 (9) Not later than 10 years after the date of commercial operation of the energy
6 facility, and each 10 years thereafter during the life of the energy facility, the
7 certificate holder shall complete an independent Phase I Environmental Site
8 Assessment of the energy facility site. Within 30 days after its completion, the
9 certificate holder shall deliver the Phase I Environmental Site Assessment
10 report to the Department.
11
- 12 (10) In the event that any Phase I Environmental Site Assessment identifies
13 improper handling or storage of hazardous substances or improper record
14 keeping procedures, the certificate holder shall correct such deficiencies
15 within six months after completion of the corresponding Phase I
16 Environmental Site Assessment. The certificate holder shall promptly report
17 its corrective actions to the Department. The Council shall determine
18 whether the corrective actions are sufficient.
19
- 20 (11) The certificate holder shall report any release of hazardous substances,
21 pursuant to DEQ regulations, to the Department within one working day
22 after the discovery of such release. This obligation shall be in addition to any
23 other reporting requirements applicable to such a release.
24
- 25 (12) If the certificate holder has not remedied a release consistent with applicable
26 DEQ standards, or if the certificate holder fails to correct deficiencies
27 identified in the course of a Phase I Environmental Site Assessment within
28 six months after the date of the release or the date of completion of the Phase
29 I Environmental Site Assessment, the certificate holder shall submit within
30 such six-month period to the Council for its approval an independently-
31 prepared estimate of the additional cost of remediation or correction.
32
- 33 (a) Upon approval of an estimate by the Council, the certificate holder
34 shall increase the amount of its bond or letter of credit by the amount
35 of the estimate.
36
- 37 (b) In no event, however, shall the certificate holder be relieved of its
38 obligation to exercise all due diligence in remedying a release of
39 hazardous substances or correcting deficiencies identified in the
40 course of a Phase I Environmental Site Assessment.
41
- 42 (13) All funds received by the certificate holder from the salvage of equipment
43 and buildings or from the sale of scrap materials from the facility shall be
44 committed to the restoration of the facility site to the extent necessary to fund
45 the approved site restoration and remediation.

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- (14) The certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous condition at the time of retirement, notwithstanding the Council’s approval in the site certificate of an estimated amount required to restore the site.**
 - (15) If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110 and prepared pursuant to Condition D.3(2), the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Department within a reasonable time not to exceed 90 days.**

 - (a) If the certificate holder does not submit a proposed final retirement plan by the specified date or if the Council rejects the retirement plan that the certificate holder submits, the Council may direct the Department to prepare a proposed final retirement plan for the Council’s approval.**
 - (b) Upon the Council’s approval of the final retirement plan prepared pursuant to Condition D.3(15)(a), the Council may draw on the bond or letter of credit described in Condition D.3(5) and shall use the funds to cause restoration of the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. The Council may draw on the bond or letter of credit to pay for the Department’s costs incurred in preparing the final retirement plan described in Condition D.3(15)(a).**
 - (c) If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition.**
 - (d) After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.**

40 **Summary**

41 The Department recommends that the Council find that TEC LLC has a reasonable likelihood of
42 obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the
43 site to a useful, non-hazardous condition.
44

1 **Conclusion**

2 The Department recommends that the Council find that, subject to the conditions stated in this
3 Order, TEC LLC meets the retirement and financial assurance standard, OAR 345-022-0050.

4
5 **D.4. LAND USE, OAR 345-022-0030**

6 “(1) To issue a site certificate, the Council must find that the proposed facility
7 complies with the statewide planning goals adopted by the Land Conservation and
8 Development Commission.”

9 **Discussion**

10 Pursuant to ORS 469.504(1)(b), TEC LLC elected to ask the Council to determine that the
11 proposed facility complies with OAR 345-0022-0030(1). OAR 345-022-0030(2)(b) *et seq.*
12 provides:

13
14 “(2) The Council shall find that a proposed facility complies with section (1) if:

15 “(a) The applicant elects to obtain local land use approvals under ORS
16 469.504(1)(a) and the Council finds that the facility has received
17 local land use approval under the acknowledged comprehensive
18 plan and land use regulations of the affected local government; or

19 “(b) The applicant elects to obtain a Council determination under ORS
20 469.504(1)(b) and the Council determines that:

21 “(A) The proposed facility complies with applicable substantive
22 criteria as described in section (3) and the facility complies
23 with any Land Conservation and Development Commission
24 administrative rules and goals and any land use statutes
25 directly applicable to the facility under ORS 197.646(3);

26 “(B) For a proposed facility that does not comply with one or
27 more of the applicable substantive criteria as described in
28 section (3), the facility otherwise complies with the
29 statewide planning goals or an exception to any applicable
30 statewide planning goal is justified under section (4); or

31 “(C) For a proposed facility that the Council decides, under
32 sections (3) or (6), to evaluate against the statewide
33 planning goals, the proposed facility complies with the
34 applicable statewide planning goals or that an exception to
35 any applicable statewide planning goal is justified under
36 section (4).

37 “(3) As used in this rule, the ‘applicable substantive criteria’ are criteria from
38 the affected local government's acknowledged comprehensive plan and
39 land use ordinances that are required by the statewide planning goals and
40 that are in effect on the date the applicant submits the application. If the
41 special advisory group recommends applicable substantive criteria, as
42 described under OAR 345-021-0050, the Council shall apply them. If the
43 special advisory group does not recommend applicable substantive
44 criteria, the Council shall decide either to make its own determination of

1 the applicable substantive criteria and apply them or to evaluate the
2 proposed facility against the statewide planning goals.

3 “(4) The Council may find goal compliance for a proposed facility that does
4 not otherwise comply with one or more statewide planning goals by taking
5 an exception to the applicable goal. Notwithstanding the requirements of
6 ORS 197.732, the statewide planning goal pertaining to the exception
7 process or any rules of the Land Conservation and Development
8 Commission pertaining to the exception process, the Council may take an
9 exception to a goal if the Council finds:

10 “(a) The land subject to the exception is physically developed to the
11 extent that the land is no longer available for uses allowed by the
12 applicable goal;

13 “(b) The land subject to the exception is irrevocably committed as
14 described by the rules of the Land Conservation and Development
15 Commission to uses not allowed by the applicable goal because
16 existing adjacent uses and other relevant factors make uses allowed
17 by the applicable goal impracticable; or

18 “(c) The following standards are met:

19 “(A) Reasons justify why the state policy embodied in the
20 applicable goal should not apply;

21 “(B) The significant environmental, economic, social and energy
22 consequences anticipated as a result of the proposed facility
23 have been identified and adverse impacts will be mitigated
24 in accordance with rules of the Council applicable to the
25 siting of the proposed facility; and

26 “(C) The proposed facility is compatible with other adjacent
27 uses or will be made compatible through measures
28 designed to reduce adverse impacts.

29 “(5) If the Council finds that applicable substantive local criteria and applicable
30 statutes and state administrative rules would impose conflicting
31 requirements, the Council shall resolve the conflict consistent with the
32 public interest. In resolving the conflict, the Council cannot waive any
33 applicable state statute.

34 “(6) If the special advisory group recommends applicable substantive criteria
35 for an energy facility described in ORS 469.300(9)(a)(C) to (E) or for a
36 related or supporting facility that does not pass through more than one
37 local government jurisdiction or more than three zones in any one
38 jurisdiction, the Council shall apply the criteria recommended by the
39 special advisory group. If the special advisory group recommends
40 applicable substantive criteria for an energy facility described in ORS
41 469.300(9)(a)(C) to (E) or a related or supporting facility that passes
42 through more than one jurisdiction or more than three zones in any one
43 jurisdiction, the Council shall review the recommended criteria and decide
44 whether to evaluate the proposed facility against the applicable substantive
45 criteria recommended by the special advisory group, against the statewide

1 planning goals or against a combination of the applicable substantive
2 criteria and statewide planning goals. In making the decision, the Council
3 shall consult with the special advisory group, and shall consider:

- 4 “(a) The number of jurisdictions and zones in question;
5 “(b) The degree to which the applicable substantive criteria reflect local
6 government consideration of energy facilities in the planning
7 process; and
8 “(c) The level of consistence of the applicable substantive criteria from
9 the various zones and jurisdictions.”

11 Discussion

12 The analysis area for the land use standard is the area within the site boundary and within one-
13 half mile of the site boundary.

14
15 Attachment B of this Order, Land Use Standard Analysis, provides the findings and conclusions
16 to demonstrate compliance with the land use standard.

18 Summary

19 Based on the analysis in Attachment B and subject to the proposed conditions, the Department
20 recommends that the Council find that TEC LLC has demonstrated compliance with the
21 applicable criteria in the applicable acknowledged comprehensive plans and land use regulations
22 that are required by the statewide planning goals and were in effect on the date TEC LLC
23 submitted the application, as well as the statewide planning goals, LCDC administrative rules
24 and any land use statutes directly applicable to the proposed facilities under ORS 197.646(3).
25

26 Conclusion

27 The Department recommends that the Council find that, subject to the conditions stated in this
28 Order, TEC LLC complies with the land use standard, OAR 345-0022-0030.
29

30 D.5. STRUCTURAL STANDARD, OAR 345-022-0020

31 “(1) Except for facilities described in sections (2) and (3)¹, to issue a site certificate,
32 the Council must find that:

33 “(a) The applicant, through appropriate site-specific study, has adequately
34 characterized the site as to seismic zone and expected ground motion
35 and ground failure, taking into account amplification, during the
36 maximum credible and maximum probable seismic events; and

37 “(b) The applicant can design, engineer, and construct the facility to avoid
38 dangers to human safety presented by seismic hazards affecting the site
39 that are expected to result from all maximum probable seismic events.
40 As used in this rule ‘seismic hazard’ includes ground shaking, landslide,
41 liquefaction, lateral spreading, tsunami inundation, fault displacement,
42 and subsidence;

¹ In this and other conditions that begin with a reference to “sections (2) and (3),” those sections refer to renewable energy facilities and special criteria facilities and do not apply to the TEC.

- 1 “(c) The applicant, through appropriate site-specific study, has adequately
2 characterized the potential geological and soils hazards of the site and its
3 vicinity that could, in the absence of a seismic event, adversely affect, or
4 be aggravated by, the construction and operation of the proposed facility;
5 and
6 “(d) The applicant can design, engineer and construct the facility to avoid
7 dangers to human safety presented by the hazards identified in subsection
8 (c). *** “
9

10 **Discussion**

11 The analysis area for the structural standard is the area within the site boundary.
12

13 **Site Characterization—Seismic Hazards**

14 The energy facility and all related or supporting facilities would be located in Seismic Zone 3 as
15 defined by the 1997 Uniform Building Code (“UBC”).
16

17 Recent studies show that there is some potential for three types of earthquakes in the analysis
18 area: (1) a local crustal earthquake; (2) a deeper intraplate earthquake; and (3) a large subduction
19 earthquake.
20

21 **Local Crustal Earthquake.** A local crustal earthquake, referred to as Event A, could have a
22 magnitude of 6 to 6.5 within 10 kilometers of the proposed facility site. The duration of a local
23 crustal earthquake would probably be less than one minute.
24

25 Some northeast trending fault zones that may be potentially active, with long recurrence
26 intervals, characterize the northern border of the Southern Willamette Valley.
27

28 The Mill Creek Fault Zone, including the Turner Fault, appears to be the fault zone nearest the
29 proposed facility site. Estimated to be about 12 miles long, the Mill Creek Fault Zone lies just
30 north of Turner and south of Franzen Reservoir, and trends easterly in this area. The Columbia
31 River Basalt appears to be displaced by about 330 feet.
32

33 The Waldo Hills Fault Zone is estimated to be about 7 miles long and courses northeasterly
34 about 4 to 4½ miles north of the proposed facility site. The Columbia River Basalt appears to be
35 displaced by about 150 feet.
36

37 The Mt. Angel Fault is estimated to be 15 to 20 miles long and is located about 15 miles
38 northeast of the proposed facility site. It trends northwest and is concealed beneath valley
39 alluvium.
40

41 The Corvallis Fault Zone is estimated to be about 31 miles long and is located about 20 miles
42 southwest of the proposed facility site. It trends northeast and may show a trace, *i.e.*, a possible
43 inferred or buried connection, to the Waldo Hills Fault Zone for a possible combined fault length
44 of about 38 miles.
45

1 Other concealed faults, including the East Albany and Beaver Creek faults, lie within about 20
2 miles of the proposed facility site but are not considered active.

3
4 TEC LLC's geotechnical consultants assigned a low probability of 0.3 to local earthquakes in the
5 area of the proposed facility. In assessing the maximum probable earthquake at the proposed
6 facility site, the geotechnical consultants estimated that the Waldo Hills Fault could undergo a
7 maximum fault rupture of about 6.8 miles (0.3 probability), the Mills Creek Fault could undergo
8 a maximum fault rupture of about 12.5 miles (0.3 probability), and the combined Waldo Hills
9 and Corvallis Faults could undergo maximum fault ruptures of about 15.5 miles (0.4 probability)
10 or 25.5 miles (0.3 probability).

11
12 **Intraplate Earthquake.** A deeper intraplate earthquake, referred to as Event B, could occur at a
13 depth of 25 to 40 miles within the deeper faults of the North American Plate/Juan de Fuca Plate.
14 Such an event could have a magnitude of 7 to 7.5 within about 65 kilometers of the proposed
15 facility site with a recurrence interval of about 200 years. Significant seismic activity in
16 Washington (Juan de Fuca Plate) and northern California (Gorda Plate) provides a means of
17 evaluating intraplate earthquakes in Washington and northern California. Because there does not
18 appear to be evidence of intraplate seismicity in Oregon, such earthquakes are considered to have
19 a very low probability of occurrence in northern Oregon.

20
21 **Subduction Zone Earthquake.** A large subduction zone earthquake, referred to as Event C,
22 could occur where the Juan de Fuca Plate descends beneath the North American Plate off the
23 coast of Oregon. Such an event could have a magnitude of 8 to 9 within a distance of 100
24 kilometers of the proposed facility site with a recurrence interval of 300 to 500 years. The
25 duration of a large subduction earthquake could be three to four minutes. No such earthquake
26 appears to have occurred off the Oregon coast in historic times.

27
28 In consultation with the Oregon Department of Geology and Minerals Industry ("DOGAMI"),
29 the Department recommends that the Council find that TEC LLC, through appropriate site-
30 specific study, has adequately characterized the proposed facility site as to seismic zone and
31 expected ground motion and ground failure, taking into account amplification, during the
32 maximum credible and maximum probable seismic events.

33 34 **Facility Design for Seismic Hazards**

35 TEC LLC would design the proposed facility to comply with the standards of the Oregon
36 Structural Specialty Code ("OSSC"). The OSSC employs the UBC design criteria as they relate
37 to geology, seismicity, and near-surface soil. The OSSC design spectra exceed the USGS site-
38 specific spectra for an event having a 500-year return period.

39
40 The OSSC recommends that building sites classified as essential facilities be evaluated for at
41 least three different earthquakes with the following minimum magnitudes:

42		
43	Crustal Earthquake:	Magnitude 6.0
44	Intraslab Earthquake:	Magnitude 7.0
45	Subduction Zone Earthquake:	Magnitude 8.5

1
2 Employing current seismic information for the Turner area, TEC LLC’s geotechnical consultants
3 selected the following design earthquakes for the proposed facility site:
4

- | | | |
|----|-----------------------------|--|
| 5 | Crustal Earthquake: | Magnitude 6.0 to 6.5, located at a depth or distance |
| 6 | | of 6 miles from the proposed facility site |
| 7 | Intraslab Earthquake: | Magnitude 7.0 to 7.5, located 24 miles west of the |
| 8 | | proposed facility site at a depth of 28 to 37 miles. |
| 9 | Subduction Zone Earthquake: | Magnitude 8.8, located 49 miles west of the |
| 10 | | proposed facility site at a depth of 24 miles. |

11
12 TEC LLC’s geotechnical consultants conducted the initial phases of a site-specific geotechnical
13 and hazard study on the proposed facility site in October 2001. The findings of that study were
14 incorporated in a “Geotechnical Investigation and Seismic Hazard Study” dated February 21,
15 2002, and submitted to the Department in March 2002. The study addressed questions raised by
16 the Oregon Department of Geology and Minerals Industries after reviewing the original ASC.
17

18 In the course of conducting the initial phases of the geotechnical study, TEC LLC’s geotechnical
19 consultants reached the following conclusions:
20

- 21 • Beneath the proposed energy facility site, in general, loosely structured, gravelly
22 silt (topsoil) extends from the ground surface to a depth of about one to three feet.
23 Dense to very dense, sandy gravel extends below the topsoil to a depth of about
24 70 feet, marking the limits of the subsurface exploration.
- 25 • Groundwater was encountered in the test pits and borings at a depth ranging from
26 three to six feet below existing surface elevations.
- 27 • Based on the work completed to date, it is the opinion of the geotechnical
28 consultants that there are no known geologic or seismic hazards that would
29 prevent TEC LLC from constructing the proposed facility.
30

31 TEC LLC has committed to digging and sampling additional test pits in preparing the “Final
32 Facility Geotechnical Investigation” report in order to obtain additional subsurface information
33 and samples, particularly in areas critical to the proposed facility where design modifications
34 may indicate additional information is necessary. In addition, the final investigation would
35 address design and construction of the proposed electric transmission lines and the natural gas
36 pipeline.
37

38 Geotechnical investigations to be conducted in connection with design and construction of the
39 proposed electric transmission lines would consist of foundation investigations of potential tower
40 pad areas. TEC LLC expects to install three or four towers for each of the 230-kV electric
41 transmission lines and five to seven towers for the 115-kV electric transmission line. Tower
42 foundations would go to a depth of 10 to 20 feet, depending on subsurface conditions and the
43 type of tower to be installed. Therefore, geotechnical investigations would consist of a single
44 subsurface boring to a depth of 15 to 25 feet at each proposed tower location.

1
2 The proposed natural gas pipeline would have ground cover ranging from three feet (for the most
3 part) to ten feet (at lateral and railroad crossings). Geotechnical investigations to be conducted in
4 connection with design and construction of the proposed natural gas pipeline would consist of
5 digging and sampling test pits at 1,500-foot intervals along the pipeline corridor to a depth of
6 five to ten feet below the existing ground surface. TEC LLC proposes that this work be done to
7 ensure the uniformity of surface soils for excavation purposes, to review potential seismic
8 hazards along the natural gas pipeline corridor, and to confirm site-specific conditions on each
9 side of planned subsurface boring or directional drilling locations, particularly with respect to the
10 railroad crossing and the Perrin Lateral crossing. TEC LLC expects to dig eight to ten test pits in
11 connection with investigating the natural gas pipeline corridor.
12

13 **Site Characterization—Geological and Soils Hazards**

14 During its preliminary geotechnical investigation, TEC LLC’s geotechnical engineers
15 determined that the facility site is underlain by loosely structured, gravelly silt (topsoil)
16 extending from the ground surface to a depth of one to three feet. Dense to very dense sandy
17 gravel extends below the topsoil to a depth of about 70 feet, the limit of the subsurface
18 exploration. The geotechnical engineers did not find the potential for settlement or swelling to be
19 critical. Pavement thickness design would be based on laboratory analysis of site soils.
20

21 During the preliminary geotechnical investigation, TEC LLC’s geotechnical engineers also
22 focused on geologic hazards, including landslides, groundwater, flooding, and erosion.
23

24 **Landslides.** Based on the gentle topography of the proposed facility site, the risk of slope
25 instability or landslides is low.
26

27 **Groundwater.** Based on its preliminary geotechnical investigation, TEC LLC concludes
28 that depth of groundwater at the proposed facility site would be in the range of three feet
29 to ten feet below the ground surface. This high groundwater condition may signal the
30 need for special design considerations.
31

32 **Flooding.** Based on the preliminary geotechnical investigation, TEC LLC concludes
33 there may be some threat of flooding at the proposed facility site. The possibility of
34 occasional flooding may signal the need for special design considerations.
35

36 **Erosion.** Erosion of near-surface soils can be precipitated by wind or water.
37

38 **Facility Design for Geological and Soils Hazards**

39 Geologic and soils hazards are those that occur in the absence of an earthquake-triggering event.
40 Such hazards may include landslides, groundwater, flooding, and erosion. TEC LLC proposes to
41 mitigate for these hazards during construction and operation of the proposed facility as follows:
42

43 **Landslides.** Because the risk of landslides at the proposed facility site is low, TEC LLC
44 proposes no mitigation for the threat of landslides.
45

1 **Groundwater.** Foundations, footings and other below-grade structures, including
2 retaining walls and basement slabs, would be designed and constructed giving due
3 consideration to the high groundwater condition at the proposed facility site. TEC LLC
4 would address the effect of high groundwater on the facility, including buried pipelines
5 and electric transmission line tower foundations, during the facility design process after
6 completion of the Final Facility Geotechnical Investigation report.
7

8 TEC LLC expects that structures and slabs would be supported on shallow foundations or
9 mat foundations. Topsoil and any unsuitable existing fill or organic clay subgrade soil
10 would be stripped from the site prior to continuing with the grading work.
11

12 In commenting on the ASC, DOGAMI noted that because groundwater levels at the site
13 are shallow, and the site could be saturated much of the year, design should accommodate
14 these high water levels. In addition, there is a thin layer of highly expansive soils in
15 spotty locations. Highly expansive soils can shrink and swell when they get wet and dry.
16 This condition can contribute to cracking in the foundations and structures. Accordingly,
17 DOGAMI emphasized the importance of TEC LLC's commitment to strip away clay
18 where it is encountered beneath structures.
19

20 **Flooding.** TEC LLC would develop mitigation measures for potential flooding during the
21 facility design process after completion of the Final Facility Geotechnical Investigation
22 report.
23

24 **Erosion.** TEC LLC would control fugitive dust during construction by the application of
25 water. TEC LLC would address erosion precipitated by ditches and watercourses on the
26 proposed facility site through the implementation of proper design and erosion control
27 methods to be developed during the facility design process after completion of the Final
28 Facility Geotechnical Investigation report.
29

30 In its ASC, TEC LLC describes actions that are designed to address the Council's structural
31 standard. The Department recommends that the Council consider the following actions to be
32 commitments by TEC LLC. To find that TEC LLC complies with OAR 345-02-0020, the
33 Department recommends that the Council adopt the following conditions in the site certificate:
34

- 35 (1) **Before beginning construction of the facility, the certificate holder shall dig**
36 **and sample test pits in areas critical to the facility and shall incorporate its**
37 **findings in the Final Facility Geotechnical Investigation report.**
38
- 39 (2) **Before beginning construction of the facility, the certificate holder shall**
40 **complete subsurface borings to a depth of 15 to 25 feet at the site of each**
41 **electric transmission tower and shall incorporate its findings in the Final**
42 **Facility Geotechnical Investigation report.**
43
- 44 (3) **Before beginning construction of the facility, the certificate holder shall dig**
45 **and sample test pits to a depth of five to ten feet below the existing ground**

1 surface at 1,500-foot intervals along the entire length of the natural gas
2 pipeline corridor and shall incorporate its findings in the Final Facility
3 Geotechnical Investigation report.
4

- 5 (4) Before beginning construction of the facility, the certificate holder shall
6 submit to the Department and DOGAMI its Final Facility Geotechnical
7 Investigation report containing results of geotechnical and seismic hazards
8 analyses and recommendations for the design of the energy facility, electric
9 transmission lines, natural gas pipeline, and other related or supporting
10 facilities. If DOGAMI is not able to review the Final Facility Geotechnical
11 Investigation report, the Department shall, in consultation with DOGAMI,
12 arrange for an independent review of the report by a qualified registered
13 geologist or registered engineer.
14
- 15 (5) If the geotechnical and seismic hazards analyses reveal evidence that is not
16 described in the ASC or the Revised ASC, the certificate holder shall revise
17 the facility design parameters to comply with appropriate Oregon Structural
18 Specialty Code requirements.
19
- 20 (6) The certificate holder shall strip away from the facility site all existing topsoil
21 and unsuitable existing fill or organic clay subgrade before grading the site.
22

23 To find that TEC LLC complies with OAR 345-022-0020, the Department recommends that the
24 Council adopt the following standard conditions in the site certificate:
25

- 26 (7) The certificate holder shall design, engineer and construct the facility to
27 avoid dangers to human safety presented by seismic hazards affecting the site
28 that are expected to result from all maximum probable seismic events. In no
29 event shall the recommended seismic design parameters be any less than
30 those prescribed by the Oregon Uniform Building Code. As used in this
31 condition, "seismic hazard" includes ground shaking, landslide, liquefaction,
32 lateral spreading, tsunami inundation, near field effects, hanging wall effects,
33 fault rupture, fault displacement, and subsidence.
34
- 35 (8) The certificate holder shall notify the Department, the State Building Codes
36 Division and DOGAMI promptly if site investigations or trenching reveal
37 that subsurface conditions differ significantly from those described in the
38 ASC or the Revised ASC. After the Department receives the notice, the
39 Council may require the certificate holder to consult with DOGAMI and the
40 Building Codes Division and to propose mitigation actions.
41
- 42 (9) The certificate holder shall notify the Department, the Building Codes
43 Division and DOGAMI promptly if quaternary fault activity, shear zones,
44 artesian aquifers, deformations, or clastic dikes are found or suspected at or
45 in the vicinity of the facility site.

- 1
2 **(10) The certificate holder shall design, engineer and construct the facility to**
3 **avoid dangers to human safety presented by non-seismic or aseismic hazards**
4 **affecting the site. As used in this condition, “non-seismic or aseismic**
5 **hazards” includes settlement, landslides, groundwater, flooding, and erosion.**
6

7 **Summary**

8 The Department recommends that the Council find that TEC LLC, through appropriate site-
9 specific study, has adequately characterized the site as to seismic zone and expected ground
10 motion and ground failure, taking into account amplification, during the maximum credible and
11 maximum probable seismic events; TEC LLC can design, engineer, and construct the facility to
12 avoid dangers to human safety presented by seismic hazards affecting the site that are expected
13 to result from all maximum probable seismic events; TEC LLC, through appropriate site-specific
14 study, has adequately characterized the potential geological and soils hazards of the site and its
15 vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the
16 construction and operation of the proposed facility; and TEC LLC can design, engineer and
17 construct the facility to avoid dangers to human safety.
18

19 **Conclusion**

20 The Department recommends that the Council find that, subject to the conditions stated in this
21 Order, TEC LLC meets the structural standard, OAR 345-022-0020.
22

23 **D.6. SOIL PROTECTION, OAR 345-022-0022**

24 “To issue a site certificate, the Council must find that the design, construction,
25 operation and retirement of the facility, taking into account mitigation, are not
26 likely to result in a significant adverse impact to soils including, but not limited
27 to, erosion and chemical factors such as salt deposition from cooling towers, land
28 application of liquid effluent, and chemical spills.”
29

30 **Discussion**

31 The Council considers adverse impacts to soils because of potential related impacts to
32 agricultural and forest land uses, native vegetation, fish and wildlife habitat, and water quality.
33 Relevant under this standard are the facility's potential impacts such as erosion, compaction,
34 mass wasting, slumping, chemical spills, and salt deposition.
35

36 The analysis area for the soil protection standard is the area within the site boundary and all
37 laydown and staging areas, plus areas potentially affected by cooling tower drift or salt
38 deposition.
39

40 **Soil Types.** Based on a review of several published geology and Soil Conservation Service
41 reports for the Salem and Willamette Valley areas, TEC LLC identified the following five major
42 soil types in the analysis area:
43

44 Courtney Gravelly Silty Clay Loam Series (Cu). The Courtney gravelly silty clay loam series
45 (Cu) generally consists of poorly drained soils formed by alluvial deposition on terraces and

1 infilled drainage channels with exposed ground surface slopes that range from 0 to 2 percent.
2 Elevation generally ranges from 175 to 650 feet above sea level. Starting at the uppermost layers,
3 these soils are dark gray/brown, very gravelly clay loam transitioning to brown, very gravelly
4 sand at greater depths. Cobbles are present throughout the soil.

5
6 Clackamas Gravelly Loam Series (Ck). The Clackamas gravelly loam series (Ck) consists of
7 poorly drained soil that is usually found on the lower terraces as a result of alluvial deposition
8 upon exposed ground surface slopes of 0 to 3 percent. Elevation generally ranges from 100 to
9 400 feet above sea level. Typically, the upper layers vary from dark brown to dark gray, gravelly
10 silt transitioning to dark gray to dark brown gravelly clay with cobbles at greater depths.

11
12 Amity Silt Series (Am). The Amity silt series (Am) consists of deep, poorly drained silty soils
13 that are usually present on broad valley terraces through glaciolacustrine deposition. Exposed
14 ground surface slopes generally vary from 0 to 3 percent, and elevation typically ranges from
15 150 to 350 feet above sea level. Typically, the upper layers consist of dark, grayish brown silt
16 that usually grades to dark gray, clayed silt or light olive brown silty clay.

17
18 Wapato Silty Clay Loam Series (Wc). Wapato silty clay loam consists of poorly drained clays
19 that are typically encountered along the bottoms of small streams and in low-lying areas adjacent
20 to large streams. These soils are recent alluvial deposits at typical elevations varying from 100 to
21 300 feet above sea level. They are typified by short overflows and periods of ponding, especially
22 during the wet season. The clay appears dark brown to gray on the surface and eventually
23 becomes more mottled brown/gray at greater depth. Wapato silty clay may tend toward acidity.

24
25 Sifton Gravelly Loam Series (St). The Sifton gravelly loam soils are excessively drained brown,
26 cobbly, gravelly silt soils that are underlain by gravelly sand. Typically, these soils are found on
27 the level terraces of Mill Creek in the analysis area.

28
29 In addition to these five major soil types, TEC LLC found that small pockets of other soils could
30 be encountered, particularly along the corridors for related or supporting facilities. These small
31 pockets could exist as low, depressed areas where surface water continues to pond year after year
32 thereby creating “muck” and “swampy type soil” that are heavily organic in composition.

33 34 **Impacts During Construction**

35 During construction of the proposed facility, scrapers and bulldozers would be used to remove
36 vegetation and organic topsoil, as required. Depending on the time of year and the moisture
37 content of the subsurface soils during stripping, the near surface soils may be disturbed during
38 these operations.

39
40 TEC LLC would develop site pads by grading and leveling at the facility site. To the extent
41 possible, ground contours at the related or supporting facilities would be returned to the original
42 grade.

43
44 **Pipeline Installation.** TEC LLC would install the proposed related or supporting natural gas,
45 water, and sewer pipelines in 4-foot trenches ranging from three feet to nine feet in depth. Once

1 installed, the pipelines would be topped with a minimum of three feet of cover. At these shallow
2 depths, TEC LLC expects it would encounter no bedrock.

3
4 Construction equipment to be used for pipeline installation would consist of trackhoes and small
5 to medium-sized cranes. Open trench excavation would be used in some areas, and underground
6 boring (trenchless technology) would be used at roads, the railroad spur, riparian forests,
7 waterways, and wetland areas.

8
9 Whenever possible, TEC LLC would stockpile excavated soils along the trench. After
10 installation of each pipe section, TEC LLC would replace, compact, and test the soil in lifts to
11 the required dry densities in order to minimize settlement. Topsoil would then be placed over the
12 top of the excavation areas.

13
14 Depending upon the time of year, weather conditions, and the depth of excavation, TEC LLC
15 expects it might encounter groundwater during installation of the pipelines. The contractor would
16 control groundwater and any surface seepage during construction to ensure that nearby footings,
17 slabs, roads, and buried utilities would not be undermined and to ensure that existing creeks and
18 drains would not be adversely affected by the excavation or dewatering methods.

19
20 **Electric Transmission Line Installation.** Installation of the proposed related or supporting
21 electric transmission lines, including preparation of the foundations, raising of poles or towers,
22 and stringing of lines, would be accomplished by means of trackhoes, dump trucks, and cranes.
23 Groundwater and surface water seepage could be encountered during excavation and
24 construction of foundations for the tower pads.

25
26 TEC LLC expects it would develop access roads along the transmission line corridors and might
27 be required by the respective investor-owned utilities to leave those roads in place to
28 accommodate future maintenance requirements. If required, access roads would be about 10 to
29 20 feet wide. Stripped topsoil and any unsuitable subgrade soil would be spread out over the
30 existing ground within the transmission line corridors or, if required, hauled offsite to a suitable
31 disposal area. The access roads would probably be constructed using crushed rock and,
32 depending upon the time of year the access roads were constructed, might be equipped with a
33 geotextile fabric. Near surface soils could be disturbed during these construction activities.

34
35 **Heavy Equipment Operation.** During construction of the proposed facility, TEC LLC expects
36 that operation of heavy construction equipment could cause the upper few feet of surface soils to
37 become more compact, particularly given the presence of cobbly, gravelly clay soils. Such
38 compaction would not significantly affect areas that are not designated for agricultural or
39 landscape purposes, but would be likely to cause some impact to agricultural soils.

40 41 **Impacts During Operation**

42 During operation of the proposed facility, there would be some potential for salt deposition from
43 cooling tower drift. TEC LLC's analysis shows that salt deposition at the proposed facility site
44 from natural sources, *i.e.*, rainfall, would range between 109 and 137 kilograms per square
45 kilometer per month ("kg/km²-month").

1
2 TEC LLC would employ a mechanical draft cooling tower equipped with high efficiency mist
3 eliminators, thereby limiting drift to about 0.0005 percent of the tower inlet water volume. The
4 maximum rate of salt deposition resulting from cooling tower drift when operating the proposed
5 facility with duct firing would be about 78 kg/km²-month. When operating the proposed facility
6 without duct firing, the maximum rate of salt deposition would be about 108 kg/km²-month. In A
7 *Pilot Study to Detect Vegetation Stress Around a Cooling Tower*, a paper published in 1979 by S.
8 B. Pahwa and B. L. Shipley, the authors found that a salt deposition rate of about 826 kg/km²-
9 month was the lowest rate at which the most sensitive crops showed salt stress symptoms.

10
11 TEC LLC shows that the rate of salt deposition from the cooling tower would be lower than salt
12 deposition rates from rainfall, low when compared to DEQ particulate fallout standards, and low
13 when compared to salt deposition rates that could stress vegetation. Further, given the presence
14 of gravelly soils in the vicinity of the proposed facility, the accumulation of deposited salts
15 appears to be unlikely.

16 17 **Impacts During Retirement**

18 During retirement of the facility, an increased potential for erosion, soil compaction, and
19 chemical spills would exist. Soil would be exposed to accelerated erosion during the removal of
20 foundations, floors, parking structures, pipelines, and roadways because of the lack of
21 vegetation.

22
23 Removal of the energy facility would require the use of heavy equipment to perform site grading
24 and haul trucks to remove concrete, steel, and other components of the energy facility. The
25 traffic of heavy machinery beyond existing roads would be likely to cause localized soil
26 compaction resulting in temporary loss of agricultural productivity.

27 28 **Mitigation Measures**

29 During construction of the facility, TEC LLC would reduce the potential for erosion by adhering
30 to the requirements of its NPDES Storm Water Discharge General Permit #1200-C for
31 construction activities. The NPDES 1200-C permit includes a detailed Erosion and Sediment
32 Control Plan that details measures designed to contain soil and construction equipment within
33 the energy facility footprint and along the corridors of the related or supporting facilities. DEQ
34 issues and administers the NPDES 1200-C permit. In addition, TEC LLC would implement the
35 following measures:

- 36
37 • Seed and re-vegetate exposed and disturbed areas and fill slopes disturbed by
38 construction.
- 39 • Preserve and use existing topsoil whenever possible.
- 40 • To address potential water runoff erosion, conduct as much of the grading
41 operations as possible during the drier months of the year.
- 42 • Provide positive temporary erosion control methods, such as silt fences around the
43 grading area, straw bales along drainage ways and around catch basins as well as
44 mid-slope and at the toes of fill, and mulch on exposed surfaces.

- 1 • Develop other permanent erosion control measures during the design phase,
2 including development of project-specific erosion control plans.
- 3 • Plan to reduce the area of soil disturbance and protect areas that are not
4 designated for construction.
- 5 • Remove only the vegetation that is necessary or designated for removal.
- 6 • Water or mulch dusty areas, as necessary, for dust control.
- 7 • Control construction traffic to reduce the impacts to native vegetation areas.
- 8 • After pipelines have been installed, use excavated soil for backfill to complete the
9 trench. To minimize surface depressions and ruts, backfill the trench by placing
10 moisture-conditioned soil in the trench, compacting the soil, and testing the
11 backfill at each lift to ensure the achievement of minimum dry densities.
- 12 • In backfilling pipeline trenches, keep the topsoil separate from the inorganic
13 subsoil. Ensure that the final lift of the trench backfill consists of the organic
14 topsoil. Place rocky soil fill at least 12 inches below final grade so the organic
15 topsoil layer is substantially free of over-sized particles.
- 16 • Remove and properly dispose of all construction debris after completion of
17 construction in an area.
- 18 • Repair any damage to existing irrigation or drain tile systems in those areas
19 designated for future farming after completion of construction in an area.
- 20 • Employ mechanical draft cooling tower using high efficiency mist eliminators
21 that would limit drift to about 0.0005 percent of the tower inlet water volume.
22

23 During operation of the facility, TEC LLC would reduce the potential for erosion and sediment
24 runoff by adhering to the erosion and sediment control plan incorporated in the NPDES Storm
25 Water Discharge General Permit #1200-Z (for industrial activities) issued and administered by
26 the DEQ.
27

28 In its ASC, TEC LLC describes actions that are designed to address the Council’s soil protection
29 standard. The Department recommends that the Council consider the following actions to be
30 commitments by TEC LLC. To find that TEC LLC complies with OAR 345-022-0022, the
31 Department recommends that the Council adopt the following conditions in the site certificate:
32

- 33 **(1) Before beginning construction of the facility, the certificate holder shall**
34 **obtain a NPDES Storm Water Discharge General Permit #1200-C (for**
35 **construction activities) from the Oregon Department of Environmental**
36 **Quality.**
- 37
- 38 **(2) Upon completion of construction in an area, the certificate holder shall seed**
39 **and re-vegetate exposed and disturbed areas and fill slopes disturbed by**
40 **construction.**
- 41
- 42 **(3) During construction of the facility, the certificate holder shall preserve and**
43 **use existing topsoil whenever possible.**
44

- 1 (4) During construction of the facility, in order to address potential water runoff
2 erosion, the certificate holder shall conduct grading operations during the
3 drier months of the year to the greatest extent possible.
4
- 5 (5) During construction of the facility, the certificate holder shall use positive
6 temporary erosion control methods, including silt fences around grading
7 areas, straw bales along drainage ways, around catch basins, and at mid-
8 slope and the toes of fill, and mulch on exposed surfaces.
9
- 10 (6) During construction of the facility, the certificate holder shall implement a
11 plan to minimize the area of soil disturbance and protect areas not
12 designated for construction.
13
- 14 (7) During construction of the facility, the certificate holder shall remove only as
15 much vegetation as is necessary to accommodate construction activities.
16
- 17 (8) During construction of the facility, the certificate holder shall use water or
18 mulch for dust control.
19
- 20 (9) During construction of the facility, the certificate holder shall control
21 construction traffic to reduce impacts to native vegetation.
22
- 23 (10) During construction of the facility, after installation of related or supporting
24 natural gas, water supply, or sewer pipelines, the certificate holder shall use
25 excavated soil for backfill to complete the trench. To minimize surface
26 depressions and ruts, the certificate holder shall backfill the trench by
27 placing moisture-conditioned soil in the trench, compact the soil, and test the
28 backfill at each lift to ensure achievement of minimum dry densities.
29
- 30 (11) During construction of the facility, after installation of related or supporting
31 natural gas, water supply, and sewer pipelines, in the course of backfilling
32 trenches the certificate holder shall place rocky soil at least 12 inches below
33 the final grade and shall ensure that the final lift of trench backfill consists of
34 organic topsoil.
35
- 36 (12) After completion of construction in an area, the certificate holder shall
37 remove and properly dispose of all construction debris.
38
- 39 (13) After completion of construction in an area, the certificate holder shall repair
40 any damage to existing irrigation or drain tile systems in those areas
41 designated for future farming.
42
- 43 (14) During operation of the facility, the certificate holder shall minimize drift
44 from the cooling towers through the use of high efficiency mist eliminators
45 that allow no more than 0.0005 percent drift.

- 1
2 **(15) Before beginning operation of the facility, the certificate holder shall obtain a**
3 **NPDES Storm Water Discharge General Permit #1200-Z (for industrial**
4 **activities) if required by the Oregon Department of Environmental Quality.**
5

6 **Summary**

7 The Department recommends that the Council find that the design, construction, operation, and
8 retirement of the facility, taking into account mitigation, are not likely to result in a significant
9 adverse impact to soils including, but not limited to, erosion and chemical factors such as salt
10 deposition from cooling towers, land application of liquid effluent, and chemical spills.
11

12 **Conclusion**

13 The Department recommends that the Council find that, subject to the conditions stated in this
14 Order, TEC LLC meets the soil protection standard, OAR 345-022-0022.
15

16 **D.7. PROTECTED AREAS, OAR 345-022-0040**

17 “(1) Except as provided in sections (2) and (3), the Council shall not issue a
18 site certificate for a proposed facility located in the areas listed below. To
19 issue a site certificate for a proposed facility located outside the areas
20 listed below, the Council must find that, taking into account mitigation,
21 the design, construction and operation of the facility are not likely to result
22 in significant adverse impact to the areas listed below. Cross-references in
23 this rule to federal or state statutes or regulations are to the version of the
24 statutes or regulations in effect as of August 28, 2003:

25 “(a) National parks, including but not limited to Crater Lake National
26 Park and Fort Clatsop National Memorial;

27 “(b) National monuments, including but not limited to John Day Fossil
28 Bed National Monument, Newberry National Volcanic Monument
29 and Oregon Caves National Monument;

30 “(c) Wilderness areas established pursuant to The Wilderness Act, 16
31 U.S.C. 1131 et seq. and areas recommended for designation as
32 wilderness areas pursuant to 43 U.S.C. 1782;

33 “(d) National and state wildlife refuges, including but not limited to
34 Ankeny, Bandon Marsh, Baskett Slough, Bear Valley, Cape
35 Mears, Cold Springs, Deer Flat, Hart Mountain, Julia Butler
36 Hansen, Klamath Forest, Lewis and Clark, Lower Klamath,
37 Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch
38 Rocks, Umatilla, Upper Klamath, and William L. Finley;

39 “(e) National coordination areas, including but not limited to
40 Government Island, Ochoco and Summer Lake;

41 “(f) National and state fish hatcheries, including but not limited to
42 Eagle Creek and Warm Springs;

43 “(g) National recreation and scenic areas, including but not limited to
44 Oregon Dunes National Recreation Area, Hell's Canyon National

- 1 Recreation Area, and the Oregon Cascades Recreation Area, and
2 Columbia River Gorge National Scenic Area;
3 “(h) State parks and waysides as listed by the Oregon Department of
4 Parks and Recreation and the Willamette River Greenway;
5 “(i) State natural heritage areas listed in the Oregon Register of Natural
6 Heritage Areas pursuant to ORS 273.581;
7 “(j) State estuarine sanctuaries, including but not limited to South
8 Slough Estuarine Sanctuary, OAR Chapter 142;
9 “(k) Scenic waterways designated pursuant to ORS 390.826, wild or
10 scenic rivers designated pursuant to 16 U.S.C. 1271 et seq., and
11 those waterways and rivers listed as potentials for designation;
12 “(l) Experimental areas established by the Rangeland Resources
13 Program, College of Agriculture, Oregon State University: the
14 Prineville site, the Burns (Squaw Butte) site, the Starkey site and
15 the Union site;
16 “(m) Agricultural experimental stations established by the College of
17 Agriculture, Oregon State University, including but not limited to:
18 Coastal Oregon Marine Experiment Station, Astoria
19 ***
20 “(n) Research forests established by the College of Forestry, Oregon
21 State University, including but not limited to McDonald Forest,
22 Paul M. Dunn Forest, the Blodgett Tract in Columbia County, the
23 Spaulding Tract in the Mary's Peak area and the Marchel Tract;
24 “(o) Bureau of Land Management areas of critical environmental
25 concern, outstanding natural areas and research natural areas;
26 “(p) State wildlife areas and management areas identified in OAR
27 chapter 635, Division 8.
28 “(2) Notwithstanding section (1), the Council may issue a site certificate for a
29 transmission line or a natural gas pipeline or for a facility located outside a
30 protected area that includes a transmission line or natural gas or water
31 pipeline as a related or supporting facility located in a protected area
32 identified in section (1), if other alternative routes or sites have been
33 studied and determined by the Council to have greater impacts.
34 Notwithstanding section (1), the Council may issue a site certificate for
35 surface facilities related to an underground gas storage reservoir that have
36 pipelines and injection, withdrawal or monitoring wells and individual
37 wellhead equipment and pumps located in a protected area, if other
38 alternative routes or sites have been studied and determined by the
39 Council to be unsuitable.
40 “(3) The provisions of section (1) do not apply to transmission lines or natural
41 gas pipelines routed within 500 feet of an existing utility right-of-way
42 containing at least one transmission line with a voltage rating of
43 115 kilovolts or higher or containing at least one natural gas pipeline of
44 8 inches or greater diameter that is operated at a pressure of 125 psig.”
45

1 **Discussion**

2 The analysis area for protected areas is the area within the site boundary and within 20 miles of
3 the site boundary.

4
5 Fifteen protected areas are located within the analysis area, as shown in Table D.7-1. No portion
6 of the proposed facility would be located in a protected area, and all of the protected areas are
7 five miles or more from the proposed facility site.

8
9 **TABLE D.7-1**
10 **PROTECTED AREAS IN TURNER ENERGY CENTER ANALYSIS AREA**

Protected Area	Direction and Distance from Facility
Ankeny National Wildlife Refuge	Southwest, 5.9 miles
Baskett Slough National Wildlife Refuge	West, 16.2 miles
Holman State Wayside	Northwest, 8.8 miles
Maud Williamson State Park	North, 17.3 miles
McDonald State Forest	Southwest, 17.3 miles
North Santiam Area of Critical Environmental Concern (BLM)	East, 11.8 miles
North Santiam State Park	East, 17.7 miles
Roaring River State Fish Hatchery	Southeast, 19.0 miles
Sarah Helmick State Park	West, 14.6 miles
Silver Falls State Park	East, 14.0 miles
Santiam State Forest	East, 14.4 miles
St. Louis Fish Ponds	North, 19.0 miles
Willamette Mission State Park	North, 15.3 miles
Willamette River Greenway	West, 7.0 miles
E. E. Wilson Wildlife Area	Southwest, 15.0 miles

12
13 **Noise.** Noise modeling prepared for the proposed facility showed that its operational noise level
14 would have no significant adverse impacts at the nearest receptors located about 1,400 feet from
15 the proposed energy facility. With the nearest protected area being located about six miles from
16 the proposed facility site, there would be no significant adverse noise impacts at any of the 15
17 protected areas located within the analysis area.

18
19 The Department recommends that the Council find that noise from the proposed facility would
20 not result in a significant adverse impact on any protected area.

21
22 **Traffic.** Because the proposed facility is located about six miles from the nearest protected area
23 and because the protected areas within the analysis area are not located along or near a traffic
24 route that would be used for facility deliveries or commuting, increased traffic caused by
25 construction and operation of the proposed facility is not expected to adversely affect any of the
26 protected areas.

1
2 The Department recommends that the Council find that traffic generated by construction and
3 operation of the proposed facility would not result in a significant adverse impact on any
4 protected area.

5
6 **Water Use.** Water use during construction and operation of the proposed facility would not
7 adversely affect any of the protected areas within the analysis area. Water used during operation
8 of the proposed facility would be the subject of water rights issued by the Oregon Water
9 Resources Department and would be delivered to the facility site by means of an underground
10 water pipeline and through a series of irrigation and drainage ditches comprising the Santiam
11 Water Control District water supply system. Water used during construction prior to completion
12 of the underground water pipeline would be hauled by truck.

13
14 The Department recommends that the Council find that water use during construction and
15 operation of the proposed facility would not result in a significant adverse impact on any
16 protected area.

17
18 **Wastewater Disposal.** There would be no direct discharge of process or sanitary wastewater
19 from the proposed facility to surface water bodies. The Department recommends that the Council
20 find that wastewater disposal during construction and operation of the proposed facility would
21 not result in a significant adverse impact on any protected area.

22
23 **Visual Impacts of Facility Structures.** The two primary structures at the proposed facility that
24 could result in visual impacts are the heat recovery steam generator (“HRSG”) exhaust stacks
25 and the cooling tower. The exhaust stacks would be about 155 feet tall, and the cooling tower
26 would be about 60 feet tall. All of these structures would be painted a neutral color that would
27 blend into the surrounding landscape as much as practicable.

28
29 During certain ambient conditions, a visual vapor plume may be visible from either the exhaust
30 stacks or cooling tower or both. A plume from the exhaust stacks or cooling tower would
31 typically be most visible during early morning hours when the temperature is low and the
32 humidity is high, or during colder winter days when the humidity is high. Ideal conditions for a
33 visible plume are high humidity, clear day, and cold temperature. If there is precipitation, low
34 cloud cover, fog, dark sky, high temperature, or low humidity, there is a lower likelihood that
35 operation of the proposed facility would generate a visible plume.

36
37 TEC LLC performed a screening level assessment using topographic analysis to determine
38 whether any part of the proposed facility, including the exhaust stacks, cooling tower, or plume
39 from either the exhaust stacks or cooling tower, would be visible from any of the protected areas.
40 The topographic analysis showed that intervening topography would shield the proposed facility
41 from view from ten of the fifteen protected areas in the analysis area, including the three
42 protected areas nearest the proposed facility. The following protected areas would have no view
43 of the proposed facility: Ankeny National Wildlife Refuge, Baskett Slough National Wildlife
44 Refuge, Holman State Wayside, Maud Williamson State Park, McDonald State Forest, Sarah
45 Helmick State Park, St. Louis Fish Ponds, Willamette Mission State Park, E. E. Wilson Wildlife

1 Area, and the Willamette River Greenway. There would be no significant visual impacts
2 associated with these sites.

3
4 The topographic analysis showed there could be a direct line of sight between the proposed
5 facility or plumes and the following five protected areas: North Santiam Area of Critical
6 Environmental Concern, North Santiam State Park, Roaring River Fish Hatchery, Silver Falls
7 State Park, and Santiam State Forest. All of these protected areas are located at least 12 miles
8 from the proposed facility. In addition, more detailed investigations showed that any view of the
9 proposed facility from these protected areas would be blocked by trees or made insignificant by
10 virtue of the intervening distance.

11
12 TEC LLC states that lighting at the proposed facility would comply with the commonly used
13 standard of a maximum of five foot-candles within 50 feet of the base of the light. To reduce
14 offsite impacts, lighting at the proposed facility would be restricted to areas required for safety,
15 security and operation. Exterior lights would be hooded, and lighting would be directed onsite to
16 prevent significant offsite light or glare. Non-glare fixtures will be used. For areas where lighting
17 would not be required for safety, security or normal operation, TEC LLC would employ
18 switched lighting circuits or motion detectors, thereby allowing those areas to remain unlighted
19 most of the time and limiting the potential for offsite visibility. In addition, TEC LLC proposes
20 to use landscaping to provide additional screening of required night lighting at the proposed
21 facility.

22
23 The Department recommends that the Council find that the visual impacts of facility structures at
24 the proposed facility would not result in a significant adverse impact on any protected area.

25
26 **Visual Impacts from Air Emissions.** There are no Class I visual resources within the analysis
27 area. The nearest Class I visual resources are the Mt. Hood Wilderness Area and the Mt.
28 Jefferson Wilderness Area, both about 60 miles away.

29
30 During construction of the proposed facility, the only noticeable emissions would take the form
31 of fugitive dust generated during normal construction activities. TEC LLC would control fugitive
32 dust throughout the facility by means of watering.

33
34 During operation of the proposed facility, TEC LLC would be required to comply with air
35 quality permits issued by the DEQ under a program delegated to the State of Oregon by the U.S.
36 Environmental Protection Agency. In connection with obtaining those permits, TEC LLC has
37 performed an air quality impact analysis that it states would lead DEQ to conclude that emission
38 levels caused by the proposed facility would be insignificant. Among other things, the air quality
39 impact analysis assessed the worst-case impacts of air emissions from the proposed facility on
40 Class I wilderness areas and parks up to 200 kilometers away. This modeling effort serves to
41 document that the visibility impact in these Class I wilderness areas and parks is insignificant.

42
43 The Department recommends that the Council find that the visual impacts from air emissions of
44 the proposed facility would not result in a significant adverse impact on any protected area.

1 In its ASC, TEC LLC describes actions that are designed to address the Council’s protected
2 areas, recreation, and scenic and aesthetic values standards. The Department recommends that
3 the Council consider those actions to be commitments by TEC LLC. To find that TEC LLC
4 complies with OAR 345-022-0040, the Department recommends that the Council adopt the
5 following conditions in the site certificate:
6

- 7 (1) **During construction of the facility, the certificate holder shall control fugitive
8 dust through the application of water or by any other equally effective
9 method.**
- 10
11 (2) **During construction and operation of the facility, the certificate holder shall
12 use hoods and directing devices on lights to minimize off-site glare and shall
13 minimize night lighting consistent with safety and maintenance
14 requirements.**
- 15
16 (3) **The certificate holder shall use motion detection equipment rather than
17 constant floodlights for security lighting.**
- 18
19 (4) **The certificate holder shall paint structures with a neutral color that will
20 blend into the surrounding landscape as much as possible.**
- 21
22 (5) **The certificate holder shall fence the north yard setback and screen the
23 energy facility and garbage collection area from public view by
24 implementation of the TEC Landscaping Plan included in the Revised ASC,
25 January 2003, Exhibit K, Attachment K-13.**

26 27 **Summary**

28 The Department recommends that the Council find that the proposed facility is not located in a
29 protected area and, taking into account mitigation, the design, construction and operation of the
30 facility are not likely to result in significant adverse impact to a protected area.
31

32 **Conclusion**

33 The Department recommends that the Council find that, subject to the conditions stated in this
34 Order, TEC LLC meets the protected areas standard, OAR 345-022-0040.
35

36 **D.8. FISH AND WILDLIFE HABITAT, OAR 345-022-0060**

37 “To issue a site certificate, the Council must find that the design, construction, operation
38 and retirement of the facility, taking into account mitigation, is consistent with the fish
39 and wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect as of
40 September 1, 2000.”
41

42 **Discussion**

43 OAR 635-415-0025 describes six categories of habitat in order of their value. The rule then
44 establishes mitigation goals and corresponding implementation standards for each habitat
45 category.

1
2 **Habitat Categories**

3 Habitat Category 1 is “irreplaceable, essential habitat for a fish or wildlife species,
4 population, or a unique assemblage of species and is limited on either a physiographic
5 province or site-specific basis, depending on the individual species, population or unique
6 assemblage.” The mitigation goal for Habitat Category 1 is “no loss of either habitat
7 quantity or quality.” The implementation standard requires “avoidance of impacts
8 through alternatives to the proposed development action.”
9

10 Habitat Category 2 is “essential habitat for a fish or wildlife species, population, or
11 unique assemblage of species and is limited either on a physiographic province or site-
12 specific basis depending on the individual species, population or unique assemblage.”
13 The mitigation goal for Habitat Category 2, if impacts are unavoidable, is “no net loss of
14 either habitat quantity or quality and to provide a net benefit of habitat quantity or
15 quality.” The implementation standard is “avoidance of impact through alternatives to the
16 proposed development action” or “mitigation of impacts, if unavoidable, through reliable
17 in-kind, in-proximity habitat mitigation to achieve no net loss of either pre-development
18 habitat quantity or quality. In addition, a net benefit of habitat quantity or quality must be
19 provided.”
20

21 Habitat Category 3 is “essential habitat for fish and wildlife, or important habitat for fish
22 and wildlife that is limited either on a physiographic province or site-specific basis,
23 depending on the individual species or population.” The mitigation goal for Habitat
24 Category 3 is “no net loss of either habitat quantity or quality.” The implementation
25 standard is “avoidance of impacts through alternatives to the proposed development
26 action” or “mitigation of impacts, if unavoidable, through reliable in-kind, in-proximity
27 habitat mitigation to achieve no net loss in either pre-development habitat quantity or
28 quality.”
29

30 Habitat Category 4 is “important habitat for fish and wildlife species.” The mitigation
31 goal for Habitat Category 4 is “no net loss in either existing habitat quantity or quality.”
32 The implementation standard is “avoidance of impacts through alternatives to the
33 proposed development action” or “mitigation of impacts, if unavoidable, through reliable
34 in-kind or out-of-kind, in-proximity or off-proximity habitat mitigation to achieve no net
35 loss in either pre-development habitat quantity or quality.”
36

37 Habitat Category 5 is “habitat for fish and wildlife having high potential to become either
38 essential or important habitat.” The mitigation goal for Habitat Category 5, if impacts are
39 unavoidable, is “to provide a net benefit in habitat quantity or quality.” The
40 implementation standard is “avoidance of impacts through alternatives to the proposed
41 development action” or “mitigation of impacts, if unavoidable, through actions that
42 contribute to essential or important habitat.”
43

44 Habitat Category 6 is “habitat that has low potential to become essential or important
45 habitat for fish and wildlife.” The mitigation goal for Habitat Category 6 is “to minimize

1 impacts.” The implementation standard is to “minimize direct habitat loss and avoid
2 impacts to off-site habitat.”
3

4 **Habitat in the Analysis Area**

5 For the TEC application, the Project Order describes the analysis area for fish and wildlife
6 habitat as: (1) all areas within the site boundary, where “site boundary” means the perimeter of
7 the site of the proposed energy facility and its related or supporting facilities, including all areas
8 within the “Field Study Area” depicted on Attachment P-2 (11-07-02), Exhibit P, included with
9 the Revised Application for a Site Certificate for the Turner Energy Center, submitted in January
10 2003; (2) all areas within 300 feet on either side of the centerline, including the extension of that
11 centerline to its point of intersection with McKinney Creek, of the corridor for the related or
12 supporting electric transmission line that would interconnect the energy facility with
13 PacifiCorp’s Bethel-Fry 230-kV transmission line; (3) all areas within 30 feet of the center line
14 of the corridor for the related or supporting transmission line that would interconnect the energy
15 facility with PGE’s Turner Substation; (4) all areas within 100 feet of the centerline of the
16 corridor for the related or supporting natural gas pipeline that would interconnect the energy
17 facility with the Grants Pass Pipeline and the raw water pipeline that would interconnect the
18 energy facility with the diversion structure on the Perrin Lateral; (5) all areas within 30 feet of
19 the centerline of road improvements along Wipper Road²; and (6) all laydown and storage areas.
20 The analysis area for raptors includes all areas within the energy facility site and within 1,500
21 feet of the outer perimeter of the energy facility site and all areas within 300 feet of the point of
22 intersection with McKinney Creek of the extension of the centerline of the corridor for the
23 related or supporting electrical transmission line that would interconnect the energy facility with
24 PacifiCorp’s Bethel-Fry 230-kV transmission line.
25

26 In addition, TEC LLC evaluated the corridor that would accommodate the water pipeline and
27 sewer pipeline connecting the proposed facility with City of Turner water and sewer service.
28 (TEC ASC, Water and Sewer Service Amendment, August 26, 2003).
29

30 Habitat Categories 2, 3, 4, 5 and 6 occur within the analysis area. Terrestrial Habitat Category 2
31 occurs as forested areas and grasslands, both with wetland characteristics. These areas serve as
32 important habitat for olive-sided flycatcher, willow flycatcher, western bluebird (each a federal
33 species-of-concern, with no state listing, and each observed in the vicinity), and various bat
34 species. Riparian forests are associated with aquatic Habitat Category 2, in that they provide a
35 closed or nearly closed canopy along streams, thereby contributing to decreased water
36 temperature and increased nutrient and forage quality for fish Aquatic Habitat Category 2 occurs
37 as Mill Creek, McKinney Creek, the Turner Bypass, and the Perrin Lateral. TEC Revised ASC,
38 January 2003, Exhibit P, page P-5; TEC Response to Request for Additional Information #5 & 6,

² TEC LLC initially proposed to widen Wipper Road and move the Wipper Road Ditch to satisfy traffic safety concerns expressed by Marion County and the City of Turner. Subsequently, Marion County, in consultation with the City of Turner and the Turner Fire Department, instructed TEC LLC that it must substitute replacement of the Wipper Road Bridge for widening Wipper Road as the appropriate measure for addressing traffic safety concerns. Marion County had determined that the Wipper Road Bridge is functionally obsolete for large vehicles. Pursuant to OAR 345-001-0000(47), the Department has not treated the bridge replacement as a related or supporting facility because the pre-existing structure would not be significantly modified solely to serve the energy facility.

1 July 2003, Exhibit P, page 44) These waterways are considered by DSL to be Essential
2 Indigenous Anadromous Salmonid Habitat, and they are migration habitat for Chinook salmon
3 and steelhead trout. They may also provide habitat for the bat species Yuma myotis (*Myotis*
4 *yumanesis*, a federal species-of-concern with no state listing).

5
6 Habitat Category 3 occurs within the analysis area as unmanaged grasslands, pastures and
7 hayfields; mixed deciduous forest; and excavated perennial ponds. These areas serve as foraging
8 habitat for western bluebirds, vesper sparrows, and streaked horned larks.

9
10 Habitat Category 4 occurs within the analysis area as farmed wetland and drainage ditches. The
11 farmed wetlands provide summer foraging for western bluebirds and winter foraging for
12 waterfowl and shorebirds. The drainage ditches currently provide off-channel rearing habitat and
13 refuge for juvenile salmonids and Oregon chub (*Oregonichthys cramerii*, federal endangered).

14
15 Habitat Category 5 occurs within the analysis area as irrigated cropland, and it may provide
16 habitat for songbirds and small mammals.

17
18 Habitat Category 6 occurs within the analysis area as developed and/or disturbed land.

19 **Potential Terrestrial Habitat Impacts – Construction and Operation**

20 **Direct Terrestrial Habitat Impacts (Habitat Quantity).** Construction of the energy facility
21 and related or supporting facilities would take place within and would directly affect Habitat
22 Categories 2, 3, 4, 5 and 6. Construction and operation of the facility and related or supporting
23 facilities would permanently affect 39.227 acres and temporarily affect 29.414 acres. (TEC ASC
24 Supplement, September 2003, Exhibit P, Attachment P-9; TEC Original ASC, December 2001,
25 Exhibit B, page B-17).

26
27
28 Habitat Category 2 Impacts. Construction of the facility would permanently affect 0.037 acre of
29 Habitat Category 2. Permanent impacts would be to riparian forest as a result of installing 115-
30 kV electric transmission line towers. Temporary impacts associated with installation of a 700-
31 foot water supply pipeline and a 700-foot sewer pipeline connecting the facility to the City of
32 Turner water and sewer service would be avoided by the use of trenchless technology under both
33 the riparian forests and the Turner Bypass.

34
35 Habitat Category 3 Impacts. Construction of the facility would permanently affect 0.557 acre and
36 temporarily affect 0.063 acre, or a total of 0.869 acre of Habitat Category 3. Impacts would be to
37 wet pasture and deciduous forest. Permanent impacts would break down as follows: energy
38 facility site (0.376 acre); 230-kV electric transmission line towers (0.021 acre); and construction
39 parking and laydown area (0.160 acre).

40
41 Habitat Category 4 Impacts. Construction of the facility would permanently affect 18.873 acres
42 and temporarily affect 2.900 acres, or a total of 21.773 acres of Habitat Category 4. Impacts
43 would be to farmed wetland and pasture. Permanent impacts would break down as follows:
44 energy facility site (18.420 acres); 115-kV electric transmission line towers (0.003 acre); and
45 construction parking and laydown area (0.450 acre).

1
2 Habitat Category 5 Impacts. Construction of the facility would permanently affect 18.029 acres
3 and temporarily affect 26.372 acres, or a total of 44.401 acres of Habitat Category 5. Impacts
4 would be to irrigated cropland. Permanent impacts would break down as follows: energy facility
5 site (17.680 acres); natural gas pipeline interconnection (0.344 acre); and raw water pipeline
6 interconnection (0.005 acre).
7

8 Habitat Category 6 Impacts. Construction of the facility would permanently affect 1.731 acres
9 and temporarily affect 0.079 acre, or a total of 1.810 acres of Habitat Category 6. Impacts would
10 be to developed or disturbed land. Permanent impacts would break down as follows: energy
11 facility site (1.720 acres); 115-kV electric transmission line towers (0.005 acre); and 230-kV
12 electric transmission line towers (0.006 acre).
13

14 **Indirect Terrestrial Habitat Impacts (Habitat Quality).** Indirect effects on habitat quality
15 during construction and operation could occur due to noise, traffic, human activity, maintenance
16 activities and operation of the energy facility.
17

18 Construction: Construction of the proposed energy facility and installation of the transmission line
19 towers could affect the roosting and foraging activity of wildlife, including western bluebird, little
20 willow flycatcher, various bats, and other species. Effects would be most likely to occur if
21 construction were to take place during the periods of breeding or rearing or if construction were to
22 take place in close proximity to nesting or rearing sites. Impacts associated with ambient light
23 would be localized, and wildlife would be expected to habituate to lighting changes. Noise levels
24 would comply with DEQ regulatory limits, but could cause wildlife to temporarily avoid the
25 construction area during construction.
26

27 Operation: Potential indirect impacts from operation of the proposed facility include noise, light,
28 and maintenance activities. Noise from operation of the proposed energy facility would be fairly
29 constant and would meet DEQ noise regulations (TEC Revised ASC, January 2003, Exhibit X,
30 page X-5). TEC LLC anticipates that wildlife would become accustomed to the increase in noise
31 and human activity associated with the operation of the energy facility more readily than during
32 construction of the facility (TEC Revised ASC, January 2003, Exhibit P, page P-24). Light at the
33 proposed facility would comply with the commonly used standard of a maximum of five foot-
34 candles within 50 feet of the base of the light (TEC Revised ASC, January 2003, Exhibit P, page
35 P-24). Some reflected light would be emitted from the proposed facility, causing a diffuse glow
36 in the sky, but TEC LLC does not anticipate that the diffuse light would affect roosting bats in
37 the associated forest habitat.
38

39 TEC LLC does not expect operation of the transmission lines to pose a significant hazard to fish
40 and wildlife habitat, primarily because it designed the transmission lines to reduce the potential
41 for electrocution of birds. TEC LLC states that the transmission lines would not represent an
42 electrocution risk for raptors because of appropriate conductor spacing and grounded hardware.
43

44 All pipelines would be underground, and their operation would have low potential to cause
45 adverse impact to habitat.

1
2 TEC LLC proposes to construct a treated water storage pond on the energy facility site for the
3 storage of raw water that has been clarified. The pond would be lined with clay and would be
4 designed to store up to 5 million gallons of water. (TEC Revised ASC, January 2003, Exhibit B,
5 page B-9) The Department recognizes the possibility that raptors or other birds may be attracted
6 to and use the pond, although there currently is no specific evidence suggesting this will happen.
7 It is also possible that such use of the pond would pose a threat to the birds or cause degradation
8 of the water supply. The Department recommends that the Council adopt a condition in the site
9 certificate requiring TEC LLC to consult with ODFW and the Department within one year after
10 beginning operation of the facility to determine whether TEC LLC must implement additional
11 measures.

12
13 Maintenance of the transmission line right-of-way could affect fish and wildlife habitat. The
14 removal of trees, vehicular traffic and human activity within the corridor could potentially affect
15 nesting or rearing, foraging, and water quality. However, the effects are anticipated to be
16 temporary or minor, and TEC LLC has proposed mitigating for the effects.

17 18 **Potential Terrestrial Habitat Impacts – Retirement**

19 TEC LLC estimates that the useful life of the facility is 30 years. Pursuant to conditions and
20 Council rules, TEC LLC would restore the site to a useful, non-hazardous condition following
21 permanent cessation of construction or operation of the facility. Site restoration would consist
22 primarily of dismantling and removing unneeded equipment and structures (TEC Revised ASC,
23 January 2003, Exhibit W, page W-2).

24
25 Because the facility would be built and operated in accordance with applicable standards,
26 including the conditions of the site certificate, it is unlikely that soils or groundwater at the site
27 would become contaminated. The site would be graded to restore soil and original contours, and
28 all disturbed areas would be vegetated with native plant seed mixes or agricultural crops, as
29 appropriate, depending on the use of surrounding lands. (TEC Revised ASC, January 2003,
30 Exhibit W, page W-3).

31
32 In addition, as required by Council rules, the site certificate would require TEC LLC to submit a
33 retirement plan before permanent shutdown of the facility. The plan must include measures to
34 minimize impacts to fish and wildlife habitat and to ensure no net loss of habitat quantity or
35 quality with respect to essential or important habitat. For these reasons, the Department
36 recommends that the Council find that retirement of the facility is not likely to result in a
37 significant adverse impact to wildlife habitat.

38 39 **Mitigation for Terrestrial Habitat Impacts**

40 TEC LLC proposes measures to avoid and mitigate for direct and indirect impacts to wildlife
41 areas disturbed by construction, operation, and retirement of the proposed energy facility and the
42 related or supporting transmission lines.

43
44 TEC LLC proposes the following mitigation measures (TEC ASC Supplement, September 2003,
45 Exhibit P, pages 52-56):

1
2 To the extent practicable, the energy facility site, the water supply pipelines, the natural gas
3 pipeline, the sewer pipeline, and the electric transmission lines would be located in disturbed
4 areas or in areas with minimal habitat value. In addition, consistent with ODFW habitat
5 mitigation standards, TEC LLC has described mitigation actions it would implement to address
6 the Council's fish and wildlife habitat standard. To find that TEC LLC complies with OAR 345-
7 022-0060, the Department recommends that the Council adopt the following TEC LLC
8 commitments as conditions in the site certificate:
9

- 10 (1) **During construction of the facility, the certificate holder shall mitigate for**
11 **impacts to Habitat Category 2, 3, 4, 5 and 6 by the creation, restoration and**
12 **enhancement of 41.5 acres of habitat in areas designated as the Turner**
13 **Bypass, McKinney Creek, London and Meyer Mitigation Areas. Of these**
14 **acres, 35.72 acres shall be wetland and 5.78 acres shall be upland, including**
15 **riparian plantings.**
- 16
17 (2) **During construction of the facility, the certificate holder shall plant**
18 **deciduous trees in a low quality riparian area adjacent to the Turner Bypass**
19 **to mitigate for limited impacts to Habitat Category 2, comprising mixed**
20 **deciduous forests, riparian trees, and unmanaged grasslands.**
- 21
22 (3) **Before beginning construction of the facility, the certificate holder shall**
23 **institute erosion control measures at the Turner Bypass Mitigation Area.**
24 **Prior to grading, the certificate holder shall install a silt fence at the edge of**
25 **the grading limits. The area between the wetland mitigation area and the**
26 **Turner Bypass Ditch shall not be graded. The existing vegetation (tall fescue)**
27 **shall be left in place to act as a buffer and erosion filter between the**
28 **disturbed area and the Turner Bypass Ditch.**
- 29
30 (4) **During construction of the facility, the certificate holder shall create the**
31 **McKinney Creek Mitigation Area by converting a portion of the farmed**
32 **wetland (dominated by Himalayan blackberry) to palustrine, forested**
33 **wetland and by restoring habitat along McKinney Creek.**
- 34
35 (5) **During construction and throughout operation of the facility, the certificate**
36 **holder shall install and maintain fencing along Wipper Road to deter grazing**
37 **within the London and Meyer Mitigation Areas. The certificate holder shall**
38 **promote succession of the London Mitigation Area to scrub-shrub wetland**
39 **and transition of the Meyer Mitigation Area to native wet prairie.**
- 40
41 (6) **Following construction, the certificate holder shall return topography and**
42 **vegetation to pre-construction conditions or better in all areas of temporary**
43 **disturbance. In areas where natural vegetation has been removed, the**
44 **certificate holder shall plant native grasses and riparian vegetation using the**

1 species listed in Attachments P-14, P-15 and P-16 of the TEC Response to
2 Request for Additional Information #5 & 6, July 2003, Exhibit P.

- 3
4 (7) The certificate holder shall use certified "weed free" seed mixes and mulches
5 for restoration and revegetation.
6
7 (8) The certificate holder shall develop revegetation seed mixes and habitat
8 enhancement locations in consultation with ODFW.
9
10 (9) The certificate holder shall employ preventive measures to reduce the
11 introduction of noxious weeds by construction vehicles, *e.g.*, washing vehicles
12 before bringing them to the site and other best management practices.
13
14 (10) The certificate holder shall limit grading and clearing of vegetation to the
15 minimum extent necessary for practical and safe working areas.
16 :
17 (11) To mitigate for permanent impacts to 41.085 acres of riparian, pasture and
18 wetland habitat, the certificate holder shall protect 41.50 acres of (whether
19 enhanced, restored or created) on-site wetland and upland prairie, forested
20 and scrub-shrub wetland and riparian habitat by execution of a conservation
21 easement for the life of the project. Before beginning construction of the
22 facility, the certificate holder shall provide a copy of the conservation
23 easement or similar conveyance to the Department.
24

25 To find that TEC LLC complies with OAR 345-022-0060, the Department recommends that the
26 Council adopt the following standard conditions in the site certificate:

- 27
28 (12) The certificate holder shall prohibit construction and maintenance equipment from
29 entering perennial and intermittent streams, and shall avoid irrigation and drainage
30 ditches where practicable.
31
32 (13) The certificate holder shall use best management practices ("BMPs") for
33 topsoil protection, erosion and sediment control at the energy facility site and
34 along the transmission line ROW to avoid and/or minimize impacts to water
35 quality, wetlands, and riparian areas.
36
37 (14) The certificate holder shall minimize the use of herbicides during
38 maintenance of the energy facility and transmission line ROW. The
39 certificate holder shall use only herbicide approved for use near waterways
40 within 100 feet of wetlands or riparian areas.
41
42 (15) The certificate holder shall place waste material and spoils at least 100 feet
43 from wetlands and waterways.
44

- 1 **(16) Before beginning construction of the facility, the certificate holder shall**
2 **prepare and implement a Pollution Prevention and Spill Containment Plan.**
3
- 4 **(17) The certificate holder shall restore temporary disturbance areas by**
5 **returning the areas to their original grade and seeding, with appropriate seed**
6 **mixes and by mulching the areas with straw. The certificate holder shall**
7 **obtain ODFW concurrence before making any changes to the proposed seed**
8 **mix.**
9
- 10 **(18) During construction of the related or supporting transmission lines and**
11 **maintenance of the right-of-way, the certificate holder shall limit clearing of**
12 **vegetation to only that needed to prevent contact with the transmission lines.**
13 **The certificate holder shall not remove lower-growing tree and shrub species.**
14
- 15 **(19) The certificate holder shall, as soon as practicable and appropriate after**
16 **completing construction in a given area, implement the mitigation measures**
17 **specified.**
18
- 19 **(20) The certificate holder shall monitor revegetated areas for a period of five**
20 **years and shall ensure that new vegetation has an 80-percent survival rate.**
21
- 22 **(21) The certificate holder shall monitor and control nuisance and invasive plant**
23 **species annually for a period of five years in areas where vegetation removal**
24 **and/or revegetation had occurred.**
25
- 26 **(22) During the five-year reporting period, the certificate holder shall submit an**
27 **annual monitoring report to ODFW and the Department. Within one year**
28 **after completion of construction of the facility, the certificate holder shall**
29 **provide to ODFW and the Department a summary report that identifies the**
30 **revegetation actions it took and the results of revegetation monitoring**
31 **conducted at that time.**
32
- 33 **(23) Within three months after completion of the final annual monitoring survey,**
34 **the certificate holder shall provide to ODFW and the Department a report**
35 **that presents the results of its revegetation monitoring.**
36
- 37 **(24) If revegetation is not successful at establishing appropriate plant cover and**
38 **controlling erosion, the Department may require the certificate holder to**
39 **take remedial actions, including, but not limited to: planting additional**
40 **native vegetation, maintenance activities such as mowing invasive species,**
41 **and/or extending the monitoring period.**
42
- 43 **(25) Within one year after beginning operation of the facility, the certificate**
44 **holder shall consult with ODFW and the Department to determine whether it**
45 **must implement measures, consistent with the ODFW fish and wildlife**

1 **habitat mitigation goals and standards, to address any impacts resulting**
2 **from use of the treated water storage pond by raptors or other birds. If**
3 **ODFW and the Department deem measures necessary, the certificate holder**
4 **shall equip the treated water storage pond with such measures as ODFW and**
5 **the Department may deem appropriate.**
6

7 **Potential Aquatic Habitat Impacts – Construction and Operation**

8 **Proposed Water Use.** TEC LLC states that operation of the proposed facility would require
9 water at the maximum rate of 7.6 cubic feet per second (“cfs”), the rate at which the proposed
10 facility would demand water during peak periods. During non-peak periods, the proposed
11 facility’s water demand would be about 3.75 cfs. On an annual average basis, the proposed
12 facility would demand water at the rate of about 5.1 cfs.
13

14 As part of its site certificate application, TEC LLC is applying for a water right transfer of 7.6 cfs
15 that would become the facility’s primary water source. The water right transfer would occur
16 through an agreement between TEC LLC and a Norpac vegetable processing plant in Stayton to
17 transfer 7.6 cfs of a 1983 Norpac water right to appropriate 20 cfs from the North Santiam River
18 for cannery purposes. (In addition to the 20-cfs 1983 water right, Norpac also holds a 1960 water
19 right to appropriate 10 cfs from the North Santiam River for cannery purposes.) The Santiam
20 Water Control District (SWCD) would divert the water and deliver it to TEC using its system of
21 ditches and irrigation laterals.
22

23 TEC LLC has also requested approval of a supplemental water right for 7.6 cfs to ensure that
24 water would be available should the primary source become unavailable through river regulation.
25 The new water right would originate through an agreement between TEC LLC and Norpac that
26 would allow the proposed facility to use 7.6 cfs of Norpac’s spent, non-contact cooling water.
27 Norpac would deliver the spent cooling water by constructing an underground pipe from its plant
28 to an SWCD lateral called the Butler Lateral. The SWCD then would use its system of ditches
29 and irrigation laterals to deliver the water to TEC.
30

31 All or part of the supplemental water right would be used only in the event that all or part of the
32 water allocated under the primary water right became unavailable. In no event could TEC use
33 more than 7.6 cfs at any one time. The actual amount of the 7.6 cfs supplemental water right
34 available to TEC would be contingent upon Norpac’s operations.
35

36 **Historic Water Use.** In meetings with the Department, Norpac has stated that it currently diverts
37 both its 20 cfs and 10 cfs water rights from the North Santiam River daily, regardless of the level
38 of processing that occurs at its Stayton plant. Some amount of water is needed daily for
39 continuous plant refrigeration and other purposes. The water travels from the river to Norpac by
40 way of the Salem Ditch, a man-made canal about 4 miles long that was dug in the mid-1800s to
41 connect the North Santiam River to Mill Creek. The Salem Ditch is owned and operated by
42 SWCD.
43

44 According to application materials, Norpac uses about 5 cfs of the total 30 cfs in its vegetable
45 processing operations, land-applying the used process water. Norpac also withdraws an

1 unspecified amount of the 30 cfs to use for non-contact, once-through cooling water for plant
2 operations, returning the spent cooling water to the Salem Ditch. Norpac leaves an unspecified
3 amount of the 30 cfs in the Salem Ditch to mix with the spent cooling water discharge to meet
4 water temperature requirements imposed under its Department of Environmental Quality
5 (“DEQ”) discharge permit. Norpac’s spent cooling water (whether non-contact process water or
6 thermal dilution water) continues on through the Salem Ditch and into Mill Creek. Mill Creek
7 flows from its connection with the Salem Ditch west through the cities of Turner and Salem
8 before it empties into the Willamette River.
9

10 **Mill Creek.** Mill Creek originates in the hills above Silver Falls State Park east of Salem. The
11 winter flow in Mill Creek can exceed 200 cfs, but summer flow is a fraction of that number. The
12 Oregon Department of Water Resources (“WRD”) estimates Mill Creek’s natural flow in
13 August, as measured at the confluence of Mill Creek and the Willamette River, to be about 15.2
14 cfs. Existing water rights for Mill Creek in August total about 3.7 cfs, reducing the expected
15 natural flow to about 11.5 cfs. Mill Creek was withdrawn from further appropriation in 1950
16 except for storage water rights.
17

18 Mill Creek’s natural flow in the summer was low enough historically that early area settlers
19 undertook the task of digging the Salem Ditch to increase the flow of water in Mill Creek to the
20 City of Salem. For more than 100 years, Mill Creek’s natural flow has been influenced by
21 additional flow from the Salem Ditch. Today, most, and maybe all, of the “artificial flow” comes
22 from the SWCD’s delivery system for North Santiam River water to water right holders,
23 including the return of agricultural tailwater and the addition of Norpac’s cooling water to the
24 Salem Ditch and Mill Creek. The Department could find no current, consistent records, however,
25 to show how much artificial flow Mill Creek receives on any given day.
26

27 **Water Flow Changes.** TEC LLC has requested a water right transfer of 7.6 cfs to use as its
28 primary water right and a new water right of 7.6 cfs to use as its supplemental water right.
29 Should TEC LLC receive both its water right transfer and new water right, it would be
30 responsible for removing 15.2 cfs of flow from a 10-mile reach of Mill Creek and Salem Ditch.
31

32 The 7.6 cfs under the water right transfer would travel from the North Santiam River to the
33 Salem Ditch, exiting the ditch system at SWCD’s Butler Lateral for delivery through the
34 district’s lateral system to the proposed facility. Thus, the water right transfer would remove 7.6
35 cfs of water that otherwise presumably would have flowed as spent cooling water into Mill
36 Creek. In addition, 7.6 cfs of Norpac’s spent cooling water for which TEC LLC would obtain a
37 new water right would be diverted to the Butler Lateral by means of the pipeline to be installed
38 by Norpac and transported to the TEC by means of SWCD’s lateral system. Under an agreement
39 between TEC LLC and Norpac, the water would travel this route even when unused by TEC
40 because of Norpac’s interest in removing its heated cooling water from the Salem Ditch. If TEC
41 did not need to call upon the supplemental water right, the water would continue to flow through
42 the district’s lateral system and enter, now cooler, into Mill Creek near the City of Turner. Thus,
43 the new supplemental water right would remove 7.6 cfs from a 10-mile stretch of Mill Creek and
44 Salem Ditch, regardless of whether TEC called upon the supplemental right.
45

1 **Mitigation Standard.** In its application materials, TEC LLC classified Mill Creek as Habitat
2 Category 2 under the Department of Fish and Wildlife’s (“ODFW”) habitat classification system.
3 Mill Creek is designated critical habitat for Upper Willamette River steelhead trout and Upper
4 Willamette River Chinook salmon, both of which are federally listed as “threatened.” Mill Creek
5 also provides suitable habitat for the Oregon chub, which is federally listed as “endangered.” The
6 mitigation goal for Habitat Category 2 is “no net loss of either habitat quantity or quality, and to
7 provide a net benefit of habitat quantity or quality.” Mitigation efforts must be in-kind and in-
8 proximity.
9

10 The Department has worked with ODFW to determine, when applying ODFW’s habitat
11 classification system to TEC’s proposed water use, just what constitutes “no net loss of either
12 habitat quantity or quality.” On a different site certificate application, ODFW used its applied-for
13 in-stream water right for the river in question to define “no net loss.” Any withdrawal by the
14 applicant that would reduce flows beneath the in-stream water right level would constitute a net
15 loss. This would hold true even though the requested withdrawal on that application was for
16 wastewater discharged to the river by water treatment plants rather than for “natural flow.”
17 ODFW’s practice is to consider impacts based on existing habitat conditions rather than on a
18 river’s natural flow.
19

20 The situation is somewhat different for the TEC application. ODFW does not have an in-stream
21 water right for Mill Creek on which to base a definition of “no net loss.” In addition, there are no
22 current, consistent data available to help determine existing water flow conditions for Mill
23 Creek. Any Mill Creek flows above the natural flows (as defined by WRD) appear to be reliant
24 upon SWCD’s daily private decisions about how to manage its irrigation district and upon the
25 needs of individual water right holders whose water is delivered by SWCD.
26

27 After TEC LLC submitted its revised application in January 2003 to switch from an air-cooled to
28 a water-cooled plant design, TEC LLC then worked with ODFW and SWCD to create a plan in
29 which TEC LLC would perform fish screening to fulfill all of its mitigation obligations. SWCD’s
30 system of canals, ditches and laterals remain largely unscreened, providing potential dead-end or
31 otherwise inappropriate access for wandering Chinook salmon, steelhead and Oregon chub,
32 species protected under state or federal programs. TEC LLC worked with ODFW and SWCD for
33 nine months to define locations at which TEC LLC would provide fish screens or barriers to
34 isolate the rest of SWCD’s system from the Salem Ditch and Mill Creek.
35

36 However, ODFW subsequently determined in October 2003 that fish screening, while providing
37 a net benefit, would not sufficiently mitigate for “net loss of either habitat quantity or quality.”
38 ODFW did not define “net loss” or suggest an amount for which the proposed facility would
39 need to mitigate. ODFW did define its area of concern for mitigation purposes: “[T]he 7.6 lineal
40 miles of Mill Creek from the Salem Ditch – Mill Creek confluence downstream to the Turner
41 Bypass, and approximately 2.6 lineal miles of the Salem Ditch from the Norpac facility
42 downstream to the Salem Ditch – Mill Creek confluence.”
43
44
45

1 **Mitigation Proposal for Aquatic Habitat Impacts**

2 **Fish Screening.** In response to ODFW’s new concerns, the Department continued working with
3 TEC LLC and SWCD to evaluate potential mitigation options. On January 29, 2004, TEC LLC
4 submitted Amendment #2 to its application, in which it proposed a “water reuse plan.” The plan
5 proposed meeting the “net benefit” mitigation requirement by installing fish screens or barriers at
6 16 of the previously identified locations to keep fish that migrate through and/or rear in Mill
7 Creek, its tributaries and the Salem Ditch from entering SWCD’s system of laterals and ditches.
8

9 **Dedicated Flow.** TEC LLC’s Amendment No. 2 proposed meeting the “no net loss in habitat
10 quantity or quality” mitigation requirement by contracting with SWCD to manage its water
11 delivery systems to provide a guaranteed flow into Mill Creek from the Salem Ditch between
12 April 15 and August 31. TEC LLC’s environmental consultant pinpointed April 15 through
13 August 31 as the period during which TEC’s water use could cause Mill Creek flows to fall
14 below sufficient levels for the fish species of concern, presumably because natural flows were
15 sufficient to meet fish needs during the other months. The purpose of the SWCD-contracted flow
16 would be to replace the flow used by TEC for the 10-mile stretch of concern identified by
17 ODFW. TEC LLC’s proposal would require no additional withdrawals from the North Santiam
18 River.
19

20 TEC LLC proposed a three-tiered method for determining how much contracted flow to provide:
21

- 22 • SWCD would provide a 15 cfs flow when TEC LLC exercises its primary water right
23 from the North Santiam River and when Norpac is discharging the 7.6 cfs for the
24 supplemental water right to the Butler Lateral.
- 25 • SWCD would provide an 8 cfs flow when TEC LLC exercises its primary water right but
26 Norpac is not discharging the 7.6 cfs for the supplemental water right to the Butler
27 Lateral. (i.e., Norpac is not operating.)
- 28 • SWCD would provide no flow when TEC LLC is not exercising its primary water right.
29

30 **Department Response to Mitigation Proposal for Aquatic Habitat Impacts**

31 **Fish Screening.** In a comment letter to the Department dated March 1, 2004, ODFW concurred
32 that TEC LLC’s fish screening plan would meet the “net benefit” mitigation requirement. The
33 Department recommends that the Council find that TEC LLC’s plan to install 16 fish screens or
34 barriers at designated locations meets the “net benefit” mitigation requirement.
35

36 In its ASC, TEC LLC describes actions that are designed to address the Council’s fish and
37 wildlife habitat standard. The Department recommends that the Council consider the following
38 actions to be commitments by TEC LLC. To find that TEC LLC complies with the net benefit
39 portion of OAR 345-022-0060, the Department recommends that the Council adopt the
40 following conditions in the site certificate:
41

- 42 **(26) Before beginning operation of the energy facility, the certificate holder shall**
43 **enter into an agreement with the Santiam Water Control District (“SWCD”)**
44 **to install 16 fish screens or barriers at connections of the SWCD system of**

1 laterals and ditches with Mill Creek, its tributaries, and the Salem Ditch to
2 prevent fish that migrate through Mill Creek, its tributaries, and the Salem
3 Ditch from entering SWCD's system of laterals and ditches.
4

5 (27) Before beginning operation of the energy facility, the certificate holder shall
6 install 16 fish screens or barriers at connections of the SWCD system of
7 laterals and ditches with Mill Creek, its tributaries, and the Salem Ditch to
8 prevent fish that migrate through Mill Creek, its tributaries, and the Salem
9 Ditch from entering SWCD's system of laterals and ditches. Such installation
10 shall be substantially as described in Amendment No. 2 to the certificate
11 holder's Application for a Site Certificate and shall be subject to review and
12 approval by the Department.
13

14 (28) Throughout operation of the energy facility, the certificate holder shall
15 ensure that the 16 fish screens or barriers are properly maintained and
16 performing as intended.
17

18 **Dedicated Flow.** The Department recommends that the Council approve with changes TEC
19 LLC's concept of mitigating for its water use by contracting with SWCD for a guaranteed flow
20 into Mill Creek from the Salem Ditch. The fish screening proposed by TEC LLC as a net benefit
21 would effectively prevent SWCD's system of canals, laterals and ditches from serving as
22 unsuitable fish habitat. As a result, SWCD could manipulate its system such that a certain
23 amount of water that might have traveled any of several ways through the screened system to
24 reach its destination would instead travel through the Salem Ditch to Mill Creek to provide
25 habitat water along the way. TEC LLC proposes installing a flow meter in the Salem Ditch at an
26 appropriate point to ensure the flow remains at or above the amount of the contractual
27 commitment.
28

29 The Department initially was concerned that SWCD could "double count" flows such that it
30 fulfilled its contractual obligation to TEC LLC by simply counting existing flows that would
31 continue to travel the same direction. Norpac's spent cooling water now travels the Salem Ditch-
32 to-Mill Creek route. The City of Salem has rights to 102 cfs of North Santiam River water for
33 aesthetic purposes, and the water to fulfill those rights may on any given day travel the same
34 route, as well.
35

36 However, there is no guarantee that the water rights or discharges that may currently contribute
37 to Mill Creek's artificial flow will continue to do so in the future. For example, there is Norpac's
38 desire to remove its spent cooling water from the Salem Ditch – with or without the TEC project
39 – to meet anticipated future DEQ water quality criteria. In addition, should Norpac close its
40 Stayton plant, its spent cooling water would not flow into Mill Creek. Further, on any given day,
41 the City of Salem or other water right holders may request that SWCD not deliver their water, or
42 they may request changes to their water rights that remove their water from the system. SWCD
43 has control only over how water right holders receive their water and not over how they choose
44 to exercise their water rights.
45

1 In addition, the Department has learned that no guarantee exists that water delivered to a water
2 right holder will travel a certain path even in the rare instance when the right specifies that the
3 water in question must travel a certain path. The City of Salem holds a 70 cfs water right
4 (certificate #65400) for aesthetic purposes. That water right appears to require the water to travel
5 from the North Santiam River to the City of Salem by way of the Salem Ditch and Mill Creek.
6 However, under Oregon water law, a water right remains valid as long as it is exercised fully
7 once every five years. Thus, the 70 cfs need only travel the specified route once every five years
8 to protect the validity of the water right. Should SWCD decide on any given day to minimize
9 withdrawals from the North Santiam River by providing the City of Salem its 70 cfs in the form
10 of agricultural tailwater that enters Mill Creek well below the Salem Ditch, it appears to have
11 that ability every day but one during a five-year period.

12
13 Practically speaking, the water SWCD would guarantee under a contract with TEC LLC may
14 already flow on any given day from the Salem Ditch to Mill Creek. Yet there is no guarantee that
15 the same amount of water would flow continuously or at all in the absence of a contractual
16 obligation binding SWCD to maintain a certain flow level. In addition, should the North Santiam
17 be regulated because of a water shortage, it is likely that SWCD would, as a very senior water
18 right holder, be able to meet its contractual obligations to TEC LLC while other artificial flows
19 into Mill Creek might dry up.

20
21 Given that little is certain today about the consistency of artificial flows in Mill Creek, the
22 Department recommends that the Council approve with changes the concept of a dedicated,
23 consistent flow to mitigate for TEC's proposed water use. The Department notes that ODFW
24 recommended a similar concept for Mill Creek in its March 1992 "Santiam and Calapooia
25 Subbasin Fish Management Plan." In that plan, ODFW cited as an objective within the subbasin
26 the need to provide necessary in-stream flows for fish production. To achieve that objective,
27 ODFW targeted several actions, including one for Mill Creek: "Coordinate with the Santiam
28 Water Control District to provide necessary flows in Mill Creek during fall chinook migration."

29
30 The Department does not recommend, however, that the Council approve TEC LLC's proposal
31 to use a tiered structure to determine the amount of dedicated flow that would occur at any given
32 time. Rather than provide a measure of stability for Mill Creek, the tiered structure would
33 reinforce the uncertainty inherent in Mill Creek's artificial flow. A mitigation plan that might
34 provide fish with a certain amount of water on Monday and only half that amount of water on
35 Tuesday would not necessarily ensure there would be no net loss of critical habitat. Furthermore,
36 TEC LLC's proposal to provide no mitigation water on a day when TEC LLC decides not to
37 exercise its water rights fails to account for the fact that TEC's water still would be removed
38 from the Mill Creek stretch of concern. Water for the proposed primary water right would remain
39 in the North Santiam River should TEC LLC decide not to exercise that right. Water for the
40 proposed supplementary right would travel from Norpac to the Butler Lateral regardless of
41 TEC's operation status.

42
43 Instead, the Department recommended to TEC LLC that it contract with SWCD to deliver 15.2
44 cfs of dedicated flow year-round from the Salem Ditch to Mill Creek. WRD's records show Mill
45 Creek has natural flows in November through May that range from a low of 56.6 cfs to a high of

1 236 cfs. It may well be that no “net loss” of habitat would occur in Mill Creek during these
2 months as a result of TEC LLC’s use of 15.2 cfs of the creek’s artificial flow. In that case, TEC
3 LLC might need to contract for a dedicated flow during only certain months of the year.
4 However, because the Department could not recommend that the Council make that
5 determination in the absence of a thorough flow study of Mill Creek, it is recommending a year-
6 round flow that would mitigate for TEC LLC’s effects during low-water months and perhaps
7 provide extra benefit for Mill Creek during higher water months.

8
9 In an April 7, 2004, e-mail to the Department, TEC LLC agreed with the Department’s
10 recommendation of a dedicated year-round flow, with several conditions. First, TEC LLC
11 requested that the site certificate conditions clearly provide that SWCD would be allowed to
12 reduce the flow in the Salem Ditch during major storm events to reduce the potential for
13 downstream flooding along Mill Creek and during periodic or emergency maintenance of the
14 Salem Ditch.

15
16 Second, TEC LLC also proposed in the e-mail that site certificate conditions specify the
17 circumstances under which its obligation to mitigate for the water rights would be reduced
18 without the need for a site certificate amendment:

19
20 “The minimum flow commitment will be sustained for as long as the water rights are
21 permitted for use at TEC, even if one or the other right is not being used at a given time.
22 However, if one or both of the water rights is later canceled, the minimum flow
23 commitment will be reduced accordingly – e.g., if Norpac closes its Stayton facility
24 effectively eliminating the source for the supplemental water right (7.6 cfs), the minimum
25 flow commitment would be reduced by 7.6 cfs.”

26
27 The Department recommends that the Council find that the site certificate should specifically
28 address TEC LLC’s future mitigation obligations in connection with the supplemental water
29 right. The Department also recommends that the Council find that TEC LLC should not have to
30 mitigate for a water source that is no longer available and for a water use it no longer enjoys
31 through actions over which it has no control. Thus, the Department has included for the
32 Council’s consideration condition language that specifically allows reducing the mitigation
33 obligation if TEC LLC’s supplemental water right is no longer available because of actions taken
34 by Norpac.

35
36 TEC LLC’s request for reduction of its mitigation obligation also extended to actions taken by
37 TEC to cancel its water rights. The Department recommends that the Council approve TEC
38 LLC’s request for reduction in the mitigation obligation if TEC LLC cancels the supplemental
39 water right is reasonable. If TEC LLC cancels that water right, control over the disposition of the
40 spent cooling water would return to Norpac. TEC LLC would no longer be responsible for
41 removing the flow from Mill Creek. Further, under OAR 345-027-0050, cancellation of the
42 supplemental water right would not constitute a change to the site certificate that would require a
43 site certificate amendment. No significant impact to resources protected under the Council’s
44 standards would occur as a result of TEC LLC ceasing to make use of Norpac’s spent cooling
45 water as a back-up water source. Neither would the cancellation impair TEC LLC’s ability to

1 comply with a site certificate condition or require a new condition. Thus, the Department has
2 also included for the Council's consideration condition language that specifically allows
3 reducing the mitigation obligation if TEC LLC cancels its supplemental water right.
4

5 However, the Department does not recommend that the Council find that the mitigation
6 obligation should be reduced should TEC LLC decide to cancel its primary water right. The
7 primary water right, a transfer from Norpac's existing water right, will be drawn from the North
8 Santiam River and diverted by TEC LLC before it reaches Mill Creek. If TEC LLC cancels its
9 primary water right, the water would remain in the North Santiam River, permanently removing
10 the 7.6 cfs from Mill Creek. In other words, by virtue of its water right transfer, TEC LLC would
11 cause the 7.6 cfs in question to be removed from Mill Creek whether TEC LLC used the water
12 for operation or cancelled the right. As a result, the Council would have to decide whether TEC
13 LLC should still be responsible for having removed the 7.6 cfs from Mill Creek by continuing
14 mitigation despite cancellation of the water right.
15

16 The Department discussed with TEC LLC the ability to request converting the 7.6 cfs primary
17 water right to a Mill Creek in-stream water right should TEC LLC decide upon cancellation.
18 However, the Department recommends that the Council determine that such decisions would be
19 better left to the time of any cancellation to take advantage of current thinking about Mill Creek
20 management and inter-basin water transfers for in-stream water rights. Furthermore, the
21 Department can envision TEC LLC relinquishing its primary water right only in the event that it
22 has found a new water source or is changing its cooling technology. In either case, under OAR
23 345-027-0050, the action would require a site certificate amendment. Any decisions about TEC
24 LLC's continuing mitigation requirements for the primary water right would best be considered
25 under that amendment.
26

27 **ODFW Comments on Mitigation Proposal for Aquatic Habitat Impacts.** In a comment letter
28 to the Department dated March 1, 2004, ODFW noted that TEC LLC's mitigation proposal was
29 close to meeting ODFW's Category 2 no net loss habitat mitigation criteria for water quantity
30 impacts. ODFW suggested that the proposal could meet the criteria if the following six
31 conditions applied. The Department's responses are included after each condition.
32

- 33 1. **The level of mitigation is maintained at the maximum level of possible use,**
34 **e.g. 15.2 cfs (7.6 cfs for each water right).** The Department agrees and has
35 recommended mitigation at the 15.2 cfs level.
36
- 37 2. **The 15.2 cfs flow augmentation occurs year-round.** The Department agrees and
38 has recommended mitigation year-round.
39
- 40 3. **The 15.2 cfs commitment must reach Mill Creek and be protected to the**
41 **Turner Bypass.** TEC LLC has proposed monitoring the dedicated flow's entry
42 into Mill Creek by placing a monitor at an appropriate point to ensure a minimum
43 of 15.2 cfs travels from the Salem Ditch into Mill Creek. SWCD would deliver
44 the 15.2 cfs as part of its obligation to provide the City of Salem with 102 cfs
45 daily for aesthetic purposes, thus protecting the flow well past the Turner Bypass.

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4. **The 15.2-cfs commitment is a condition of TEC LLC’s water rights. For example, a condition on each water right might read: “This water right is available for appropriation provided that TEC LLC maintains 15.2 cfs of water in the Salem Ditch to the confluence of Mill Creek and downstream to the Turner Bypass, approximately ___ miles.”** ODFW requested this condition to ensure that the proposed mitigation would remain in place as long as the water rights were in use. While it is not appropriate for this condition to be included in a water right, the Department recommends that the Council impose the obligation as a condition of the site certificate. WRD regulates only for water rights of record, and the 15.2 cfs dedicated flow is not a water right of record. Instead, the 15.2 cfs dedicated flow is the result of a commitment by TEC LLC to contract with another entity to flow water through Mill Creek so as to meet TEC LLC’s mitigation requirement. This contract is appropriately enforced by the Council and not by WRD. The Department believes the Council can provide the condition ODFW seeks under the site certificate. In a June 14, 2004, e-mail to the Department, ODFW concurred with the Department’s inclusion of such a condition in the site certificate.
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5. **The agreement with the SWCD is, at a minimum, in the form of a long-term lease for the life of the project.** The Department agrees to the extent that TEC LLC retains control over both water rights for the life of the project. As discussed above, the Department recommends that TEC LLC be relieved of its water mitigation responsibilities should it relinquish the 7.6 cfs supplemental water right or should the spent cooling water under that water right become unavailable.
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6. **The 15.2 cfs is maintained in the Salem Ditch and Mill Creek above other commitments required of the SWCD. For example, if SWCD already must pass 30 cfs to Mill Creek for other water rights, the 15.2 cfs flow must be in addition to this obligation.** As discussed earlier, SWCD has no consistent obligation to flow water into the Salem Ditch or Mill Creek. In most cases, SWCD has an obligation to deliver water to a water right holder and not an obligation to deliver water along a designated path. In the rare instance where a water right designates a path, SWCD may fulfill that obligation and preserve the water right by delivering water along the designated path only one day out of five years. In addition, should the Salem Ditch-to-Mill Creek route be the only delivery route available for specific water rights, the flow still could vary for those water rights depending on water user requests, time of year and river regulation. The Department could find no method for pinpointing a baseline flow upon which to build a mitigation plan. As a result, asking TEC LLC to contract with SWCD for 15.2 cfs on top of a baseline flow in essence is asking TEC LLC to mitigate for more water than it proposes to use.

44 The Department understands ODFW’s concern about what appears to be the
45 potential for “double-counting” on SWCD’s part. If, for example, SWCD makes it

1 a practice of sending the City of Salem its 102 cfs via the Salem Ditch and Mill
2 Creek, SWCD need do nothing different to fulfill its obligation under a contract
3 with TEC LLC. The fact remains, however, that SWCD has no obligation to send
4 any flow in any specific direction on a daily basis. TEC LLC's contract with
5 SWCD would guarantee a 15.2 cfs dedicated flow in Mill Creek for which there is
6 now no guarantee.
7

8 Based on the above discussion, the Department recommends that the Council find that TEC
9 LLC's proposal, as conditioned, meets ODFW's mitigation requirement for no net loss in habitat
10 quantity or quality as is required for aquatic Habitat Category 2.
11

12 To find that TEC LLC complies with OAR 345-022-0060, the Department recommends that the
13 Council adopt the following conditions in the site certificate:
14

- 15 **(29) Before beginning operation of the energy facility, the certificate holder shall**
16 **enter into an agreement with SWCD whereby SWCD guarantees: (a) that**
17 **SWCD will cause 15.2 cfs of water to flow from the Salem Ditch into Mill**
18 **Creek at all times, except during major flood events or during emergency or**
19 **periodic, planned maintenance of the Salem Ditch in full conformance with**
20 **all applicable state and federal requirements for in-ditch work, and (b) that**
21 **SWCD ensures that periodic, planned maintenance of the Salem Ditch shall**
22 **occur outside of the irrigation season. The agreement shall allow for**
23 **reduction of the guaranteed flow from 15.2 cfs to 7.6 cfs if Norpac no longer**
24 **makes its cooling water available to TEC LLC for appropriation or the**
25 **certificate holder relinquishes the supplemental water right based on the use**
26 **of Norpac's spent cooling water. Before executing the agreement, TEC LLC**
27 **shall submit the agreement to the Department for review.**
28
- 29 **(30) Before beginning operation of the energy facility, the certificate holder shall**
30 **install a flow meter at or near the confluence of the Salem Ditch and Mill**
31 **Creek. The exact location, configuration, and capabilities of the flow meter**
32 **shall be determined in consultation with the Department.**
33
- 34 **(31) During operation of the energy facility, the certificate holder shall maintain**
35 **regular records of flows from the Salem Ditch to Mill Creek, as measured at**
36 **the flow meter and at intervals to be determined in consultation with the**
37 **Department and shall make such records available for inspection by the**
38 **Department at the Department's request.**
39
- 40 **(32) If at any time during operation of the energy facility SWCD is unable or**
41 **unwilling to fulfill its obligation to cause the dedicated flow (15.2 cfs or 7.6**
42 **cfs, whichever applies) from the Salem Ditch into Mill Creek, subject only to**
43 **the exceptions set forth in Condition D.8(20), the certificate holder shall cease**
44 **exercising its water rights until such time as SWCD resumes fulfilling its**
45 **obligations to cause the dedicated flow from the Salem Ditch to Mill Creek.**

1
2 The Council customarily imposes a standard condition requiring the certificate holder to
3 maintain a minimum distance of 300 feet between wetlands and waterways and chemical storage
4 areas, service areas for construction or maintenance equipment, parking areas, and overnight
5 storage areas for wheeled vehicles. This condition is intended to prevent runoff from such areas
6 from entering the wetlands and waterways. Due to design constraints, TEC LLC would not be
7 able to meet this condition. Therefore, to find that TEC LLC complies with OAR 345-022-0060,
8 the Department recommends that the Council adopt the following condition in the site certificate:
9

10 **(33) During construction of the facility, the certificate holder shall install berms**
11 **adjacent to any and all wetlands or waterways that lie within 300 feet of**
12 **chemical storage areas, service areas for construction or maintenance**
13 **equipment, parking areas, or overnight storage areas for wheeled vehicles.**
14 **The berms shall be of suitable height and design to ensure that runoff from**
15 **these areas is prevented from entering the wetlands and waterways.**
16

17 Consistency with ODFW Goals: The Department recommends that the Council find that, subject
18 to the conditions adopted in this Order, the facility is consistent with the ODFW fish and wildlife
19 habitat goals and standards for the reasons stated below.
20

- 21 • The proposed facility would not affect Habitat Category 1.
- 22
- 23 • The proposed facility would permanently affect 0.037 acres of terrestrial Habitat
24 Category 2 (riparian forest). All mitigation proposed by TEC LLC (41.5 acres)
25 would create, enhance or restore habitats of poorer quality to Habitat Category 2.
26 TEC LLC would meet the mitigation goal (net benefit of quantity and quality) by
27 restoring what is currently irrigated cropland to high quality upland and wetland
28 forest (including riparian) habitat.
29

30 In addition, the proposed facility would affect aquatic Habitat Category 2 in Mill
31 Creek. TEC LLC would meet the mitigation goal (net benefit of quantity and
32 quality) by causing the installation of 16 fish screens or barriers at connections of
33 the SWCD system of laterals and ditches with Mill Creek, its tributaries, and the
34 Salem Ditch to prevent fish that migrate through Mill Creek, its tributaries, and
35 the Salem Ditch from entering SWCD's system of laterals and ditches and by
36 ensuring that SWCD would cause 15.2 cfs of water to flow from the Salem Ditch
37 into Mill Creek at all times, except during major flood events or during
38 emergency or periodic, planned maintenance of the Salem Ditch. The 15.2 cfs
39 would be reduced to 7.6 cfs in the event TEC LLC were to relinquish its
40 supplemental water right for the use of Norpac's spent cooling water.
41

- 42 • Impacts to Habitat Categories 2, 3 and 4 have been avoided where practicable by
43 locating the energy facility site, water supply, natural gas and sewer pipelines and

1 the electric transmission lines in disturbed areas or in areas with minimal habitat
2 value.

- 3
- 4 • The proposed facility would result in .557 acres of permanent impacts to Habitat
5 Category 3; 18.873 of Habitat Category 4; and 18.029 acres of Habitat Category
6 5. To mitigate for the permanent impacts to these areas, TEC LLC would enhance
7 and restore land within the facility boundary to improve wildlife habitat values to
8 terrestrial Habitat Category 2. TEC LLC would meet the mitigation goals by
9 providing net benefit of habitat quality.
- 10
- 11 • The proposed facility would affect 1.731 acres of Habitat Category 6. TEC LLC
12 would meet the mitigation goal (minimize impacts) by using an existing
13 transmission line corridor.
- 14
- 15 • The total mitigation area would comprise about 41.5 acres. Habitat enhancement
16 would include restoration of irrigated croplands, restoration of both agricultural
17 wetland and upland to native prairie, enhancement of riparian areas through
18 removal of Himalayan blackberry, and establishment of native trees and shrubs.
19 Additionally, the London and Meyer Mitigation Areas adjacent to Wipper Road
20 would be fenced to deter grazing. The London Mitigation Area would be allowed
21 to naturally succeed to palustrine scrub-shrub wetland and the Meyer Mitigation
22 Area would be seeded to create native wet prairie.
- 23

24 **Summary**

25 The Department recommends that the Council find that, taking into account the mitigation
26 proposed by TEC LLC, the facility would result in no net loss of habitat quantity or quality and
27 would result in a net benefit to Habitat Category 2. The Department further recommends that the
28 Council find that the facility is consistent with the fish and wildlife habitat mitigation goals and
29 standards of OAR 635-415-0025 in effect as of September 1, 2000.

30 **Conclusion**

31 The Department recommends that the Council find that, subject to the conditions stated in this
32 Order, TEC LLC meets the fish and wildlife habitat standard, OAR 345-022-0060.

33 **D.9. THREATENED AND ENDANGERED SPECIES, OAR 345-022-0070**

34 To issue a site certificate, the Council, after consultation with appropriate state agencies,
35 must find that:

- 36 (1) For plant species that the Oregon Department of Agriculture has listed as
37 threatened or endangered under ORS 564.105(2), the design, construction,
38 operation and retirement of the proposed facility, taking into account mitigation:
 - 39 (a) Are consistent with the protection and conservation program, if any, that
40 the Oregon Department of Agriculture has adopted under ORS
41 564.105(3); or
42
43
44

- 1 (b) If the Oregon Department of Agriculture has not adopted a protection and
2 conservation program, are not likely to cause a significant reduction in the
3 likelihood of survival or recovery of the species; and
4 (2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as
5 threatened or endangered under ORS 496.172(2), the design, construction,
6 operation and retirement of the proposed facility, taking into account mitigation,
7 are not likely to cause a significant reduction in the likelihood of survival or
8 recovery of the species.
9

10 Discussion

11 The analysis area for threatened and endangered species is the area within the site boundary and
12 within five miles of the site boundary.
13

14 Threatened and Endangered Plant Species

15 “Threatened and endangered plant species” means species listed as threatened or endangered by
16 the state under ORS 564.105 and by the federal government under 16 USC 1533. The Oregon
17 Department of Agriculture (“ODA”) designates state-listed threatened or endangered plant
18 species under ORS Chapter 564 and OAR Chapter 603, Division 73. TEC LLC contacted ODA
19 for information about listed plant species and any applicable protection and conservation
20 programs. TEC LLC also consulted with the U.S. Fish and Wildlife Service (“USFWS”), the
21 National Oceanic and Atmospheric Administration (“NOAA”), and the Oregon Natural Heritage
22 Information Center (“ORNHIC”) for information about listed and sensitive species.
23

24 TEC LLC defined the “Field Study Area” as the area upon which the proposed energy facility
25 and related or supporting facilities would be sited. TEC LLC conducted botanical field ground
26 surveys within the Field Study Area on May, June, July and October 2001.
27

28 No state-listed threatened plant species are documented as occurring in the Field Study Area.
29 However, the federal- and state-listed threatened species, Nelson’s checkermallow (*Sidalcea*
30 *nelsoniana*), was documented in the analysis area. The natural gas pipeline lateral corridor has
31 been moved to avoid impacts with this species. There is no conservation plan for this species.
32

33 Additionally, five other listed plant species and two candidates for listing are reported by
34 ORNHIC to have potential habitat within the analysis area: golden Indian paintbrush (*Castilleja*
35 *levisecta*)(E), Willamette daisy (*Erigeron decumbens*)(E), howellia (*Howellia aquatilis*)(T),
36 Bradshaw’s desert-parsley (*Lomatium bradshawii*)(E), shaggy horkelia (*Horkelia congesta* ssp.
37 *congesta*)(C), Kincaid’s lupine (*Lupinus sulphureus* ssp. *kincaidii*) (T), and Willamette Valley
38 larkspur (*Delphinium nuttallii*)(C).
39

40 Golden Indian paintbrush was last reported within the study area in 1916, though observers now
41 consider the species to be extirpated from Oregon. The latest observation of Willamette daisy
42 was in 1991, northwest of the City of Sublimity, several miles to the west of the proposed
43 facility. All other observations of this species date back to 1924. Howellia was last observed in
44 the study area in 1935 on a site that is now developed. Observers now believe this species to be
45 extirpated from Oregon. Bradshaw’s desert-parsley was last documented in the study area in

1 1916 in Salem, and observers now believe this species to be extirpated from the area. Shaggy
2 horkelia was last documented approximately 1/3 mile northwest of the proposed energy facility
3 in 1938. The last observation of Kincaid's lupine was 3 miles SW of Salem in 1916. Two
4 different populations of Willamette Valley larkspur were documented within the study area in
5 2001; both were reported several miles northwest of the proposed energy facility site.
6

7 Potential Impacts on Plants: TEC LLC conducted species surveys within the Field Study Area.
8 None of the listed or candidate species were found during these species surveys. However,
9 Nelson's checkermallow was found in the broader analysis area and has occurred on the
10 proposed facility site in the past. The proposed natural gas pipeline lateral corridor was relocated
11 to avoid impacts to nearby populations.
12

13 **Construction and Operation**

14 Direct Impacts (Habitat Quantity)

15 There are no anticipated direct impacts to threatened, endangered or candidate plant species or
16 their habitat on the proposed facility site, including the proposed related or supporting facilities
17 sites.
18

19 Indirect Impacts (Habitat Quality)

20 There are no anticipated indirect impacts to threatened, endangered or candidate plant species or
21 their habitat on the proposed facility site, including the proposed related or supporting facilities
22 sites.
23

24 **Retirement**

25 Pursuant to conditions and Council rules, upon permanent cessation of construction or operation
26 of the proposed facility, TEC LLC would be required to restore the site to a useful, non-
27 hazardous condition. Site restoration would consist primarily of dismantling and removing
28 unneeded equipment and structures. TEC LLC would likely leave electric, gas and water
29 transmission lines in place to serve new uses at the site. (TEC Revised ASC, July 2003, Exhibit
30 W, page W-2).
31

32 In addition, as required by Council rules, TEC LLC would be required to submit a retirement
33 plan before permanent shutdown of the facility. The plan must include measures to minimize
34 impacts to listed threatened, endangered or candidate species.
35

36 Retirement of the proposed facility, including the proposed related or supporting facilities, is not
37 expected to result in adverse impacts to listed threatened, endangered or candidate plant species
38 or their habitat.
39

40 Avoidance/Mitigation Measures: TEC LLC proposes measures to avoid potential impacts to
41 listed plant species by:
42

- 43 1. Conducting pre-construction ground surveys for each species within the Field
44 Study Area at the appropriate time of year (TEC Revised ASC, July 2003, Exhibit
45 Q, pages Q-15 and Q-16).

- 1 2. Relocating the natural gas pipeline lateral corridor to avoid populations of listed
2 species (TEC Revised ASC, July 2003, Exhibit Q, page Q-13).
- 3 3. If listed plants are discovered during construction, TEC would consult with ODA,
4 and plants would be removed and transplanted to mitigation areas. (TEC Revised
5 ASC, July 2003, Exhibit Q, page Q-16).

6
7 In its ASC, TEC LLC describes actions that are designed to address the Council’s threatened and
8 endangered species standard. The Department recommends that the Council find that the
9 following actions are commitments by TEC LLC. To find that TEC LLC complies with OAR
10 345-022-0070, including OAR 345-022-0070(1)(b), the Department recommends that the
11 Council adopt the following conditions in the site certificate:
12

- 13 **(1) Before beginning construction of any affected component of the energy
14 facility or any affected component of a related or supporting facility, the
15 certificate holder shall direct qualified personnel to conduct species ground
16 surveys of the affected site, including the electric transmission line corridors,
17 natural gas pipeline corridor, and water and sewer pipeline corridors, at the
18 appropriate time of year to determine the presence of listed plant species. If
19 listed plant species are identified in the course of the species ground surveys,
20 their presence shall be noted on maps, and the certificate holder shall
21 provide copies of the maps to the Department and to the Oregon Department
22 of Agriculture (“ODA”). In addition, the certificate holder shall consult with
23 ODA to determine if the plants should be avoided in place or removed and
24 transplanted to mitigation areas.**
- 25
26 **(2) If listed plants are discovered during construction of the facility, the
27 certificate holder shall consult with ODA to determine if the plants should be
28 avoided in place or removed and transplanted to mitigation areas.**

29
30 To find that TEC LLC complies with OAR 345-022-0070, including OAR 345-022-0070(1)(b),
31 the Department recommends that the Council adopt the following standard conditions in the site
32 certificate:
33

- 34 **(3) During construction of the facility, the certificate holder shall manipulate all
35 construction equipment and site all ground disturbing activities to avoid
36 impacts to known populations of state- or federally-listed plant species.**
- 37
38 **(4) During operation of the facility, the certificate holder shall ensure that all
39 maintenance practices along the related or supporting facilities corridors are
40 designed to minimize impacts to known populations or potential habitat of
41 listed plant species.**
- 42
43 **(5) In the event the certificate holder determines that avoidance of known
44 populations of listed plant species is not possible, the certificate holder shall
45 engage qualified personnel to determine whether the proposed action has the**

1 **potential to appreciably reduce the likelihood of the survival or recovery of**
2 **the listed species and obtain approval from the ODA before proceeding with**
3 **construction activities.**
4

5 Consistency with Oregon Department of Agriculture Goals

6 The Department recommends that the Council find that, subject to the conditions adopted under
7 this Order, operation, construction, and retirement of the proposed facility are not likely to have
8 an adverse impact on any threatened, endangered or candidate plant species or their habitat.
9

10 **Threatened and Endangered Fish and Wildlife Species**

11 “Threatened and endangered species” means species listed as threatened or endangered by the
12 state under ORS 496.172(2) and by the federal government under 16 USC 1533. The Oregon
13 Fish and Wildlife Commission has designated state-listed threatened and endangered wildlife
14 species under ORS 496.172. OAR Chapter 635, Division 100, provides authority for adoption of
15 the state sensitive species list and the Wildlife Diversity Plan and contains the state list of
16 threatened and endangered wildlife species. TEC LLC reviewed ODFW sources and consulted
17 with the USFWS, NOAA, and ORNHIC for information about listed and sensitive species.
18

19 TEC LLC defined the “Field Study Area” as the area upon which the energy facility and the
20 related or supporting facilities would be sited. TEC LLC conducted surveys within the Field
21 Study Area on May, June, July and October 2001. All tall trees and snags in the Field Study Area
22 were visually inspected for bald eagle nests.
23

24 To supplement existing ODFW and NOAA Fisheries data, TEC LLC conducted a field habitat
25 survey following the procedures outlined in the California Salmonid Stream Habitat Restoration
26 Manual (Flosi and Reynolds, 1994). TEC LLC conducted this habitat survey in June, July and
27 October 2001.
28

29 Two federally listed species are documented as occurring in the general area of the proposed
30 facility: Upper Willamette River ESU steelhead trout (*Oncorhynchus mykiss*)(T) and Oregon
31 chub (*Oregonichthys crameri*)(E) (Exhibit Q, Table Q-1). Additionally, two other listed wildlife
32 species are documented by ORNHIC as having potential habitat within the study area: Upper
33 Willamette River ESU Chinook salmon (*Oncorhynchus tshawytscha*)(T) and Aleutian Canada
34 goose (*Branta canadensis leucopareia*)(E).
35

36 Chinook salmon and steelhead trout likely use Mill Creek solely for migration purposes and are
37 not reported to use the creek for spawning or rearing juveniles. Oregon chub was historically
38 present within Mill Creek, and while potential habitat still exists, this species has not been
39 documented. The Aleutian Canada goose is reported by ODFW to be only a rare visitor to the
40 Willamette Valley. This species typically winters along the coasts of Oregon and Washington,
41 and nests in Alaska.
42

43 **Construction and Operation**

44 Steelhead Trout (Upper Willamette River ESU)(Federally Threatened) and Chinook Salmon
45 (Upper Willamette River ESU)(Federally Threatened): Mill Creek, its tributaries and Salem

1 Ditch are mapped as Essential Salmonid Habitat by DSL. However, TEC LLC would not
2 conduct nor allow its contractors to conduct any in-water work within these water bodies, and
3 trenchless technology would be utilized to avoid the Perrin Lateral. As such, habitat within these
4 water bodies would be avoided by project design.

5
6 Impacts to steelhead trout and Chinook salmon could occur as a result of stranding of these
7 species during infrequent extreme flood events. TEC LLC expects that the NOAA Fisheries
8 Biological Opinion will find that these short-term impacts would be acceptable, particularly in
9 light of TEC LLC's proposed conservation measures.

10
11 *Oregon chub (Federally Endangered):*

12 Oregon chub was historically present within Mill Creek, and habitat for this species still exists
13 within the creek. Current distribution includes the North Santiam Basin. Passage from that basin
14 is currently unobstructed, but presence of Oregon chub has not been documented within Mill
15 Creek. TEC LLC would not conduct nor allow its contractors to conduct any in-water work
16 within Mill Creek or its tributaries. There are no anticipated impacts to Oregon chub resulting
17 from the construction of the proposed facility.

18
19 Potential impacts on fish species, including steelhead trout, Oregon chub, and Chinook salmon,
20 in Mill Creek, its tributaries, Salem Ditch, and the SWCD system of laterals and ditches during
21 operation of the proposed facility are discussed in detail in Section D.8, Fish and Wildlife
22 Habitat.

23
24 Construction and operation of the proposed facility, including the proposed related or supporting
25 facilities, is not expected to result in adverse impacts to listed threatened, endangered or
26 candidate fish or wildlife species or their habitat. However, adverse effects could occur as a
27 result of stranding during infrequent extreme flood events within the Turner Bypass Mitigation
28 Area.

29
30 **Retirement**

31 Pursuant to conditions and Council rules, upon permanent cessation of construction or operation
32 of the proposed facility, TEC LLC would be required to restore the site to a useful, non-
33 hazardous condition. Site restoration would consist primarily of dismantling and removing
34 unneeded equipment and structures. TEC LLC would likely leave electric, gas and water
35 transmission lines in place to serve new uses at the site. (TEC Revised ASC, July 2003, Exhibit
36 W, page W-2).

37
38 In addition, as required by Council rules, TEC LLC would be required to submit a retirement
39 plan before permanent shutdown of the facility. The plan must include measures to minimize
40 impacts to listed threatened, endangered or candidate species.

41
42 Retirement of the proposed facility, including the proposed related or supporting facilities, is not
43 expected to result in adverse impacts to listed threatened, endangered or candidate fish or
44 wildlife species or their habitat.

1
2 Avoidance and Mitigation Measures

3 TEC LLC has proposed the following measures to avoid potential impacts to listed fish and
4 wildlife species during construction and operation of the proposed facility:
5

- 6 1. Redirecting Norpac's spent cooling water to the proposed facility by means of the
7 Santiam Water Control District ("SWCD") Butler Lateral, thereby contributing to
8 reduced thermal loading in the Salem Ditch.
- 9 2. Placing riparian plantings along the Turner Bypass and McKinney Creek to
10 increase shade for these tributaries to Mill Creek.
- 11 3. Causing the installation of 16 fish screens or barriers meeting ODFW and NOAA
12 design criteria to isolate SWCD's system of laterals and ditches from the Salem
13 Ditch and Mill Creek.
- 14 4. Contracting with SWCD to ensure delivery of 15.2 cfs of dedicated flow year-
15 round from the Salem Ditch to Mill Creek for so long as TEC LLC continues to
16 make use of Norpac's non-contact cooling water under its supplemental water
17 right and to otherwise ensure delivery of 7.6 cfs of dedicated flow year-round
18 from the Salem Ditch to Mill Creek.
- 19 5. Using trenchless technology for installation of the related or supporting natural
20 gas pipeline, water supply pipelines, and sewer pipeline where they may cross the
21 Perrin Lateral, the railroad ditch, the riparian forests, and the Turner Bypass.
- 22 6. Avoiding construction activities in Mill Creek or any of its tributaries when they
23 are inundated.
24

25 In its Biological Assessment, dated July 7, 2004, TEC LLC has proposed the following measures
26 to avoid potential impacts to listed fish and wildlife species during development of the Turner
27 Bypass Wetland Mitigation Area:
28

- 29 1. All temporary access areas would be physically blocked from all vehicular traffic
30 using boulders or other appropriate barriers until completion of the maintenance
31 activities.
32
- 33 2. Construction activities at the Turner Bypass Wetland Mitigation Area would
34 occur during the dry season, or as negotiated with state and federal agencies.
35
- 36 3. The wetland mitigation area would be graded to prevent fish species from
37 attempting to enter wetland areas for all runoff conditions except during extreme
38 flood events.
39
- 40 4. Upland and wetland portions of the wetland mitigation area would be seeded with
41 the specified native seed mix, as set forth in Appendix B of the Biological
42 Assessment.
43

- 1 5. Before beginning development of the Turner Bypass Wetland Mitigation Area,
2 the contractor would be required to prepare a spill prevention plan with the
3 following features
- 4 • Description of all potential hazardous substances to be contained.
 - 5 • No pollutants of any kind (petroleum products, fresh concrete, silt, welding
6 slag, sandblasting abrasive, etc.) shall come into contact with the Turner
7 Bypass.
 - 8 • Any washing of equipment shall be conducted in a location that shall not
9 contribute untreated wastewater to any flowing stream.
 - 10 • Vehicle maintenance, refueling of vehicles, and storage of fuel shall be done
11 at least 90 meters (295 feet) from the Turner Bypass, unless there are practical
12 constraints.
 - 13 • If equipment leaks occur during construction activities, the construction
14 project manager shall see that the equipment is immediately moved to a
15 location where pollutants cannot enter any stream or wetland. The equipment
16 shall not be used until all leaks have been corrected and the equipment is
17 cleaned.

18
19 In its ASC and the Biological Assessment, dated July 7, 2004, TEC LLC described actions that
20 are designed to address the Council's threatened and endangered species standard. The
21 Department recommends that the Council find that the following actions are commitments by
22 TEC LLC. To find that TEC LLC complies with OAR 345-022-0070, including OAR 345-022-
23 0070(1)(b), the Department recommends that the Council adopt the following conditions in the
24 site certificate:

- 25
26 **(6) During construction of the facility, the certificate holder shall use trenchless**
27 **technology for installation of the natural gas pipeline, water supply pipelines,**
28 **and sewer pipeline where they may cross the Perrin Lateral, the railroad**
29 **ditch, any riparian forest, and the Turner Bypass to avoid adversely affecting**
30 **Essential Salmonid Habitat.**
- 31
32 **(7) During construction of the facility, the certificate holder shall avoid**
33 **construction activities in Mill Creek or any of its tributaries when they are**
34 **inundated.**
- 35
36 **(8) During development of the Turner Bypass Wetland Mitigation Area, the**
37 **certificate holder and its contractors shall strictly adhere to the mitigation**
38 **measures set forth in the Biological Assessment, dated July 7, 2004.**
- 39
40 **(9) Within one year after completing construction of the related or supporting**
41 **natural gas pipeline, water supply pipelines, and sewer pipeline, in**
42 **conformance with planting plans included in Attachments P-14 and P-15 to**
43 **the certificate holder's response to Request for Additional Information #5 &**
44 **6, dated July 2003, the certificate holder shall plant native trees and shrubs**

1 **in riparian areas along the Turner Bypass and McKinney Creek to increase**
2 **shade for these tributaries to Mill Creek.**
3

4 **Summary**

5 The Department recommends that the Council find that, taking into account mitigation, the
6 design, construction, operation and retirement of the facility are consistent with the protection
7 and conservation program that the Oregon Department of Agriculture has adopted under ORS
8 564.105(3); are not likely to cause a significant reduction in the likelihood of survival or
9 recovery of the plant species that the Oregon Department of Agriculture has listed as threatened
10 or endangered under ORS 564.105(2); and are not likely to cause a significant reduction in the
11 likelihood of survival or recovery of any wildlife species that the Oregon Fish and Wildlife
12 Commission has listed as threatened or endangered under ORS 496.172(2).
13

14 **Conclusion**

15 The Department recommends that the Council find that, subject to the conditions stated in this
16 Order, TEC LLC meets the threatened and endangered species standard, OAR 345-022-0070.
17

18 **D.10. SCENIC AND AESTHETIC VALUES, OAR 345-022-0080**

19 “(1) Except for facilities described in section (2), to issue a site certificate, the
20 Council must find that the design, construction, operation and retirement
21 of the facility, taking into account mitigation, are not likely to result in
22 significant adverse impact to scenic and aesthetic values identified as
23 significant or important in applicable federal land management plans or in
24 local land use plans in the analysis area described in the project order.
25 *** “

26
27 **Discussion**

28 The analysis area for scenic and aesthetic values is the area within the site boundary and within
29 30 miles of the site boundary.
30

31 Within the analysis area, TEC LLC identified the following federal land management plans:

- 32 • Ankeny National Wildlife Refuge (U.S. Fish and Wildlife Service)
- 33 • Elkhorn Wild and Scenic River Management Plan
- 34 • Salem District Resource Management Plan (U.S. Bureau of Land Management)
- 35 • Opal Creek Scenic Recreation Area Proposed Management Plan (U.S. Forest Service)
- 36

37 Within the analysis area, TEC LLC identified the following local land use plans:

- 38 • Northwest Oregon State Forests Management Plan (Oregon Department of Forestry)
- 39 • Silver Falls State Park Master Plan (State of Oregon)
- 40 • City of Turner Comprehensive Plan
- 41 • City of Salem Comprehensive Plan
- 42 • City of Aumsville Comprehensive Plan
- 43 • City of Sublimity Comprehensive Plan
- 44 • City of Stayton Comprehensive Plan

- 1 • City of Jefferson Comprehensive Plan
- 2 • City of Keizer Comprehensive Plan
- 3 • City of Scio Comprehensive Plan
- 4 • City of Lyons Comprehensive Plan
- 5 • City of Lebanon Comprehensive Plan
- 6 • City of Mill City Comprehensive Plan
- 7 • City of Sodaville Comprehensive Plan
- 8 • City of Waterloo Comprehensive Plan
- 9 • Marion County Comprehensive Plan
- 10 • Polk County Comprehensive Plan
- 11 • Linn County Comprehensive Plan

12
 13 Scenic and aesthetic values identified as significant in the federal land management plans and
 14 local land use plans applicable to the analysis area, together with distance and direction from the
 15 facility site, are shown in Table D.10-1.

16
 17 **TABLE D.10-1**
 18 **SCENIC AND AESTHETIC VALUES IDENTIFIED AS SIGNIFICANT IN APPLICABLE FEDERAL LAND**
 19 **MANAGEMENT PLANS AND LOCAL LAND USE PLANS**

Scenic and Aesthetic Value	Direction and Distance from Facility
Viewpoint at south entrance to Silver Falls State Park (Silver Falls State Park Master Plan)	East, 14 miles
Abiqua Falls (Marion County Comprehensive Plan)	Northeast, 20 miles
Drift Creek Falls (Marion County Comprehensive Plan)	East, 13 miles
Butte Creek Falls (Marion County Comprehensive Plan)	Northeast, 22 miles
Opal Creek Scenic Recreation Area (Opal Creek Scenic Recreation Area Proposed Management Plan, U.S. Forest Service)	East, 29 miles
Willamette River Greenway (Marion, Polk and Linn County Comprehensive Plans; City of Salem and City of Keizer Comprehensive Plans)	West, 7 miles
BLM Lands (BLM Salem District Resource Management Plan, U.S. Bureau of Land Management)	East, 12 miles (nearest point)
Santiam State Forest Lands (Northwest Oregon State Forests Management Plan, Oregon Department of Forestry)	East, 12 miles (nearest point)

21
 22 Construction, operation and retirement of the proposed facility would not result in any loss of
 23 vegetation or alteration of the landscape in any of the identified scenic and aesthetic values.

24
 25 During certain ambient conditions, a visual vapor plume may be visible from either the exhaust
 26 stacks or cooling tower or both. A plume from the exhaust stacks or cooling tower would

1 typically be most visible during early morning hours when the temperature is low and the
2 humidity is high, or during colder winter days when the humidity is high. Ideal conditions for a
3 visible plume are high humidity, clear day, and cold temperature. If there is precipitation, low
4 cloud cover, fog, dark sky, high temperature, or low humidity, there is a lower likelihood that
5 operation of the proposed facility would generate a visible plume.
6

7 Visual impacts could result from the exhaust stacks, the cooling tower, and a visual plume from
8 the exhaust stacks or the cooling tower. The exhaust stacks would be about 155 feet tall, and the
9 cooling tower would be about 60 feet tall. All of these structures would be painted a neutral color
10 to blend into the horizon. During certain ambient conditions, a visual vapor plume may be visible
11 from either the exhaust stacks or cooling tower or both. A plume from the exhaust stacks or
12 cooling tower would typically be most visible during early morning hours when the temperature
13 is low and the humidity is high, or during colder winter days when the humidity is high. Ideal
14 conditions for a visible plume are high humidity, clear day, and cold temperature. If there is
15 precipitation, low cloud cover, fog, dark sky, high temperature, or low humidity, there is a lower
16 likelihood that operation of the proposed facility would generate a visible plume.
17

18 The site with identified scenic and aesthetic values nearest the proposed facility and having a
19 potential line of sight to the proposed facility would be 12 miles away. TEC LLC states that from
20 this distance the facility would be visible only as a minor and subordinate part of the visual
21 environment and that in many cases intervening vegetation or buildings would obscure the
22 facility. In support of this statement, TEC LLC cites the USDA Forest Service publication
23 entitled *National Forest Landscape Management, Volume 1* (1973) in which the Forest Service
24 states that elements of a view three miles or more from the viewpoint are considered part of the
25 background, *i.e.*, the landscape zone in which little color or texture is apparent, colors blur into
26 values of blue or gray, and individual visual impacts become least apparent.
27

28 Three waterfalls lie within the analysis area: Abiqua Falls (20 miles away), Drift Creek Falls (13
29 miles away), and Butte Creek Falls (22 miles away). All of these waterfalls are identified as
30 having scenic value in the Marion County Comprehensive Plan. All of the waterfalls are located
31 in heavily wooded settings, and none of the waterfalls is accessible by road. From each of the
32 waterfalls, any view of the proposed facility is blocked by intervening vegetation.
33

34 The viewpoint at the south entrance to Silver Falls State Park is 14 miles from the proposed
35 facility. The scenic value attributed to the site in the Silver Falls State Park Master Plan is the
36 vista of the Willamette Valley farmland that extends toward the proposed facility site. TEC LLC
37 states that the proposed facility would not be visible from this viewpoint, even under conditions
38 of perfect atmospheric clarity, and that any part of the operating facility that might be visible
39 would be a minor and insignificant part of the overall landscape.
40

41 Willamette River Greenway lands lie within the analysis area. At its nearest point, the
42 Willamette River is seven miles from the proposed facility site. The topographic analysis
43 prepared by TEC LLC shows that because of surrounding hills, viewpoints along the Willamette
44 River and the Willamette River Greenway would have no direct line of sight to the proposed
45 facility.

1
2 BLM lands east of the facility site are identified as having scenic value. The BLM lands nearest
3 the proposed facility site are 12 miles away. Any view of the proposed facility from this distance
4 would be a minor and subordinate part of the visual landscape, and, in most cases, intervening
5 vegetation would obscure the view. Furthermore, the BLM lands are generally inaccessible by
6 improved roads.
7

8 A small segment of the Opal Creek Scenic and Recreation Area lies 29 miles from the proposed
9 facility site. This area is identified as having “very high scenic integrity” in the Opal Creek SRA
10 Proposed Management Plan. The portion of the Opal Creek Scenic and Recreation Area lying
11 within the analysis area is heavily wooded, situated in a valley, and would afford no view of the
12 proposed facility. Furthermore, there are no public or private roads, trails or other means of
13 public access to that portion of the Opal Creek Scenic and Recreation Area that lies within the
14 analysis area.
15

16 Santiam State Forest land that lies east of the proposed facility site and within the analysis area
17 has been identified in the Northwest Oregon State Forests Management Plan as having scenic
18 value. The parcel of state forestland nearest the proposed facility site is 14 miles away and is
19 heavily wooded. Any view of the proposed facility from this distance would be a minor and
20 subordinate part of the visual landscape.
21

22 No Class I visual resources are located within the analysis area. The Mt. Hood Wilderness and
23 the Mr. Jefferson Wilderness are the Class I visual resources located nearest the proposed
24 facility, and both are about 60 miles away.
25

26 TEC LLC prepared computer models to examine the impacts of air emissions from the proposed
27 facility. Among other things, the modeling assessed the worst-case impacts of air emissions from
28 the proposed facility on Class I wilderness areas and parks up to 200 kilometers away. This
29 modeling effort serves to document that the visibility impact in these Class I wilderness areas
30 and parks is insignificant.
31

32 In its ASC, TEC LLC describes actions that are designed to address the Council’s protected
33 areas, recreation, and scenic and aesthetic values standards. The Department recommends that
34 the Council consider those actions to be commitments by TEC LLC. To find that TEC LLC
35 complies with OAR 345-022-0080, the Department recommends that the Council adopt
36 Conditions D.7(1) through D.7(5) in the site certificate.
37

38 **Summary**

39 The Department recommends that the Council find that the design, construction, operation and
40 retirement of the facility, taking into account mitigation, are not likely to result in significant
41 adverse impact to scenic and aesthetic values identified as significant or important in applicable
42 federal land management plans or in local land use plans in the analysis area described in the
43 project order.
44
45

1 **Conclusion**

2 The Department recommends that the Council find that, subject to the conditions stated in this
3 Order, TEC LLC meets the scenic and aesthetic values standard, OAR 345-022-0080.

4
5 **D.11. HISTORIC, CULTURAL AND ARCHAEOLOGICAL RESOURCES, OAR 345-022-0090**

6 (1) Except for facilities described in sections (2) and (3), to issue a site
7 certificate, the Council must find that the construction, operation and
8 retirement of the facility, taking into account mitigation, are not likely to
9 result in significant adverse impacts to:

- 10 (a) Historic, cultural or archaeological resources that have been listed on, or
11 would likely be listed on the National Register of Historic Places;
12 (b) For a facility on private land, archaeological objects, as defined in ORS
13 358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c);
14 and
15 (c) For a facility on public land, archaeological sites, as defined in ORS
16 358.905(1)(c). ***

17
18 **Discussion**

19 The analysis area for historic, cultural and archaeological resources standard is the area within
20 the site boundary and all laydown and storage areas. This area would include the proposed
21 energy facility site; construction lay-down and staging areas; the area within corridors for the
22 new transmission lines, a high-pressure natural gas line lateral, and water and sewer supply lines;
23 and any additional areas that would be cleared, used for vehicle parking, equipment storage or
24 staging, or would otherwise be disturbed during construction.

25
26 TEC LLC proposes locating its facility on land that once may have served as a camas or other
27 food-gathering site for tribes and that has likely been farmed or grazed for several generations.
28 Some of the land for the proposed facility has been tilled to facilitate farm drainage. In addition,
29 archival sources note early roads, agricultural activity, and drainage efforts in the area.

30
31 TEC LLC contracted with Robert W. Keeler to conduct archival research, a pedestrian field
32 survey, and targeted digging of areas within the analysis area that potentially would be subject to
33 ground disturbance in the course of construction and operation of the proposed energy facility. In
34 addition, TEC LLC sent letters to representatives of the Confederated Tribes of the Warm
35 Springs Indian Reservation of Oregon and the Confederated Tribes of the Grand Ronde
36 Community of Oregon to ask if their cultural resources managers had any relevant information
37 that should be considered.

38
39 According to TEC LLC, archival records show that no known archeological sites exist within the
40 analysis area for the proposed facility. Several survey projects have been carried out within a few
41 miles of the analysis area and a number of archeological sites have been recorded, especially
42 along Mill Creek closer to Salem. Local knowledge indicates that Native American artifacts have
43 been found about a half-mile northwest of the proposed site, near the confluence of Battle and
44 Mill creeks.

1 However, none of the recorded sites would be affected by the proposed facility. In addition, the
2 field survey of the entire proposed facility area resulted in no known sites or isolated resources.
3 Thus, construction and operation of the proposed facility would likely have no effect on known
4 historic, cultural or archeological resources.

5
6 **Potential National Register of Historic Places Sites.** TEC LLC states that there are no known
7 historic or cultural resources within the analysis area that have been listed or would likely be
8 eligible for listing on the National Register of Historic Places.

9
10 **Archaeological Objects and Archaeological Sites.** An "archaeological site" as defined by ORS
11 358.905(1)(c) is a location in Oregon that contains a group of archaeological objects and their
12 contextual associations. An "archaeological object" as defined by ORS 358.905(1)(a) is an
13 individual object that is at least 75 years old and meets several other criteria. An archaeological
14 site will contain archaeological objects, but an isolated or individual archaeological object is not
15 an archaeological site.

16
17 Private Land. Other than existing public rights of-way (roadways), the proposed facility
18 would be located on private land. TEC LLC states that archival records reveal no known
19 archeological sites on private land within the analysis area. About five percent of the analysis
20 area proved inaccessible to the pedestrian survey because of blackberry thickets and dense
21 undergrowth. In addition, much of the project area is covered with heavy vegetation, limiting
22 soil visibility. Given those limitations, TEC LLC states that its pedestrian survey revealed no
23 apparent sites.

24
25 Should archaeological materials be uncovered during construction, TEC LLC must take
26 appropriate steps to protect cultural resources. TEC LLC must ensure that construction
27 personnel are instructed in the identification of cultural material. They would be required to
28 halt ground-disturbing activities in the vicinity of a find until a qualified archaeologist could
29 evaluate the significance of a find and submit that evaluation to the Oregon State Historic
30 Preservation Office (SHPO) and the Department. If SHPO determines the find to be
31 significant, TEC LLC would make recommendations to the Council for mitigation measures
32 in consultation with the Oregon State Historic Preservation Office, the Department, and other
33 appropriate parties. Mitigation measures could include avoidance or data recovery.

34
35 Public Land. Other than existing public rights of-way (roadways), the proposed facility
36 would be located on private land. TEC LLC states that no archaeological sites have been
37 identified in any of the public rights of way.

38
39 The Department recommends that the Council adopt the following conditions in the site
40 certificate:

- 41
42 **(1) During construction of the facility, the certificate holder shall ensure that a**
43 **qualified person instructs construction personnel in the identification of**
44 **cultural materials.**
45

- 1 **(2) During construction of the facility, in the event any artifacts or other cultural**
2 **materials are identified, the certificate holder shall cease all ground-**
3 **disturbing activities in the affected area until a qualified archaeologist can**
4 **evaluate the significance of the find. The certificate holder shall report to**
5 **SHPO and the Department about whether its archaeologist recommends that**
6 **the artifacts or cultural materials be treated as significant or not significant.**
7 **If SHPO determines that the materials are significant, the certificate holder**
8 **shall make recommendations to the Council for mitigation in consultation**
9 **with SHPO, the Department, the tribes, and other appropriate parties.**
10 **Mitigation measures shall include avoidance or data recovery. The certificate**
11 **holder shall not restart work in the affected area until it has demonstrated to**
12 **the Department that it has complied with the archaeological permit**
13 **requirements administered by SHPO.**
- 14
- 15 **(3) Before beginning construction of the facility, the certificate holder shall**
16 **notify the Confederated Tribes of the Warm Springs Indian Reservation of**
17 **Oregon and the Confederated Tribes of the Grand Ronde Community of**
18 **Oregon and provide their representatives the opportunity to be available for**
19 **periodic on-site monitoring during construction activities.**
- 20

21 **Summary**

22 The Department recommends that the Council find that the construction, operation and
23 retirement of the facility, taking into account mitigation, are not likely to result in significant
24 adverse impact to historic, cultural or archaeological resources that have been listed on, or would
25 likely be listed on the National Register of Historic Places; archaeological objects, as defined in
26 ORS 358.905(1)(a); or archaeological sites, as defined in ORS 358.905(1)(c).

27

28 **Conclusion**

29 The Department recommends that the Council find that, subject to the conditions stated in this
30 Order, TEC LLC meets the historic, cultural and archaeological resources standard, OAR 345-
31 022-0090.

32

33 **D.12. RECREATION, OAR 345-022-0100**

- 34 “(1) Except for facilities described in section (2), to issue a site certificate, the
35 Council must find that the design, construction and operation of a facility,
36 taking into account mitigation, are not likely to result in a significant
37 adverse impact to important recreational opportunities in the analysis area
38 as described in the project order. The Council shall consider the following
39 factors in judging the importance of a recreational opportunity:
40 “(a) Any special designation or management of the location;
41 “(b) The degree of demand;
42 “(c) Outstanding or unusual qualities;
43 “(d) Availability or rareness;
44 “(e) Irreplaceability or irretrievability of the opportunity. ***”
- 45

1 **Discussion**

2 The analysis area for recreational opportunities is the area within the site boundary and within
3 five miles of the site boundary.

4
5 TEC LLC identified nine recreational opportunities within the analysis area, as shown in Table
6 D.12-1, and found that none of the sites appeared to satisfy the Council’s definition of
7 importance. The sites are typically parks that do not have rare or unusual qualities. In addition,
8 given the number of such parks in the immediate area, TEC LLC found that none of the parks
9 were irreplaceable.

10
11 **TABLE D.12-1**
12 **RECREATIONAL OPPORTUNITIES IN TURNER ENERGY CENTER ANALYSIS AREA**
13

Recreational Opportunity	Direction and Distance from Facility
Bonesteele County Park, Marion County	Northeast, 4 miles
Crestwood Campground, Marion County	West, 4 miles
Fifth Street Park, City of Turner	North, 1 mile
Burkland Park, City of Turner	North, ½ mile
Burkland Swimming Pool, City of Turner	North, ½ mile
Porter-Boone Park, City of Aumsville	East, 4 miles
Mill Creek Park, City of Aumsville	East, 4 miles
Wildwood Park, City of Aumsville	East, 4 miles
Rees Park, City of Salem	Northwest, 4 miles

14
15 Bonesteele County Park is located about 4 miles northeast of the proposed facility site and is
16 owned and operated by Marion County. The county’s goal is to restore the 30-acre park to plant
17 and animal habitat approximating what existed on the site before European settlement.
18 Management of the park is primarily for habitat, not recreation. When completed, the park will
19 include a picnic area and walking trail.

20
21 Crestwood Campground is located about 4 miles west of the proposed facility site and is owned
22 by Marion County. The campground appears on Marion County’s comprehensive plan map but
23 has not been inventoried or described in the Marion County comprehensive plan. During
24 discussions with Marion County Planning staff, TEC LLC found that the former YMCA
25 campground is not open to the public or actively managed by Marion County.

26
27 Three recreational opportunities in the City of Turner are located within the analysis area. The
28 Fifth Street Park is a 13-acre park located about one mile from the proposed facility site.
29 Burkland Park is a 13,000 square foot park located about one-half mile from the proposed
30 facility site. The Burkland Swimming Pool is an outdoor pool located adjacent to Turner
31 Elementary School, about one-half mile from the proposed facility site. The pool is owned and
32 operated by the Cascade School District. The district is currently conducting a study that could
33 result in enclosing the pool within a shelter to make it available for year-round use.

1
2 Three recreational opportunities in the City of Aumsville are located within the analysis area. All
3 of these sites are located about four miles from the proposed facility site. Porter-Boone Park is a
4 five-acre park with play equipment, a multi-use basketball and tennis court, benches, a picnic
5 area, and a concrete bandstand. Mill Creek Park is a 4.5-acre park with covered picnic shelters
6 and uncovered picnic tables, a softball field, horseshoe pits, and a sand volleyball court.
7 Wildwood Park is an active use, one-acre “mini-park” with children’s play equipment.
8

9 One recreational opportunity in the City of Salem is located within the analysis area. Rees Park
10 is a 1.25-acre neighborhood park with a basketball court, play equipment, benches, and picnic
11 tables. It is located about four miles from the proposed facility site.
12

13 **Noise.** The proposed facility has been designed to comply with applicable DEQ noise standards
14 at the nearest sensitive noise receptors, all of which are located nearer the proposed facility than
15 any of the recreational opportunities. Because the DEQ noise standards are designed to protect
16 the most sensitive noise receptors, including occupied dwellings, their observance by TEC LLC
17 would provide adequate protection for the nearest recreational opportunities.
18

19 The Department recommends that the Council find that noise from the proposed facility would
20 not result in a significant adverse impact to any recreational opportunity.
21

22 **Traffic.** Traffic associated with construction and operation of the proposed facility would use
23 major arterials to gain access to the facility site. The recreational opportunities nearest the
24 proposed facility are the parks in the City of Turner. None of these parks is adjacent to major
25 arterial roads serving the proposed facility. The other recreational opportunities in the analysis
26 area are located farther from the proposed facility site and none is adjacent to arterial roads
27 serving the proposed facility.
28

29 The Department recommends that the Council find that traffic generated by construction and
30 operation of the proposed facility would not result in a significant adverse impact to any
31 recreational opportunity.
32

33 **Water Use.** Water used during construction and operation of the proposed facility would have
34 no impact on the recreational opportunities in the analysis area. Water used during operation of
35 the proposed facility would come through an underground pipeline served by irrigation and
36 drainage ditches comprising a portion of the Santiam Water Control District’s system. The
37 underground pipeline would not pass through any recreational opportunity. Water used during
38 construction of the proposed facility would be hauled to the facility site by truck pending
39 completion of construction of the proposed water pipeline and intake structure. This water would
40 be used for compaction and dust suppression.
41

42 The Department recommends that the Council find that water use at the proposed facility during
43 construction and operation would not result in a significant adverse impact to any recreational
44 opportunity.
45

1 **Wastewater Disposal.** There would be no direct discharge of process and sanitary wastewater
2 from the proposed facility to surface water bodies. Wastewater disposal at the proposed facility
3 would cause no adverse impact on recreational opportunities in the analysis area.
4

5 The Department recommends that the Council find that wastewater disposal during construction
6 and operation of the proposed facility would not result in a significant adverse impact to any
7 recreational opportunity.
8

9 **Visual Impacts of Facility Structures.** The primary structures at the proposed facility that could
10 result in visual impacts are the heat recovery steam generator (“HRSG”) exhaust stacks and the
11 cooling tower. The exhaust stacks would be about 155 feet tall, and the cooling tower would be
12 about 60 feet tall. All of these structures would be painted a neutral color that would blend into
13 the surrounding landscape as much as practicable.
14

15 During certain ambient conditions, a visual vapor plume may be visible from either the exhaust
16 stacks or cooling tower or both. A plume from the exhaust stacks or cooling tower would
17 typically be most visible during early morning hours when the temperature is low and the
18 humidity is high, or during colder winter days when the humidity is high. Ideal conditions for a
19 visible plume are high humidity, clear day, and cold temperature. If there is precipitation, low
20 cloud cover, fog, dark sky, high temperature, or low humidity, there is a lower likelihood that
21 operation of the proposed facility would generate a visible plume.
22

23 TEC LLC performed a screening level assessment using topographic analysis to determine
24 whether any part of the proposed facility, including the exhaust stacks, cooling tower, or plume
25 from either the exhaust stacks or cooling tower, would be visible from any of the recreational
26 opportunities. The topographic analysis showed that all of the recreational opportunities located
27 within five miles of the proposed facility site would have some view of the facility. However, the
28 recreational opportunities consist mainly of swimming, picnicking, playing, and walking, and are
29 not heavily dependent on the visual landscape. Furthermore, the proposed facility would be
30 located at the southern edge of an urban area with intervening industrial uses, all of which would
31 diminish the visual impact of the proposed facility.
32

33 TEC LLC states that lighting at the proposed facility would comply with the commonly used
34 standard of a maximum of five foot-candles within 50 feet of the base of the light. To reduce
35 offsite impacts, lighting at the proposed facility would be restricted to areas required for safety,
36 security and operation. Exterior lights would be hooded, and lighting would be directed onsite to
37 prevent significant offsite light or glare. Non-glare fixtures would be used. For areas where
38 lighting would not be required for safety, security or normal operation, TEC LLC would employ
39 switched lighting circuits or motion detectors, thereby allowing those areas to remain unlighted
40 most of the time and limiting the potential for offsite visibility. In addition, TEC LLC proposes
41 to use landscaping to provide additional screening of required night lighting at the proposed
42 facility.
43

1 The Department recommends that the Council find that the visual impacts of facility structures at
2 the proposed facility would not result in a significant adverse impact to any recreational
3 opportunity.

4
5 **Visual Impacts from Air Emissions.** There are no Class I visual resources within the analysis
6 area. The nearest Class I visual resources are the Mt. Hood Wilderness Area and the Mt.
7 Jefferson Wilderness Area, both about 60 miles away.

8
9 During construction of the proposed facility, the only noticeable emissions would take the form
10 of fugitive dust generated during normal construction activities. TEC LLC would control fugitive
11 dust throughout the facility by means of watering.

12
13 During operation of the proposed facility, TEC LLC would be required to comply with air
14 quality permits issued by the DEQ under a program delegated to the State of Oregon by the U.S.
15 Environmental Protection Agency. In connection with obtaining those permits, TEC LLC has
16 performed an air quality impact analysis that it states would lead DEQ to conclude that emission
17 levels caused by the proposed facility would be insignificant. Among other things, the air quality
18 impact analysis assessed the worst-case impacts of air emissions from the proposed facility on
19 Class I wilderness areas and parks up to 200 kilometers away. This modeling effort serves to
20 document that the visibility impact in these Class I wilderness areas and parks is insignificant.

21
22 The Department recommends that the Council find that the visual impacts from air emissions of
23 the proposed facility would not result in a significant adverse impact to any recreational
24 opportunity.

25
26 In its ASC, TEC LLC describes actions that are designed to address the Council's protected
27 areas, recreation, and scenic and aesthetic values standards. The Department recommends that
28 the Council consider those actions to be commitments by TEC LLC. To find that TEC LLC
29 complies with OAR 345-022-0100, the Department recommends that the Council adopt
30 Conditions D.7(1) through D.7(5) in the site certificate.

31 **Summary**

32
33 The Department recommends that the Council find that the design, construction and operation of
34 the facility, taking into account mitigation, are not likely to result in a significant adverse impact
35 to important recreational opportunities in the analysis area described in the project order.

36 **Conclusion**

37
38 The Department recommends that the Council find that, subject to the conditions stated in this
39 Order, TEC LLC meets the recreation standard, OAR 345-022-0100.

40 **D.13. PUBLIC SERVICES, OAR 345-022-0110**

41
42 “(1) Except for facilities described in sections (2) and (3), to issue a site
43 certificate, the Council must find that the construction and operation of the
44 facility, taking into account mitigation, are not likely to result in
45 significant adverse impact to the ability of public and private providers

1 within the analysis area described in the project order to provide: sewers
2 and sewage treatment, water, storm water drainage, solid waste
3 management, housing, traffic safety, police and fire protection, health care
4 and schools. *** “
5

6 **Discussion**

7 The analysis area for the public services standard is the area within the site boundary and within
8 10 miles of the site boundary.
9

10 TEC LLC determined there are eight incorporated communities within the analysis area,
11 including the Cities of Turner, Salem, Aumsville, Stayton, Sublimity, Jefferson and Keizer in
12 Marion County and the City of Scio in Linn County. Because of their combined size and
13 proximity, the Cities of Salem, Keizer and Turner are the communities most likely to be affected
14 by construction and operation of the proposed facility. The sewage treatment, water supply, and
15 solid waste management systems of Turner and Salem are interrelated through both existing
16 infrastructure and contractual arrangements. The Turner Fire District would be the primary
17 source of emergency response for the proposed facility. Medical facilities nearest the proposed
18 facility are located in the City of Salem. TEC LLC expects that existing housing and schools in
19 Salem, Keizer and Turner would absorb the effects from construction and operation of the
20 proposed facility. Traffic impacts would be realized mostly in Turner and Salem.
21

22 **Sewers and Sewage Treatment.** During peak construction of the proposed facility, about 500
23 construction workers would be employed at the proposed facility site. During construction, TEC
24 LLC would generate wastewater in the form of sanitary sewage from portable toilets. A contract
25 provider would transport the sanitary waste to an approved treatment facility.
26

27 During operation of the proposed facility, about 20-25 workers would be employed at the
28 proposed facility site. Sanitary wastewater from restroom and shower facilities would either be
29 routed to an onsite septic tank or discharged to the City of Turner wastewater collection system.
30 If routed to an onsite septic tank, the sanitary wastewater would be periodically hauled to a
31 licensed wastewater treatment facility.
32

33 Process wastewater would either be treated onsite by means of a zero-liquid discharge system or
34 routed to the City of Turner wastewater collection system.
35

36 If the sanitary wastewater and process wastewater were transferred to the City of Turner
37 wastewater collection system, this combined wastewater would then be delivered to the City of
38 Salem wastewater collection system for treatment at the Willow Lake Treatment Plant. Both the
39 City of Turner and the City of Salem have reviewed the sanitary and process wastewater
40 discharges likely to be generated by the proposed facility and have stated they have adequate
41 capacity to serve the proposed facility.
42

43 The Department recommends that the Council find that construction and operation of the facility
44 would not result in any significant adverse impact on the ability of sewage collection and
45 treatment systems within the analysis area to serve their other users.

1
2 **Water.** During construction of the proposed facility, TEC LLC would use water primarily for
3 compaction and dust suppression. It would first obtain water from a contract provider by means
4 of tanker trucks. Water would continue to be supplied by truck until completion of the raw water
5 connection with the Santiam Water Control District (“SWCD”) or completion of the connection
6 with the City of Turner municipal water system. TEC LLC expects that average water demand
7 during construction of the proposed facility would be about 20,000 gallons per day.
8

9 During operation of the proposed facility, TEC LLC may obtain its potable and service water
10 from the City of Turner. The City of Turner obtains its water supply from the City of Salem.
11 Both the City of Turner and the City of Salem have confirmed that they have the capacity to
12 serve the proposed facility’s operational potable and service water requirements. In the
13 alternative, TEC LLC would produce its own potable water onsite from water delivered by
14 means of the SWCD system of laterals and ditches.
15

16 Whether TEC LLC were to obtain potable and service water from the City of Turner or by means
17 of the SWCD system, it would obtain its raw water for operation of the proposed facility by
18 means of the SWCD system. This raw water would be the subject of water rights appropriations
19 granted to TEC LLC by the Oregon Water Resources Department.
20

21 The Department recommends that the Council find that construction and operation of the facility
22 would not result in any significant adverse impact on the ability of local water systems within the
23 analysis area to serve their other users.
24

25 **Storm Water Drainage.** During construction and operation of the proposed facility, storm water
26 collected by the proposed facility’s storm water drainage system would be discharged to the
27 drainage ditch that runs along Wipper Road west of the proposed facility site or to a newly
28 created wetland. The ditch drains into the Turner Bypass, a ditch that interconnects with Mill
29 Creek. Mill Creek interconnects with the Willamette River.
30

31 The facility’s storm water drainage system would be designed to collect storm water in bio-
32 swales to facilitate the retention and natural degradation of pollutants. The bio-swales would
33 drain to a detention basin on the northwest corner of the proposed energy facility site. Outflow
34 from the detention basin to the drainage ditch on Wipper Road or to a newly created wetland
35 would be regulated at a pollution control orifice manhole designed to provide oil/water
36 separation. The detention pond and regulation orifice would be designed to limit the post-
37 construction peak flow to a level no greater than the flow from the undeveloped energy facility
38 site, thereby adding no new burden to existing community drainage systems.
39

40 The Department recommends that the Council find that construction and operation of the facility
41 would not result in any significant adverse impact on the ability of local storm water drainage
42 systems within the analysis area to serve their other users.
43

44 **Solid Waste Management.** Municipal solid waste generated in cities in the analysis area is
45 collected by franchise haulers and hauled to the Marion County Waste-to-Energy Facility located

1 north of Salem for incineration. The Waste-to-Energy Facility can handle up to 550 tons of solid
2 waste each day and averages about 185,000 tons per year. The energy produced by the facility is
3 sold to Portland General Electric Company. The residual ash is taken to the North Marion
4 Disposal Facility Ashfill. Residual metals are recycled. Construction and demolition type waste
5 is handled at Brown's Island Demolition Landfill located southwest of Salem.
6

7 The Marion County Solid Waste Management Department has advised TEC LLC that because of
8 the temporary nature of the construction work force and the small number of permanent
9 employees, adequate capacity exists at the Marion County Waste-to-Energy Facility to
10 accommodate the proposed facility. Local franchise haulers would provide recycling services.
11

12 The Department recommends that the Council find that construction and operation of the facility
13 would not have a significant adverse impact on the capacity of solid waste facilities in the
14 analysis area.
15

16 **Housing.** By reference to the 2000 U.S. census figures, TEC LLC shows that the communities in
17 the analysis area contain 72,665 housing units, mostly in Salem and Keizer. The vacancy rate for
18 owned homes ranged between 1.8 and 4.6 percent. The vacancy rate for rental units ranged
19 between 3.8 and 10.0 percent.
20

21 By reference to statistics maintained by the Oregon Housing and Community Services
22 Department, TEC LLC shows that in 2001 there were 73 manufactured dwelling parks with
23 4,878 spaces in communities in the analysis area. And, by reference to statistics maintained by
24 the Oregon Lodging Association, TEC LLC shows that in 2000 there were 1,070 rooms at hotels,
25 motels, bed and breakfast inns, and resorts in the analysis area. For facilities that reported
26 vacancy statistics, most had spaces available.
27

28 During the peak construction period (about 4 to 5 months of the two-year construction effort),
29 TEC LLC expects that about 500 construction workers would be working at the facility. TEC
30 LLC expects that a large number of construction workers would come from the analysis area.
31 TEC LLC points out that even if all construction workers came from outside the analysis area,
32 there would be more than adequate housing capacity to meet that need.
33

34 During operation, the proposed facility would employ about 20 to 25 employees. Even if all of
35 these employees came from outside the analysis area, their entry should impose no burden on the
36 available housing capacity.
37

38 The Department recommends that the Council find that the availability of temporary and
39 permanent housing in the analysis area is sufficient to accommodate construction and operation
40 of the facility.
41

42 **Traffic Safety.** During construction of the proposed facility, there would be an increase in traffic
43 in the vicinity of the facility site. The increase would be the result of construction workers
44 traveling to and from the site and the delivery of construction materials and equipment. TEC
45 LLC estimates that during construction of the proposed facility there would be about 720

1 commuting trips by construction workers to and from the facility site and about 50 deliveries. To
2 the extent possible, heavy haul traffic would be reduced by use of rail deliveries over the related
3 or supporting rail spur, thereby reducing traffic on the local roadways.

4
5 The traffic impact analysis prepared by TEC LLC shows that construction traffic would
6 generally occur between 6:30 a.m. and 6:30 p.m. There would be some decline in the level of
7 service ("LOS") for street intersections in the analysis area most likely to be used for access to
8 the proposed facility site. In no event, however, would the level of service decline below LOS C,
9 an acceptable level of service.

10
11 The same traffic impact analysis recommended widening Wipper Road for improved safety in
12 the immediate vicinity of the proposed facility. Initially, the City of Turner and Marion County
13 agreed with this recommendation, and TEC LLC agreed to undertake the required widening.
14 Subsequently, Marion County concluded that traffic safety issues would be better served by
15 replacing the existing Wipper Road Bridge. After discussions with the City of Turner and the
16 Turner Fire Department, the Marion County Department of Public Works determined that the
17 Wipper Road Bridge, "although structurally sound, is functionally obsolete for large vehicles."
18 Thereafter, TEC LLC agreed to substitute replacement of the Wipper Road Bridge for widening
19 of Wipper Road to address traffic concerns raised by Marion County. TEC LLC agreed that the
20 bridge would be replaced during the first summer construction season after bridge permits are
21 approved and TEC LLC has obtained financial closing for the proposed facility. Prior to
22 completion of the bridge replacement, industrial truck deliveries to the proposed facility site
23 would be diverted to other routes to avoid the existing bridge.

24
25 TEC LLC's agreement to replace the existing Wipper Road Bridge, and TEC LLC's intention to
26 reduce heavy haul traffic on existing roads by using its related or supporting rail spur for
27 deliveries of heavy loads would reduce the potential for traffic safety-related impacts in the
28 analysis area. While trips by workers would result in a noticeable increase in traffic flow during
29 construction of the proposed facility, the increase would be within acceptable levels.

30
31 During operation of the proposed facility, the anticipated 20-25 full-time employees would not
32 impose a significant burden on the existing traffic infrastructure.

33
34 In its ASC, TEC LLC describes actions that are designed to address the Council's public services
35 standard, particularly with respect to traffic safety. The Department recommends that the Council
36 consider the following actions to be commitments by TEC LLC. To find that TEC LLC complies
37 with OAR 345-022-0110, the Department recommends that the Council adopt the following
38 conditions in the site certificate:

- 39
40 **(1) During the first summer construction season after bridge permits have been**
41 **approved and the certificate holder has attained financial closing, the**
42 **certificate holder shall replace the existing Wipper Road Bridge with a new**
43 **bridge following approximately the same alignment as the existing bridge.**
44 **Replacement of the existing bridge shall be scheduled for completion in a**
45 **period not to exceed four months.**

1
2 (2) **Prior to replacement of the Wipper Road Bridge, the certificate holder shall**
3 **submit preliminary drawings and obtain approval of the proposed bridge**
4 **design from the Marion County Department of Public Works.**

5
6 (3) **During construction of the facility and prior to operational completion of the**
7 **new Wipper Road Bridge in accordance with Condition D.13(1), the**
8 **certificate holder shall divert truck deliveries to routes that would avoid the**
9 **existing Wipper Road Bridge.**

10
11 The Department recommends that the Council find that construction and operation of the facility,
12 subject to Conditions D.13(1), D.13(2), and D.13(3), would not adversely affect traffic in the
13 analysis area.

14
15 **Police Protection.** The City of Turner provides for its own police protection. It maintains two
16 full-time officers and five reserve officers, all of whom have received first responder hazardous
17 materials training. The Marion County Sheriff's Department provides primary emergency
18 backup under a mutual aid agreement. The Turner Police Department coordinates emergency
19 response through the Santiam Canyon Communications Center in Stayton.

20
21 The Salem Police Department has about 100 support personnel and 176 officers, with 11-30
22 officers on patrol within Salem city limits at any given time. The Salem Police Department does
23 not have a mutual aid agreement with the City of Turner, though it does have such agreements
24 with the Cities of Aumsville and Stayton and the Oregon State Police. Nonetheless, it appears the
25 Salem Police Department would respond if assistance were requested by the City of Turner. The
26 travel response time from Salem to Turner would be about five minutes.

27
28 In addition to its agreement with the Marion County Sheriff's Department, the Turner Police
29 Department has entered into mutual aid agreements with police departments in the Cities of
30 Stayton, Aumsville, and Keizer. Although it does not have a mutual aid agreement with the
31 Oregon State Police, the Turner Police Department could expect emergency assistance from the
32 Oregon State Police if it requested help through the Salem dispatch center.

33
34 The Turner Police Department, with backup provided under existing mutual aid agreements with
35 most police services in the analysis area, would be able to provide police services to the
36 proposed facility without adversely affecting existing communities. In addition, the proposed
37 facility would be fenced and would operate 24 hours per day, thereby reducing opportunities for
38 theft and vandalism.

39
40 The Department recommends that the Council find that construction and operation of the facility
41 would not place significant additional demand on local police protection services.

42
43 **Fire Protection.** The Turner Fire District provides services in a 54-square-mile area that
44 includes the City of Turner. The District has three firefighter-medics and one administration
45 secretary. It also draws upon 22 volunteers and 18 part-time paramedics. Equipment includes:

1 three Class A Engines, two tenders capable of hauling 2,500-3,000 gallons of water, two
2 command vehicles, two brush rigs, and two Advanced Life Support ambulances. All emergency
3 calls are handled through the Santiam Canyon Communication Center in Stayton. The Turner
4 Fire District has entered into a mutual aid agreement with the Salem Fire Department. Santiam
5 Ambulance Service in Stayton, Salem Area Ambulance Service, and the Jefferson Fire District
6 provide backup ambulance assistance.
7

8 The Salem Fire Department provides services in a 24-square-mile area that includes the City of
9 Salem and some unincorporated areas. It would provide assistance to the Turner Fire Department
10 for fire fighting and as first response for hazardous materials spills under an existing mutual aid
11 agreement.
12

13 The City of Turner has also entered into Automatic Aid (simultaneous alarm and response) and
14 mutual aid agreements with the Cities of Stayton, Aumsville, and Jefferson, and the Marion
15 County Rural Fire Protection District #1. It has entered into a mutual aid agreement with the City
16 of Keizer for fire protection and a mutual aid and automatic assistance agreement with the City
17 of Scio for medical support, command support, and first responder support.
18

19 The Turner Fire District, in cooperation with the State Fire Marshal, is developing a risk analysis
20 to ensure that the Turner Fire District is properly equipped and trained to respond to incidents at
21 the proposed facility. In addition, the proposed facility would be equipped with internal fire-
22 suppression systems and emergency response plans to reduce the need for fire suppression
23 assistance. Employees at the proposed facility would be trained in emergency first aid
24 procedures, and all fire protection equipment and facilities would be installed in accordance with
25 the Oregon Fire Code.
26

27 The Department recommends that the Council find that construction and operation of the facility
28 would not place significant additional demand on local fire protection services within the
29 analysis area.
30

31 **Health Care.** Salem General Hospital, a regional facility with ambulance and life flight
32 capabilities, is located about four miles from the proposed facility. Santiam Memorial Hospital is
33 located about five miles from the proposed facility. Both hospitals would be capable of providing
34 health care services to the facility in the event of an emergency. These hospitals are also the
35 principal service providers for all of the communities in the analysis area. All of the
36 communities, with the exception of Jefferson, have ambulance service available. The close
37 proximity of the proposed facility to the Salem-Keizer metropolitan area, complete with a
38 hospital, clinics, doctors, and emergency service providers serving a population of about 183,000
39 people, supports TEC LLS's contention that the limited number of employees it would employ
40 during construction and operation of the proposed facility would not create a significant adverse
41 impact on the ability of local services to provide health care services in the analysis area.
42

43 The Department recommends that the Council find that construction and operation of the facility
44 would not adversely affect health care services in the analysis area.
45

1 **Schools.** There are seven schools, including five elementary schools, one junior high school, and
2 one senior high school, in Cascade School District #5 that serves the Cities of Turner and
3 Aumsville. All are at 100 percent capacity except two elementary schools: West Stayton (80%
4 capacity) and Marion (85% capacity).

5
6 During the 2001-2002 school year, there were 55 schools (6 high schools, 10 middle schools, and
7 39 middle schools) in the Salem-Keizer metropolitan area. Elementary school enrollment was
8 16,965 (108.5% capacity); middle school enrollment was 8,535 (89.4% capacity); and high
9 school enrollment was 10,303 (93.6% capacity). Since then, four elementary schools and one
10 middle school have been added, and one new high school and three new elementary schools are
11 either under construction or in the planning stages.

12
13 TEC LLC believes that during construction of the proposed facility, many of the construction
14 workers would come from communities in the analysis area. Furthermore, schools in the analysis
15 area, together with schools under construction or planned for construction, would have sufficient
16 capacity to accommodate a workforce peaking at about 500 workers during construction and 20-
17 25 workers during operation of the proposed facility. TEC LLC believes there would be no
18 adverse impacts to schools in the analysis area during construction or operation of the proposed
19 facility.

20
21 The Department recommends that the Council find that neither construction nor operation of the
22 facility would adversely affect school districts in the analysis area.

23
24 **Summary.** The Department recommends that the Council find that the addition of temporary
25 residents to the analysis area during construction of the facility may result in a modest increase in
26 the demand for water, sewers and sewage treatment, storm water drainage, solid waste
27 management, housing, police and fire protection, health care, and schools. Further, there should
28 be no adverse impacts on local communities as a result of an increase in the permanent
29 population. The Department recommends that the Council find that the construction and
30 operation of the facility would have a minimal impact on the demand for local services.

31 **Conclusion**

32
33 The Department recommends that the Council find that, subject to the conditions stated in this
34 Order, TEC LLC meets the public services standard, OAR 345-022-0110.

35 **D.14. WASTE MINIMIZATION, OAR 345-022-0120**

36
37 “(1) Except for facilities described in sections (2) and (3), to issue a site
38 certificate, the Council must find that, to the extent reasonably practicable:

39 “(a) The applicant’s solid waste and wastewater plans are likely to
40 minimize generation of solid waste and wastewater in the
41 construction, operation, and retirement of the facility, and when
42 solid waste or wastewater is generated, to result in recycling and
43 reuse of such wastes;

44 “(b) The applicant’s plans to manage the accumulation, storage,
45 disposal and transportation of waste generated by the construction

1 and operation of the facility are likely to result in minimal adverse
2 impact on surrounding and adjacent areas. *** “
3

4 **Discussion**

5 TEC LLC proposes to minimize the generation of solid waste and wastewater and to focus on
6 recycling and reuse of generated wastes during construction, operation, and retirement of the
7 proposed facility. TEC LLC believes its plans for the management of generated wastes would
8 result in minimal adverse impact on adjacent and surrounding areas.
9

10 **Solid Waste**

11 Construction. TEC LLC would generate a variety of solid wastes during construction of the
12 proposed facility. Major construction-related solid wastes would include: concrete; wood; and
13 scrap steel. Other construction-related wastes would include: various ferrous and non-ferrous
14 metals from onsite fabrication activities; cardboard and other types of paper packaging materials;
15 wood pallets used for shipping parts and equipment; plastic packaging and wrapping materials;
16 and aluminum, glass, plastic, and metal food and beverage containers.
17

18 As a consequence of its erosion control efforts during the construction phase, TEC LLC would
19 generate additional waste material in the form of straw bales and silt fencing. Oily waste,
20 including rags and dirt, would be stored in sealed drums and periodically removed by a licensed
21 contractor. Spill kits containing absorbent pads would be located on equipment and in onsite
22 temporary storage facilities for timely response to accidental spills. Graders and bulldozers
23 would be available to respond to spills by quickly constructing containment berms or ditches, if
24 necessary.
25

26 Recyclable materials would be stored onsite until sufficient quantities were accumulated to make
27 recycling economic and would then be sold to dealers operating in the Western Oregon region.
28 TEC LLC would use a combination of source separation and commingling of recyclable wastes
29 to promote a high rate of recovery and recycling throughout the construction phase. Used oil
30 would be recycled through specialist firms providing this service in Oregon. Remaining non-
31 hazardous recyclable waste would be recycled by the local disposal service.
32

33 Non-recyclable wastes would be collected and transported to a permitted disposal site. Most
34 conventional, daily refuse would be transported to the Marion County Waste-to-Energy Facility
35 located in Brooks, Oregon. Materials generated from construction activities that are not recycled
36 would be transported to the Brown's Island Demolition Landfill in Salem, Oregon. TEC LLC
37 could use clean fill, *i.e.*, material consisting of soil, rock, concrete, brick, building block, tile, or
38 asphalt paving that does not contain contaminants that could adversely affect the waters of the
39 state or the United States, as onsite fill.
40

41 Operation. During operation of the proposed facility, TEC LLC would generate small quantities
42 of office and maintenance waste, including: paper and paper products; paper, plastic, glass, and
43 metal food packaging; food scraps; and landscape maintenance wastes. Other operational wastes
44 could also include small quantities of potentially hazardous wastes, including oily rags and

1 similar wastes related to equipment lubrication and maintenance. Oily waste, including rags and
2 dirt, would be stored in sealed drums and periodically removed by a licensed contractor.

3
4 TEC LLC would consult with the local waste services provider in developing a recycling
5 program for the proposed facility. That program would establish the appropriate level of
6 separation or commingling of recyclables, the number and size of suitable waste containers, and
7 the amount of storage space to be set aside.

8
9 If TEC LLC were to connect to the City of Turner water and sanitary sewer systems, it would
10 treat its cooling tower blowdown wastewater stream by means of a reverse osmosis system,
11 thereby allowing for additional wastewater recycling within the energy facility and resulting in a
12 lower but more concentrated flow being discharged to the sanitary sewer system. TEC LLC's use
13 of this system would result in the production of sludge that would be periodically transported to
14 the Coffin Butte Landfill.

15
16 If TEC LLC elects not to connect to the City of Turner water and sanitary sewer systems, it
17 would obtain its potable and fire flow water by treating process water in a potable water
18 generation system and would treat its process wastewater by means of a zero-liquid discharge
19 system. During operation of the proposed facility, TEC LLC would generate solid waste as a
20 consequence of operating the potable water generation and zero-liquid discharge systems. These
21 water treatment systems would filter, evaporate, and recycle water from operations, resulting in a
22 concentrated wastewater. That concentrated wastewater would be separated by reverse osmosis
23 and crystallizer systems into distilled water and sludge. The water would be reused, and the solid
24 sludge, composed mostly of water treatment chemicals and minerals and salts concentrated from
25 the raw water supply, would be periodically transported to the Coffin Butte Landfill.

26
27 Retirement. During retirement of the proposed facility, TEC LLC would generate scrap metals,
28 concrete, asphalt, drywall, glass, roofing material, wood, ceiling tile and panels, carpet, carpet
29 padding, and organic wastes. The disposal and recycling of wastes generated by demolition of
30 the proposed facility would be similar to waste handling during the construction phase.

31 **Wastewater**

32
33 Construction. During construction of the proposed facility, TEC LLC would generate wastewater
34 in the form of sanitary sewage from portable toilets. A contract provider would transport this
35 wastewater to an approved treatment facility.

36
37 Operation. During operation of the proposed facility, TEC LLC would generate both sanitary and
38 process wastewater.

39
40 The volume of sanitary wastewater would be less than 1.2 gallons per minute or about 1,728
41 gallons per day. TEC LLC would either route the sanitary wastewater to an onsite septic tank or
42 discharge it to the City of Turner sanitary sewer system. If the sanitary wastewater were routed
43 to an onsite septic tank, TEC LLC would periodically transport the tank's contents to a licensed
44 wastewater treatment facility.

1 If TEC LLC were to connect to the City of Turner water and sanitary sewer systems, it would
2 treat its cooling tower blowdown wastewater stream by means of a reverse osmosis system,
3 thereby allowing for additional wastewater recycling within the energy facility and resulting in a
4 lower but more concentrated flow being discharged to the sanitary sewer system.

5
6 If TEC LLC elects not to connect to the City of Turner water and sanitary sewer systems, it
7 would obtain its potable and fire flow water by treating process water in a potable water
8 generation system, and it would treat its process wastewater by means of a zero-liquid discharge
9 system, thereby minimizing the volume of process wastewater. These water treatment systems
10 would filter, evaporate, and recycle water from operations, resulting in a concentrated
11 wastewater. That concentrated wastewater would be separated by reverse osmosis and
12 crystallizer systems into distilled water and sludge. The water would be reused, and the solid
13 sludge would be periodically transported to the Coffin Butte Landfill. Process wastewater
14 generated from washing the combustion turbines would be stored in a sump for periodic
15 transport to an approved treatment facility.

16
17 Retirement. During retirement of the proposed facility, TEC LLC would be required to dispose
18 of about 100,000 gallons of pure, de-mineralized water from the condensation of process steam
19 and a maximum of 350,000 gallons of clean, potable water from the onsite water storage tank.
20 The de-mineralized water would be transported to an approved treatment facility. Potable water
21 remaining in the storage tank would be used for dust control during decommissioning of the
22 proposed facility.

23 **Impact on Surrounding and Adjacent Areas**

24 Construction. TEC LLC would regularly monitor areas set aside for the collection and temporary
25 storage of refuse and recyclables generated by construction of the proposed facility to prevent
26 spillage of materials on the ground, to pick up litter, and to arrange for removal of containers as
27 required. Because TEC LLC would promote waste reduction and recycling as the preferred
28 alternative to waste disposal throughout the construction phase, construction of the proposed
29 facility would be unlikely to cause significant adverse environmental impacts on adjacent or
30 surrounding areas.

31
32
33 Operation. During operation of the proposed facility, process wastewater would either be
34 eliminated by means of a zero-liquid discharge system or reduced in quantity by means of
35 reverse osmosis before being discharged into the City of Turner sanitary sewer system. In either
36 event, the water would be reused to the greatest extent possible, and the sludge would be
37 periodically transported to a licensed disposal facility. TEC LLC would promote waste reduction
38 and recycling during operation of the proposed facility. Therefore, operation of the proposed
39 facility would be unlikely to cause significant adverse environmental impacts on adjacent or
40 surrounding areas.

41
42 Retirement. During retirement of the proposed facility, TEC LLC may dispose of “clean fill” in
43 onsite locations under suitable cover. Otherwise, the disposal and recycling of wastes generated
44 by demolition of the proposed facility would be similar to waste handling practices during the
45 construction phase.

1
2 In its ASC, TEC LLC describes actions that are designed to address the Council’s waste
3 minimization standard. The Department recommends that the Council consider the following
4 actions to be commitments by TEC LLC. To find that TEC LLC complies with OAR 345-022-
5 0120, the Department recommends that the Council adopt the following conditions in the site
6 certificate:

- 7
8 **(1) During construction, operation and retirement of the facility, the certificate**
9 **holder shall separate recyclable materials from the solid waste stream to the**
10 **extent practicable, store those materials on site until sufficient quantities**
11 **exist to make recycling economic, and periodically deliver or sell those**
12 **materials to a recycling facility.**
13
14 **(2) During construction, operation and retirement of the facility, the certificate**
15 **holder shall segregate all used oil and oily dirt in sealed containers, store**
16 **such materials on site, and deliver such materials to a recycling firm**
17 **specializing in the proper disposal of such materials.**
18

19 **Summary**

20 The Department recommends that the Council find that TEC LLC’s solid waste and wastewater
21 plans are likely to minimize generation of solid waste and wastewater in the construction,
22 operation and retirement of the facility, and when solid waste or wastewater is generated, to
23 result in recycling and reuse of such wastes. The Department further recommends that the
24 Council find that TEC LLC’s plans to manage the accumulation, storage, disposal and
25 transportation of waste generated by the construction and operation of the facility are likely to
26 result in minimal adverse impact on surrounding and adjacent areas.
27

28 **Conclusion**

29 The Department recommends that the Council find that, subject to the conditions stated in this
30 Order, TEC LLC meets the waste minimization standard, OAR 345-022-0120.
31

32 **D.15. CARBON DIOXIDE STANDARD FOR BASE LOAD GAS PLANTS, OAR 345-024-0550**

33 “To issue a site certificate for a base load gas plant, the Council must find that the net
34 carbon dioxide emissions rate of the proposed facility does not exceed 0.675 pounds of
35 carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide
36 emissions and net electric power output measured on a new and clean basis. For a base
37 load gas plant designed with power or augmentation technology as defined in OAR 345-
38 001-0010, the Council shall apply the standard for a non-base load power plant, as
39 described in OAR 345-024-0590, to the incremental carbon dioxide emissions from the
40 designed operation of the power augmentation technology. The Council shall determine
41 whether the base load carbon dioxide emissions standard is met as follows:

- 42 “(1) The Council shall determine the gross carbon dioxide emissions that are
43 reasonably likely to result from the operation of the proposed energy facility. The
44 Council shall base such determination on the proposed design of the energy

1 facility. The Council shall adopt site certificate conditions to ensure that the
2 predicted carbon dioxide emissions are not exceeded on a new and clean basis;

3 “(2) For any remaining emissions reduction necessary to meet the applicable standard,
4 the applicant may elect to use any of the means described in OAR 345-024-0560,
5 or any combination thereof. The Council shall determine the amount of carbon
6 dioxide emissions reduction that is reasonably likely to result from the applicant's
7 offsets and whether the resulting net carbon dioxide emissions meet the applicable
8 carbon dioxide emissions standard;

9 “(3) If the applicant elects to comply with the standard using the means described in
10 OAR 345-024-0560(2), the Council shall determine the amount of carbon dioxide
11 emissions reduction that is reasonably likely to result from each of the proposed
12 offsets. In making this determination, the Council shall not allow credit for offsets
13 that have already been allocated or awarded credit for carbon dioxide emissions
14 reduction in another regulatory setting. The fact that an applicant or other parties
15 involved with an offset may derive benefits from the offset other than the
16 reduction of carbon dioxide emissions is not, by itself, a basis for withholding
17 credit for an offset. The Council shall base its determination of the amount of
18 carbon dioxide emission reduction on the following criteria and as provided in
19 OAR 345-024-0680:

20 “(a) The degree of certainty that the predicted quantity of carbon dioxide
21 emissions reduction will be achieved by the offset;

22 “(b) The ability of the Council to determine the actual quantity of carbon
23 dioxide emissions reduction resulting from the offset, taking into
24 consideration any proposed measurement, monitoring and evaluation of
25 mitigation measure performance;

26 “(c) The extent to which the reduction of carbon dioxide emissions would
27 occur in the absence of the offsets;

28 “(4) Before beginning construction, the certificate holder shall notify the Office in
29 writing of its final selection of a gas turbine vendor and shall submit a written
30 design information report to the Office sufficient to verify the facility's designed
31 new and clean heat rate and its nominal electric generating capacity at average
32 annual site conditions for each fuel type. In the report, the certificate holder shall
33 include the proposed limits on the annual average number of hours of facility
34 operation on distillate fuel oil, if applicable. In the site certificate, the Council
35 may specify other information to be included in the report. The Office shall use
36 the information the certificate holder provides in the report as the basis for
37 calculating, according to the site certificate, the amount of carbon dioxide
38 emissions reductions the certificate holder must provide under OAR 345-024-
39 0560.”
40

41 **Discussion**

42 The proposed energy facility would be a base load gas plant as defined in OAR 345-001-
43 0010(7)(6). Therefore, “the Council must find that the net carbon dioxide emissions rate of the
44 proposed facility does not exceed 0.675 pounds of carbon dioxide per kilowatt hour of net

1 electric power output, with carbon dioxide emissions and net electric power output measured on
2 a new and clean basis.” OAR 345-024-0550.

3
4 TEC LLC also requested that the Council approve its use of power augmentation in the form of
5 duct burning (“power augmentation technologies”), which would be fueled with natural gas.
6 TEC LLC reported that it anticipated that the TEC’s use of duct burning would not exceed 5,000
7 hours per year on average. (ASC, Exhibit Y, page Y-2) TEC LLC may select a different limit
8 for annual average hours of duct firing before beginning construction, pursuant to OAR 345-024-
9 0590(4).

10
11 The Council applies the carbon dioxide emissions standard for non-base load power plants to the
12 incremental carbon dioxide emissions from the designed operation of the power augmentation
13 technologies. OAR 345-024-0590. Thus, the Council must find that those incremental
14 emissions do not exceed 0.675 pounds of carbon dioxide per kilowatt-hour (“lb. CO₂/kWh”) of
15 net electric power output, with carbon dioxide emissions and net electric output measured on a
16 new and clean basis. (In its application, TEC LLC reported the rate as 0.7 lb. CO₂/kWh, but that
17 rate has since been superseded by a rule change.) TEC LLC did not specify that it intended to use
18 the power augmentation technologies during any particular times of the year, so the analysis of
19 the new and clean basis in this Order is for average annual conditions.

20
21 **Compliance.** TEC LLC proposed to comply with the carbon dioxide emissions standard of OAR
22 345-024-0550, -0560, -0590, and -0600 by making payments in compliance with the monetary
23 path payment requirement of OAR 345-024-0710. It proposed to provide selection and
24 contracting funds and offset funds to The Climate Trust as allowed by OAR 345-024-0560(3)
25 and OAR 345-024-0600(3).

26
27 **Calculations.** The following discussion and Table D.15-1 show the example carbon dioxide
28 emissions calculations for the base-load plant and the power augmentation technologies, as
29 proposed by TEC LLC . However, these calculations should be considered as representative of
30 the proposed design. The conditions relating to the carbon dioxide standard and other conditions
31 in the site certificate allow TEC LLC flexibility in its choice of equipment vendor and the
32 facility’s design, within the parameters allowed pursuant to OAR 345-027-0050.

33
34 Before beginning construction of the TEC, TEC LLC must submit to the Department an affidavit
35 with the design parameters that are necessary to calculate accurately the carbon dioxide
36 emissions from the TEC, pursuant to OAR 345-024-0550. Those parameters determine the
37 specific amount of the monetary path payment for offset funds and for selection and contracting
38 funds required, as calculated pursuant to the site certificate.

39
40 **Gross Carbon Dioxide Emissions.** The Council must determine the carbon dioxide emissions
41 that are reasonably likely to result from the operation of the proposed energy facility. For a base-
42 load gas plant, OAR 345-001-0010(7) requires calculations of the annual gross carbon dioxide
43 emissions of the facility and total carbon dioxide emissions for 30 years at 100 percent capacity.
44 “Gross carbon dioxide emissions” is defined in OAR 345-001-0010(25):
45

1 “Gross carbon dioxide emissions” means the predicted carbon dioxide emissions of
 2 the proposed energy facility. The Council shall measure the gross carbon dioxide
 3 emissions of a fossil-fueled power plant on a new and clean basis.***

4 Because the energy facility would operate with power augmentation technologies for part of the
 5 time, the gross carbon dioxide emissions are the sum of the emissions when operating at base-
 6 load alone and when operating with power augmentation technologies. The gross carbon dioxide
 7 emissions shown in Table D.15-1, Section F, as “Combined CO₂ Emissions” are 127,558 million
 8 pounds.
 9

10 **Gross Carbon Dioxide Emissions Rate.** The gross carbon dioxide emissions rate is expressed
 11 as pounds of carbon dioxide per kilowatt-hour of net electric power output. “Net electric power
 12 output” is defined as “the electric power produced or capacity made available for use ***.” OAR
 13 345-001-0010(33).
 14

15 For the gross carbon dioxide emissions rate, the table divides the combined output (kWh) into
 16 the combined carbon dioxide emissions (lb. CO₂) to determine the gross carbon dioxide
 17 emissions rate (lb. CO₂/kWh). The gross carbon dioxide emissions rate for the facility is 0.790
 18 lb. CO₂/kWh.
 19

Table D.15-1
CO₂ Standard Applied to the Turner Energy Center

A. CO₂ Standard	
CO ₂ Standard (lb. CO ₂ /kWh)	0.675
B. Parameters for Base Load Gas Plant	
Net Power Output (kW)	565,434
New and Clean Heat Rate (Btu/kWh) HHV	6,606
Annual Hours of Operation	8,760
C. Parameters for Power Augmentation	
Net Power Output (kW)	650,621
New and Clean Heat Rate (Btu/kWh) HHV	6,854
Annual Hours of Operation	5,000
D. Base Load	
Net Power Output (kW)	565,434
Annual Hours of Operation	3,760
Percent Time on Base Load w/o Power Augmentation	43%
Annual Generation (million kWh/yr.)	2,126
Deemed Life of Plant (years) by Statute or Rule	30
Total Plant Output (million kWh for 30 years)	63,781
Heat Rate (Btu/kWh) HHV	6,606
Natural Gas CO ₂ Emissions Rate (lb. CO ₂ /Btu)	0.000117
Total CO ₂ Emissions (million lb.)	49,296
E. Power Augmentation	

Net Power Output (kW)	650,621
Percent Time on Power Augmentation	57%
Annual Hours of Operation	5,000
Annual Generation (million kWh/yr.)	3,253
Deemed Life of Plant (years) by Statute or Rule	30
Total Plant Output (million kWh for 30 years)	97,593
Heat Rate (Btu/kWh) HHV	6,854
Natural Gas CO ₂ Emissions Rate (lb. CO ₂ /Btu)	0.000117
Total CO ₂ Emissions (million lb.)	78,262
F. Total Operations	
Combined Output (million kW for 30 years)	161,374
Combined CO ₂ Emissions (million lb. for 30 years)	127,558
Gross CO ₂ Emissions rate (lb. CO ₂ /kWh)	0.790
CO ₂ Standard (lb. CO ₂ /kWh)	0.675
Excess CO ₂ Emissions Rate (lb. CO ₂ /kWh)	0.115
Excess Tons CO ₂ (million tons over 30 years)	9.315
G. Monetary Path	
Offset Fund Rate (\$/ton CO ₂)	\$ 0.85
Offset Funds Required (\$ million)	\$ 7.918
Contracting and Selection Funds (\$ million)	\$ 0.368
Monetary Path Requirement (\$ million)	\$ 8.286

1
2 **Net Carbon Dioxide Emissions.** “Net carbon dioxide emissions” is defined as “gross carbon
3 dioxide emissions of the proposed energy facility, less carbon dioxide emissions avoided,
4 displaced or sequestered by any combination of cogeneration or offsets.” OAR 345-001-
5 0010(32). In order to apply the standard, the Council must determine the excess carbon dioxide
6 emissions rate of the energy facility and the excess carbon dioxide emissions for 30 years. The
7 standard requires a net carbon dioxide emissions rate of no more than 0.675 lb. CO₂/kWh, which
8 is used to calculate net carbon dioxide emissions allowed. Excess carbon dioxide emissions are
9 those in excess of net carbon dioxide emissions allowed under the standard.

10
11 TEC LLC proposed to offset excess carbon dioxide emissions through the monetary path. Table
12 D.15-1 shows the preliminary calculation of the offsets as “Excess Tons of CO₂.” Excess carbon
13 dioxide emissions for the TEC are 9.32 million tons.

14
15 **Average Annual Site Conditions.** OAR 345-024-0550 requires that the carbon dioxide
16 emissions and net power output be measured on a “new and clean basis.” The Council’s
17 definition of new and clean basis specifies average annual site conditions, including temperature,
18 barometric pressure and relative humidity. OAR 345-001-0010(34). TEC LLC did not request to
19 apply different average conditions for the time that it intends to operate the power augmentation
20 technologies, pursuant to OAR 345-024-0590(1), so calculations for all emissions in this Order
21 are at average annual conditions.

22
23 The average annual site conditions, from the American Society of Heating, Refrigeration and Air
24 Conditioning Engineers (“ASHRAE”) Research Project 890-RP *Updating The Tables of Design*

1 *Weather Conditions in the ASHRAE Handbook: Fundamentals* (1988) are based on atmospheric
2 data collected in Salem, Oregon, about 5 miles north of the site:

3		
4	Temperature	50 degrees F
5	Barometric Pressure	14.55 psi
6	Relative Humidity	81 percent
7		

8 **Estimated Heat Rate and Capacity.** To determine the carbon dioxide emissions from the TEC,
9 it is necessary to know the estimated heat rate and capacity of the proposed facility measured on
10 a new and clean basis for each fuel the facility would use. TEC LLC proposes to use only natural
11 gas as fuel for the energy facility.

12
13 TEC LLC estimates that the base load net power output would be about 565 MW, with a new
14 and clean heat rate of 6,606 Btu/kWh, higher heating value (“HHV”). With power augmentation
15 technologies, Applicant estimates that the TEC would have a net power output of about 651 MW
16 and a new and clean heat rate of 6,854 Btu/kWh (HHV).

17
18 For a base load gas plant, the applicant must assume a 100-percent capacity factor on a new and
19 clean basis. OAR 345-001-0010(7). Based on TEC LLC’s estimate, calculations assume that
20 power augmentation technologies (duct burning) would be used a maximum of 5,000 hours per
21 year on average. Assuming 5,000 hours per year as an annual average, power augmentation
22 would operate at a 57 percent capacity factor. Table D.15-1 breaks the year into two periods,
23 3,760 hours at the base-load heat rate and capacity and 5,000 hours at the power augmentation
24 heat rate and capacity. Power augmentation is an increment of capacity above base-load, but it
25 includes base-load hours.

26
27 **Monetary Path.** TEC LLC elected to comply with the carbon dioxide emissions standard by
28 providing offset funds to The Climate Trust as allowed by OAR 345-024-0560(3) and OAR 345-
29 024-0600(3) and in compliance with the monetary path payment requirement of OAR 345-024-
30 0710. Determination of the actual monetary path payment requirement will be in accordance
31 with site certificate conditions.

32
33 Using the parameters that TEC LLC provided as a representative plant, Table D.15-1 multiplies
34 the excess tons of carbon dioxide for the TEC by the offset fund rate, \$0.85 per ton of carbon
35 dioxide. That determines the offset funds needed for the monetary path payment requirement,
36 which would be \$7.9 million (2005 dollars).

37
38 The table then applies the formula in OAR 345-024-0710(4) to determine the selection and
39 contracting funds. The selection and contracting funds for the base load plant are about \$0.4
40 million.

41
42 The initial monetary path payment is the combination of offset funds and selection and
43 contracting funds. TEC LLC must provide a bond or letter of credit for the offset funds to The
44 Climate Trust before beginning construction, pursuant to site certificate conditions. TEC LLC
45 has proposed to provide a letter of credit, so the site certificate conditions are written specifically

1 for a letter of credit. It must pay the selection and contracting funds to The Climate Trust before
2 beginning construction, pursuant to site certificate conditions. The initial monetary path payment
3 requirement for the estimated parameters of the facility with power augmentation is about \$8.3
4 million (2005 dollars).

5
6 **Supplemental Offset Funds.** There would be a different situation regarding selection and
7 contracting funds and offset funds if the applicant were required to provide supplemental offset
8 funds following a 5-year operational reporting period, pursuant to OAR 345-024-0590(6). In that
9 case, the selection and contracting funds would be calculated based on the supplemental offset
10 funds alone. The amount of required offset funds would be significantly less than the amount for
11 the base-load plant, and the selection and contracting funds would be correspondingly smaller.

12
13 To ensure adequate selection and contracting funds, the Department recommends that the
14 Council find that the basis for the minimum payment for supplemental selection and contracting
15 funds for each 5-year reporting period in which supplemental offset funds are required should be
16 at the rate of 20 percent of the first \$250,000 in offset funds and 4.286 percent of the value of
17 any offset funds in excess of that amount. However, the Department recommends that the
18 Council not set a specific minimum payment amount for supplemental selection and contracting
19 funds. In accordance with OAR 345-024-0710(4), the Department recommends that the Council
20 adopt this calculation procedure in Condition D.15(13)(b).

21
22 **Qualified Organization.** TEC LLC proposed to provide offset funds and selection and
23 contracting funds to The Climate Trust. The Council has previously found that The Climate
24 Trust is a “qualified organization” in matters relating to seven other energy facilities. The
25 Department recommends that the Council find that The Climate Trust continues to meet the
26 requirements of a “qualified organization,” as defined by OAR 345-001-0010(46), for the
27 following reasons:

- 28
29
- 30 • The Climate Trust is exempt from federal taxation under section 501(c)(3) of the
31 Internal Revenue Code. By letter dated November 19, 1997, the Internal Revenue
32 Service (“IRS”) determined that The Climate Trust (then the Oregon Climate
33 Trust) is exempt from taxation under section 501(c)(3). By letter dated August 3,
34 2002, the IRS affirmed The Climate Trust’s exempt status.
 - 35 • The Climate Trust is incorporated in the state of Oregon. Applicant attached the
36 Articles of Incorporation, filed with the Oregon Secretary of State.
 - 37
38 • The Articles of Incorporation of The Climate Trust require that offset funds
39 received from certificate holders in accordance with ORS 469.503(2) be used for
40 offsets projects that will result in direct reduction, elimination, sequestration, or
41 avoidance of carbon dioxide emissions. The Articles of Incorporation of The
42 Climate Trust require that decisions on the use of such funds be made by a body
43 composed of seven voting members of which (1) three are appointed by the
44 Council, (2) three are Oregon residents appointed by the Bullitt Foundation or an

1 alternative environmental organization named by the board of directors, and (3)
2 one member is appointed by applicants for site certificates that are subject to ORS
3 469.503(2)(d) and the holders of such site certificates.
4

- 5 • The Climate Trust has made available on an annual basis, beginning after the first
6 year of operation, a signed opinion of an independent certified public accountant
7 stating that the qualified organization’s use of funds pursuant to ORS 469.503
8 conforms with generally accepted accounting principles.
9
- 10 • The Climate Trust provided the Council with documentation at the Council
11 meeting on October 5, 2003, showing that The Climate Trust has complied with
12 ORS 469.503(2)(e)(K)(v) by entering into contracts obligating at least 60 percent
13 of the offset funds received.
14
- 15 • The Climate Trust provided documentation showing that The Climate Trust has
16 entered or will enter into contracts obligating at least 80 percent of the offset
17 funds disbursed for offsets. The Climate Trust complied with the requirement of
18 OAR 345-001-0010(1)(46)(f).
19

20 **Financial Instrument.** OAR 345-024-0710(1) requires that the applicant supply a “bond or
21 letter of credit in a form reasonably acceptable to the Council to ensure the payment of the offset
22 funds * * *.” To fulfill this requirement, TEC LLC has stated it will provide a letter of credit.
23

24 **Disbursement of Offset Funds.** OAR 345-0240-0710(3) provides:
25

26 “When the certificate holder receives written notice from the qualified organization
27 certifying that the qualified organization is contractually obligated to pay any funds to
28 implement offsets using the offset funds, the certificate holder shall make the requested
29 amount available to the qualified organization unless the total of the amount requested
30 and any amounts previously requested exceeds the offset funds, in which case the
31 certificate holder shall make available only the remaining amount of the offset
32 funds.***”
33

34 The Council has discussed its interpretation of this rule in the Final Order for the Umatilla
35 Generating Project, pages 79-81, and in subsequent final orders for site certificates. The rule
36 requires the certificate holder to pay any funds to implement offsets when the qualified
37 organization provides it written notice that it is contractually obligated to implement offsets. The
38 rule further imposes a restriction on the qualified organization that it cannot request more than
39 the total amount of offset funds for which the certificate holder is obligated. The rule permits the
40 qualified organization to request a partial payment of the total offset funds when it requests
41 offset funds.
42

43 In the Final Order for the Umatilla Generating Project, the Council found that OAR 345-024-
44 0710(3) provides a milestone for the release of offset funds to the qualified organization and that

1 the qualified organization may, at its discretion, request, and the certificate holder shall disburse,
2 up to the full amount of offset funds available when the qualified organization has reached the
3 milestone of being contractually obligated for any amount of money to implement offsets using
4 the offset funds. The Department recommends that the Council adopt conditions to implement
5 the disbursement of offset funds consistent with its findings in the Final Order of the Umatilla
6 Generating Project and subsequent final orders for site certificates and that it further adopt
7 conditions that make explicit the disbursement mechanism for all funds of the monetary path
8 payment requirement.
9

10 **Discussion of Proposed Conditions.** The conditions proposed below implement OAR 345-024-
11 0550 through OAR 345-024-0710. Many conditions address the mechanics of calculating the
12 excess carbon dioxide emissions and the monetary path payment requirement. They also address
13 the information that TEC LLC must provide the Council or the Department at various times.
14 They also address the milestones for providing any increased or supplemental monetary path
15 payments, if necessary. The conditions incorporate both base load operations and use of power
16 augmentation technologies.
17

18 **Index.** To retain the value of the monetary path payment requirement, the conditions
19 index the payment to 2005 dollars from the date the Council grants the site certificate to
20 the time funds are disbursed to The Climate Trust. This is similar to the requirement for
21 the security for financial assurance. A condition provides a cross-reference to the index in
22 Condition D.3(5)(c), which is based on the U.S. Gross Domestic Product Implicit Price
23 Deflator, Chain-Weight, as published by the Oregon Department of Administrative
24 Services in its series, "Oregon Economic and Revenue Forecast." That series provides a
25 forecast of the Implicit Price Deflator for several quarters in advance. That forecast is
26 useful because historical data are usually finalized at least a quarter late. Historical data
27 are never current when The Climate Trust would have to draw down a letter of credit.
28 Therefore, there is a need for a published estimate of the current index. The Department
29 recommends that the Council adopt this index as the most generally applicable.
30

31 **Memorandum of Understanding for Disbursement of Monetary Path Payment**
32 **Requirement.** As discussed above, the rules require that the certificate holder provide a
33 bond or third-party letter of credit as financial assurance that it will make available the
34 monetary path payments. TEC LLC has stated it will provide a letter of credit. The
35 Department recommends that the Council adopt conditions that specify the details of how
36 TEC LLC would disburse offset funds and selection and contracting funds to The
37 Climate Trust using a letter of credit. The conditions include the memorandum of
38 understanding as Attachment A, which would be made part of the site certificate.
39

40 The proposed conditions are written to accommodate a letter of credit. If TEC LLC
41 should choose later to provide a bond, the Council could approve a new form of a
42 memorandum of understanding with The Climate Trust and a form of a bond.
43

1 **Flexibility.** The Department recommends that the Council adopt a condition that would
2 allow TEC LLC to exercise the flexibility that is built into the rules for minor changes.
3 Specifically, OAR 345-027-0050 provides:
4

5 “(2) Notwithstanding section (1), the Council does not require a site
6 certificate amendment if the proposed change would not violate any
7 condition of the site certificate and is a change:

8 “(a) To an electrical generation facility that would increase the
9 electrical generating capacity and would not increase the number
10 of electric generators at the site, change fuel type, increase fuel
11 consumption by more than 10%, or enlarge the facility site;***”
12

13 OAR 345-027-0050 also requires information from the certificate holder about how the
14 proposed changes would comply with applicable standards and a determination by the
15 Department or the Council that an amendment is not required.
16

17 If a certificate holder had not yet made monetary path requirement funds available to a
18 qualified organization, it might take advantage of the flexibility that OAR 345-027-
19 0050(2)(a) offers when it certifies the capacity and heat rate of the facility. However, an
20 increase in capacity and heat rate after a certificate holder had already complied with the
21 conditions relating to the carbon dioxide standard might necessarily require an
22 amendment.
23

24 In lieu of requiring an amendment for incremental increases that otherwise fall within the
25 limits specified in OAR 345-027-0050(2)(a) after a certificate holder has already
26 complied with the conditions relating to the carbon dioxide standard before beginning
27 construction, the Department recommends that the Council adopt a condition that applies
28 the site certificate’s carbon dioxide standard condition, along with the applicable carbon
29 dioxide standard and monetary offset rate at the time that the Council makes a
30 determination that an amendment is not otherwise required. This approach achieves the
31 same result as an amendment allowing a later increase in capacity and heat rate. But, it
32 uses the structure provided by the site certificate conditions and updates it to current
33 standards without requiring an amendment process.
34

35 **100-Hour Tests.** OAR 345-001-0010(34) includes in the definition of “new and clean
36 basis” the requirement that the Council determine the new and clean basis “by a 100-hour
37 test that the site certificate holder completes within the first 12 months of commercial
38 operation of the energy facility.” The purpose of this requirement is to determine the
39 capacity and heat rate for compliance with the carbon dioxide standard for base load gas
40 plants, OAR 345-024-0560. OAR 345-001-0010(34) provides that a certificate holder
41 may use the 100-hour commercial acceptance test for determining the capacity and heat
42 rate on a new and clean basis.
43

44 For power augmentation, the Council may modify the parameters of the new and clean
45 basis to accommodate average conditions at the times when the facility is intended to

1 operate or to accommodate technical limitations, including operational considerations, or
2 for other cause (OAR 345-024-0590(1)). Because modification of the testing parameters
3 is an engineering issue, the Department recommends that the Council authorize the
4 Department to approve modification of the testing parameters if circumstances warrant.
5

6 The Department recommends that the Council adopt the following conditions in the site
7 certificate:
8

- 9 **(1) The net carbon dioxide emissions rate for the base load gas plant shall not
10 exceed 0.675 pounds of carbon dioxide per kilowatt-hour of net electric
11 power output, with carbon dioxide emissions and net electric power output
12 measured on a new and clean basis, as defined in OAR 345-001-0010.**
13
- 14 **(2) The net carbon dioxide emissions rate for incremental emissions for the
15 facility operating with power augmentation shall not exceed 0.675 pounds of
16 carbon dioxide per kilowatt-hour of net electric power output, with carbon
17 dioxide emissions and net electric power output measured on a new and clean
18 basis at the site during the times of year when is facility is intended to
19 operate with power augmentation, subject to modification under
20 Condition D.15(12).**
21
- 22 **(3) For the purposes of the site certificate, “monetary path payment
23 requirement” means the amount of offset funds determined pursuant to
24 OAR 345-024-0550, -0560, -0590 and -0600 and the amount of the selection
25 and contracting funds that the certificate holder must disburse to The
26 Climate Trust, as the qualified organization, pursuant to OAR 345-024-0710
27 and the site certificate.**
28
- 29 **(a) The certificate holder shall calculate the monetary path payment
30 requirement using an offset fund rate of \$0.85 per ton of carbon
31 dioxide in 2005 dollars.**
32
- 33 **(b) The certificate holder shall calculate 2005 dollars using the Index set
34 forth in Condition D.3(5)(c) (Retirement and Financial Assurance).**
35
- 36 **(c) The certificate holder shall increase the amount of the letter of credit
37 described in Condition D.15(9) by the percentage increase in the
38 Index. The certificate holder shall pro-rate the disbursement of funds
39 within the year to the date of disbursement to The Climate Trust from
40 the date of the Council’s approval of the site certificate.**
41
- 42 **(4) Before beginning construction of the facility, the certificate holder shall
43 submit to the Department information identifying its final selection of a gas
44 turbine vendor and heat recovery steam generator vendor along with the
45 following information, as appropriate:**

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- (a) For the base load gas plant, the certificate holder shall submit written design information, based on its contracts with vendors, sufficient to verify the plant’s designed new and clean heat rate (higher heating value) and its net power output at the average annual site condition. The certificate holder shall submit an affidavit certifying the heat rate and capacity.
- (b) For a base load gas plant designed with power augmentation, the certificate holder shall submit written design information, based on its contracts with vendors, sufficient to verify the facility’s designed new and clean heat rate (higher heating value) and its net power output at the site during the times of year when is facility is intended to operate with power augmentation. The certificate holder shall submit an affidavit certifying the heat rate and capacity.
- (5) Before beginning construction of the facility, the certificate holder shall specify to the Department the times and the annual average hours that it expects to operate with power augmentation.
- (6) To calculate the initial monetary path payment requirement, the certificate holder shall use the contracted design parameters for capacities and heat rates submitted under Condition D.15(4) and the times and annual average hours of operation with power augmentation that it specified under Condition D.15(5).
- (7) Before beginning construction of the facility, the certificate holder shall enter into a Memorandum of Understanding ("MOU") with The Climate Trust that establishes the disbursement mechanism to transfer selection and contracting funds and offset funds to The Climate Trust.

 - (a) The MOU must be substantially in the form of Attachment A to the site certificate. At the request of the certificate holder, the Council may modify the form of the MOU without requiring an amendment to the site certificate.
 - (b) Either the certificate holder or The Climate Trust may submit to the Council for the Council’s resolution any dispute between the certificate holder and The Climate Trust concerning the terms of the letter of credit, the MOU, the disbursement of selection and contracting funds, the disbursement of offset funds, or any other issues related to the monetary path payment requirement. The Council’s decision shall be binding on all parties.

- 1 **(8) The certificate holder shall submit all monetary path payment requirement**
2 **calculations to the Department for verification in a timely manner before**
3 **submitting a letter of credit for Council approval, before entering into the**
4 **MOU with The Climate Trust as required by Condition D.15(7), and before**
5 **making disbursements of selection and contracting funds or offset funds to**
6 **The Climate Trust.**
7
8 **(9) Before beginning construction of the facility, the certificate holder shall**
9 **submit to The Climate Trust a letter of credit in the amount of the monetary**
10 **path payment requirement (in 2005 dollars).**
11
12 **(a) The certificate holder shall use a form of letter of credit that is**
13 **substantially in the form of Appendix B to the MOU described in**
14 **Condition D.15(7). At the request of the certificate holder, the Council**
15 **may approve a different form of a letter of credit or may approve a**
16 **bond without an amendment of the site certificate.**
17
18 **(b) The certificate holder shall use an issuer of the letter of credit or bond**
19 **approved by the Council.**
20
21 **(c) The certificate holder shall maintain the letter of credit in effect until**
22 **the certificate holder has disbursed the full amount of the monetary**
23 **path payment requirement to The Climate Trust. The certificate**
24 **holder may reduce the amount of the letter of credit commensurate**
25 **with payments it makes to The Climate Trust. The letter of credit**
26 **must not be subject to revocation before disbursement of the full**
27 **amount of monetary path payment requirement.**
28
29 **(10) For any transfer of the site certificate that the Council approves pursuant to**
30 **OAR 345-027-0100:**
31
32 **(a) If The Climate Trust has not yet fully withdrawn the amount of the**
33 **letter of credit of the current certificate holder at the time of the**
34 **transfer, the new certificate holder shall submit to The Climate Trust**
35 **a pro-rated letter of credit, subject to the requirements of Condition**
36 **D.15(9). The new certificate holder shall submit to Council for the**
37 **Council's approval the identity of the issuer of the bond or letter of**
38 **credit. The Council may approve a new letter of credit or a bond**
39 **without a site certificate amendment.**
40
41 **(b) The new certificate holder shall enter into an MOU with The Climate**
42 **Trust as described in Condition D15(7) unless the new certificate**
43 **holder demonstrates to the satisfaction of the Department that there**
44 **has been a valid assignment of the current certificate holder's MOU**

1 to the new certificate holder. The Council may approve a new MOU
2 without a site certificate amendment.

- 3
4 (c) For resolution of any dispute between the new certificate holder and
5 The Climate Trust concerning the disbursement mechanism for
6 monetary path payments or any other issues related to the monetary
7 path payment requirement, either party may submit the dispute to the
8 Council as provided in Condition D.15(7).
9

- 10 (11) The certificate holder shall disburse to The Climate Trust offset funds and
11 selection and contracting funds when requested by The Climate Trust in
12 accordance with Conditions D.15(13) and D.15(14) and the following
13 requirements:
14

- 15 (a) The certificate holder shall disburse selection and contracting funds to
16 The Climate Trust before beginning construction and as appropriate
17 when additional offset funds are required under Conditions D.15(13)
18 and D.15(14).
19

- 20 (b) Upon notice pursuant to Condition D.15(11)(c), The Climate Trust
21 may request from the issuer of the letter of credit the full amount of
22 all offset funds available, or it may request partial payment of offset
23 funds at its sole discretion. Notwithstanding the specific amount of
24 any contract to implement an offset project, The Climate Trust may
25 request up to the full amount of offset funds the certificate holder is
26 required to provide to meet the monetary path payment requirement.
27

- 28 (c) The Climate Trust may request disbursement of offset funds pursuant
29 to Condition D.15(11)(b) by providing notice to the issuer of the letter
30 of credit that The Climate Trust has executed a letter of intent to
31 acquire an offset project. The certificate holder shall require that the
32 issuer of the letter of credit disburse offset funds to The Climate Trust
33 within three business days of a request by The Climate Trust for the
34 offset funds in accordance with the terms of the letter of credit.
35

- 36 (12) Within the first 12 months of commercial operation of the facility, the
37 certificate holder shall conduct a 100-hour test at full power without power
38 augmentation (“Year One Test-1”) and a test at full power with power
39 augmentation (“Year One Test-2”). Tests performed for purposes of the
40 certificate holder’s commercial acceptance of the facility may suffice to
41 satisfy this condition in lieu of testing after beginning commercial operation.
42

- 43 (a) The certificate holder shall conduct the Year One Test-1 to determine
44 the actual heat rate (“Year One Heat Rate-1”) and the net electric
45 power output (“Year One Capacity-1”) on a new and clean basis,

1 without degradation, with the results adjusted for the average annual
2 site condition for temperature, barometric pressure and relative
3 humidity. The certificate holder shall calculate carbon dioxide
4 emissions using a rate of 117 pounds of carbon dioxide per million Btu
5 of natural gas fuel.
6

7 (b) The certificate holder shall conduct the Year One Test-2 to determine
8 the actual heat rate (“Year One Heat Rate-2”) and net electric power
9 output (“Year One Capacity-2”) for the facility operating with power
10 augmentation, without degradation, with the results adjusted for the
11 site condition for temperature, barometric pressure and relative
12 humidity at the site during the times of year when the power
13 augmentation is intended to operate. The certificate holder shall
14 calculate carbon dioxide emissions using a rate of 117 pounds of
15 carbon dioxide per million Btu of natural gas fuel.
16

17 (c) The certificate holder shall notify the Department at least 60 days
18 before conducting the tests required in subsections (a) and (b) unless
19 the certificate holder and the Department have mutually agreed that
20 less notice will suffice.
21

22 (d) Before conducting the tests required in subsections (a) and (b), the
23 certificate holder shall, in a timely manner, provide to the Department
24 for its approval a copy of the protocol for conducting the tests. The
25 Department may approve modified parameters for testing power
26 augmentation on a new and clean basis and pursuant to OAR 345-
27 024-0590(1) without a site certificate amendment. The certificate
28 holder shall not conduct the tests until the Department has approved
29 the testing protocols.
30

31 (e) Within two months after completing the Year One Tests, the
32 certificate holder shall provide to the Council reports of the results of
33 the Year One Tests.
34

35 (13) Based on the data from the Year One Tests described in Condition D.15(12),
36 the certificate holder shall calculate an adjusted monetary path payment.
37 The certificate holder shall submit its calculations to the Department for
38 verification. If the adjusted monetary path payment exceeds the amount
39 provided according to Condition D.15(9) before beginning construction, the
40 certificate holder shall fully disburse the excess amount directly to The
41 Climate Trust within 30 days of the Department’s verification of the
42 calculations.
43

- 1 (a) The certificate holder shall include the appropriate calculations of the
2 adjusted monetary path payment with its report of Year One Test
3 results required under Condition D.15(12).
4
- 5 (b) For calculating the adjusted monetary path payment, the certificate
6 holder shall use an offset fund rate of \$0.85 per ton of carbon dioxide
7 (in 2005 dollars) and shall calculate contracting and selecting funds
8 based on 20 percent of the first \$250,000 in offset funds and
9 4.286 percent of any offset funds in excess of \$250,000 (in
10 2005 dollars).
11
- 12 (c) In no case shall the certificate holder diminish the value of the letter
13 of credit it provided before beginning construction or receive a refund
14 from The Climate Trust based on the calculations made using the
15 Year One Capacities and the Year One Heat Rates.
16
- 17 (14) The certificate holder shall use the Year One Capacity-2 and Year One Heat
18 Rate-2 that it reports for the facility, pursuant to Condition D.15(12)(b), to
19 calculate whether it owes supplemental monetary path payments due to
20 increased hours that it uses power augmentation.
21
- 22 (a) Each five years after beginning commercial operation of the facility
23 (“five-year reporting period”), the certificate holder shall report to
24 the Department the annual average hours the facility operated with
25 power augmentation during that five-year reporting period, pursuant
26 to OAR 345-024-0590. The certificate holder shall submit five-year
27 reports to the Department within 30 days of the anniversary date of
28 beginning commercial operation of the facility.
29
- 30 (b) If the Department determines that the facility exceeded the projected
31 net total carbon dioxide emissions calculated pursuant to Conditions
32 D.15(4), D.15(5) and D.15(12), prorated for five years, during any five-
33 year reporting period described in subsection (a), the certificate
34 holder shall offset excess emissions for the specific reporting period
35 according to sub-paragraph (A) and shall offset the estimated future
36 excess emissions according to sub-paragraph (B), as follows:
37
- 38 (A) In determining whether there have been excess carbon dioxide
39 emissions that the certificate holder must offset for a five-year
40 reporting period, the Department shall apply OAR 345-024-
41 0600(4)(a). The certificate holder shall pay for the excess
42 emissions at \$0.85 per ton of carbon dioxide emissions (in
43 2005-dollars). The Department shall notify the certificate
44 holder and The Climate Trust of the amount of supplemental
45 payment required to offset excess emissions.

1
2 **(B) The Department shall calculate estimated future excess**
3 **emissions for the remaining period of the deemed 30-year life**
4 **of the facility using the parameters specified in OAR 345-024-**
5 **0600(4)(b). The certificate holder shall pay for the estimated**
6 **excess emissions at \$ 0.85 per ton of carbon dioxide (in**
7 **2005 dollars). The Department shall notify the certificate**
8 **holder of the amount of supplemental payment required to**
9 **offset future excess emissions.**

10
11 **(C) The certificate holder shall offset excess emissions identified in**
12 **sub-paragraphs (A) and (B) using the monetary path as**
13 **described in OAR 345-024-0710. The certificate holder shall**
14 **pay selection and contracting funds of 20 percent of the first**
15 **\$250,000 in offset funds and 4.286 percent of any offset funds**
16 **in excess of \$250,000 (in 2005 dollars).**

17
18 **(c) The certificate holder shall disburse the supplemental selection and**
19 **contracting funds and supplemental offset funds to The Climate Trust**
20 **within 30 days after notification by the Department of the amount**
21 **that the certificate holder owes.**

22
23 **(15) The certificate holder shall use only pipeline quality natural gas or shall use**
24 **synthetic gas with a carbon content per million Btu no greater than pipeline-**
25 **quality natural gas to fuel the combustion turbines for the base-load gas**
26 **plant and the power augmentation.**

27
28 **(16) After the certificate holder has complied with the conditions relating to the**
29 **carbon dioxide standard before beginning construction, incremental**
30 **increases in capacity and heat rate that would otherwise fall within the limits**
31 **specified in OAR 345-027-0050(2) do not require an amendment of the site**
32 **certificate if the certificate holder complies substantially with Conditions**
33 **D.15(1) through D.15(15), except as modified below, and if:**

34
35 **(a) The Department or the Council determines, as described in OAR 345-**
36 **027-0050(5), that the proposed change in the facility does not**
37 **otherwise require an amendment; and,**

38
39 **(b) The certificate holder complies with the appropriate carbon dioxide**
40 **emissions standard and monetary offset rate in effect at the time the**
41 **Department or the Council makes its determination under this**
42 **condition.**

43
44 The Department recommends that the Council adopt the conditions for compliance with the CO₂
45 standard, including Attachment A.

1 **Conclusion**

2 The Department recommends that the Council conclude that the proposed Turner Energy Center,
3 subject to the conditions stated in this Order, meets the carbon dioxide standard for base-load gas
4 plants with power augmentation technologies, OAR 345-024-0550 *et seq.*

5
6 **E. OTHER APPLICABLE REGULATORY REQUIREMENTS:**

7 **E.1. REQUIREMENTS UNDER COUNCIL JURISDICTION**

8 Pursuant to ORS 469.503(1)(b), the Council must determine that the proposed facility complies
9 with all other Oregon statutes and administrative rules identified in the Project Order, as
10 amended, as applicable to the issuance of a site certificate.

11
12 Applicable Oregon statutes and administrative rules identified in the Project Order that are not
13 addressed in any of the Council's standards are discussed in this section of the Order. These
14 include DEQ's noise control regulations and Water Pollution Control Facilities permit
15 requirements, the Department of State Lands' ("DSL") Removal/Fill Permit regulations for
16 disturbance to wetlands, and the Council's statutory authority to consider protection of the public
17 health and safety.

18
19 **E.1.a. Noise**

20 **The Requirement.** DEQ noise regulations for industrial and commercial noise sources apply to
21 the proposed facility. The applicable regulation requires that:

22
23 "No person owning or controlling a new industrial or commercial noise source located on
24 a previously unused industrial or commercial site shall cause or permit the operation of
25 that noise source if the noise levels generated or indirectly caused by that noise source
26 increase the ambient statistical noise levels, L₁₀ or L₅₀, by more than 10 dBA in any one
27 hour, or exceed the levels specified in Table 8, as measured at an appropriate
28 measurement point. OAR 340-035-0035(1)(b)(B)(i)***."

29
30 **Discussion**

31 The Council applies the above DEQ noise regulation to evaluate the noise radiating from the
32 energy facility. Under the DEQ regulation, the proposed energy facility site would be considered
33 a "previously unused industrial site." DEQ rules define a "previously unused industrial site" as
34 "property which has not been used by any industrial or commercial noise source during the 20
35 years immediately preceding commencement of construction of a new industrial or commercial
36 source on that property." OAR 340-035-0015 (47).

37
38 The DEQ noise regulation has two criteria that apply to a new noise source located on a
39 "previously unused industrial site." The first criterion, presented in Table 8 of the DEQ noise
40 regulation, establishes the maximum hourly statistical noise levels that may radiate from a new
41 noise source to a "noise sensitive property" such as a residence, church, school, or hospital. The
42 criterion limits the maximum hourly L₅₀, L₁₀ and L₀₁ noise radiating from a commercial or
43 industrial noise source to 55, 60 and 75 dBA respectively between 7 a.m. and 10 p.m. and 50, 55,
44 and 60 dBA respectively between 10 p.m. and 7 a.m. The hourly L₅₀, L₁₀ and L₀₁ noise levels are

1 defined as the noise level equaled or exceeded 50 percent, 10 percent and 1 percent of the hour,
2 respectively. The criterion is often referred to as the “maximum allowable noise level” criterion.
3

4 The second criterion requires that the new noise source not increase the ambient hourly L_{10} or
5 L_{50} statistical noise levels at a noise sensitive receiver by more than 10 dBA. This criterion is
6 intended to prevent large increases in background noise levels at a receiver, and it is often
7 referred to as the "ambient noise degradation rule."
8

9 Because the proposed energy facility could operate continuously over a 24-hour period and
10 because DEQ noise regulations are generally more restrictive during nighttime hours than during
11 daytime hours, noise from the proposed energy facility would tend to have greater potential for
12 exceeding the noise regulation limits during nighttime hours than during daytime hours.
13 However, TEC LLC conducted an ambient noise study at noise sensitive receivers around the
14 proposed energy facility site over a complete 24-hour period.
15

16 TEC LLC measured noise at four residences (DP-1 thru DP-4) located near the proposed energy
17 facility site. Of all residences in the area, the four residences were considered to have the greatest
18 potential for receiving noise from the proposed energy facility because they were the closest
19 residences to the proposed energy facility outside the “noise buffer” surrounding the proposed
20 energy facility. Several other residences were found to be closer to the proposed energy facility
21 site than the four included in the ambient noise study. However, TEC LLC proposes to buy those
22 residences and produce a “noise buffer” around the proposed energy facility site by either
23 removing the residences from the property or changing their use to eliminate them as noise
24 sensitive properties.
25

26 Measurement site DP-1 (5140 Elgin Street) is located about 900 feet north of the proposed
27 energy facility site at the south edge of a residential neighborhood area that is immediately
28 adjacent to a sawmill on the east. Measurement site DP-2 (8434 55th Street) is located about 1700
29 feet east of the proposed energy facility site on the east side of the Perrin Lateral and on the east
30 side of 55th Street. Measurement site DP-3 (9080 55th Street) is located about 3000 feet southeast
31 of the proposed energy facility site on the east side of 55th Street. Measurement site DP-4 (8621
32 Wipper Road) is located about 1900 feet southwest of the proposed energy facility site on the
33 west side of Wipper Road.
34

35 During the noise study, TEC LLC found that existing hourly L_{50} noise levels at the four
36 measurement sites are mainly a result of the nearby sawmill and local traffic during daytime
37 hours and mainly a result of distant freeway traffic during nighttime hours. Noise generated by
38 several train pass-bys on the Southern Pacific Railroad east of the proposed energy facility site
39 influence the hourly L_{10} noise levels found during late night hours and especially at those
40 receivers located east of the proposed energy facility site.
41

42 The goal of TEC LLC’s ambient noise study is to establish an appropriate noise criterion for the
43 proposed energy facility. In general, TEC LLC’s ambient noise study results show that DEQ’s
44 “ambient noise degradation rule” limits will be more restrictive than the “maximum allowable

1 noise rule” limits and that the “ambient noise degradation rule” limits would be more restrictive
2 during nighttime hours (10 p.m. to 7 a.m.) than during daytime hours (7 a.m. to 10 p.m.).
3

4 In establishing an appropriate noise criterion for its proposed energy facility, TEC LLC
5 considered the ambient noise at the residences during the quietest hours of the night. Generally
6 speaking, TEC LLC’s ambient noise study shows the quietest hours to be between 2 a.m. and 5
7 a.m. in the morning. Using the three-hour “quietest” nighttime window, TEC LLC found that the
8 hourly L₅₀ noise level at site DP-1 was 37 dBA during all three of the quietest nighttime hours
9 (the 2 a.m., 3 a.m. and 4 a.m. hour), and the average hourly L₅₀ noise level was 37 dBA for those
10 hours. During that same time period, TEC LLC found the hourly L₁₀ noise level ranged between
11 37.0 and 44.5 dBA and the average hourly L₁₀ noise level was 40.5 dBA at site DP-1.
12

13 At site DP-2, TEC LLC found that the hourly L₅₀ noise level was 34.5 dBA during all three of
14 the quietest nighttime hours, and the average hourly L₅₀ noise level was 34.5 dBA for those
15 hours. The hourly L₁₀ level ranged between 35.5 and 46 dBA during that same time period, and
16 the average hourly L₁₀ noise level was 41.2 dBA at site DP-2.
17

18 At site DP-3, TEC LLC found that the hourly L₅₀ noise level ranged between 29 and 30 dBA
19 during the three quietest nighttime hours, and the average hourly L₅₀ noise level was 29.7 dBA
20 during those hours. During that same time period, TEC LLC found the hourly L₁₀ noise level
21 ranged between 32.5 and 44.5 dBA, and the average hourly L₁₀ noise level was 38.5 dBA at site
22 DP-3.
23

24 At site DP-4, TEC LLC found that the hourly L₅₀ noise level ranged between 28 and 33 dBA
25 during the three quietest nighttime hours, and the average hourly L₅₀ noise level was 31.1 dBA
26 during those hours. During that same time period, TEC LLC found the hourly L₁₀ noise level
27 ranged between 33 and 36 dBA, and the average hourly L₁₀ noise level was 34.7 dBA at site DP-
28 4.
29

30 Because the noise radiating from power plants tends to be relatively constant throughout an hour,
31 and because the hourly L₅₀ noise criterion is lower than the hourly L₁₀ noise criterion, the hourly
32 L₅₀ noise criterion would be the more stringent criterion of the two. Therefore, TEC LLC
33 predicted the hourly L₅₀ noise level that would radiate from the proposed energy facility and
34 compared the results of that prediction to the noise criterion found using the three quietest hours
35 of the day.
36

37 The major noise sources at the proposed energy facility would include two combustion turbine
38 generator (CTG) packages, two heat recovery steam generator (HRSG) packages, one steam
39 turbine generator (STG) package, and a cooling tower. Secondary noise sources would include
40 the transformers, building ventilation systems, and boiler feed pumps. Sound level data used in
41 predicting the plant-generated noise at the residences were derived from first-hand field
42 measurements of similar equipment. According to TEC LLC’s noise study report, a number of
43 iterative calculations were made to determine the maximum noise level allowed to radiate from
44 each major piece of equipment considering the design criteria and considering the feasibility of
45 reducing the noise level of the individual pieces of equipment to their required noise level. Based

1 on the calculation results, the loudest equipment would be the gas compressors with a sound
2 pressure level of 100 dBA at 3 feet, followed by the STGs and the CTGs with a sound pressure
3 level of 90 dBA at 3 feet, the cooling tower with a sound pressure level of 44 dBA at 400 feet,
4 and the HRSGs with a sound pressure level of 85 dBA at 3 feet.

5
6 TEC LLC's noise study report states that, with appropriate mitigation, the future hourly L_{50} noise
7 level at all occupied residences would be in compliance with the hourly L_{50} criterion level
8 established through the ambient noise study. TEC LLC's noise study report states that noise
9 emission levels from all major equipment at the facility will be specified at an appropriate level
10 to ensure that the overall facility sound levels would satisfy the noise criteria at all occupied
11 residences and that specific mitigation measures would be defined once the equipment is
12 selected. The report states that the final specific noise controls included with the facility may be
13 better or less than assumed, depending on the final design configuration. The report states most
14 major noise sources will be housed within buildings designed to provide a large amount of noise
15 reduction and that it was assumed in the calculation that source-specific noise controls were not
16 included with equipment housed within a building. Thus, it is possible that additional noise
17 reduction could be provided if needed by including source specific noise controls on equipment
18 housed within buildings or by including noise reduction above the standard level on specific
19 pieces of equipment.

20
21 Given the fact that TEC LLC's noise study predicts noise levels below the criterion level at all
22 occupied residences, and given the fact that additional noise controls are available above those
23 already assumed in the analysis (such as the use of the source specific noise controls on
24 equipment located within the buildings and the use of noise reduction above the standard level
25 on specific pieces of equipment), the Department concludes that TEC LLC's noise study
26 demonstrates that the noise that would be generated by the proposed energy facility can be
27 brought into compliance with the DEQ noise regulation limits at all residences.

28
29 As noted above, the noise radiating from the proposed energy facility generally would be
30 relatively constant during an hour. As a result, the hourly L_{01} , the hourly L_{10} and the hourly L_{50}
31 noise levels radiating from the facility would be about the same. Thus, since the noise radiating
32 from the facility can be brought into compliance with the hourly L_{50} criterion, the Department
33 can conclude that the hourly L_{10} and L_{01} noise levels radiating from the facility also would be
34 likely to comply with the DEQ regulation. Therefore, the Department recommends that the
35 Council find that TEC LLC would comply with the hourly L_{50} , L_{10} and L_{01} noise limits at all
36 occupied residences located around the proposed energy facility.

37
38 Construction of the proposed energy facility should produce noise levels similar to those from
39 any large construction project. Construction of the proposed energy facility would involve the
40 operation of construction equipment, including light and heavy trucks, backhoes, bulldozers,
41 graders, cranes, air compressors, welding machines, and power hand tools. The DEQ noise
42 standard exempts noise that originates from construction activities. However, to reduce noise
43 impacts on nearby residences during construction of the energy facility, TEC LLC would
44 schedule most construction work for daylight hours when people generally are less sensitive to
45 noise.

1
2 **Issues Raised in Public Comment**

3 The Department received letters on several occasions from Mr. Jerry Mumper (the owner of
4 residence DP-4 in the study) identifying noise from the proposed energy facility as a major
5 concern. Mr. Mumper questioned TEC LLC's approach to using the average of the three quietest
6 hours of a 24-hour period to establish the DEQ noise criterion instead of using the absolute
7 quietest hour to establish the criterion. Mr. Mumper also questioned TEC LLC's use of a limited
8 amount of data concerning the ambient noise levels and suggested that more ambient data was
9 needed before a criterion could be set. Mr. Mumper states that, because of these deficiencies,
10 TEC LLC has not demonstrated that noise radiating from the proposed energy facility can meet
11 the DEQ noise regulation. In addition, The Department also received several letters from Mr. Art
12 Noxon, a Eugene acoustical engineer, expressing similar concerns.

13
14 However, according to the Department's noise consultant, Mr. Kerrie Standlee, the DEQ noise
15 measurement procedures manual indicates that an ambient noise study is intended to define a
16 reasonable "quiet" hour noise level and not the absolute "quietest-hour" noise level. In fact, the
17 DEQ noise measurement procedures manual states that the noise study is not to place emphasis
18 on the loudest or the quietest levels in establishing the "ambient noise degradation criterion."

19
20 With respect to the amount of ambient noise data collected by TEC LLC, Mr. Standlee states that
21 the noise measurement procedures manual was written at a time when most of the ambient sound
22 studies were conducted using manually observed sound level meters, and studies consisted of
23 short term measurements being made at several times of the day. With a short term sampling
24 approach to measuring noise, noise levels had to be sampled over more days to ensure the results
25 were based on randomly measured short-term measurements. With the current state-of-the-art
26 sound monitoring equipment, continuous sound level data can be taken and the hourly statistical
27 levels can be obtained for each hour of a 24-hour period. Through the use of the current
28 equipment, a picture of the variation of sound over a 24-hour period can be obtained and that
29 picture can be studied to determine if the results seem to be reasonable during the quietest
30 periods or if more data needs to be collected. In the case of the sound monitoring by TEC LLC,
31 measurements were actually made on three different days and the results of that data showed the
32 ambient levels proposed by TEC LLC are reasonable.

33
34 Based on the findings listed above, the Department recommends that the Council adopt the
35 following conditions in the site certificate:

- 36
37 **(1) Before beginning construction of the energy facility, transmission lines, or**
38 **other related or supporting facilities, the certificate holder shall purchase the**
39 **property with residences that were excluded from the noise study and shall**
40 **either remove the residences from the property or change the use of the**
41 **residences so that they are no longer considered noise sensitive properties.**
42
43 **(2) During construction of the energy facility, transmission lines, or other related**
44 **or supporting facilities, the certificate holder shall schedule most heavy**

1 construction to occur during daylight hours. Construction work at night
2 shall be limited to work inside buildings and other structures when possible.
3

- 4 (3) During construction of the energy facility, transmission lines, or other related
5 or supporting facilities, the certificate holder shall require contractors to
6 equip all combustion engine-powered equipment with exhaust mufflers.
7
- 8 (4) During construction of the energy facility, transmission lines, or other related
9 or supporting facilities, the certificate holder shall establish a complaint
10 response system at the construction manager's office to address noise
11 complaints.
12
- 13 (5) Within two months after the start of commercial operation of the energy
14 facility, the certificate holder shall retain a qualified noise specialist to
15 measure noise levels associated with the energy facility operation.
16
- 17 (a) The specialist shall measure noise levels at receptors DP-1, DP-2, DP-3
18 and DP-4 at a time when sound propagation from the plant is
19 expected to be greatest and ambient noise levels are normally the
20 lowest to determine if noise levels generated by the energy facility are
21 within the levels specified by the applicable noise regulations in OAR
22 345-035-0035(1)(b)(B)(i).
23
- 24 (b) The certificate holder shall report the results of the noise evaluation to
25 the Department of Energy.
26
- 27 (c) If actual noise levels do not comply with applicable DEQ regulations,
28 the certificate holder shall take those actions necessary to comply with
29 the regulations no later than six months after the start of commercial
30 operation of the energy facility.
31
- 32 (6) The certificate holder shall install silencers on short duration noise sources
33 (e.g. steam vents).
34

35 Conclusion

36 The Department recommends that the Council find that, subject to the conditions stated in this
37 Order, TEC LLC can meet the DEQ noise standard, OAR 340-035-0035(1)(b)(B)(i).
38

39 E.1.b. Wetlands

40 **The Requirement.** The Council does not have a specific standard for wetlands. However,
41 pursuant to OAR 345-021-0010(1)(j), TEC LLC must submit specific information about the
42 proposed facility's "significant potential impacts" on wetlands within state jurisdiction under
43 ORS Chapter 196. The Oregon Removal-Fill Law (ORS 196.800 through 990) and regulations
44 adopted by the Oregon Department of State Lands (OAR Chapter 141, Division 85) apply to the
45 proposed facility. A removal-fill Permit is required if 50 cubic yards or more of material is

1 removed, filled or altered within any “waters of the state” at the proposed site. Under the
2 Removal-Fill Law, “waters of the state” include wetlands. Pursuant to OAR 345-021-
3 0010(1)(j)(D), the Council must determine that all required removal-fill permits subject to the
4 jurisdiction of the Department of State Lands (“DSL”) can be issued for the proposed facility in
5 compliance with ORS 196.800 *et seq.*

6
7 The proposed energy facility would affect regulated waters and would require a removal-fill
8 permit in accordance with DSL regulations.

9
10 **Discussion**

11 The analysis area for wetlands includes the energy facility site and all related or supporting
12 facility sites, including construction laydown areas.

13
14 Schott and Associates (“Schott”) prepared the wetland delineation for the proposed facility by
15 conducting field studies in one area over a 7-month period between May and November 2001
16 and then in an additional area during July 2003. After repeated reviews of the delineation, DSL
17 concurred with the first delineation on September 13, 2002, and the latter on August 11, 2003
18 (DSL Determinations #02-0174 and #03-0441, respectively).

19
20 Within the analysis area, Schott identified 32 wetlands covering an area of 165.65 acres, as
21 shown in the Joint Permit Application, July 2003, Tab 6.

22
23 All of the wetlands within the analysis area are palustrine, emergent wetlands and/or farmed
24 wetlands that have been disturbed by grazing and/or haying. There are also approximately 17
25 acres of palustrine, scrub-shrub wetlands and 19 acres of palustrine, forested wetlands, connected
26 to larger, emergent wetlands.

27
28 The Department retained Pacific Habitat Services, Inc., to assist in the review of the ASC in
29 order to determine if TEC LLC would meet the requirements of the Removal-Fill Law and
30 applicable DSL regulations. Pacific Habitat Services, Inc., is an environmental consulting
31 company located in Wilsonville, Oregon, offering professional expertise in the disciplines of
32 wetland science, wildlife biology, hydrology, soil science, environmental toxicology, botany, and
33 environmental permitting.

34
35 **Wetland Impacts.** Based on the delineation, construction of the facility would permanently
36 affect 5.140 acres of palustrine, emergent/wet pasture wetland and farmed wetland (Revised
37 Joint Permit Application, July 2003, Table J-3). In addition, construction of the natural gas
38 pipeline would temporarily affect 0.062 acre of palustrine, emergent/wet pasture wetland and
39 0.010 acre of farmed wetland. In its Revised Joint Permit Application, TEC LLC estimates that a
40 total of about 39,559 cubic yards of material would be placed within jurisdictional wetland.
41 Seven wetlands would be permanently affected (D-2A, FW-2A, FW-3A, PEM-WP-4A, PEM-
42 WP-5A, FW-6A, and W-1F), and five wetlands would be temporarily affected (W-1E, PEM-
43 WP-4D, PEM-WP-6D, FW-7D, and FW-8D) (Revised Joint Permit Application, July 2003,
44 Table J-3).

1 Anticipated impacts to wetlands and proposed mitigation measures to avoid, minimize, and
2 compensate for impacts are described in the Revised Joint Permit Application, July 2003, Tab 3.

3
4 **Proposed Mitigation**

5 TEC LLC proposes to implement the following mitigation measures:

6
7 **Avoidance and Minimization.** TEC LLC states it conducted a detailed analysis of site
8 alternatives and found that there are no practicable alternative sites that would produce less
9 adverse impact on the aquatic environment and that would accomplish TEC LLC's objectives in
10 siting the TEC. Alternative site designs are limited due to the constraints of the site ultimately
11 chosen. Only the northern 41 acres of the property controlled by TEC LLC would be within
12 Turner's UGB and zoned for industrial use. TEC LLC says it selected the location site design
13 that would result in the least impact to wetlands and other waters and that the affected wetlands
14 are the least valuable wetlands, *i.e.*, heavily disturbed, farmed wetlands, and provide the fewest
15 wetland functions of all the wetlands on the property. (Revised Joint Permit Application, July
16 2003, Tab 2).

17
18 **Mitigation Plan.** The wetland mitigation plan included in the Revised Joint Permit Application,
19 July 2003, Tabs 3, 5, 14, and 15, describes the proposed mitigation, mitigation goals, design
20 implementation, proposed grading and seeding plans, and monitoring.

21
22 TEC LLC proposes to compensate for 5.212 acres of unavoidable impacts to palustrine,
23 emergent/wet pasture wetland and farmed wetland by creating 2.317 acres of palustrine,
24 emergent-depressional wetland and 2.100 acres of palustrine, forested wetland, by enhancing
25 5.180 acres of palustrine, forested wetland, and by restoring 0.072 acres of palustrine, emergent
26 wetland, wetland pasture, and farmed wetland. Wetland creation and enhancement would be
27 accomplished at two mitigation sites: the Turner Bypass Mitigation Area (creation) and
28 McKinney Creek Mitigation Area (enhancement).

29
30 The Turner Bypass Mitigation Area is located adjacent to the Turner Bypass. Mitigation would
31 consist of the creation of wetland hydrology in the northwest corner of Area A at a 1.5:1 ratio.
32 (Revised Joint Permit Application, July 2003, Tab 6) The source of hydrology for the mitigation
33 site would be groundwater with additional input from TEC's process water supply. The currently
34 farmed wetland would be planted with native trees, shrubs, forbs and graminoids. The mitigation
35 would increase values for storm water detention, water quality, and wildlife habitat.

36
37 The McKinney Creek Mitigation Area is located along McKinney Creek. Mitigation would
38 consist of enhancing a severely degraded riparian area that is currently farmed and plowed
39 annually. Native trees and shrubs would be installed to facilitate the development of a palustrine,
40 forested wetland. Himalayan blackberry and reed canary grass would be removed from the
41 stream bank. McKinney Creek's water quality would be greatly improved by the shading of the
42 stream, and there would also be an increase in wildlife habitat values.

43
44 All temporarily disturbed wetlands would be restored to previous conditions immediately
45 following the installation of the natural gas pipeline.

1
2 TEC LLC would monitor the mitigation sites for five years and would provide an annual report
3 documenting wetland conditions and plant coverage to DSL. The monitoring report would
4 include field data, photographs from established points, data analysis, and recommendations for
5 maintenance.

6
7 **Contingency Plan.** TEC LLC proposes to visually monitor hydrology during the first year
8 following construction. The vegetative cover within the mitigation areas should comprise at least
9 80 percent native wetland plants. Should reed canary grass or Himalayan blackberries exceed 10-
10 percent coverage, TEC LLC would implement additional remedial actions in consultation with
11 DSL. (Revised Joint Permit Application, July, Tab 3) Such additional remedial actions could
12 include: (1) additional mowing intervals; (2) application of herbicides by licensed professionals;
13 or (3) re-seeding with native plant seeds or installing plugs. TEC LLC would provide detailed
14 wetland construction plans to DSL for its review prior to site grading.

15
16 In consultation with DSL, the Department has analyzed the proposed wetland impacts against the
17 legal standards imposed by the Removal-Fill Law and applicable administrative rules. The
18 Department recommends the Council find that DSL should be instructed to issue a removal-fill
19 permit that would authorize the fill of up to 39,559 cubic yards of material within the twelve
20 above-listed wetlands, provided that all unavoidable wetland impacts are fully mitigated in
21 compliance with approved mitigation plans pursuant to the conditions in this Order.

22
23 **Statutory standards from ORS 196.825**

24 ORS 196.825(2) provides the overall decision standard for permitting wetland removals and fills.
25 It provides that a permit shall be issued for filling waters of this state only after a determination
26 that “the proposed fill would not unreasonably interfere with the paramount policy of this state to
27 preserve the use of its waters for navigation, fishing and public recreation.”

28
29 The Department recommends the Council find that the proposed wetland removals and fills meet
30 this standard because:

- 31
- 32 (1) The affected wetlands do not currently offer significant values related to public
33 navigation, fishing, and recreation;
 - 34 (2) The proposed facility was sited and designed to avoid or minimize wetland
35 impacts; and
 - 36 (3) TEC LLC proposes to compensate for 5.212 acres of unavoidable impacts to
37 wetlands by creating 2.317 acres of palustrine, emergent-depressional wetland
38 and 2.100 acres of palustrine, forested wetlands adjacent to the Turner Bypass; by
39 enhancing 5.180 acres of wetland along McKinney Creek; and by restoring 0.072
40 acres of temporary wetland impacts to original conditions. These steps would
41 result in a total of 9.669 acres of wetland mitigation.
42
43
44

1 ORS 196.825(3) requires consideration of certain factors in determining whether to grant a
2 removal-fill permit:

3
4 *“(a) The public need for the proposed fill and the social, economic or other public
5 benefits likely to result from the proposed fill ***.”*
6

7 TEC LLC states that fill of the subject wetlands is necessary to meet a public need of allowing
8 industrial use of the site, consistent with the City of Turner’s acknowledged Comprehensive Plan
9 designation and zoning and that filling the wetland would provide economic and social benefits
10 by facilitating the development of land in Turner zoned for industrial use. TEC LLC also says
11 that the public need for the facility was reflected in the energy shortages of 2000-2001, and there
12 would be socio-economic benefit to the public in terms of an increased energy supply, which
13 would result in fewer energy shortages and better control of costs to the consumer. Other socio-
14 economic benefits are discussed in Exhibit U of the TEC ASC and include the creation of
15 temporary and permanent employment and the creation of new tax revenues. (TEC Revised
16 ASC, July 2003, Exhibit U).
17

18 The Turner comprehensive plan identifies a small number of unused industrial sites. The TEC
19 site is the major undeveloped industrial site identified in Turner’s plan. The Comprehensive Plan
20 describes the public benefits of the City’s industrial land base as follows:
21

22 *“Industry constitutes the economic base of a community because it brings outside
23 moneys into the community. Recruitment of industries which might provide jobs
24 for the existing and future local labor force is an important function of local
25 government. The provision of adequate industrial sites at locations which are
26 compatible with other land uses, and assurance of industrial development is
27 consistent with environmental concerns of the community, is a major objective of
28 the Comprehensive Plan.”* (1993 Turner Comprehensive Plan, 8-5.)
29

30 *“(b) The economic cost to the public if the proposed fill is not accomplished.”*
31

32 TEC LLC states it has designed and configured the TEC to avoid and minimize impacts to
33 waters of the state. Additional redesign efforts are unlikely to completely eliminate the need for
34 the proposed fill. TEC LLC takes the position that the economic cost to the public if the
35 proposed fill were not accomplished could include lost employment opportunities, lost property
36 tax revenues, and a lost source of competitive electric power.
37

38 *“(c) The availability of alternatives to the project for which the fill is proposed.”*
39

40 The fill is proposed in conjunction with construction and operation of the TEC. While there may
41 be alternatives to the proposed energy facility, to be viable each such alternative must have
42 reasonable access to labor, roads, water, natural gas, electric transmission lines, and other
43 necessary infrastructure. In addition, for each such alternative, all applicable environmental and
44 land use laws and regulations must be satisfied. The availability of such alternatives is subject to
45 significant limitations.

1
2 “(d) *The availability of alternative sites for the proposed fill.*”
3

4 TEC LLC states that the proposed facility is intended to meet the need for expanded energy
5 resources for the region. Any new electrical energy development would be likely to require fill of
6 low-value wetlands. Electrical transmission lines are required for all forms of electrical energy
7 development. TEC LLC claims it has minimized the number of wetlands to be affected by siting
8 the gas pipeline along existing cultivated fields and rights of way. Additionally, TEC LLC would
9 avoid other waters of the state by using trenchless technology to construct the gas pipeline. TEC
10 LLC was unable to identify other potential sites that would not affect any existing wetlands.
11

12 “(e) *Whether the proposed fill conforms to sound policies of conservation and would*
13 *not interfere with public health and safety.*”
14

15 Sound conservation policies include impact avoidance, mitigation of unavoidable impacts, and,
16 in general, compliance with relevant natural resource policies. TEC LLC states that the proposed
17 facility would be consistent with the sound policies of conservation, because opportunities to
18 avoid impacts to wetlands and aquatic resources have been evaluated and incorporated in the site
19 selection and final design layout. Siting of the proposed energy facility and its related or
20 supporting facilities would avoid sensitive habitats related to wetlands and riparian areas to the
21 maximum extent practicable. The proposed fill would be located within an area zoned General
22 Industrial (M-1) and the Urban Growth Notification Area (UGNA, for the natural gas pipeline)
23 and would not interfere with public health and safety.
24

25 “(f) *Whether the proposed fill is in conformance with existing public uses of the*
26 *waters and with uses designated for adjacent land in an acknowledged*
27 *comprehensive plan and zoning ordinances.*”
28

29 TEC LLC states that the proposed fill would conform to existing public uses of the waters of the
30 state. The area of proposed fill is within privately owned, low-quality wetland. Construction and
31 operation of the facility would not result in a net loss of wetland acreage or function, because
32 TEC LLC’s mitigation plan would replace wetland functions by creation of new wetlands in the
33 Turner Bypass Mitigation Area at a ratio of 1.5:1 and enhancement of farmed wetland in the
34 McKinney Creek Mitigation Area at a ratio of 2:1.
35

36 The proposed energy facility site is zoned M-1. Adjacent land and land uses to the northwest,
37 southwest, south and west of the energy facility site are farms, zoned Exclusive Farm Use
38 (“EFU”), and other land designated as the Urban Growth Notification Area (“UGNA”). These
39 areas are outside the Turner UGB, in unincorporated Marion County. The parcel to the northwest
40 of the proposed facility would be owned by TEC LLC and used as a buffer area. The facility
41 would be compatible with the adjacent existing and planned land uses.
42

43 “(g) *Whether the proposed fill is compatible with the acknowledged comprehensive*
44 *plan and land use regulations for the area where the proposed fill is to take place*
45 *or can be conditioned on a future local approval to meet this condition.*”

1
2 The proposed fill would affect land zoned M-1. As part of the site design review approval
3 process, TEC LLC must demonstrate that alteration of a wetland or riparian area will be in
4 compliance with state and federal laws, a condition that will be satisfied upon showing that the
5 removal-fill Permit should be issued.

6
7 *“(h) Whether the proposed fill is for streambank protection.”*
8

9 The proposed fill has no relation to streambank protection.

10
11 *“(i) Whether the applicant has provided all practicable mitigation to reduce the*
12 *adverse effects of the proposed fill in the manner set forth in ORS 196.800(10). If*
13 *off-site compensatory wetland mitigation is proposed, the applicant shall*
14 *document the impracticality of on-site compensatory wetland mitigation.”*
15

16 As discussed below, TEC LLC has provided all practicable mitigation to reduce the adverse
17 effects of the proposed fill and proposes no off-site compensatory wetland mitigation.

18
19 **Administrative Rule Standards**

20 OAR 141-085-0025 sets forth the requirements that must be addressed by an applicant for a
21 removal-fill permit as follows:

22
23 *“(1) Any person planning an activity subject to the Removal-Fill Law or these rules*
24 *must obtain an individual permit or other authorization from the Department*
25 *before conducting the activity. Persons may submit an application in order for the*
26 *Department to determine if an activity is subject to these rules and requires an*
27 *authorization.”*
28

29 TEC LLC has filed a Joint Permit Application Form with DSL and the U.S. Army Corps of
30 Engineers, and DSL has issued Draft Removal/Fill Permit No. 25313-RF (Attachment C).

31
32 *“(2) To obtain an individual permit, a complete application is required in order for the*
33 *Department to process the application and issue the permit. The applicant is*
34 *responsible for providing sufficient detail in the application to enable the*
35 *Department to render the determinations and decisions required by these*
36 *rules.***”*
37

38 TEC LLC submitted a complete Joint Permit Application, July 2003, containing sufficient detail
39 to enable DSL to concur with the wetland delineation and to determine it would issue a removal-
40 fill permit.

41
42 *“(3) A completed and signed application on forms provided by the Department along*
43 *with any maps, photos and drawings, as required, that includes [the information*
44 *described in subsections (a)-(o)].”*
45

1 The Joint Permit Application submitted by TEC LLC was complete, signed, on forms provided
2 by DSL, and included maps and drawings showing the location and design of the TEC as they
3 relate to wetlands delineated on the facility site. The Joint Permit Application also included all
4 the necessary and available information to satisfy each of the criteria listed in subsections (a) -
5 (o) of the rule.

6
7 “(4) *If reasonably expected adverse impacts to the water resources cannot be avoided,*
8 *minimized, rectified or reduced, a complete application must also include a*
9 *compensatory wetland mitigation plan as defined in OAR 141-085-0010 that will*
10 *meet the requirements in OAR 141-085-0121 thru -0176, or a compensatory*
11 *mitigation plan, as required in 141-085-0115, or a rehabilitation plan for*
12 *temporary impacts to waters of the state, as required in OAR 141-085-0171.”*
13

14 TEC LLC’s wetland mitigation plan, describing the steps TEC LLC would take to compensate
15 for unavoidable wetland impacts at the facility site, has met with DSL concurrence.

16
17 “(5) *If the proposed activity involves a wetland, a wetland determination or*
18 *delineation report that meets the requirements in OAR 141-090-0005 thru -0055*
19 *shall be submitted by the applicant or required by the Department.”*
20

21 The TEC delineation reports and supporting documents identify and delineate the wetlands at the
22 41-acre energy facility site, some of which are affected by the proposed energy facility. DSL
23 concurred with the delineation reports (DSL Determinations #02-0174 and #03-0441).
24

25 “(6) *If the proposed activity involves a wetland, the application shall include a*
26 *functional attribute assessment of the wetland as described in OAR 141-085-*
27 *0121.”*
28

29 The Joint Permit Application included a functional attribute assessment. (Joint Permit
30 Application, July 2003, Tab 3)

31
32 “(7) *If the proposed activity will directly affect an estuary as defined in OAR 141-085-*
33 *0010, a complete application must include [additional information].***”*
34

35 The proposed facility would not directly affect an estuary as defined in OAR 141-085-0010.
36

37 “(8) *An applicant for fill and removal of material at locations not more than one mile*
38 *apart may combine them into one application. Applicants for linear*
39 *transportation or utility corridor projects may apply on a single application if the*
40 *projects:*

41 “(a) *Consist of integrally-related activities; and*

42 “(b) *Are planned, phased, designed and budgeted as a discrete construction*
43 *unit.”*
44

1 TEC LLC has combined its proposed removal and fill activities into a single application with
2 DSL concurrence.

3
4 *“(9) The Department may require additional information necessary to make an
5 informed decision on whether or not the application and project complies with
6 these rules and ORS 196.800 to 196.990.”*

7
8 TEC LLC worked with the Department, DSL, and the U.S. Army Corps of Engineers to provide
9 additional information necessary to the making of an informed decision on the Joint Permit
10 Application.

11
12 *“(10) The application may include the fee as described in OAR 141-085-0064.”*

13
14 TEC LLC included the appropriate fees with the Joint Permit Application submittal.

15
16 OAR 141-085-0029 describes review standards and permit conditions for individual removal-fill
17 authorizations as follows:

18
19 *“(1) In order to meet the requirements of OAR 141-085-0006(1), ORS 196.805 and
20 196.825 the Department shall evaluate the information provided in the
21 application; conduct its own investigation; and review and consider the comments
22 submitted during the public review process in order to apply the following
23 standards to determine whether or not to issue an individual removal-fill
24 authorization.”*

25
26 TEC LLC provided information to DSL in response to which DSL included specific conditions
27 in the draft removal-fill permit.

28
29 *“(2) Effective Date of Review Standards. The Department may consider only standards
30 and criteria in effect on the date the Department receives the complete
31 application or renewal request (OAR 141-085-0036).”*

32
33 TEC LLC prepared its Joint Permit Application consistent with DSL regulations made effective
34 January 15, 2003.

35
36 *“(3) Considerations for Approval. To issue an individual removal-fill permit the
37 Department must determine that the proposed removal-fill activity will not be
38 inconsistent with the protection, conservation and best use of the water resources
39 of this state and would not unreasonably interfere with the paramount public
40 policy of this state to preserve the use of its waters for navigation, fishing and
41 public recreation, by:*

42
43 *“(a) Considering the public need for the project including the social, economic
44 or other public benefits likely to result from the project. If the applicant is*

1 *a public body, the Department may rely on the public body's findings as to*
2 *local public need and benefit;”*
3

4 TEC LLC states that development of the proposed facility would provide economic and social
5 benefits by facilitating the development of land in Turner zoned for industrial use. TEC LLC also
6 states that the public need for the facility was reflected in the energy shortages of 2000-2001.
7 There would be socio-economic benefit to the public in terms of an increased energy supply,
8 which would result in fewer energy shortages and better control of costs to the consumer. Other
9 socio-economic benefits are discussed in Exhibit U of the TEC ASC and include the creation of
10 temporary and permanent employment and the creation of new tax revenues. (TEC Revised
11 ASC, July 2003, Exhibit U).
12

13 *“(b) Considering the economic cost to the public if the project is not*
14 *accomplished;”*
15

16 TEC LLC points out that the economic cost to the public if the proposed fill is not accomplished
17 could include lost employment opportunities, lost property tax revenues, and a lost source of
18 competitive electric power.
19

20 *“(c) Considering whether the project would interfere with public health and*
21 *safety;”*
22

23 The proposed facility would be located within an area zoned General Industrial (M-1) and the
24 Urban Growth Notification Area (UGNA, for the natural gas pipeline) and would not interfere
25 with public health and safety.
26

27 *“(d) Considering whether the project is compatible with the local*
28 *comprehensive land use plan. The Department will not issue an individual*
29 *removal-fill permit for a project that is not consistent or compatible with*
30 *the local comprehensive land use plan and/or zoning ordinance. The*
31 *Department may issue an individual removal-fill permit requiring the*
32 *applicant to obtain local land use approval prior to beginning the*
33 *authorized activity;”*
34

35 The proposed energy facility site is zoned M-1. Adjacent land and land uses to the northwest,
36 southwest, south and west of the energy facility site are farms, zoned Exclusive Farm Use
37 (“EFU”), and other land designated as the Urban Growth Notification Area (“UGNA”). These
38 areas are outside the Turner UGB, in unincorporated Marion County. The parcel to the northwest
39 of the proposed facility would be owned by TEC LLC and used as a buffer area. The facility
40 would be compatible with the adjacent existing and planned land uses.
41

42 *“(e) Determining the degree to which, if at all, the project, will unreasonably*
43 *interfere with navigation, fishing and public recreation uses of the waters*
44 *of the state;”*
45

1 The proposed facility would conform to existing public uses of the waters of the state. The area
2 of proposed fill is within privately owned, low-quality wetland. Construction and operation of
3 the facility would not result in a net loss of wetland acreage or function, because TEC LLC's
4 mitigation plan would replace wetland functions by creation of new wetlands in the Turner
5 Bypass Mitigation Area at a ratio of 1.5:1 and enhancement of farmed wetland in the McKinney
6 Creek Mitigation Area at a ratio of 2:1.

7
8 *“(f) Considering the degree to which, if at all, the project will increase erosion
9 or flooding upstream and downstream of the project or redirect water
10 from the project site onto adjacent nearby lands;”*

11
12 Impacts related to construction and operation of the proposed facility would include filling 1.23
13 acres of palustrine, emergent/wet pasture wetland and 3.98 acres of farmed wetland. These
14 wetlands are not located within the 100-year floodplain. Therefore, no permanent effect is
15 expected on circulation, hydraulic characteristics, current patterns, or flood hazard.

16
17 *“(g) Considering the practicable alternatives for the project in accordance
18 with (4) as presented in the application; and”*

19
20 See discussion of OAR 141-085-0029(4) below.

21
22 *“(h) Considering practicable mitigation (including compensatory mitigation)
23 for all reasonably expected adverse impacts of project development, as
24 required by subsection (5).”*

25
26 See discussion of OAR 141-085-0029(5) below.

27
28 *“(4) Alternatives Analysis. The Agency will issue an individual removal-fill permit
29 only upon the Agency's determination that a fill or removal project represents the
30 practicable alternative that would have the least adverse effects on the water
31 resources and navigation, fishing and public recreation uses....”*

32
33 TEC LLC states that the proposed facility is intended to meet the need for expanded energy
34 resources for the region. Any new electrical energy development would be likely to require fill of
35 low-value wetlands. Electrical transmission lines are required for all forms of electrical energy
36 development. TEC LLC states that it has minimized the number of wetlands to be affected by
37 siting the gas pipeline along existing cultivated fields and rights of way. Additionally, TEC LLC
38 would avoid other waters of the state by using trenchless technology to construct the gas
39 pipeline. TEC LLC was unable to identify other potential sites that would not affect any existing
40 wetlands.

41
42 *“(5) Mitigation. The Department will only issue an individual removal-fill permit for
43 the practicable alternative with the least adverse effects to the water resources
44 upon the Department's determination that the project includes appropriate and
45 practicable steps to reduce (mitigate) reasonably expected adverse impacts of the*

1 *project to the water resources and navigation, fishing and public recreation uses.*
2 *Mitigation shall be considered in the following sequence:*

3 *“(a) Avoidance. The Department shall first consider whether the project can be*
4 *accomplished by avoiding removing material or placing fill material in or*
5 *on waters of the state altogether (e.g., by moving the location of a*
6 *proposed structure, either on-site or off-site, to avoid filling wetlands);”*
7

8 After analyzing site alternatives, TEC LLC determined that there are no practicable alternative
9 sites that would produce less adverse impact on the aquatic environment and that would
10 accomplish TEC LLC’s objectives in siting the TEC. Alternative site designs are limited due to
11 the constraints of the site ultimately chosen. Only the northern 41 acres of the property controlled
12 by TEC LLC are within Turner’s UGB and zoned for industrial use. TEC LLC states it has
13 selected the location site design that would result in the least impact to wetlands and other waters
14 and that the wetlands that would be affected by the facility are the least valuable wetlands, *i.e.*,
15 heavily disturbed, farmed wetlands, and provide the fewest wetland functions of all the wetlands
16 on the property. (Revised Joint Permit Application, July 2003, Tab 2).
17

18 *“(b) Minimization. If the Department determines that the project cannot be*
19 *accomplished without adverse impacts to water resources and/or*
20 *navigation, fishing and public recreation uses, the Department shall then*
21 *consider whether limiting the degree or magnitude of the removal-fill and*
22 *its implementation can minimize adverse impacts (e.g., bio-engineered*
23 *and non-structural streambank stabilization techniques, such as bank*
24 *sloping and revegetation, shall be installed instead of solutions relying*
25 *primarily on concrete and riprap, whenever technically feasible, suitable*
26 *and environmentally preferable);”*
27

28 TEC LLC states it has designed the proposed facility and its associated removal and fill activities
29 to avoid adverse impacts to water resources and/or navigation and fishing and public recreation
30 uses.
31

32 *“(c) Rectification. If the Department determines that project impacts to the*
33 *waters of the state cannot be further minimized, the Department shall then*
34 *consider whether repairing, rehabilitating or restoring (e.g., restoring site*
35 *conditions along a pipeline corridor after installation is complete) the*
36 *removal fill impact area can rectify the impact;”*
37

38 TEC LLC has committed to restore 0.062 acre of palustrine, emergent/wet pasture wetland and
39 .010 acre of farmed wetland that would be temporarily disturbed by installation of the proposed
40 natural gas pipeline.
41

42 *“(d) Reduction or elimination. When removal fill impacts have been minimized*
43 *and rectified to the maximum extent practicable, the Department will*
44 *consider whether the impacts can be further reduced or eliminated over*
45 *time by monitoring and taking appropriate corrective measures (e.g.,*

1 *assure that site restoration methods have effectively revegetated the site);*
2 *and”*

3
4 Among the conditions DSL included in the draft removal-fill permit is a condition requiring TEC
5 LLC to monitor the mitigation site to determine success for a minimum period of five years. The
6 monitoring period would begin when TEC LLC has demonstrated that hydrology has been
7 established and initial plantings have been accomplished.

8
9 “(e) *Compensation. The Department shall then consider how the applicant's*
10 *project would compensate for reasonably expected adverse impacts of*
11 *project development by replacing or providing comparable substitute*
12 *wetland or water resources and/or navigation, fishing and public*
13 *recreation uses. Compensatory mitigation may not be used as a method to*
14 *reduce environmental impacts in the evaluation of practicable*
15 *alternatives.”*

16
17 TEC LLC proposes to compensate for 5.212 acres of unavoidable impacts to wetlands by
18 creating 2.317 acres of palustrine, emergent-depressional wetland and 2.100 acres of palustrine,
19 forested wetlands adjacent to the Turner Bypass (Mitigation Ratio = 1.5:1); by enhancing 5.180
20 acres of wetland along McKinney Creek (Mitigation Ratio = 2:1); and by restoring 0.072 acres of
21 temporary wetland impacts to original conditions. These steps would result in a total of 9.669
22 actual acres of wetland mitigation (or 5.607 net acres of wetland mitigation, *i.e.*, the actual acres
23 of wetland mitigation adjusted by the applicable mitigation ratio for comparison to the acres of
24 disturbance).

25
26 “(6) *Direct and Indirect Effects. The Department shall impose conditions that mitigate*
27 *the direct effects of project development and conditions that mitigate the indirect*
28 *effects that reach beyond the immediate project area (e.g., a condition requiring*
29 *that equipment must be washed down away from any wetland) when necessary to*
30 *mitigate the reasonably expected adverse impacts of project development to the*
31 *waters of the state.”*

32
33 As conditions in the draft removal-fill permit, DSL provided for numerous control measures,
34 including: (1) erosion control measures; (2) hazardous, toxic and waste materials handling
35 measures; (3) turbidity limits; and (4) site-specific conditions, *e.g.*, marking wetland areas to be
36 avoided, preventing heavy equipment operations outside the construction corridor or footprint,
37 confining fill and removal activities in the Whipper Road Ditch to the period from June 1 to
38 September 30, and segregating and restoring topsoil during installation of the natural gas
39 pipeline.

40
41 “(7) *Permit Conditions. If the project meets the requirements of this section, the*
42 *Department shall impose applicable general conditions in order to reduce or*
43 *eliminate the reasonably expected adverse impacts of project development to*
44 *waters of the state. The Department may also require additional, site-specific*

1 *and/or project-specific conditions, or may modify these general conditions, as*
2 *listed below, as appropriate:***”*
3

4 DSL included applicable general and specific conditions in the draft removal-fill permit.
5

6 “(8) *Long Term Protection of Mitigation Sites.*

7 “(a) *The individual removal-fill permit along with site access control (e.g.*
8 *fencing, signing) is usually sufficient legal means to achieve maintenance*
9 *and long-term protection of mitigation sites. However, in some instances*
10 *compensatory mitigation sites and indirect compensatory wetland*
11 *mitigation sites will need to be permanently protected from destruction*
12 *with appropriate real estate instruments or agreements (e.g. conservation*
13 *easements, deed restrictions, long-term management agreements with land*
14 *trusts or public ownership).***”*
15

16 DSL included in the draft removal-fill permit a condition requiring that the mitigation site be
17 protected in perpetuity by recording deed restrictions approved by DSL.
18

19 OAR 141-085-0121 describes the circumstances under which compensatory wetland mitigation
20 may be required as follows:
21

22 “(2) *For projects where reasonably expected adverse impacts to the water resources*
23 *including wetland functions cannot otherwise be avoided, or minimized, a CWM*
24 *plan will be required to compensate for the reasonably expected adverse impacts*
25 *of the project by replacing the functional attributes of the wetland impacted by*
26 *project development. Compensatory wetland mitigation shall be limited to*
27 *replacement of the functional attributes of the lost wetland.”*
28

29 The approved wetland mitigation plan for the TEC is a Compensatory Wetland Mitigation
30 (“CWM”) plan.
31

32 “(3) *For projects described in (2) requiring CWM and involving project development*
33 *on 0.2 (two-tenths) of an acre or less of wetlands, there is a rebuttable*
34 *presumption that on-site CWM is impracticable. The applicant may propose to*
35 *fulfill CWM requirements through off-site CWM without first considering on-site*
36 *CWM.”*
37

38 Project development at the TEC site would affect more than 0.2 acre, and this rule would not
39 apply.
40

41 “(4) *For projects described in (2) requiring CWM involving project development*
42 *impacts greater than 0.2 (two-tenths) of an acre, the applicant shall first consider*
43 *on-site CWM to provide the replacement of the functional attributes of the lost*
44 *wetland. If on-site CWM is impracticable as documented by the applicant, off-site*
45 *CWM shall be utilized.***”*

1
2 TEC LLC proposes to provide on-site compensatory wetland mitigation.
3

4 “(5) *The Department will review the CWM plan for sufficiency and compliance with*
5 *these rules. The Department may make recommendations for improvements to*
6 *CWM plans, at any time prior to the permit decision, based on the demonstrated*
7 *success of existing CWM projects. The Department will approve the final CWM*
8 *plan as a part of the individual removal-fill permit. In approving the final CWM*
9 *plan, the Department may, after consulting with the applicant, require conditions*
10 *necessary to ensure success of the CWM plan and to ensure the requirements in*
11 *these rules are met.”*
12

13 DSL has reviewed the compensatory wetland mitigation proposed by TEC LLC and has included
14 conditions relating to implementation and measurement of success in the draft removal-fill
15 permit.
16

17 “(6) *To the extent possible, the Department shall develop and make available to the*
18 *public a listing of known compensatory wetland mitigation sites (e.g., wetland*
19 *mitigation banks).”*
20

21 TEC LLC would provide on-site compensatory mitigation and would not make reference to the
22 DSL list of known compensatory wetland mitigation sites.
23

24 “(7) *The applicant shall complete and include in the application an assessment of*
25 *wetland functional attributes. The assessment shall assess:*
26 “(a) *Existing functional attributes at the proposed project impact site;*
27 “(b) *Functional attributes reasonably expected to be adversely impacted,*
28 *including those functional attributes decreased or lost due to the proposed*
29 *project;*
30 “(c) *Existing functional attributes at the proposed CWM site, if the site is*
31 *currently wetland; and*
32 “(d) *The net gain or loss of specific functional attributes at the direct CWM site*
33 *as a result of the proposed CWM project.”*
34

35 The HGM³ Analysis of Impact, Mitigation, and Reference Wetlands, prepared by Schott &
36 Associates, provides an assessment of functional attributes of both the affected wetlands and the
37 compensatory wetland mitigation sites. The analysis was included in TEC LLC’s Joint Permit
38 Application, July 2003, Tab 3, Appendix A.
39

40 “(8) *Wetland functional attributes to be assessed include, but are not limited to:*
41 “(a) *Water quality and quantity functions;*
42 “(b) *Fish and wildlife habitat functions;*
43 “(c) *Native plant communities and species diversity functions; and*

³ Hydrogeomorphic

1 “(d) *Recreational and educational values.*”
2

3 The HGM Analysis of Impact, Mitigation, and Reference Wetlands submitted with TEC LLC’s
4 Joint Permit Application addresses these characteristics for both the affected wetlands and the
5 compensatory wetland mitigation sites.
6

7 “(9) *A functional assessment of the impact site is not needed if the proposed CWM*
8 *plan utilizes payment to provide or the purchase of credits from a wetland*
9 *mitigation bank to satisfy all the compensatory wetland mitigation requirements.*”
10

11 TEC LLC would not utilize payment to provide or the purchase of credits from a wetland
12 mitigation bank to satisfy all the compensatory wetland mitigation requirements.
13

14 “(10) *The Oregon Freshwater Wetland Assessment Method shall not be used to satisfy*
15 *the requirements of OAR 141-085-0121(7).*
16

17 TEC LLC prepared its wetland assessments using both the judgmental and the reference-based
18 methods outlined in *The Guidebook for Hydrogeomorphic (HGM)-Based Assessment of Oregon*
19 *Wetland and Riparian Sites, I Willamette Ecoregion Riverine Impounding and Slope/Flats*
20 *Subclasses.*
21

22 “(11) *HGM is the preferred, but not required, functional assessment method. When*
23 *HGM is used, the Willamette Valley HGM guidebook should be used for*
24 *appropriate HGM classes in the Willamette Valley; until additional guidebooks*
25 *are developed by the Department, the "Judgmental Method" in the Willamette*
26 *Valley Guidebook may be used to assess wetland functions in other regions.****”
27

28 TEC LLC prepared its wetland assessments using both the judgmental and the reference-based
29 methods outlined in the Willamette Valley HGM guidebook.
30

31 “(12) *If best professional judgment is used to evaluate any or all wetland functional*
32 *attributes, a discussion of the basis of the conclusions is required.****”
33

34 The HGM Analysis of Impact, Mitigation, and Reference Wetlands included with TEC LLC’s
35 Joint Permit Application, July 2003, Tab 3, Appendix A, addresses the rationale for scores using
36 the reference-based method.
37

38 “(13) *Additional assessments or data may be required by the Department if the*
39 *functional assessment results, public/agency review comments, or the*
40 *Department's review indicate that there may be reasonably expected adverse*
41 *impacts to rare or listed plant or animal species, adjoining property owners, or if*
42 *the project's effects are not readily apparent.*”
43

44 In issuing special conditions for inclusion in the draft removal-fill permit, DSL did not request of
45 TEC LLC additional assessments or data.

1
2 OAR 141-085-0126 outlines the requirements for compensatory wetland mitigation projects as
3 follows:

- 4
5 “(1) CWM projects shall replace:
6 “(a) Wetland habitat type(s) impacted by the project, as classified per
7 Cowardin system (e.g., palustrine forested); and
8 “(b) HGM class/subclass(es) impacted by the project (e.g., riverine
9 impounding), using the Oregon HGM Statewide Classification (Oregon
10 Department of State Lands 2001); and
11 “(c) The functional attributes of the lost wetland (impact wetland).”
12

13 TEC LLC proposes to compensate for 5.212 acres of unavoidable impacts to wetlands by
14 creating 2.317 acres of palustrine, emergent-depressional wetland and 2.100 acres of palustrine,
15 forested wetlands adjacent to the Turner Bypass (Mitigation Ratio = 1.5:1); by enhancing 5.180
16 acres of wetland along McKinney Creek (Mitigation Ratio = 2:1); and by restoring 0.072 acres of
17 temporary wetland impacts to original conditions. These steps would result in a total of 9.669
18 actual acres of wetland mitigation (or 5.607 net acres of wetland mitigation, *i.e.*, the actual acres
19 of wetland mitigation adjusted by the applicable mitigation ratio for comparison to the acres of
20 disturbance).
21

- 22 “(2) The Department may approve exceptions to the requirements of OAR 141-085-
23 0126(1) if the applicant demonstrates, in writing, that the alternative CWM:
24 “(a) Is environmentally preferable;
25 “(b) Replaces wetland functions that address problems (such as flooding) that
26 are identified in a watershed management plan or water quality
27 management plan approved by a watershed council or public agency;
28 “(c) Replaces wetland types (Cowardin/HGM) and functions historically lost in
29 the region; or
30 “(d) Replaces rare or uncommon plant communities appropriate to the region,
31 as identified in the most recent ONHP plant community classification.”
32

33 TEC LLC has not requested an exception to the requirements of OAR 141-085-0126(1).
34

- 35 “(3) A permit holder, with the approval of the Department, may at any time contract
36 with a third party to construct, monitor or maintain the CWM site. The permit
37 holder cannot delegate responsibility for compliance with the CWM requirements
38 unless the authorization has been transferred in accordance with OAR 141-085-
39 0034.”
40

41 Condition 2 of the draft removal-fill permit prepared by DSL addresses this requirement.
42

- 43 “(4) For linear projects (e.g., roads or utility lines with wetland impacts in several
44 watersheds), the applicant may compensate for all wetland impacts at a single
45 CWM site.”

1
2 TEC LLC proposes to restore in place wetlands disturbed by installation of the natural gas
3 pipeline.

4
5 “(5) CWM projects:

6 “(a) *Shall be completed prior to or concurrent with the authorized removal-fill*
7 *project. The Department may approve non-concurrent CWM if the*
8 *applicant clearly demonstrates, in writing, the reason for the delay or that*
9 *there is benefit to the water resources in doing so. The ratio of CWM*
10 *required for delayed projects may be increased according to the*
11 *provisions of OAR-141-085-0136;”*
12

13 Condition 15 of the draft removal-fill permit prepared by DSL addresses this requirement.

14
15 “(b) *Shall include native vegetation plantings aimed at re-establishment of a*
16 *dominance of native plants;”*
17

18 Condition 18 of the draft removal-fill permit prepared by DSL addresses this requirement.

19
20 “(c) *Shall not rely on features or facilities that require frequent and regular*
21 *long-term maintenance and management. For example, permanent water*
22 *control structures may be acceptable, whereas pumping from a*
23 *groundwater well to provide hydrology is not.”*
24

25 TEC LLC’s compensatory wetland mitigation plan does not rely on features or facilities that
26 require frequent and regular long-term maintenance and management.

27
28 “(6) CWM sites may fulfill multiple purposes including stormwater retention or
29 detention provided:

30 “(a) *The requirements of OAR 141-085-0126(1) and (2) are met;*

31 “(b) *No alteration is required to maintain the stormwater functions that would*
32 *degrade the functional attributes; and*

33 “(c) *The runoff water entering the CWM site has been pretreated to the level*
34 *necessary to assure that state water quality standards and criteria are met*
35 *in the mitigation area.”*
36

37 TEC LLC would pass water from the energy facility site through the water quality/storm water
38 detention facility prior to discharge into the Turner Bypass Mitigation Area.

39
40 “(7) CWM using wetland enhancement must conform to the following additional
41 requirements. The CWM shall:

42 “(a) *Be conducted only on degraded wetlands as defined in OAR 141-085-*
43 *0010;*

- 1 “(b) *Result in a demonstrable net gain in wetland functions at the CWM site as*
2 *compared to those functions lost or diminished at the wetland conversion*
3 *site and those functional attributes previously existing at the CWM site;*
4 “(c) *Not replace existing wetland functional attributes with different wetland*
5 *functional attributes unless the applicant justifies, in writing, that it is*
6 *environmentally preferable to do so;*
7 “(d) *Not convert one HGM or Cowardin class of wetland to another unless the*
8 *applicant can demonstrate that it is environmentally preferable to do so;*
9 “(e) *Identify the causes of wetland degradation at the CWM site and the means*
10 *by which the CWM plan will reverse, minimize or control those causes of*
11 *degradation in order to ensure self-sustaining success; and*
12 “(f) *Not consist solely of removal of non-native, invasive vegetation and*
13 *replanting or seeding of native plant species.”*
14

15 TEC LLC states it would enhance a farmed wetland by converting it to a scrub-shrub/forested
16 wetland. As a result of enhancement: (1) there would be a significant increase in wildlife habitat
17 diversity; (2) the mitigation would eventually provide greater shading of McKinney Creek; (3)
18 because farming generally involves fertilization and soil disturbance, the conversion from farmed
19 wetland to scrub-shrub/forested wetland would improve water quality; and (4) the flood storage
20 capacity of the wetland would increase slightly because the introduction of trees would allow for
21 the interception of more precipitation.
22

- 23 “(8) *A conservation easement, deed restriction or similar legally binding instrument*
24 *shall be part of a CWM plan, as specified in OAR 141-085-0029(8).”*
25

26 Condition 14 of the draft removal-fill permit prepared by DSL addresses this requirement.
27

28 OAR 141-085-0136 sets forth ratio requirements for compensatory wetland mitigation plans as
29 follows:
30

- 31 “(2) *Except as provided in Sections (3) through (6) of this section, the following*
32 *minimum ratios shall be used in the development of CWM plans:*
33 “(a) *Restoration: One (1) acre of restored wetland for one (1) acre of impacted*
34 *wetland.”*
35

36 TEC LLC would fully restore 0.072 acre of wetland disturbed by installation of the natural gas
37 pipeline.
38

- 39 “(b) *Creation: One and one-half (1.5) acres of created wetland for one (1) acre*
40 *of impacted wetland.”*
41

42 TEC LLC would create 4.417 acres of wetland to compensate at a ratio of 1.5 to 1 for the
43 removal of 2.945 acres of wetland.
44

1 “(c) *Enhancement: Three (3) acres of enhanced wetland for one (1) acre of*
2 *impacted wetland.*”
3

4 The disturbed wetland for which TEC LLC would develop enhanced wetland is farmed wetland
5 as discussed below.
6

7 “(d) *Enhancement of cropped wetland as determined by the Department: Two*
8 *(2) acres of enhanced wetland for one (1) acre of impacted wetland.*”
9

10 TEC LLC would enhance 5.180 acres of wetland to compensate at a ratio of 2 to 1 for the
11 removal of 2.590 acres of farmed wetland.
12

13 “(e) *Conservation in Lieu: Variable: See OAR 141-085-0131(4).*
14

15 TEC LLC is not proposing conservation in lieu of mitigation.
16

17 “(3) *The Department shall double the minimum ratio requirements for project*
18 *development impacting existing CWM sites; for example, using enhancement to*
19 *compensate for impacts to an existing CWM site will require a ratio of six (6)*
20 *acres enhanced for every one (1) acre impacted.*”
21

22 TEC LLC would not affect any existing CWM sites.
23

24 “(4) *The Department may increase the ratios when:*
25 “(a) *Mitigation is proposed to compensate for an unauthorized removal or fill*
26 *activity; and/or*”
27

28 The proposed compensatory wetland mitigation is not to compensate for an unauthorized
29 removal or fill activity.
30

31 “(b) *Mitigation is not proposed for implementation concurrently with the*
32 *authorized impact.*”
33

34 Condition 15 of the draft removal-fill permit prepared by DSL requires TEC LLC to complete
35 mitigation prior to completion of the wetland fill project.
36

37 “(5) *At the option of the applicant, CWM may consist of any one or a combination of*
38 *the following CWM ratios for commercial aggregate mining operations where*
39 *both the mining operation and the CWM are conducted on converted wetlands*
40 *(not including pasture):***”*
41

42 Construction and operation of the TEC does not involve commercial aggregate mining
43 operations.
44

1 “(6) *The Department may also apply the following CWM measures for commercial*
2 *aggregate mining operations on converted wetland (not including*
3 *pasture):***...*”
4

5 Construction and operation of the TEC does not involve commercial aggregate mining
6 operations.
7

8 OAR 141-085-0141 sets forth requirements for all compensatory wetland mitigation plans as
9 follows:
10

11 “(1) *On-site or off-site CWM involving the creation, restoration and/or enhancement*
12 *of wetlands by the applicant. A CWM plan shall, at a minimum, include:****”
13

14 This part of the rule includes a very detailed list of the information to be provided in a complete
15 CWM plan. TEC LLC’s Joint Permit Application, July 2003, includes this information.
16

17 “(2) *Other CWM. A CWM plan using conservation in lieu must include:****”
18

19 TEC LLC does not propose using conservation in lieu of mitigation.
20

21 OAR 141-085-0151 describes monitoring requirements for CWM plans involving on-site or off-
22 site creation, restoration or enhancement of wetlands as follows:
23

24 “(2) *The permitholder shall monitor the CWM site and provide to the Department:*
25 “(a) *A post construction report demonstrating "as-built" conditions including*
26 *grading and discussing any variation from the approved plan. Unless*
27 *waived by the Department, the post construction report shall be submitted*
28 *within ninety (90) calendar days of completing grading;”*
29

30 Condition 17 of the draft removal-fill permit prepared by DSL would require TEC LLC to
31 provide an as-built survey of the Turner By-Pass Mitigation Area within 60 days after site
32 grading.
33

34 “(b) *An annual written monitoring report that includes all data necessary to*
35 *document compliance with CWM conditions and success in meeting the*
36 *CWM goals. These data may include photographs, topographic surveys,*
37 *plant survival data, hydrologic data and other information as required to*
38 *demonstrate compliance. The report shall include the following sections:*
39

40 “(A) *Introduction;*

41 “(B) *Goals, objectives and success criteria;*

42 “(C) *Methods;*

43 “(D) *Results;*

44 “(E) *Summary and recommendations;*

45 “(F) *Figures;*

 “(G) *Appendices with data and photographs.”*

1
2 Condition 20 of the draft removal-fill permit prepared by DSL would require TEC LLC to
3 submit annual monitoring reports for a minimum period of five years.

4
5 *“(3) Monitoring shall be conducted for 5 years unless otherwise specified by the*
6 *Department.”*
7

8 Condition 20 of the draft removal-fill permit prepared by DSL would require TEC LLC to
9 submit annual monitoring reports for a minimum period of five years.

10
11 OAR 141-085-0171 provides that “[p]rojects that do not result in the permanent loss of wetland
12 functions and values, must, as part of the application, provide a rehabilitation plan for temporary
13 impacts, including:

14
15 *“(1) Plans and specifications for rehabilitating the area of temporary impacts,*
16 *including grading plans and planting plans, timeline and location of fill disposal*
17 *areas; and*

18
19 *“(2) Planting plans shall specify species, number and spacing. If mature trees are lost*
20 *as a result of the temporary impact, such trees shall be replaced at a ratio of*
21 *1.5:1.”*
22

23 Conditions 12, 24, 26 and 29 of the draft removal-fill permit prepared by DSL address these
24 requirements.

25
26 OAR 141-085-0176 addresses financial security instruments required of applicants as follows:

27
28 *“(1) Financial Security Instruments are required for CWM projects for impacts greater*
29 *than (two-tenths) of an acre. Financial security instruments are not required when*
30 *CWM is satisfied by purchase of credits from wetland mitigation bank or payment*
31 *to provide mitigation is utilized. To ensure compliance with CWM requirements,*
32 *the Department may allow for any of the following types of financial security*
33 *instruments:*

34 *“(a) Surety bond;*

35 *“(b) Certificate of Deposit;*

36 *“(c) Irrevocable letter of Credit; or*

37 *“(d) Such other financial instrument as the Department deems appropriate to*
38 *secure the financial commitment of the applicant to fulfill the success of*
39 *the CWM.”*
40

41 Condition 22 of the draft removal-fill permit prepared by DSL requires TEC LLC to provide to
42 DSL a surety performance bond in the amount of \$300,000 to ensure completion of
43 compensatory mitigation in accordance with the conditions of the removal-fill permit.
44
45

1 **Consistency with Statutes and DSL Rules**

2 The Department recommends that the Council find that, subject to the conditions stated in this
3 Order, the TEC is consistent with DSL’s removal-fill permit and compensatory mitigation
4 requirements for the reasons stated below:
5

- 6 • TEC LLC has avoided and minimized impacts to jurisdictional waters;
- 7 • The affected wetlands do not now offer uses related to fishing, navigation, or
8 recreation;
- 9 • No navigable waters would be affected by the TEC;
- 10 • Proposed impacts are to low quality, isolated, grazed wetland;
- 11 • TEC LLC has complied with DSL permit application requirements and submitted
12 the appropriate fees to the agency;
- 13 • DSL recommends the issuance of a removal-fill permit, and the wetland
14 delineation has received concurrence from the agency;
- 15 • Mitigation for impacts to wetlands would be on-site and in-kind and would
16 replace lost functions and values;
- 17 • No rare, threatened or endangered species would be adversely affected by the
18 TEC;
- 19 • Monitoring would be conducted for at least five years with an annual monitoring
20 report submitted to DSL; and
- 21 • Contingency measures would be implemented to ensure the mitigation area meets
22 mitigation goals and permit conditions.
23

24 The Department recommends that the Council adopt the following conditions in the site
25 certificate:
26

- 27 **(1) Before disturbing wetland areas, the certificate holder shall obtain a U. S.**
28 **Army Corps of Engineers Permit and Oregon Department of State Lands**
29 **Removal-Fill Permit. Mitigation required under the site certificate shall**
30 **allow for accommodation of Corps of Engineers mitigation requirements,**
31 **subject to the concurrence of the Department, in consultation with DSL and**
32 **affected federal agencies. If the conditions in the site certificate conflict with**
33 **conditions imposed by the Corps and DSL, the certificate holder shall consult**
34 **with the Department, DSL, and Corps to resolve the conflict before**
35 **beginning construction.**
36
- 37 **(2) The certificate holder shall not allow turbidity of affected waters to exceed 10**
38 **percent above natural stream turbidities as a result of construction,**
39 **operation or retirement of the facility. Pursuant to OAR Chapter 340,**
40 **Division 41, the turbidity standard may be exceeded for a limited duration,**
41 **provided all practicable erosion control measures have been implemented as**
42 **applicable.**
43

- 1 **(3) If DEQ turbidity limits are exceeded, the certificate holder shall stop**
2 **construction activity and take any necessary steps to meet the requirements,**
3 **such as removing any fine sediment from the construction area.**
4
5 **(4) The Department of State Lands, in consultation with the Department, retains**
6 **the authority to temporarily halt or modify construction of the facility in the**
7 **event of excessive turbidity or damage to natural resources.**
8
9 **(5) The certificate holder shall minimize construction impacts to wetlands and**
10 **ditches by using the narrowest practical construction corridors.**
11
12 **(6) Before beginning construction of the facility, the certificate holder shall fence**
13 **wetlands with construction fencing. No equipment or machinery shall be**
14 **allowed within fenced wetlands.**
15
16 **(7) The certificate holder shall use the proposed wetland mitigation area seed mix**
17 **in accordance with the Planting Plans in Tabs 14 and 15 of the Joint Permit**
18 **Application, July 2003, and shall make no substitutions without the prior**
19 **approval of ODFW and DSL.**
20
21 **(8) In the event the species are not available at the specified sizes, the certificate**
22 **holder shall install plugs or bareroot plants.**
23
24 **(9) The certificate holder shall dispose of all excess soils and materials in an**
25 **approved upland location.**
26
27 **(10) To ensure successful mitigation, the certificate holder shall monitor the**
28 **mitigation site for five years after completion of construction and shall**
29 **submit annual monitoring reports to DSL and the Department. The criteria**
30 **for success shall be according to the removal-fill permit issued by DSL (*e.g.*,**
31 **wetland hydrology, 80 percent coverage of native wetland plants, and no**
32 **more than 10 percent coverage of invasive species, etc.). The monitoring**
33 **reports shall include:**
34
35 **(a) Photographic documentation from fixed photo points;**
36
37 **(b) Vegetative community monitoring with percent coverage of planted**
38 **and volunteer species and cover of non-native herbaceous species**
39 **established by fixed transects;**
40
41 **(c) Hydrology monitoring; and**
42
43 **(d) A narrative that describes maintenance activities and**
44 **recommendations to meet success criteria.**
45

- 1 **(11) If necessary to ensure survival of plants:**
2
3 **(a) The mitigation site shall be irrigated for two years after the**
4 **completion of planting; and**
5
6 **(b) Trees and shrubs shall be physically protected from herbivory and**
7 **other damage with heavy gauge wire mesh or other appropriate**
8 **material.**
9
10 **(12) The Department of State Lands, in consultation with the Department, retains**
11 **the authority to require appropriate corrective actions to the mitigation site**
12 **in the event the newly created wetlands are not functioning as designed**
13 **within a period of three years. If the performance standards are not met, the**
14 **certificate holder shall undertake additional measures (such as replanting or**
15 **nuisance plant control) to meet the performance standards, or the certificate**
16 **holder shall provide additional replacement to equal the unsuccessful**
17 **mitigation area.**
18
19 **(13) Before beginning construction of the facility, the certificate holder shall**
20 **submit to the Department a final mitigation plan approved by DSL.**

21
22 **Conclusion**

23 The Department recommends that the Council find that, subject to the conditions stated in this
24 Order and in Attachment C to this Order, TEC LLC complies with OAR 345-021-0010(1)(j) and
25 ORS 196.800-990, and the Department recommends that the Council instruct DSL to issue to
26 TEC LLC a removal-fill permit substantially in the form of Attachment C to this Order.
27

28 **E.1.c. Public Health and Safety**

29 **The Requirement.** Pursuant to ORS 469.310, the Council is charged with ensuring that the
30 “siting, construction and operation of energy facilities shall be accomplished in a manner
31 consistent with protection of the public health and safety***.” State law further provides that
32 “the site certificate shall contain conditions for the protection of the public health and
33 safety***.” ORS 469.401(2).
34

35 **Discussion**

36 The site certificate will contain conditions for the protection of the public health and safety with
37 respect to several Council standards. However, certain public health and safety issues that are not
38 otherwise addressed in Council standards warrant special attention: (1) the potential for cooling
39 tower fogging and icing to affect driving conditions on public roads; (2) the potential health and
40 safety concerns regarding electric and magnetic fields from high-voltage transmission lines; (3)
41 the certificate holder’s coordination with the Oregon Public Utility Commission to ensure that
42 the certificate holder designs and builds the electrical transmission line and natural gas pipeline
43 in accordance with the appropriate codes and standards; and, (4) pipeline safety monitoring
44 pursuant to OAR 345-027-0020(3)(b). These four issues are discussed below.
45

1 **Cooling Tower Fogging and Icing.** The energy facility would include a mechanical-draft
2 cooling tower with a drift rate of 0.0005 percent. The cooling tower cells would be oriented in
3 the east-west direction near the south side of the energy facility.

4
5 Ground level fogging occurs when the cooling tower plume approaches ground level. Icing can
6 occur during periods when ground level fogging coincides with freezing surface temperatures.
7 Either event could adversely affect local driving conditions.

8
9 TEC LLC used the SACTI model developed by the Electric Power Research Institute to predict
10 the frequency and extent of ground level fogging and icing. In the model, TEC LLC used
11 meteorological data for the five-year period, 1986-1990, from Salem McNary Field, which is less
12 than five miles from the proposed energy facility.

13
14 According to the model, ground level fogging would occur outside of the TEC-controlled
15 property only to the south and within an arc in the north-northwest to northeast direction from
16 the energy facility. The model predicted ground level fogging would occur along Wipper Road
17 an average of 0.4 hours per year and north of the Turner Bypass an average of 10.2 hours per
18 year. Fogging could extend to a distance of about 700 meters north of the cooling tower. These
19 model results include consideration of hours during which the cooling-tower-induced fog could
20 be indistinguishable from fog or rain that would impair vision regardless of the presence of the
21 energy facility.

22
23 The SACTI model predicted that icing would not occur outside of TEC-controlled property
24 under any of the meteorological conditions studied. Icing would occur on-site less than one hour
25 per year, on average.

26
27 Actual weather conditions could differ from the conditions during the 5-year period used in the
28 modeling analysis. While the likelihood of ground level fogging or icing is small, it is not zero.
29 Because weather patterns may vary from those applied in the modeling analysis, the Department
30 recommends that the Council adopt the following condition:

- 31
32 **(1) If local public safety authorities notify the certificate holder and the Department**
33 **that operation of the energy facility is contributing significantly to ground level**
34 **fogging or icing along public roads and is likely to pose a significant threat to**
35 **public safety, the certificate holder shall cooperate with local public safety**
36 **authorities regarding the posting of warning signs on affected roads and the**
37 **implementation of other reasonable safety measures.**

38
39 The Department recommends that the Council find that ground level fogging and icing along
40 public roads from the operation of the energy facility is not likely to pose a significant threat to
41 public safety.

42
43 **Transmission Lines.** TEC LLC proposes to construct three sections of transmission line as
44 described in the following table. All of the transmission lines are to be single circuit and three-
45 phase.

1

Transmission Line Designation	Approximate Length (feet)	Nominal Voltage (kV)	Modeled Current (amperes per phase)	Current Capacity (amperes per phase)
Bethel	1500	230	819	1184
Fry	1500	230	498	1184
Turner	3000	115	579	1184

2

3

4

5

6

7

8

9

10

11

The Bethel and Fry transmission lines would be built and owned by PacifiCorp. The existing PacifiCorp-owned Bethel-Fry transmission line that runs north to south approximately 1500 feet to the west of the proposed energy facility substation would be cut and looped into the energy facility substation. The proposed Bethel and Fry lines would connect to the cut ends of the existing line to the TEC substation. The proposed lines would run parallel to each other, 75 feet apart, centered within a 175-foot-wide ROW. The proposed lines would be located in a field acquired by TEC LLC to buffer the proposed energy facility. There are no occupied structures within 200 feet of either of the proposed transmission lines.

12

13

14

15

16

17

18

19

20

21

TEC LLC proposes to run the Turner transmission line from the energy facility substation to the northern border of the energy facility, eastward along the public ROW for Gaston Street to 4th Street, northward along the east side of 4th Street, and continuing northward across Chicago Street and Mill Creek to the existing PGE-owned Turner Substation. The ROW width for the Turner line is 100 feet where the line crosses open land, 70 feet along Gaston Road, and 60 feet along 4th Street. TEC LLC identified 13 residences and nine commercial or industrial buildings within 200 feet of the proposed transmission line. The closest residential structure is about 40 feet from the centerline of the ROW. The closest non-residential structure is about 20 feet from the centerline of the ROW.

22

23

24

25

26

27

28

29

In modeling the electric and magnetic fields caused by the proposed transmission lines, TEC LLC assumed voltage levels five percent greater than the nominal voltages given in the table above. This assumption tends to yield a conservative (*i.e.*, high) estimate of electric fields.

30

31

32

33

34

35

36

37

38

For a given power level, a higher voltage would result in a lower current. Because magnetic fields are proportional to the current in a line, overestimating the voltage tends to lead to a lower estimate of the magnetic field.

For modeling the magnetic fields, TEC LLC assumed a total of 670 MW of power would be transmitted on the three proposed lines. This assumption was derived from the Western System Coordinating Council's 2001-series heavy winter power flow for the year 2005. However, the actual power and current on each of the lines is not known because power from sources other than the proposed energy facility may be transmitted on the Bethel and Fry lines, and the power from the energy facility transmitted along each of the three lines may differ from what was assumed in the modeling. The rated current of each line is given in the table above. The rated current is 145 percent of the modeled current for the Bethel line, 238 percent of the modeled current for the Fry line, and 204 percent of the modeled current for the Turner line.

1
2 **Electric Fields.** Strong electric fields can induce electric voltages in nearby objects, such as
3 fences. If proper precautions are not taken, these induced voltages might result in electric shocks
4 when the object in which the voltage is induced is touched.
5

6 The Council has adopted a limit for electric fields from transmission lines of 9 kV per meter at
7 one meter above the ground surface in areas that are accessible to the public. OAR 345-024-
8 0090(1). The BPA guidelines for its transmission lines limit electric fields to a maximum of 9 kV
9 per meter within the ROW, 5 kV per meter at the edge of the ROW, and 5 kV per meter at
10 highway crossings. (BPA Red Book, 1993)
11

12 TEC LLC calculated electric fields resulting from the proposed transmission line one meter
13 above grade using ENVIRO, a TLWorkstation program developed by the Electric Power
14 Research Institute. Inputs to the model include the transmission line geometry and the voltage
15 and current levels.
16

17 The calculations show that, for the Bethel and Fry transmission lines, the maximum electric field
18 would be about 3.9 kV/meter. The field strength at the edge of the ROW would be about 0.6
19 kV/meter.
20

21 The calculations show that, for the Turner transmission line, the maximum electric field would
22 be about 1.5 kV/meter. The field strength at the nearest residence would be about 0.3 kV/meter;
23 and the field strength at the nearest commercial or industrial building would be 0.8 kV/meter.
24

25 According to the information and modeling results presented by TEC, all of the proposed electric
26 transmission lines can meet the Council's standard of 9 kV/meter and BPA's limit of 5 kV/meter.
27

28 The Council has a standard that the certificate holder must be able to design, construct and
29 operate proposed transmission lines so that induced currents will be as low as reasonably
30 achievable (OAR 345-024-0090(2)). In its application, TEC LLC stated that the Bethel and Fry
31 lines would include conductor phasing that promotes cancellation of fields. In response to a
32 request for additional information issued by the Department, TEC LLC stated that putting both
33 the Bethel and Fry circuits on a single set of towers, which could promote further cancellation of
34 fields, was undesirable because two separate lines would provide a greater degree of
35 transmission reliability.
36

37 Electric fields can induce voltages in structures, causing electric shock when the structure is
38 touched, *i.e.*, the induced voltage can cause an unwanted current to flow in a person contacting
39 the structure. Protection can be effected by either isolating the structure to prevent contact or by
40 grounding and/or bonding the structure. Grounding and/or bonding provides a free path for
41 electric current through a conducting wire or metal rod to the ground, serving a function similar
42 to that of a lightning rod. Electricity follows the path of least resistance to the ground, thereby
43 reducing the possibility of a shock hazard due to stray currents.
44

1 Proposed conditions would require TEC LLC to use good utility practices to minimize induced
2 voltages and currents. Therefore, the Department recommends that the Council find that TEC
3 LLC can design, construct and operate the proposed transmission lines so that induced currents
4 from it will be as low as reasonably achievable.

5
6 The Department recommends that the Council adopt the following conditions:

- 7
8 (2) **The certificate holder shall design the transmission lines so that alternating**
9 **current electric fields shall not exceed 9 kV per meter at one meter above the**
10 **ground surface in areas accessible to the public.**
- 11
12 (3) **The certificate holder shall design the transmission lines so that induced**
13 **voltages resulting from the transmission lines are as low as reasonably**
14 **achievable; including maintaining as great a conductor height as is**
15 **reasonably practical at road crossings.**
- 16
17 (4) **The certificate holder shall develop and implement a program that provides**
18 **reasonable assurance that all fences, gates, cattle guards, trailers, or other**
19 **objects or structures of a permanent nature that could become inadvertently**
20 **charged with electricity are grounded or bonded throughout the life of the**
21 **transmission line.**
- 22
23 (5) **The certificate holder shall restore or mitigate the reception of radio and**
24 **television at residences and commercial establishments in the primary**
25 **reception area to the level present before operation of the transmission line at**
26 **no cost to residents or businesses experiencing interference resulting from**
27 **the transmission line.**
- 28
29 (6) **The certificate holder shall design, construct and operate the transmission**
30 **lines in accordance with the requirements of the National Electrical Safety**
31 **Code.**

32
33 The Department recommends that the Council find that the proposed transmission lines are
34 consistent with protecting public health and safety in regard to electric fields

35
36 **Magnetic Fields.** There has been concern that exposure to magnetic fields might cause health
37 risks. This issue has been the subject of considerable scientific research and discussion. The
38 magnetic fields produced from electric power transmission lines alternate at a frequency of 60
39 cycles per second and are categorized as “extremely low frequency” (ELF) fields. Static
40 magnetic fields, such as those associated with permanent magnets and the earth’s magnetic field,
41 are not suspected of posing health risks.

42
43 The Council considered this issue in 1993. Based on its review, the Council concluded that the
44 credible evidence relating low levels of exposure to health risks was inconclusive and that there
45 was insufficient information upon which to set “health based” limits for exposure to magnetic

1 fields. The Council recommended that, given the uncertainty as to health consequences, those
2 who propose transmission lines under the Council’s jurisdiction should use low-cost ways to
3 reduce or manage public exposure to magnetic fields. This approach is sometimes referred to as
4 “prudent avoidance.”

5
6 Several other authorities have considered this issue and have reached conclusions similar to
7 those of the Council. Under the 1992 Energy Policy Act, the U.S. Congress authorized the
8 Electric and Magnetic Fields Research and Public Information Dissemination Program. The
9 program culminated in a report by the National Institute of Environmental Health Sciences
10 (“NIEHS”) in May 1999, entitled “Health Effects from Exposure to Power-Line Frequency
11 Electric and Magnetic Fields” (NIH Publication No. 99-4493).

12
13 The NIEHS report includes the following conclusions.

- 14
15 1. The scientific evidence suggesting that extremely low frequency electric and
16 magnetic fields (“ELF-EMF”) exposures pose any health risk is weak. The only
17 health impacts of concern are childhood leukemia and chronic lymphocytic
18 leukemia in occupationally exposed adults. Epidemiological studies of humans
19 show a pattern of small increased risk of leukemia with increasing exposure to
20 ELF-EMF.
- 21
22 2. Mechanistic studies and experimental studies on non-humans do not indicate any
23 increase in leukemia as a result of exposure to ELF-EMF, although sporadic
24 findings of increases in other forms of cancer in experimental animals have been
25 reported. A causal link that would explain the weak epidemiological evidence of
26 increased leukemia has not been found.
- 27
28 3. ELF-EMF cannot be recognized as entirely safe. However, the evidence that
29 exposure may pose a leukemia hazard is too weak to warrant aggressive
30 regulatory concern. Passive regulatory action is warranted.

31
32 In June 2002, the California Department of Health Services (DHS) published an assessment of
33 the biological effects of magnetic fields. In general, the DHS found reason to suspect a greater
34 likelihood of adverse effects on human health than did the NIEHS report. Like the 1999 NIEHS
35 report, the DHS assessment reports substantial uncertainty regarding the health effects of
36 magnetic fields. The DHS assessment has not been used by the Council to modify its existing
37 policy of prudent avoidance.

38
39 The states of Florida and New York have limits on magnetic fields from transmission lines. For
40 500 kV lines, both states limit magnetic fields at the edge of the right-of-way to 200 milligauss
41 (mG). Florida has a 150 mG limit at the edge of the right-of-way for lines of 69 kV to 230 kV at
42 the maximum current rating of the line. The maximum current rating of a transmission line is
43 recognized, in the Florida regulations, to result in magnetic field strengths that are approximately
44 twice as great as the field strengths under most normal load conditions.

1 TEC LLC calculated the potential magnetic field strengths from the proposed transmission lines
2 for an assumed set of load conditions, as shown in the table above.

3
4 The calculations showed that, for the Bethel and Fry lines, the greatest magnetic field would be
5 about 170 mG for at a distance of about 35 feet from the center of the ROW. At the edge of the
6 ROW, the magnetic field would be about 30 mG or less.

7
8 The calculations showed that, for the Turner line, the greatest magnetic field would be about 105
9 mG directly beneath the transmission line. The magnetic field strength at the nearest residence
10 would be about 20 mG; and the field strength at the nearest commercial or industrial building
11 would be about 50 mG.

12
13 The calculated magnetic fields, under the assumed load conditions, at the edges of the ROWs are
14 lower than the Florida standard of 150 mG. However, magnetic field strengths vary as the
15 current in a transmission line varies. The proposed lines could carry up to 1184 amperes per
16 phase. Assuming that the magnetic field at all locations is proportional to the current, magnetic
17 fields could be slightly more than twice the values given above for the Turner line. Under those
18 conditions, magnetic fields at the edge of the ROW and at the nearest buildings would still be
19 less than the Florida standard of 150 mG. However, directly beneath the transmission line, the
20 magnetic field strength could exceed 150 mG. The Bethel and Fry lines, being located away
21 from areas normally occupied by the public, would be of a lesser concern.

22
23 The Department recommends the Council adopt the following site certificate condition:

- 24
25 **(7) The certificate holder shall take reasonable steps to reduce or manage**
26 **exposure to electromagnetic fields (EMF), consistent with Council findings**
27 **presented in the “Report of EMF Committee to the Energy Facility Siting**
28 **Council,” March 30, 1993, and subsequent Council findings. Effective on the**
29 **date of this site certificate, the certificate holder shall provide information to**
30 **the public, upon request, about EMF levels associated with the energy**
31 **facility and related transmission lines.**

32
33 The Department recommends that the Council find that the proposed transmission lines are
34 consistent with the Council’s applicable policies protecting public health and safety in regard to
35 magnetic fields.

36
37 **Coordination with the PUC.** The Oregon Public Utility Commission (“PUC”) Safety and
38 Reliability Section has previously requested that the Council ensure that certificate holders
39 coordinate with PUC staff on the design and specifications of electrical transmission lines and
40 the natural gas pipelines. The PUC has explained that others in the past have made inadvertent,
41 but costly, mistakes in the design and specifications of power lines and pipelines that could have
42 easily been corrected early if the developer had consulted with the PUC staff responsible for the
43 safety codes and standards.

1 The Department recommends that the Council adopt the following condition in the site
2 certificate to ensure timely consultation:

- 3
4 **(8) At least 30 days before beginning preparation of detailed design and**
5 **specifications for the electrical transmission lines or the natural gas pipeline,**
6 **the certificate holder shall consult with the Oregon Public Utility**
7 **Commission staff to ensure that its designs and specifications are consistent**
8 **with applicable codes and standards.**
9

10 **Natural Gas Pipeline Safety.** OAR 345-027-0023 provides conditions that the Council may
11 include in the site certificate as appropriate. The Department recommends that the Council adopt
12 the following conditions in the site certificate:

- 13
14 **(9) With respect to the related or supporting natural gas pipeline, the certificate**
15 **holder shall design, construct and operate the pipeline in accordance with the**
16 **requirements of the US Department of Transportation as set forth in Title**
17 **49, Code of Federal Regulations, Part 192.**
18

19 **Conclusion**

20 The Department recommends that the Council find, subject to the conditions set forth above, that
21 the siting, construction and operation of the energy facility is consistent with protection of the
22 public health and safety, pursuant to ORS 469.310.
23

24 **E.1.d. Water Pollution Control Facilities Permit for Sanitary Waste**

25 **The Requirement.** According to Marion County and DEQ, TEC LLC is not eligible for a
26 standard on-site sanitary sewage treatment system because of a high, permanent water table at
27 the proposed site. As a result, TEC LLC has requested to use a bottomless sand filter system. The
28 development of an onsite sewage treatment system in the form of a bottomless intermittent sand
29 filter is considered a form of wastewater discharge that requires a Water Pollution Control
30 Facilities (“WPCF”) permit from DEQ. The WPCF permit is a state level permit that falls under
31 Council jurisdiction. Pursuant to ORS 469.401, the Council must determine whether, and under
32 what conditions, DEQ should issue the WPCF permit. However, once DEQ has issued the
33 permit, it continues to exercise enforcement authority over the permit.
34

35 **Discussion**

36 After completion of construction, TEC LLC expects it would have a peak daily operating staff of
37 17 people, with a maximum employment of 25 people. TEC LLC projects sanitary facilities to
38 produce a peak of about 595 gallons per day.
39

40 Treatment of this waste would be by means of one septic tank and one dosing tank. The septic
41 tank would be a pre-manufactured concrete unit sized for a minimum capacity of 1,500 gallons.
42 Septic tank effluent would flow by gravity through effluent screens to the dosing tank. The
43 dosing tank would be a pre-manufactured concrete tank fitted with a duplex pump assembly,
44 related piping, electrical power supply, controls and appurtenances. The minimum capacity of
45 the dosing tank would be 1,000 gallons. Effluent from the dosing tank would be pumped to a

1 bottomless sand filter. Effluent from the sand filter would either infiltrate the soil below the filter
2 or be pumped to about 140 linear feet of capping fill drainfield or shallow gravel-less trenches.
3 Final disposition of the solid component of treated sanitary sewage would occur as part of the
4 regular operations and maintenance of the system. Solids would be removed by a state-licensed
5 septage hauler and disposed of at a permitted septage receiving facility. TEC LLC also would
6 install about 500 feet of pressure effluent sewer.
7

8 **DEQ Requirements.** Pursuant to OAR Chapter 340, Division 71, Section 130(15), persons
9 proposing a sand filter system to serve a commercial facility must obtain a WPCF permit from
10 DEQ. TEC, LLC submitted its WPCF application to DEQ on September 22, 2003 (Application
11 No. 984029).
12

13 **DEQ Recommendation**

14 After an on-site evaluation by Marion County staff and review of the TEC LLC application,
15 DEQ recommended that the Council approve the WPCF permit with conditions contained in
16 Schedules A, B, D, and F of the draft WPCF permit (Attachment D). The Department
17 recommends that the Council adopt the following conditions in the site certificate:
18

- 19 (1) **If the certificate holder elects to construct an on-site sewage disposal system,**
20 **before beginning commercial operation of the energy facility, the certificate**
21 **holder shall demonstrate that the Oregon Department of Environmental**
22 **Quality has issued to the certificate holder a Water Pollution Control**
23 **Facilities Permit, substantially in the form of Attachment D to this Order,**
24 **allowing for on-site sanitary waste disposal.**
- 25
26 (2) **If the certificate holder elects to construct an on-site sewage disposal system,**
27 **the certificate holder shall comply with state laws and rules applicable to**
28 **Water Pollution Control Facilities Permits that are adopted in the future to**
29 **the extent that such compliance is required under the respective statutes and**
30 **rules.**

31 **Conclusion**

32 The Department recommends the Council find that the TEC LLC meets the requirements for a
33 WPCF permit for sanitary waste, with the conditions contained in Attachment D to this Order,
34 and the Department recommends that the Council instruct DEQ to issue TEC LLC a WPCF
35 permit substantially in the form contained in Attachment D to this Order.
36
37

38 **E.1.e. Permit to Appropriate the Public Waters**

39 **The Requirement.** The Council does not have a specific standard for water use. However,
40 pursuant to OAR 345-021-0010(1)(o), TEC LLC must submit specific information about the
41 proposed facility's water requirements. In addition, because TEC LLC has requested a water use
42 permit and a water right transfer, the Council must determine whether TEC LLC has met the
43 statutory requirements to order the transfer and issue the permit. ORS 469.503(3). In addition the
44 Council has authority to impose conditions on the water use permit and water right transfer. ORS
45 469.300 to 469.563. After the Council has determined that the standards have been met and

1 determined whether conditions are necessary, WRD would issue the transfer order and the water
2 use permit. WRD would retain enforcement authority over the permit and any resulting
3 certificate. ORS 469.401(3).
4

5 **Discussion**

6 TEC LLC proposes to use 7.6 cfs from the North Santiam River that would be obtained through
7 a water right transfer from Norpac to TEC LLC. The transfer application proposes a change in
8 the place of use, as well as a change in the character of use from cannery to industrial. Santiam
9 Water Control District (SWCD) would deliver the water to TEC LLC through its existing canals
10 and ditches, from either the Salem Ditch (Butler Lateral) or the Main Canal. From either delivery
11 route, the water will flow to the Perrin Lateral and then through an underground pipe to TEC
12 LLC.
13

14 During construction, water would be used for dust abatement and in the construction process
15 (soils preparation, etc.). This water would be delivered to the construction site by truck until the
16 pipeline connection to SWCD's system is complete. Anticipated daily demand during
17 construction is estimated to be about 20,000 gallons per day.
18

19 During operation, TEC LLC would recycle and reuse water to minimize its water use to the
20 extent possible. The primary use of water would be to supply makeup water to the cooling tower.
21 Water would also be used to supply the demineralized water system, service water system,
22 potable water system, and fire protection system.
23

24 TEC LLC proposes to have a supplemental water right for 7.6 cfs from a new water right that
25 would use a part of Norpac's discharge of non-contact cooling water.
26

27 **WRD Water Right Transfer Requirements**

28 The Oregon Water Resources Department's laws and rules for approving water right transfers
29 apply to the proposed facility. WRD identified ORS 540.510 to 540.530 and OAR Chapter 690,
30 Division 380, as the applicable law governing the request for a water right transfer. In addition,
31 the procedural requirements of ORS 540.520 applied to this application until they were
32 superseded by the Council's process when SWCD assigned the water right transfer application to
33 TEC LLC.
34

35 **Priority Date.** A water right transfer retains the priority date of the original water right, which in
36 this case is October 24, 1983.
37

38 **Applicable Transfer Standards.** ORS 540.530 states the ultimate finding that is required to
39 approve a water right transfer. It provides:
40

41 If, after hearing or examination, the Water Resources Commission finds
42 that a proposed change can be effected without injury to existing water
43 rights, the commission shall make an order approving the transfer and
44 fixing a time limit within which the approved changes may be completed.
45

1 In OAR 690-380-5000, WRD's rules expand on transfer application requirements, providing that
2 a transfer application will be approved if:

- 3
- 4 (a) The water right affected by the proposed transfer is a water use
5 subject to transfer as defined in ORS 540.505(4) and OAR 690-
6 380-0100(11) and, for a right described under OAR 690-380-
7 0100(11)(d), the proof of completion has been approved under
8 OAR 690-380-6040;
- 9
- 10 (b) The portion of the water right to be transferred is not cancelled
11 pursuant to ORS 540.610;
- 12
- 13 (c) The proposed transfer would not result in enlargement as defined
14 in OAR 690-380-0100(2);
- 15
- 16 (d) Except as provided in OAR 690-380-5030, the proposed transfer
17 would not result in injury as defined in OAR 690-380-0100(3); and
- 18
- 19 (e) Any other requirements for water right transfers are met.
- 20

21 **WRD Recommendation.** WRD submitted a recommendation to the Council, including a draft
22 Final Transfer Order, on May 28, 2004. The draft Final Transfer Order is attached to this Order
23 as Attachment E. WRD recommended that the Council approve the water right transfer.

24
25 WRD's recommendation to the Council on the water right transfer contained a brief statement
26 that described the criteria WRD considered pursuant to ORS Chapter 540 and OAR 690,
27 Division 380, and provided WRD's findings for each of the criteria. These two sections of the
28 recommendation are included here in their entirety.

29
30 The appropriate criteria for review of this application are found at ORS 540.505
31 to 540.580 and OAR 690, Division 380. In making its recommendations, WRD
32 considered whether:

- 33
- 34 1. The water right affected by the proposed transfer is a water use subject to
35 transfer (OAR 690-380-5000);
- 36
- 37 2. The water right has been used in the past five years and is not subject to
38 forfeiture (OAR 690-380-4010);
- 39
- 40 3. The current water right holder is ready, willing and able to exercise the portion of
41 the right to be transferred (OAR 690-380-4010);
- 42
- 43 4. The proposed transfer would result in enlargement as defined in OAR 690-380-
44 0100(2) (OAR 690-380-4010; 690-380-5000); and
- 45

- 1 5. The proposed transfer would result in injury as defined in OAR 690-380-0100(3)
2 (OAR 690-380-4010; 690-380-5000).
3

4 After considering the criteria cited above, WRD recommended the following
5 findings:
6

- 7 1. The water right to be transferred is a certificated water right and, by definition, is
8 a water right subject to transfer. (OAR 690-380-0100(11)(b)).
9
- 10 2. Norpac is ready, willing and able to use the full amount of water allowed under
11 the right because the capacity of the authorized point of diversion and Salem
12 Ditch exceed that necessary to supply the full quantity of water allowed under the
13 right proposed to be transferred.
14
- 15 3. Based on the affidavit of Mark Steele, Corporate Engineer for Norpac Foods,
16 water has been used under the right within the last five years and, pursuant to
17 ORS 540.610(3), the right has not been forfeited through use of less water than is
18 allowed under the right.
19
- 20 4. The proposed change would not result in enlargement of the right provided that a
21 condition is included in the transfer prohibiting TEC from entering into an
22 agreement with Norpac Foods to route water used by TEC past Norpac's cooling
23 water discharge point. With inclusion of such a condition, the right would not be
24 enlarged because:
25
- 26 a. The water right held by Norpac Foods will be reduced by 7.6 cfs as a
27 result of the proposed transfer.
28
- 29 b. Norpac Foods will not retain the ability to call for that quantity of water
30 for cooling or any other purpose.
31
- 32 c. Although deliveries of water to TEC via the Salem Ditch may assist
33 Norpac in meeting water quality requirements, Norpac would not have any
34 control over the deliveries and would not retain any assurances that
35 sufficient quantities of water would be available to satisfy Norpac's water
36 quality requirements.
37
- 38 d. Deliveries of water to TEC would be subject to the requirement that the
39 water be beneficially used for industrial purposes and would be allowable
40 only in the quantities of water necessary to satisfy TEC operational
41 requirements, up to the quantity of water transferred.
42
- 43 5. The proposed change would not result in injury to other water rights. Any return
44 flows resulting from the exercise of the right by Norpac are not available to users

1 calling on the North Santiam River and therefore, there are no water users that are
2 legally entitled to Norpac's wastewater.
3

4 **Conditions**

5 WRD included standard conditions in its draft transfer order. Two of those standard conditions
6 require special attention:
7

- 8 • The proposed changes shall be completed on or before _____.
- 9
- 10 • A Claim of Beneficial Use prepared by a Certified Water Rights Examiner shall
11 be submitted by the applicant to the [WRD] by _____.
12

13 Pursuant to OAR 690-380-5140, WRD is required to fix a deadline by which the transfer must be
14 complete. The deadline generally is one full year plus the time until the next following October
15 1st, dated from the time of approval.
16

17 However, OAR 690-380-5140 (2) provides for a longer completion time if the applicant can
18 justify the need for a longer period of time. For reasons of practicality, TEC LLC has requested a
19 completion date that mirrors the construction dates the Council would impose on a site
20 certificate. The Council generally requires an applicant to begin construction within 24 months
21 after the effective date of a site certificate and complete construction within 54 months after the
22 effective date of a site certificate. Under the Council's construction timeline, and given the
23 complexity of energy facility construction, TEC LLC would likely be unable to make use of its
24 water right transfer within a year after any site certificate approval.
25

26 As a result, the Department recommends that the Council exercise the flexibility within WRD's
27 rules to approve longer completion times for water right transfers.
28

29 In addition, WRD recommended the following non-standard condition for a water right transfer:
30

- 31 • The applicant shall not enter into an agreement with Norpac Foods that would
32 require Turner Energy Center to route water past Norpac's cooling water
33 discharge point.
34

35 WRD does not have the authority under its statutes to impose such a condition unless the
36 applicant consents. However, without the condition, WRD believes the transfer may result in
37 enlargement of the water right from which the water right transfer is drawing. The recommended
38 condition would prohibit TEC from entering into an agreement with Norpac Foods to route water
39 past Norpac's cooling water discharge point.
40

41 The Department's understanding is that TEC LLC is amenable to the condition. Therefore, the
42 Department recommends that the Council approve the condition as it is stated within the Final
43 Transfer Order.
44

1 Based on the above discussion, the Department recommends that the Council adopt the following
2 additional conditions for the water right transfer in the site certificate:
3

- 4 (1) **Before beginning commercial operation of the facility, the certificate holder
5 shall demonstrate that the WRD has issued to the certificate holder a Final
6 Transfer Order, substantially in the form of Attachment E to this Order,
7 allowing for transfer of Certificate 66271 to TEC LLC.**
8
- 9 (2) **The certificate holder shall complete the water transfer within 54 months
10 after the effective date of the site certificate (the date on which the site
11 certificate is executed by the Council and the certificate holder, OAR 345-
12 015-0085(8).**
13
- 14 (3) **The certificate holder shall request an extension of the water transfer
15 completion date as part of any request to extend the site certificate
16 construction beginning and completion dates as allowed under OAR 345-027-
17 0030.**
18

19 **Conclusion**

20 The Department recommends that the Council make the following ultimate findings of
21 compliance with the applicable water statutes:
22

- 23 1. The water right affected by the proposed transfer is a water use subject to transfer
24 as it is a certificated water right. See ORS 540.505(4).
25
- 26 2. The water right has been used in the past five years and is not subject to forfeiture
27 as evidenced by the Affidavit signed by Mark Steele, engineer with Norpac
28 Foods.
29
- 30 3. The current water right holder is ready, willing and able to exercise the portion of
31 the water right to be transferred.
32
- 33 4. As conditioned, the proposed change would not result in enlargement because the
34 original water right will be reduced by 7.6 cfs as a result of this transfer and the
35 current water right holder will not otherwise continue to benefit from the transfer.
36
- 37 5. The proposed change would not result in injury to other water rights.
38

39 The Department recommends the Council find that, with the conditions discussed above and
40 contained in Attachment E to this Order, TEC LLC meets the requirements for a water right
41 transfer. The Department also recommends that the Council instruct WRD to issue TEC LLC a
42 Final Transfer Order substantially in the form of Attachment E to this Order.
43

44 **WRD Water Right Appropriation Requirements**

1 The Oregon Water Resources Department's laws and rules for approving new surface water
2 rights apply to the proposed facility. WRD identified ORS 537.110 to 537.211, ORS 390.835,
3 and OAR Chapter 690, Divisions 33 and 310, as the applicable laws governing the request for a
4 supplemental water right. In general, ORS 537.110 to 537.211 provide the standards and process
5 for WRD to permit the appropriation of surface water. In addition, the procedural requirements
6 of ORS 537.150 applied to this application until they were superseded by the council's process
7 when SWCD assigned the water right application to TEC LLC.
8

9 **Priority Date.** A water use permit has as its priority date the date on which WRD first received
10 the application, which in this case is July 16, 2003.
11

12 **Applicable Water Right Standards.** Ultimately, a finding is required as to whether the
13 proposed use will "impair or be detrimental to the public interest." ORS 537.170(6). ORS
14 537.153(2) provides a rebuttable presumption that the proposed use is presumed to not impair or
15 be detrimental to the public interest if:
16

- 17 1. The proposed use is allowed in the applicable basis program established pursuant
18 to ORS 536.300 and 536.340 or given a preference under ORS 536.310(12);
19
- 20 2. If water is available;
21
- 22 3. If the proposed use will not injure other water rights; and
23
- 24 4. If the proposed use complies with rules of the Water Resources Commission.
25

26 ORS 537.153(3) sets out the requirements of an order proposing to grant a permit to appropriate
27 surface water:
28

- 29 (a) Confirmation or modification of the preliminary determinations made in the initial
30 review;
31
- 32 (b) A brief statement that explains the criteria considered relevant to the decision,
33 including the applicable basin program and the compatibility of the proposed use
34 with applicable land use plans;
35
- 36 (c) An assessment of water availability and the amount of water necessary for the
37 proposed use;
38
- 39 (d) An assessment of whether the proposed use would result in injury to existing
40 water rights;
41
- 42 (e) An assessment of whether the proposed use would impair or be detrimental to the
43 public interest as provided in ORS 537.170;
44

- 1 (f) A draft permit, including any proposed conditions, or a recommendation to deny
2 the application;
3
4 (g) Whether the rebuttable presumption that the proposed use will not impair or be
5 detrimental to the public interest has been established; and
6
7 (h) The date by which protests to the proposed final order must be received by the
8 department.
9

10 ORS 390.835(9) relates to Oregon scenic waterways and requires certain findings by WRD
11 before a surface water permit may be issued. The statute requires WRD to determine if the
12 proposed use of water will measurably reduce surface water flows necessary to maintain the free-
13 flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife
14 purposes.
15

16 **WRD Recommendation.** WRD submitted a recommendation to the Council, including a draft
17 Permit To Appropriate The Public Waters, on May 28, 2004. The draft Permit is attached to this
18 Order as Attachment F. WRD recommended that the Council approve the water right transfer.
19

20 WRD's recommendation to the Council on the water use permit contained a brief statement that
21 described the criteria it considered pursuant to ORS 537.110 to 537.211, ORS 390.835, OAR
22 690-033 and 690-310 and provided its assessment of each of the criteria. These two sections of
23 the recommendation are included here in their entirety.
24

- 25 1. Whether the rebuttable public interest presumption under ORS 537.153(2) has
26 been established, taking into account:
27
28 a. The applicability of the appropriate basin program, if any (ORS
29 537.153(2); OAR 690-310-110);
30
31 b. Whether water is available and the amount necessary for the proposed use
32 (ORS 537.153(2); OAR 690-310-080; OAR 690-310-110);
33
34 c. Whether the proposed use would injure existing water rights (ORS
35 537.153(2); OAR 690-310-110);
36
37 d. Whether the proposed use complies with rules of the Water Resources
38 Commission (ORS 537.153(2); OAR 690-310-110);
39
40 2. Whether the proposed use is restricted or limited by statute or rule (ORS
41 537.153(2); OAR 690-310-080);
42
43 3. Whether the proposed use is compatible with applicable land use plans (OAR
44 690-310-150);
45

- 1
- 2 4. The flow rate and duty of water allowed;
- 3
- 4 5. Whether the proposed use of water will measurably reduce the surface water
- 5 flows necessary to maintain the free-flowing character of a scenic waterway in
- 6 quantities necessary for recreation, fish and wildlife pursuant to ORS 390.835;
- 7 and
- 8
- 9 6. Whether a proposed use will impair or be detrimental to the public interest with
- 10 regard to sensitive, threatened, or endangered fish species pursuant to OAR 690-
- 11 033.
- 12

13 After considering the criteria cited above, WRD recommended the following findings:

- 14
- 15 1. The use of WASTE WATER for SUPPLEMENTAL INDUSTRIAL USE is not
- 16 allowed under the Willamette Basin Program (OAR 690-502). The Water
- 17 Resources Commission may allow the [WRD] to consider applications for uses
- 18 not allowed in the applicable basin program, if the use meets at least one of seven
- 19 criteria identified in ORS 536.295(1). On December 19, 2003, the applicant
- 20 requested an exception to the Willamette Basin Program as provided in ORS
- 21 536.295. On January 15, 2004, the [WRD] provided an informational report to the
- 22 Oregon Water Resources Commission indicating that the proposed use may
- 23 qualify for an exception to the basin program under three of the seven criteria;
- 24 specifically, that the use would be of short duration during each year due to its
- 25 supplemental nature; that the use is necessary to avoid extreme hardship due to a
- 26 possible inability to secure financing without a backup water supply; and that the
- 27 use will provide a public benefit such as riparian or watershed improvement, due
- 28 to reduced thermal loading in Salem Ditch and Mill Creek as well as installation
- 29 of 16 fish screens to exclude fish from SWCD's ditch network. The [WRD]
- 30 further requested comment from the Commission as to whether a basin program
- 31 exception should be recommended to EFSC. The Commission agreed that the
- 32 request is generally consistent with the applicable surface water policies of the
- 33 Willamette Basin Program and that TEC has demonstrated that their proposed use
- 34 of waste water meets one or more of the exception criteria under ORS 536.295.
- 35 The [WRD] therefore recommends to EFSC that a basin program exception be
- 36 granted pursuant to ORS 536.295.
- 37
- 38 2. Water is available, subject to continued waste discharge by Norpac Foods Inc.
- 39
- 40 3. Because this water right would be subject to "call" by senior water right holders,
- 41 the proposed use, as conditioned in the attached draft permit under the authority
- 42 of ORS 537.211(1), will not injure other water rights.
- 43
- 44 4. The proposed use is not prohibited by statute, and it complies with the
- 45 Commission's rules other than the Willamette Basin Program

- 1 .
2 5. It is the [WRD's] understanding that EFSC assesses the proposed use's
3 compatibility with land use laws. Therefore, the [WRD] did not perform such an
4 assessment.
5
6 6. With regard to the flow rate and duty allowed, the proposed rate of use of waste
7 water is the same as the rate of use proposed under T-9501, which this use is
8 intended to supplement. To the degree that the use of water proposed under T-
9 9501 is beneficial, a supplemental right for the same rate would be necessary to
10 provide full backup to that source. The [WRD] has no information indicating that
11 the rate of water proposed is inappropriate, considering the use to which it shall
12 be put.
13
14 7. The proposed point of diversion is not within or above a State Scenic Waterway,
15 and use of water will not reduce flows necessary to maintain the free-flowing
16 character of a scenic waterway.
17
18 8. It is the [WRD's] understanding that EFSC assesses the proposed use's impacts to
19 sensitive, threatened, and endangered species. Therefore, the [WRD] did not
20 assess whether the proposed use would impair or be detrimental to the public
21 interest with regard to sensitive, threatened, or endangered fish species pursuant
22 to OAR 690-033. However, on December 19, 2003, Oregon Department of Fish
23 and Wildlife's (ODFW) Christopher Yee informed the [WRD] of the following:
24
25 • The proposed use will occur in an area that may affect the essential habitat
26 of Pacific lamprey, a sensitive species; and Chinook salmon and winter
27 steelhead, threatened species.
28 • Stages or values at risk include spawning, incubation, rearing, and habitat
29 value.
30 • Negative impacts may include direct habitat loss, increased water
31 temperatures, and interspecific interactions.
32 • Impacts to the essential habitat of these species will not be adequately
33 mitigated by requiring fish screens, bypass devices, or other conditions on
34 the use.
35

36 This information has not contributed to the [WRD's] final recommendation with regard
37 to the proposed water use and it is the [WRD's] understanding that this information has
38 been provided directly to EFSC for its consideration.
39

40 **Conditions**

41 WRD included standard conditions in its draft Permit To Appropriate The Public Waters and
42 specific measurement, recording and reporting conditions for the water use permit under
43 consideration. WRD noted that additional conditions may be imposed as necessary to ensure the
44 proposed use complies with the requirements of OAR 690-033 and the Council.

1
2 The Department's understanding is that WRD made specific reference to OAR 690, Division 33
3 because it deferred assessment of the proposed use's impacts on fish and wildlife to the Council.
4 The Department considered these impacts, as well as comments from the Department of Fish and
5 Wildlife, in its evaluation of whether the proposed facility's design, construction, operation and
6 retirement, taking into account mitigation would meet the Council's Fish and Wildlife Habitat
7 and Threatened and Endangered Species standards.

8
9 In that evaluation, the Department recommended specific conditions for TEC LLC's proposed
10 water use as it is tied to TEC LLC's proposed mitigation for the water use.

11
12 WRD's recommendation does not include any recommendation about the existing well that
13 would be located on the TEC LLC facility site. The Department recommends that the Council
14 adopt a condition to require TEC LLC to retire the well.

15
16 Based on the above discussion, the Department recommends that the Council adopt the following
17 additional conditions for the water use permit in the site certificate:

- 18
19 **(4) Before beginning commercial operation of the facility, the certificate holder**
20 **shall demonstrate that the WRD has issued to the certificate holder a Permit**
21 **to Appropriate The Public Waters, substantially in the form of Attachment**
22 **F, allowing for use of wastewater from Norpac for supplemental industrial**
23 **use.**
24
25 **(5) Before beginning commercial operation of the facility, the certificate holder**
26 **shall demonstrate that it has retired the well located at the facility site**
27 **according to all applicable laws and rules.**
28

29 **Conclusion**

30 The Department recommends that the Council make the following ultimate findings of
31 compliance with the applicable water statutes:

- 32
33 1. An exception to the Willamette Basin Program is warranted. Therefore, the
34 proposed use can be considered to be consistent with the applicable basin
35 program.
36
37 2. Water is available for appropriation. The water source is Norpac's wastewater
38 and therefore, as long as Norpac continues to discharge water, water is available.
39
40 3. The proposed use will not injure other water rights if the permit is conditioned as
41 described above and again in Attachment 2.
42
43 4. The proposed use complies with the WRC rules.
44
45 5. The flow rate of 7.6 cfs for industrial use is allowed.

1
2 The Department recommends the Council find that, subject to the conditions stated in this Order
3 and in Attachment F to this Order, TEC LLC meets the requirements for a water use permit. The
4 Department also recommends that the Council instruct WRD to issue TEC LLC a supplemental
5 Permit to Appropriate the Public Waters substantially in the form of Attachment F to this Order.
6

7 **E.2. REQUIREMENTS THAT ARE NOT UNDER COUNCIL JURISDICTION**
8

9 **E.2.a. Federally-Delegated Programs**

10 The Council does not have jurisdiction for determining compliance with those statutes and rules
11 for which the permitting decision has been delegated by the federal government to a state agency
12 other than the Council. However, pursuant to ORS 469.505(1):
13

14 “[a]ny permit application for which the permitting decision has been delegated by
15 the federal government to a state agency other than the Energy Facility Siting
16 Council shall be reviewed, whenever feasible, simultaneously with the Council's
17 review of the site certificate application. Any hearings required on such permit
18 applications shall be consolidated, whenever feasible, with hearings under ORS
19 469.300 to 469.563 and 469.590 to 469.619.”
20

21 The Department recommends that the Council conclude that the following programs are not
22 within the Council’s jurisdiction because they are federally delegated programs:
23

- 24 (1) The Air Contaminant Discharge Permit (“ACDP”) program administered by
25 DEQ, which includes the federally delegated new source review requirements of
26 the Clean Air Act and the Prevention of Significant Deterioration program. This
27 authority is in ORS Chapter 468A; OAR Chapter 340, Divisions 20, 21, 22, 25,
28 and 31.
29
- 30 (2) The National Pollutant Discharge Elimination System permit program
31 administered by DEQ - Water Quality Division, which regulates and permits
32 storm water runoff and discharges to public waters; and
33
- 34 (3) The program regulating the design, operation, monitoring and removal of
35 underground storage tanks that contain certain toxic and hazardous materials,
36 including petroleum products, administered by DEQ, under ORS Chapter 466;
37 OAR 340, Division 150.
38

39 **E.2.b. Requirements That Do Not Relate to Siting**

40 Under ORS 469.401(4), the Council does not have jurisdiction for determining compliance with
41 state and local government programs that address design-specific construction or operating
42 standards and practices that do not relate to siting. However, the Council may rely on the
43 determinations of compliance and the conditions in the permits issued by these state agencies and
44 local governments in making its determinations as to whether the standards and requirements
45 under the Council's jurisdiction are met.

1
2 The Department recommends that the Council conclude that, for the proposed facility, the
3 following state and local government programs are not within the Council's jurisdiction because
4 the programs address design-specific construction or operating standards and practices not
5 related to siting:
6

- 7 (1) The Oil Spill Prevention and Emergency Response Plan requirements
8 administered by DEQ Water Quality Division under ORS 468B and OAR Chapter
9 340, Division 141, which regulates the transport, storage, handling, and spill
10 control and prevention of petroleum products;
11
- 12 (2) Regulations of building, structure design and construction practices by the Oregon
13 Building Codes Division under ORS Chapters 447, 455, 460, 476, 479, and 480;
14 OAR Chapter 918, Divisions 225, 290, 301, 302, 400, 440, 460, 750, 770, and
15 780;
16
- 17 (3) Various programs addressing fire protection and fire safety and the storage, use,
18 handling, and emergency response for hazardous materials and community right
19 to know laws for hazardous materials, administered by the Oregon State Fire
20 Marshal's Office, under ORS Chapters 453, 476, and 480; OAR Chapter 837,
21 Divisions 40 and 90;
22
- 23 (4) The program addressing design and safety standards for natural gas pipelines and
24 electric transmission lines administered by the Oregon Public Utilities
25 Commission, Safety Section under ORS Chapter 757; OAR Chapter 860, Division
26 24;
27
- 28 (5) Regulations on the size and weight of truck loads on state and federal highways
29 administered by the Oregon Department of Transportation under ORS Chapter
30 818; OAR Chapter 743, Division 82;
31
- 32 (6) The program regulating the possession, use and transfer of radioactive materials
33 administered by the Oregon State Health Division (OSHD) under ORS Chapter
34 453; OAR Chapter 333, Divisions 100-119;
35
- 36 (7) Regulations of domestic water supply systems regarding potability administered
37 by OSHD under ORS Chapter 448;
38
- 39 (8) Permits required from ODOT to place a structure within, or to cross a state
40 highway right-of-way.
41
- 42 (9) Building permits required and administered by the City of Turner and Marion
43 County.
44

- 1 (10) Federal Aviation Administration Form 7460-1, Notice of Proposed Construction
2 or Alternation, concerning the impact of the height of the structure on navigable
3 airspace.
4

5 **F. CONDITIONS REQUIRED OR RECOMMENDED BY COUNCIL RULES**

6 The following conditions that the Department proposes that the Council include in the site
7 certificate are specifically required or recommended by OAR 345, Divisions 24, 26 and 27, to
8 address project and site-specific conditions and requirements. These conditions shall apply and
9 should be read together with the additional specific conditions recommended in Sections D and E
10 of this Order to ensure compliance with the siting standards of OAR 345, Divisions 22, 23 and
11 24, and to protect the public health and safety.
12

13 In addition to all other conditions stated in this Order, the certificate holder is subject to all
14 conditions and requirements contained in the rules of the Council and local ordinances and state
15 law in effect on the date the site certificate is executed, except: (1) that upon a clear showing of a
16 significant threat to the public health, safety or the environment that requires application of
17 later-adopted laws or rules, the Council may require compliance with such later-adopted laws or
18 rules; and, (2) that the site certificate shall provide for facility compliance with applicable state
19 and federal laws adopted in the future to the extent that such compliance is required under the
20 respective state agency statutes and rules.. ORS 469.401(2).
21

22 The Department recognizes that many specific tasks related to the design, construction, operation
23 and retirement of the facility would be undertaken by the certificate holder's agents or
24 contractors. However, the certificate holder shall be responsible for compliance with all
25 provisions of the site certificate.
26

27 **F.1. MANDATORY CONDITIONS IN SITE CERTIFICATES**

28 OAR 345-027-0020 details mandatory conditions that the Council must impose in every site
29 certificate. This Order imposes several of the mandatory conditions within the discussion of
30 specific conditions to which they relate. However, some mandatory conditions are not otherwise
31 addressed in this Order. Therefore, the Department recommends that the Council adopt the
32 following conditions in the site certificate.
33

- 34 (1) **The Council shall not change the conditions of the site certificate except in**
35 **accordance with the applicable provisions of OAR 345, Division 27, in effect**
36 **on the date of the Council action.**
37
38 (2) **Before beginning construction of the facility, the certificate holder shall**
39 **submit to the Department a legal description of the site, except as provided in**
40 **OAR 345-027-0023(6).**
41
42 (3) **The certificate holder shall design, construct, operate, and retire the facility:**
43
44 (a) **Substantially as described in the site certificate;**
45

1 (b) In compliance with the requirements of ORS Chapter 469, applicable
2 Council rules, and applicable state and local laws, rules and
3 ordinances in effect at the time the Council issues the site certificate;
4 and

5
6 (c) In compliance with all applicable permit requirements of other state
7 agencies.
8

9 (4) The certificate holder shall begin construction of the facility within 24
10 months after the effective date of the site certificate (the date on which the
11 site certificate is executed by the Council and the certificate holder) OAR
12 345-015-0085(8). The certificate holder shall report promptly to the
13 Department the date on which it began construction of the facility, as defined
14 in OAR 345-001-0010(11). In reporting the beginning of construction, the
15 certificate holder shall describe all work performed on the site before
16 beginning construction, including work performed before the Council issued
17 the site certificate, and shall state the cost of that work, all as set forth under
18 OAR 345-026-0048.
19

20 (5) The certificate holder shall complete construction of the facility within 54
21 months after the effective date of the site certificate (the date on which the
22 site certificate is executed by the Council and the certificate holder, OAR
23 345-015-0085(8). The completion of construction date is the date on which (1)
24 the facility is substantially complete as defined by the certificate holder's
25 construction contract documents; (2) acceptance testing is satisfactorily
26 completed; and (3) the facility is ready to commence continuous operation
27 consistent with the site certificate. The certificate holder shall report
28 promptly to the Department the date on which it completed construction of
29 the facility.
30

31 (6) Except as necessary for the initial survey or as otherwise allowed for
32 transmission lines or pipelines in this condition, the certificate holder shall
33 not begin construction, as defined in OAR 345-001-0010, or create a clearing
34 on any part of the site until the certificate holder has construction rights on
35 all parts of the site. For the purpose of this condition, "construction rights"
36 means the legal right to engage in construction activities. For transmission
37 lines or pipelines, if the certificate holder does not have construction rights
38 on all parts of the site, the certificate holder may nevertheless begin
39 construction or create a clearing on a part of the site if:
40

41 (a) The certificate holder has construction rights on that part of the site;
42 and,
43

44 (b) The certificate holder would construct and operate part of the facility
45 on that part of the site even if a change in the planned route of the

1 transmission line or pipeline occurs during the certificate holder's
2 negotiations to acquire construction rights on another part of the site.
3

4 **F.2 OTHER CONDITIONS BY RULE**

5 This section contains recommended conditions based on the Council's rules. In some cases, the
6 rules propose conditions; in other cases the Department recommends the conditions, based on the
7 Council's rules, to make explicit certain obligations of the certificate holder.
8

9 **Incident Reports.** Pursuant to OAR 345-027-0023(2), the Department recommends that the
10 Council adopt the following condition in the site certificate:
11

- 12 (1) **With respect to the related or supporting natural gas pipeline, the certificate**
13 **holder shall submit to the Department copies of all incident reports as**
14 **required under 49 CFR §192.709 that involve the pipeline.**
15

16 **Rights-of-Way.** Pursuant to OAR 345-027-0023(6), the Department recommends that the
17 Council include the following condition in the site certificate:
18

- 19 (2) **Before beginning operation of the facility, the certificate holder shall submit**
20 **to the Department a legal description of the permanent right-of-way where**
21 **the applicant has built a pipeline or transmission line within an approved**
22 **corridor. The site of the pipeline or transmission line subject to the site**
23 **certificate is the area within the permanent right-of-way.**
24

25 **Monitoring Programs.** Pursuant to OAR 345-027-0028, the Department recommends that the
26 Council include the following conditions for the site certificate:
27

- 28 (3) **If the certificate holder becomes aware of a significant environmental change**
29 **or impact attributable to the facility, the certificate holder shall, as soon as**
30 **possible, submit a written report to the Department describing the impact on**
31 **the facility and its ability to comply with any affected site certificate**
32 **conditions.**
33

34 **Compliance Plans.** Pursuant to OAR 345-026-0048, the Department recommends that the
35 Council adopt the following condition in the site certificate:
36

- 37 (4) **Before beginning construction of the facility, the certificate holder shall**
38 **implement a plan that verifies compliance with all site certificate terms and**
39 **conditions and applicable statutes and rules and shall submit a copy of the**
40 **plan to the Department. The certificate holder shall document the**
41 **compliance plan and maintain it for inspection by the Department or the**
42 **Council.**
43

44 **Reporting.** Pursuant to OAR 345-026-0080, the Department recommends that the Council adopt
45 the following conditions in the site certificate:

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- (5) **Within six months after beginning any construction, and every six months thereafter during construction of the facility and related or supporting facilities, the certificate holder shall submit a semi-annual construction progress report to the Council. In each construction progress report, the certificate holder shall describe any significant changes to major milestones for construction. When the reporting date coincides, the certificate holder may include the construction progress report within the annual report described in Condition (6) below.**
 - (6) **The certificate holder shall, within 120 days after the end of each calendar year after beginning construction, submit an annual report to the Council that addresses the subjects listed in OAR 345-026-0080(2). The Council secretary and the certificate holder may, by mutual agreement, change the reporting date.**
 - (7) **To the extent that information required by OAR 345-026-0080(2) is contained in reports the certificate holder submits to other state, federal or local agencies, the certificate holder may submit excerpts from such other reports. The Council reserves the right to request full copies of such excerpted reports.**

23 **Schedule Modification.** Pursuant to OAR 345-026-0100, the Department recommends that the
24 Council adopt the following condition in the site certificate:

- 25
26
27
28
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30
- (8) **The certificate holder shall promptly notify the Department of any changes in major milestones for construction, decommissioning, operation, or retirement schedules. Major milestones are those identified by the certificate holder in its construction, retirement or decommissioning plans.**

31 **Correspondence with Other State or Federal Agencies.** Pursuant to OAR 345-026-0105, the
32 Department recommends that the Council adopt the following condition in the site certificate:

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42
- (9) **The certificate holder and the Department shall exchange copies of all correspondence or summaries of correspondence related to compliance with statutes, rules and local ordinances on which the Council determined compliance, except for material withheld from public disclosure under state or federal law or under Council rules. The certificate holder may submit abstracts of reports in place of full reports; however, the certificate holder shall provide full copies of abstracted reports and any summarized correspondence at the request of the Department.**

43 **Notification of Incidents.** Pursuant to OAR 345-026-0170, the Department recommends that the
44 Council adopt the following condition in the site certificate:
45

1 **(10) The certificate holder shall notify the Department within 72 hours of any**
2 **occurrence involving the facility if:**

3
4 **(a) There is an attempt by anyone to interfere with its safe operation;**

5
6 **(b) A natural event such as an earthquake, flood, tsunami or tornado, or**
7 **a human-caused event such as a fire or explosion, affects or threatens**
8 **to affect the public health and safety or the environment; or,**

9
10 **(c) There is any fatal injury at the facility.**

11
12 **G. GENERAL CONDITIONS**

13 The following general conditions are based on the representations by TEC LLC in the ASC that
14 are not otherwise addressed or relate to procedural matters not otherwise addressed in proposed
15 conditions. The Department recommends that the Council adopt the following conditions in the
16 site certificate:

17
18 **(1) The general arrangement of the Turner Energy Center shall be substantially**
19 **as shown in the Revised ASC, January 2003.**

20
21 **(2) The certificate holder shall ensure that related and supporting facilities are**
22 **constructed in the corridors described in this Order and as shown in the**
23 **Revised ASC, January 2003, and in the manner described in this Order and**
24 **the Revised ASC, January 2003.**

25
26 **Successors and Assigns.** Ownership of the site certificate or facility may change over time. The
27 Department recommends that the Council adopt the following condition:

28
29 **(3) Before any transfer of ownership of the facility or ownership of the**
30 **certificate holder, the certificate holder shall inform the Department of the**
31 **proposed new owners. The requirements of OAR 345-027-0100 shall apply to**
32 **any transfer of ownership that requires a transfer of the site certificate.**

33
34 **Severability and Construction.** The Department recommends that the Council adopt the
35 following condition:

36
37 **(4) If any provision of this site certificate is declared by a court to be illegal or in**
38 **conflict with any law, the validity of the remaining terms and conditions shall**
39 **not be affected, and the rights and obligations of the parties shall be**
40 **construed and enforced as if the site certificate did not contain the particular**
41 **provision held to be invalid. In the event of a conflict between the conditions**
42 **contained in the site certificate and the Council's Order, the conditions**
43 **contained in this site certificate shall control.**

1 **Governing Law and Forum.** The Department recommends that the Council adopt the following
2 conditions:

3
4 (5) **The laws of the State of Oregon shall govern this site certificate.**

5
6 (6) **Any litigation or arbitration arising out of this agreement shall be conducted**
7 **in an appropriate forum in Oregon.**

8
9 **H. GENERAL CONCLUSION**

10 The Department recommends that the Council make the following findings:

11
12 (a) That the facility complies with the standards adopted by the Council pursuant to
13 ORS 469.501;

14 (b) That the energy facility is a base load gas plant that complies with the applicable
15 carbon dioxide emissions standard, OAR 345-024-0550;

16 (c) That except for those statutes and rules for which the decision on compliance has
17 been delegated by the federal government to a state agency other than the
18 Council, the facility complies with all other Oregon statutes and administrative
19 rules identified in the Project Order, as amended, as applicable to the issuance of a
20 site certificate for the proposed facility adopted by the Council or enacted by
21 statute; and,

22 (d) That the facility complies with the statewide planning goals adopted by the Land
23 Conservation and Development Commission, pursuant to ORS 469.503(4).

24
25 The Department recommends that the Council conclude that TEC LLC meets these requirements
26 and that it should issue a site certificate for the Turner Energy Center.

27
28 **I. PROPOSED ORDER**

29 Based on the above findings of fact, discussions and conclusions of law, the Department
30 recommends that the Council determine that it shall approve the Application for a Site Certificate
31 for the Turner Energy Center and that the chairperson of the Council shall execute the site
32 certificate in the form of the "Site Certificate for the Turner Energy Center." The site certificate
33 for the Turner Energy Center will be attached to this Order and incorporated by reference into
34 this Order. The Department further recommends that the Council direct the Department of State
35 Lands to issue to the certificate holder a Removal/Fill Permit that is substantially in the form of
36 Attachment C to this Order; that it direct the Oregon Department of Environmental Quality to
37 issue to the certificate holder a Water Pollution Control Facilities permit for sanitary waste that is
38 substantially in the form of Attachment D to this Order; that it direct the Water Resources
39 Department of Oregon to issue to the certificate holder a Water Right Transfer that is

1 substantially in the form of Attachment E to this Order and a Permit to appropriate the Public
2 Waters that is substantially in the form of Attachment F to this Order; and that it direct the City
3 of Turner to issue to the certificate holder a Flood Hazard Overlay Development Permit upon
4 receipt from the certificate holder the application that conforms to the requirements of Condition
5 D.4(9) of this Order.

6
7 Issued on _____, 2005
8
9

10
11 By: _____
12 David Stewart-Smith
13 Secretary
14 Oregon Energy Facility Siting Council
15
16

17 **ATTACHMENT A**
18 **MEMORANDUM OF UNDERSTANDING: MONETARY PATH PAYMENT REQUIREMENT**
19

20 **ATTACHMENT B**
21 **LAND USE STANDARD ANALYSIS**
22

23 **ATTACHMENT C**
24 **DRAFT REMOVAL/FILL PERMIT**
25

26 **ATTACHMENT D**
27 **DRAFT WATER POLLUTION CONTROL FACILITIES PERMIT FOR SANITARY WASTE**
28

29 **ATTACHMENT E**
30 **DRAFT WATER RIGHT TRANSFER (PRIMARY WATER RIGHT)**
31

32 **ATTACHMENT F**
33 **DRAFT PERMIT TO APPROPRIATE THE PUBLIC WATERS (SUPPLEMENTAL WATER RIGHT)**
34
35
36

37 **NOTICE OF THE RIGHT TO APPEAL**
38

39 You have the right to appeal this Order to the Oregon Supreme Court pursuant to ORS 469.403.
40 To appeal you must file a petition for judicial review with the Supreme Court within 60 days
41 from the day this Order was served on you. If this Order was personally delivered to you, the
42 date of service is the date you received this Order. If this Order was mailed to you, the date of
43 service is the date it was mailed, not the day you received it. If you do not file a petition for
44 judicial review within the 60-day time period, you lose your right to appeal.
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ATTACHMENT A
MEMORANDUM OF UNDERSTANDING
MONETARY PATH PAYMENT REQUIREMENT

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**ATTACHMENT A
TURNER ENERGY CENTER
MEMORANDUM OF UNDERSTANDING
MONETARY PATH PAYMENT REQUIREMENT**

9

**MEMORANDUM OF UNDERSTANDING
THE CLIMATE TRUST AND TURNER ENERGY CENTER, LLC
CARBON DIOXIDE STANDARD IMPLEMENTATION
MONETARY PATH PAYMENT REQUIREMENT**

10 THIS MEMORANDUM OF UNDERSTANDING (this “Agreement”) is entered into as of the
11 day of _____, 200_, by and between Turner Energy Center, LLC (the “Project
12 Owner”) in its capacity as owner of the Turner Energy Center and The Climate Trust (“The
13 Trust”).

14

RECITALS

- 15
- 16
- 17 1. The Project Owner intends to design, finance, construct, own and operate a natural gas-fired
18 combined-cycle combustion turbine electric generating facility with a base-load net electric
19 power output of about _____ MW and a peaking net electric power output of about _____
20 MW in Turner, Oregon. The facility, together with its ancillary systems, shall be referred to
21 herein as the “Project.”
- 22
- 23 2. The State of Oregon requires new energy facilities to meet a carbon dioxide emissions
24 standard as described in OAR 345-024-0550 through -0710.
- 25
- 26 3. As a condition to the siting of the Project, the Project Owner is required to provide offset
27 funds (“Offset Funds”) and selection and contracting funds (“Selection and Contracting
28 Funds”) to The Trust. In accordance with Section _____ of the Site Certificate for the
29 _____ (the “Site Certificate”) that the Oregon Energy Facility Siting
30 Council (the “Council”) approved on _____ 2005, the Project Owner shall establish a
31 third-party letter of credit (the “Letter of Credit”) in The Trust’s name, acceptable to the
32 Council, sufficient to meet the monetary path requirement. Under the terms and conditions
33 of this Agreement, the monetary path payments shall be disbursed to The Trust as specified
34 in the Site Certificate and then by The Trust as specified in OAR 345-024-0710.
- 35
- 36 4. The Trust is a qualified organization within the meaning of OAR 345-001-0010.
- 37

38 NOW, THEREFORE, in consideration of the premises and mutual promises herein contained,
39 the parties hereto agree as follows:
40

1 **1. Initial Base-Load Monetary Path Payment and Initial Power Augmentation Monetary**
2 **Path Payment.**
3

4 1.1 The Site Certificate requires that the amount of all Monetary Path Payments be paid
5 in 2005 dollars that are adjusted for inflation to the date of disbursement to The Trust
6 using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight,
7 published in the then current "Oregon Economic and Revenue Forecast" (the
8 "Index").
9

10 1.2 The Project Owner has used the monetary path payment requirement calculations
11 described in the Site Certificate to calculate the Initial Base-Load Monetary Path
12 Payment amount and has submitted them to the Oregon Department of Energy (the
13 "Department") for verification. The Trust acknowledges that the calculation of the
14 Initial Base-Load Monetary Path Payment amount in 2005 dollars presented in
15 Appendix A is correct and consistent with the Site Certificate.
16

17 1.3 The Project Owner has used the monetary path payment requirement calculations
18 described in the Site Certificate to calculate the Initial Power Augmentation
19 Monetary Path Payment amount and has submitted them to the Department for
20 verification. The Trust acknowledges that the calculation of the Initial Power
21 Augmentation Monetary Path Payment amount in 2005 dollars presented in
22 Appendix A is correct and consistent with the Site Certificate.
23

24 1.4 The Project Owner shall pay to The Trust the Inflation-Adjusted Selection and
25 Contracting Funds in the amount of \$ [REDACTED] contemporaneously with
26 execution of this Agreement. The Trust acknowledges that the calculations of the
27 amount of Selection and Contracting Funds presented in Appendix A are correct and
28 consistent with the Site Certificate.
29

30 1.5 Based on the verified calculations of the Initial Base-Load Monetary Path Payment
31 and the Initial Power Augmentation Monetary Path Payment set forth in Appendix
32 A, the Project Owner shall pay to the Trust \$ [REDACTED] in Offset Funds in 2005
33 dollars pursuant to Section 1.7 below. The Site Certificate requires that the amount
34 of Offset Funds portion of both the Initial Base-Load Monetary Path Payment and
35 the Initial Power Augmentation Monetary Path Payment be adjusted for inflation to
36 the date of disbursement to The Trust using the Index.
37

38 1.6 The Project Owner shall establish a Letter of Credit in the amount of \$ [REDACTED] in
39 favor of The Trust, in the form attached as Appendix B to this Agreement. The
40 effective date of the Letter of Credit shall be [REDACTED], 200[REDACTED]. The Trust shall be
41 entitled to draw the entire amount of the Offset Funds secured by the Letter of
42 Credit, subject to Condition 1.8. The Project Owner shall pay the costs of
43 establishing and maintaining the Letter of Credit and shall pay any transaction fees
44 assessed by the issuer of the Letter of Credit.
45

1 1.7 The Trust shall have the right to draw Offset Funds upon execution of a letter of
2 intent to acquire an offset project. At the sole discretion of The Trust, the amount of
3 Offset Funds drawn may correspond to the entire amount of Offset Funds available.
4 The Trust may request less than the entire amount of the Offset Funds, but in no case
5 shall the cumulative amount of all requests exceed the total Monetary Path Payment
6 Requirement, as adjusted by the Index.
7

8 1.8 Because of the need to establish a Letter of Credit with sufficient funds to cover
9 withdrawal up to the end of a future period calculated by application of the Index,
10 the amount of the Letter of Credit on any date may be greater than the entire amount
11 of Offset Funds required by the Monetary Path, as adjusted for inflation. If there are
12 funds available in Letter of Credit after The Trust has withdrawn the entire amount
13 of Offset Funds under the Monetary Path Payment Requirement, the Project Owner
14 may dissolve the Letter of Credit after verification by the Department that the funds
15 remaining in the Letter of Credit are excess of the Project Owner's obligations
16 pursuant to Section 1.
17

18 **2. Year One True-Up Base-Load Monetary Path Payment and Year One True-Up Power**
19 **Augmentation Monetary Path Payment.**
20

21 2.1 The Project Owner shall, within 30 days after filing its Year One Tests reports with
22 the Council, calculate the amount of Year One True-Up Base-Load Monetary Path
23 Payment, if any, and the amount of Year One True-Up Power Augmentation
24 Monetary Path Payment, if any, as required by the Site Certificate. The Project
25 Owner shall submit these calculations to the Department for verification, as required
26 by the Site Certificate.
27

28 2.2 Both the amount of Year One True-Up Base-Load Monetary Path Payment and
29 amount of Year One True-Up Power Augmentation Monetary Path Payment, if any,
30 shall be adjusted for 2005 dollars to the Disbursement Date using the Index.
31

32 2.3 If any Year One True-Up Base-Load Monetary Path Payment and/or Year One True-
33 Up Power Augmentation Monetary Path Payment is due, the Project Owner shall pay
34 the amount directly to The Trust within 30 days of its notification by the Department
35 of the amount that the Project Owner owes
36

37 2.4 In no case shall the calculations of this Section 2 cause the funding for the Initial
38 Base-Load Monetary Path Payment and the Initial Power Augmentation Monetary
39 Path Payment made available to The Trust by the Letter of Credit to diminish.
40

41 **3. Periodic Five-Year Power Augmentation Monetary Path Payments.**
42

43 3.1 Each five years after beginning commercial operation, the Project Owner shall report
44 the annual average hours of usage of power augmentation to the Department as
45 required by the Site Certificate.

- 1
2 3.2 If the Department determines that there are excess emissions for the five-year report
3 period, the Department will specify the amount of Selection and Contracting Funds
4 and Offset Funds that the Project Owner pay to The Trust. Each Periodic Five-Year
5 Power Augmentation Monetary Path Payment, if any, shall be adjusted for inflation
6 for 2005 dollars to the Disbursement Date using the Index.
7
8 3.3 For any Periodic Five-Year Power Augmentation Monetary Path Payment, the
9 amount of Selection and Contracting Funds shall equal 20 percent of the value of any
10 Offset Funds up to the first \$250,000 (in 2005 dollars) and 4.286 percent of the value
11 of any Offset Funds in excess of \$250,000 (in 2005 dollars).
12
13 3.4 The Project Owner shall disburse to The Trust the specified amount of any Periodic
14 Five-Year Monetary Path Payment within 30 days of its notification by the
15 Department of the amount that the Project Owner owes.
16

17 **4. Undertaking by The Trust.**
18

- 19 4.1 The Trust shall use the Initial Base-Load Monetary Path Payment and Initial Power
20 Augmentation Monetary Path Payment, as well as any Year One True-Up Base-Load
21 Monetary Path Payment, Year One True-Up Power Augmentation Monetary Path
22 Payment, and/or Periodic Five-Year Power Augmentation Monetary Path Payments
23 in accordance with OAR 345-024-0710.
24
25 4.2 With respect to the Offset Funds portions of any Initial Base-Load Monetary Path
26 Payment, Initial Power Augmentation Monetary Path Payment, Year One Base-Load
27 Monetary Path Payment, Year One Power Augmentation Monetary Path Payment,
28 and/or Periodic Five-Year Power Augmentation Monetary Path Payments, The Trust
29 shall spend at least 80 percent of the Offset Funds for contracts to implement offsets,
30 and may use up to 20 percent of the Offset Funds for monitoring, evaluation,
31 administration, and enforcement of contracts to implement offsets. The Trust shall
32 spend Offset Funds solely for contracts to implement offsets or for monitoring,
33 evaluation, administration, and enforcement of contracts to implement offsets.
34
35 4.3 The Selection and Contracting Funds portions of any Initial Base-Load Monetary
36 Path Payment, Initial Power Augmentation Monetary Path Payment, Year One Base-
37 Load Monetary Path Payment, Year One Power Augmentation Monetary Path
38 Payment, and/or Periodic Five-Year Power Augmentation Monetary Path Payments
39 shall compensate The Trust for its costs of selecting offsets and contracting for the
40 implementation of offsets and administrative costs related to operating The Trust as a
41 qualified organization.
42
43 4.4 The Trust shall use its best efforts to remain a qualified organization, as defined in
44 OAR 345-001-0010, until The Trust has used all funds received from the Project
45 Owner.

1
2 4.5 The Trust shall notify the Project Owner of its intent to draw on the Letter of Credit
3 at least one week before making a draw.
4

5 **5. Limited Obligation of Project Owner.**
6

7 5.1 The Trust acknowledges, pursuant to OAR 345-024-0710(3), that the Project Owner
8 and the Project shall have no obligation with regard to offsets for the Project other
9 than to make available to The Trust the total amount of the monetary path payments.
10

11 **6. Limited Participation by Project Owner in The Trust Decision Making.**
12

13 6.1 The Project Owner shall appoint one non-voting member to the Board of Directors of
14 The Trust for a term lasting until The Trust has completed the contracting for the
15 offset funds provided by the Project Owner. The Project Owner shall have no
16 approval rights over The Trust's offset contracts, disbursement of Offset Funds, or
17 other operations of The Trust.
18

19 **7. Project Owner Agreement to Indemnify and Hold The Trust Harmless.**
20

21 7.1 The Project Owner agrees to defend, hold harmless and indemnify The Trust from
22 and against any and all claims, costs, liabilities, and expenses of any nature
23 whatsoever, including reasonable attorneys' fees, resulting from or arising out of any
24 failure by the Project Owner to make any payments required by this Agreement, or to
25 establish the Letter of Credit described in Section 1.6 in a timely manner;
26 PROVIDED, that the maximum amount of the Project Owner's liability to The Trust
27 for claims, costs, liabilities and expenses, including attorneys' fees, arising out of the
28 failure to make a payment or establish the Letter of Credit required by this
29 Agreement in a timely manner shall not exceed twice the differential between the
30 amount payable to The Trust on a particular date and the amount actually paid or
31 made available to The Trust on or before that date. FURTHER PROVIDED, The
32 Trust must make reasonable efforts to mitigate any losses, liabilities or expenses for
33 which it seeks indemnification from the Project Owner.
34

35 **8. General Provisions.**
36

37 8.1 Disputes. Either the Project Owner or The Trust may submit to the Council for the
38 Council's resolution any dispute between the Project Owner and The Trust
39 concerning the terms of the letter of credit, this Agreement, or any other issues
40 related to the monetary path payment requirement. The Council's decision shall be
41 binding on all parties.
42

43 8.2 Governing Law: This Agreement shall be governed by and construed in accordance
44 with the laws of the State of Oregon. Any ambiguity that may arise under this
45 Agreement shall be given a fair and reasonable construction in accordance with the

1 intention of the parties and without regard to which party caused or is deemed to
2 have caused such ambiguity to exist.

3
4 8.3 Amendments and Waivers: This Agreement may not be modified, supplemented,
5 altered or amended, nor any provision hereof or rights hereunder be waived, except
6 by an instrument in writing designated as an amendment of or waiver under this
7 Agreement and signed by both parties. The waiver of any particular breach or
8 default hereunder shall not constitute a waiver of any other breach or default. Failure
9 or delay by any party to enforce any provision of this Agreement shall not in any
10 way be construed as a waiver of such provision, nor shall it prevent such party from
11 thereafter enforcing each and every provision of this Agreement.

12
13 8.4 Entire Agreement: This Agreement constitutes the entire agreement between the
14 parties hereto as to the matters set forth herein, and all prior proposals, commitments,
15 understandings and agreements, whether oral or in writing, as to such matters are
16 superseded by this Agreement.

17
18 8.5 Assignment: The rights of the Project Owner under this Agreement may be assumed
19 by any entity that acquires an ownership interest in the Project. Upon such
20 assumption and upon written acknowledgment by the entity of its responsibilities
21 under this Agreement, such entity shall be deemed to be a party to this Agreement.
22 The Trust may not assign this Agreement without the prior consent of the Project
23 Owner and Council; provided that, if the proposed assignee is a “qualified
24 organization” as defined in OAR 345-001-0010(45), the Project Owner shall not
25 unreasonably withhold such consent.

26
27 8.6 Third-Party Beneficiaries: Nothing in this Agreement, whether express or implied, is
28 intended to confer any rights or remedies on any persons other than the parties hereto
29 and their respective authorized successors and permitted assigns.

30
31 IN WITNESS WHEREOF, the parties have caused this Memorandum of Understanding to be
32 executed by their respective duly authorized representatives, as of the day and year first above
33 written.

34
TURNER ENERGY CENTER, LLC

THE CLIMATE TRUST

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

35
36 APPENDIX A: CALCULATION OF INITIAL BASE-LOAD AND POWER AUGMENTATION MONETARY
37 PATH PAYMENT REQUIREMENT [NOT INCLUDED IN SITE CERTIFICATE]

38
39 APPENDIX B: FORM OF LETTER OF CREDIT

1
2
3
4 **APPENDIX B TO MEMORANDUM OF UNDERSTANDING**
5 **[FORM OF CLIMATE TRUST LETTER OF CREDIT]**

6 [Date]

7
8 **BENEFICIARY:**

9 The Climate Trust
10 516 SE Morrison Street, Suite 300
11 Portland, OR 97214
12 Attn: Mike Burnett, Executive Director

13 **IRREVOCABLE LETTER OF CREDIT NO. _____**

14 At the request and for the account of _____, we hereby issue in your favor our Irrevocable
15 Letter of Credit No. _____ (this "Letter of Credit") for U.S. \$_____ (the "Stated Amount").

16 We are informed that this Letter of Credit is issued to you pursuant to the Site Certificate for the
17 Turner Energy Center, dated _____.

18
19 Subject to the provisions herein, funds under this Letter of Credit are available against
20 presentation of this Letter of Credit and your draft drawn at sight and marked "Drawn on
21 _____ Letter of Credit No. _____," accompanied by a written certificate in the form of
22 Annex A hereto with the blanks duly completed and purportedly signed by your Executive
23 Director and dated as of even date with the draft.

24
25 Subject to the provisions herein, we hereby authorize you to draw hereunder in an amount not to
26 exceed the Stated Amount from the date hereof through our close of business on the date on
27 which the Stated Amount is reduced to zero by a drawing hereunder.

28
29 Partial drawings are permitted under this Letter of Credit. The amount available to be drawn
30 under this Letter of Credit shall be automatically reduced by the amount of any drawings
31 hereunder. Upon the payment of drawings that in the aggregate equal the Stated Amount, we
32 shall be fully discharged of our obligation under this Letter at Credit and we shall not thereafter
33 be obligated to make any further payments under this Letter of Credit.

34
35 Presentation of this Letter of Credit, such draft and such certificate shall be made at _____, by
36 physical delivery of such documents to such office. _____ will accept physical delivery of such
37 documents either by hand delivery, by mail, by overnight courier, or by any other commercially-
38 accepted means of delivery. Our only obligation with regard to a drawing under this Letter of
39 Credit shall be to examine such draft and certificate and to pay in accordance therewith if the
40 same conforms to the terms and conditions of this Letter of Credit, and we shall not be obligated
41 to make any inquiry in connection with the presentation of this Letter of Credit, the draft and the
42 certificate.

1 If any request for payment hereunder is presented in compliance with the terms of this Letter of
2 Credit to us at such address by _____ (local time) on any Business Day, payment will be made at or
3 before _____ (local time) on the third Business Day thereafter, and if such request is so
4 presented to us _____ (local time) on any Business Day, payment will be made at or before the
5 fourth Business Day thereafter.

6
7 If a demand for payment made hereunder does not, in any instance, conform to the terms and
8 conditions of this Letter of Credit, we shall give you prompt notice that your demand for
9 payment was not effected in accordance with the terms and conditions of this Letter of Credit,
10 stating the reasons therefore and that we will, upon your instructions, hold any documents at
11 your disposal or return the same to you. Upon being notified that the demand for payment was
12 not effected in conformity with this Letter of Credit, you may attempt to correct any such
13 nonconforming demand to the extent you are able to do so; *provided, however*, that any draft or
14 document presented to correct such nonconforming demand must be presented on or before the
15 Termination Date.

16
17 Communications with respect to this Letter of Credit shall be in writing and shall be addressed to
18 us at _____, specifically referring therein to this Letter of Credit by number.

19
20 As used herein, a "Business Day" shall mean any day other than Saturday or Sunday or a day on
21 which banking institutions in the City of _____ are authorized or required by law to close.

22
23 Presentation of any certificate hereunder shall be deemed to be authentic if signed by a person
24 purporting to be your Executive Director.

25
26 This Letter of Credit and the attached Annex A set forth in full our undertaking, and such
27 undertaking shall not in any way be modified, amended, amplified, or limited by reference to any
28 document, instrument or agreement referred to in this Letter of Credit, except only the
29 certificates referred to herein, and any such reference shall not be deemed to incorporate herein
30 by reference any document, instrument or agreement except for such certificates.

31
32 _____ hereby engages solely with The Climate Trust that drafts drawn hereunder and in
33 compliance with the terms of this Letter of Credit will be duly honored upon presentation to us
34 by our prompt payment to you of the amount specified in the certificate accompanying such
35 draft.

36
37 This Letter of Credit and the attached Annex A shall be subject to the provisions (to the extent
38 that such provisions are not inconsistent with this Letter of Credit) of the Uniform Customs and
39 Practices for Documentary Credits, 1993 Revision, International Chamber of Commerce
40 Publication No. 500. To the extent that the provisions of this Letter of Credit are not covered by
41 such Uniform Customs and Practices, this Letter of Credit shall be governed by and enforced and
42 construed in accordance with the laws of the State of Oregon.

1
2
3 **ANNEX A**
4 **[LETTERHEAD OF THE CLIMATE TRUST]**
5 **DRAW CERTIFICATE**

6 IRREVOCABLE LETTER OF CREDIT NO.

7
8 The undersigned, the Executive Director of The Climate Trust (the “Beneficiary”) hereby
9 certifies to [REDACTED] (the “Issuing Bank”) with reference to the Irrevocable Letter of Credit No.
10 [REDACTED] (the “Letter of Credit”) issued by the Issuing Bank in favor of the Beneficiary (any
11 capitalized term used herein and not otherwise defined shall have the respective meaning set
12 forth in the Letter of Credit) that:

- 13
14 1. The Beneficiary is making a drawing under the Letter of Credit pursuant to the
15 Memorandum of Understanding dated [REDACTED], 200[REDACTED], between The Climate Trust and
16 [REDACTED] (the “MOU”) in the amount of \$ [REDACTED]
17 (the “Drawing Amount”);
18
19 2. The Drawing Amount hereunder does not exceed the Stated Amount reduced by all
20 previous drawings under the Letter of Credit; and
21
22 3. The Drawing Amount is not more than the amount that the Climate Trust is entitled to
23 draw at this time under the terms of the MOU.
24

25 The Beneficiary hereby irrevocably authorizes and directs the Issuing Bank to pay the Drawing
26 Amount in immediately available funds to The Climate Trust, Attention: Executive Director, by
27 sending such payment by wire transfer to:

28 [REDACTED]
29 [REDACTED]

30
31 IN WITNESS WHEREOF, the Beneficiary has executed and delivered this certificate as of the
32 [REDACTED] day of [REDACTED], [REDACTED].
33
34

THE CLIMATE TRUST, as Beneficiary

By: _____

Name:
Executive Director

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ATTACHMENT B
LAND USE STANDARD ANALYSIS

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ATTACHMENT B
TURNER ENERGY CENTER

LAND USE STANDARD ANALYSIS
OAR 345-022-0030

I. INTRODUCTION AND OVERVIEW

Under the Energy Facility Siting Council’s (the “Council”) Land Use Standard, OAR 345-022-0030, the Council must determine whether the proposed facility complies with:

- The applicable substantive criteria from the affected local governments' acknowledged comprehensive plans and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application; and
- Any administrative rules and goals of the state Land Conservation and Development Commission (“LCDC”), and any land use statutes that are directly applicable to the facility under ORS 197.646(3).⁴

ORS 469.504(1)(b); OAR 345-022-0030(2)(b).

The proposed facility is located within two jurisdictions. The energy facility site is located within the City of Turner. Most of the proposed related or supporting facilities (the gas and water pipelines, and one of the two electric transmission lines), are located partially within the city limits, and partially outside the City limits, in Marion County. Accordingly, acting under ORS 469.480, the Council appointed the City Council of Turner and the Marion County Board of Commissioners as special advisory groups for this application. Under ORS 469.504(5), these special advisory groups are responsible for recommending the applicable substantive criteria from their respective comprehensive plans and land use regulations. If those recommendations are made within the time established in the request from the Department of Energy (the “Department”), then the Council “* * * shall apply the criteria recommended by the special advisory group.” If those recommendations are not made within the time established by the Department, “the Council may either determine and apply the applicable substantive criteria * * * or determine compliance with the statewide planning goals.” ORS 469.504(5). For the related or supporting facilities located in two jurisdictions, the Council may decide whether to evaluate the proposed facility against the applicable substantive criteria recommended, against the statewide planning goals, or against a combination of the two. ORS 469.504(5).

Both the City and the County have recommended applicable substantive criteria, although the City did not recommend its criteria within the deadline set. The City has recommended

⁴ ORS 197.646(3) provides that if a city or county fails to amend its comprehensive plan and/or land use regulations to implement new statewide land use planning statutes, goals or rules, those statutes, goals, or rules become directly applicable to the local government's land use decisions.

1 applicable substantive criteria in the Turner Revised Code, Turner Comprehensive Plan, and
2 Turner Land Use Development Code. Marion County implements its plans and policies in its
3 comprehensive plan through Marion County Rural Zoning Ordinance (“MCRZO”) and Marion
4 County Urban Zoning Ordinance.

5
6 Because the City did not submit its recommended criteria in the time established, the Council is
7 not bound by the City’s recommendations regarding the applicable city criteria, and instead may
8 determine and apply the applicable substantive city plan and code criteria, or evaluate the ASC
9 for direct compliance with the statewide planning goals. While not bound by them, the
10 Department recommends that the Council apply the applicable substantive criteria recommended
11 by the City of Turner, to the extent those criteria are required for compliance with the statewide
12 planning goals. For the portions of the proposed facility under both the city and county
13 jurisdiction, the Department recommends that the Council apply the substantive criteria for
14 compliance with the statewide planning goals, as there does not appear to be any conflict
15 between the local jurisdictions that would necessitate applying different standards. In accordance
16 with this recommendation, all aspects of the proposed facility have been evaluated against both
17 the local applicable substantive criteria and directly applicable provisions of statewide planning
18 goals and rules and state land use planning statutes.

19
20 **II. DESCRIPTION OF THE PROPOSED FACILITY**

21
22 The proposed facility, as addressed in this Order and as described in the Application for a Site
23 Certificate (“ASC”), comprises an energy facility and certain related or supporting facilities.
24 Collectively, the energy facility and the related or supporting facilities are referred to as the
25 "facility" or as the "proposed facility." The energy facility portion of the proposed facility
26 includes the following components, as more particularly described in Exhibit B to the ASC (*See*
27 particularly, TEC Revised ASC, January 2003, Exhibit B, Attachment B-2), and Section C.1 of
28 this Order:

- 29
30 • Two natural gas-fired combustion turbine generators and one condensing steam
31 turbine generator in a combined-cycle configuration, located in a pre-engineered
32 metal building;
- 33 • Two heat recovery steam generators (“HRSGs”);
- 34 • Plant cooling systems, including a mechanical-draft cooling tower;
- 35 • A substation with transformers;
- 36 • An auxiliary boiler;
- 37 • A pre-engineered metal building for administration and maintenance;
- 38 • A pre-engineered metal building for water treatment;
- 39 • Water storage tanks for fire protection and for storage of demineralized water;
- 40 • A treated water storage pond;
- 41 • Stormwater control facilities;
- 42 • Diesel fuel, and chemical above-ground storage tanks;
- 43 • A rail spur;

- 1 • Permanent parking and access improvements (including roadway improvements
- 2 requested by Marion County);
- 3 • Temporary, construction-related uses including construction parking and laydown
- 4 areas;
- 5 • Wastewater treatment facilities.
- 6

7 The proposed energy facility would be located on a site of about 41 acres, which TEC LLC has
8 an exclusive option to purchase. The site is located in the northeast corner of Section 32 and the
9 southeast corner of Section 29, Township 8 South, Range 2 West, at the southern edge of the
10 City of Turner (“City”), Marion County, Oregon. The energy facility site is located entirely
11 within the City, on land zoned industrial.

12
13 The related or supporting facilities include the following components, also as more particularly
14 described in Exhibit B to the ASC (*See* particularly, TEC Revised ASC, January 2003, Exhibit
15 B, Attachment B-2) and Section C.1 of this Order:

- 16
17 • A looped 230 kV electric transmission line (the existing PacifiCorp Bethel-Fry
- 18 transmission line would be looped into the energy facility's substation), installed
- 19 on single steel pole towers spaced about 75 feet apart, with the two lines located
- 20 about 75 feet apart in a 175-foot right-of-way (about 1,500 feet long, in each
- 21 direction);
- 22 • A 115 kV electric transmission line consisting of single wood or steel pole towers
- 23 and a single conductor connecting to Portland General Electric's Turner substation
- 24 to the north, occupying both public and private easements 60 to 70 feet in width
- 25 and about 3,000 feet long.;
- 26 • A 2.3-mile, 16-inch natural gas pipeline, in a 20-foot permanent right-of-way,
- 27 connecting to an existing line owned by Northwest Pipeline; and
- 28 • A 1-mile, 30-inch (or smaller) raw water pipeline and intake structure on the
- 29 Perrin Lateral;
- 30 • An alternative 8-inch water pipeline connecting to the City’s water supply system
- 31 at the intersection of 5th Street and Elgin Street, about 700 feet from the energy
- 32 facility’s fence line.
- 33 • An alternative 4-inch force main connecting to the City’s sewer system at the
- 34 intersection of 5th Street and Elgin Street, about 700 feet from the energy facility’s
- 35 fence line.
- 36 • A temporary construction laydown and parking area of about 28 acres located just
- 37 south of the energy facility site.
- 38

39 The proposed energy facility would be fueled by natural gas from the existing Northwest
40 Pipeline Grants Pass Pipeline that runs north-south about two miles east of the facility site. A
41 new underground natural gas lateral pipeline would be installed from the energy facility site to
42 connect to the Grants Pass Pipeline, at its intersection with Little Road. That portion of the
43 natural gas lateral pipeline that lies within the city limits is entirely on TEC LLC’s M-1 zoned
44 land. The natural gas pipeline would occupy about 5 acres of land in Marion County, zoned for

1 exclusive farm use (“EFU”). ASC, Exhibit C, at C-1; TEC Revised ASC, January 2003, Exhibit
2 K, Attachment K-1.

3
4 The electric transmission line 230-kV loop would connect the energy facility switchyard to the
5 existing electrical grid system. The 230-kV electric transmission line would occupy about 6 acres
6 of land in Marion County, zoned EFU. The offsite 115-kV electric transmission line would run
7 overhead above industrial zoned property for its entire length within the PGE franchise
8 easement. The 115-kV electric transmission line would occupy about 4 acres of land in the City
9 of Turner. ASC, Exhibit C, at C-1; Response to Request for Additional Information 5 & 6, July
10 2003, at page 21.

11
12 The proposed facility would obtain all of its process water through a new water right of 7.6 cfs
13 and a transferred water right of 7.6 cfs. TEC LLC has proposed obtaining its service, fire
14 protection and potable water either by treating raw water from its proposed water rights or by
15 municipal supply from the City. In either case, the Santiam Water Control District (“SWCD”)
16 would deliver the proposed water rights to a diversion structure it would own on the Perrin
17 Lateral. TEC LLC would install a new underground raw water pipeline from the energy facility
18 to connect to the diversion structure. That portion of the raw water pipeline that lies within the
19 city limits would be entirely on TEC LLC’s industrial zoned land. The raw water pipeline would
20 occupy about 2.4 acres of EFU-zoned land outside of the city, which would be included in the
21 land occupied by the natural gas pipeline.

22
23 Should the proposed energy facility use municipal water for its service, fire protection and
24 potable water needs, it would install a new 8-inch water pipeline that would connect to the City’s
25 existing water system in the right of way at the intersection of 5th Street and Elgin Street, about
26 700 feet from the energy facility fence line. ASC Amendment #1, at 2.

27
28 TEC LLC has proposed both on-site disposal system and off-site disposal system alternatives for
29 its process and sanitary wastewater. The on-site system would be entirely on TEC LLC’s
30 industrial zoned land. Off-site disposal for both process and sanitary wastewater would require
31 the installation of a 4-inch force main that would connect to the City’s existing sewer system at
32 the intersection of 5th Street and Elgin Street, about 700 feet from the energy facility fence line.
33 ASC Amendment #1, at 2.

34 35 **III. CITY OF TURNER LAND USE REGULATIONS**

36
37 All of the proposed energy facility and portions of the related or supporting facilities would be
38 within the City of Turner. TEC LLC has elected not to apply to the City of Turner for land use
39 approvals, and has instead opted to have the Council determine whether the proposed facility
40 complies with the land use standard for energy facilities set out in ORS 469.504. In addition,
41 although the Council appointed the Marion County Board of County Commissioners and the
42 City of Turner City Council as special advisory groups under ORS 469.480 and 469.504(5),
43 allowing them to identify the applicable local substantive criteria under the land use standard, the

1 City did not provide a response within the time established.⁵ As a result, with regard to the
2 energy facility and those portions of the related facilities located within the city, the Department
3 must recommend, and ultimately the Council must determine, the applicable substantive criteria
4 from the City's acknowledged comprehensive plan and land use regulations. ORS 469.504.
5 Further, in making those determinations, the Department and Council must apply only those plan
6 provisions and land use regulations that are: (a) required by the Statewide Planning Goals, and
7 (b) in effect on the date the application was submitted. ORS 469.504(1)(b)(A).

8
9 The energy facility and the portions of the related or supporting facilities within city limits are
10 subject to the applicable substantive provisions of the Turner Comprehensive Plan, the Turner
11 Land Use and Development Code, ("TLUDC") and the Turner Revised Code ("TRC") as more
12 fully set forth below. The applicable regulations are those that were in effect on December 20,
13 2001, the date TEC LLC submitted its application.

14
15 **A. Classification of Use**

16
17 The energy facility site is located in the city's industrial district, and is zoned General Industrial
18 ("M-1"). The M-1 District allows certain permitted uses outright, subject only to site plan review
19 and development standards, and other uses conditionally, subject to conditional use standards in
20 TLUDC Section 2.500. TEC LLC asserts that the energy facility is allowed as a conditional use
21 under TLUDC Section 4.141(3). The application includes a May 23, 2001, letter from the City
22 Administrator providing an interpretation that the proposed facility is permitted as a conditional
23 use in the M-1 zone. The City Council has subsequently asserted that the energy facility is not
24 allowed as a conditional use in the M-1 zone, based on its assertion that the proposed electric
25 generation facility is not a manufacturing use or any other use permitted conditionally in the M-1
26 zone.

27
28 The M-1 zone is the city's sole industrial zone. TLUDC Section 4.141 (1) describes the purpose
29 of the M-1 zone as follows:
30

⁵ Two notices informing the Board of County Commissioners and the City Council of the need for them to specify "applicable substantive criteria" from their local comprehensive plan and land use regulations were sent: one on December 20, 2001, and a second on January 31, 2003. The ultimate deadline for the county and city to respond was March 10, 2003. The county responded with a list of the applicable substantive criteria in a memorandum dated January 14, 2002. The city responded by a letter dated January 11, 2002, listing certain "* * *" information that the staff feels needs to be included for the application to be complete." While the Department and the Council might construe the city's letter of January 11, 2002, to be a statement by the city that the "applicable substantive criteria" for the city are those addressed in the application, along with those additional specific criteria listed in the letter, the Department recommends that the letter not be given that legal effect due to the fact that the opening sentence of that same letter states that "[t]he Turner City Council has declined to adopt a resolution relative to the accuracy and completeness of the application by Turner Energy Center, LLC, to site a power generating facility in the City of Turner." Comments and other communications received from the City and County after the date for the advisory committee to specify the applicable substantive criteria are considered by the Department as part of its review, but no longer have the legal effect of determining the applicable local land use criteria. ORS 469.504(5).

1 *“The General Industrial District is intended to protect and preserve areas*
2 *suitable for industrial development to assist in supporting the area’s*
3 *economy. The M-1 District is suitable for light manufacturing and*
4 *warehousing activities having minimal emissions or nuisance*
5 *characteristics that could impact adjacent non-industrial areas. The M-1*
6 *District is well suited for areas having highway and rail access that are*
7 *free from conflict with non-compatible land uses.”*
8

9 Although the TLUDC Purpose Statement suggests that the city’s industrial zone is
10 intended only for “light” manufacturing and warehousing, the actual list of permitted and
11 conditionally permitted uses is not so restrictive. TLUDC Section 4.141(2) lists the
12 following permitted uses in the M-1 District:

- 13
14 “(a) *Interim farm use.*
15 “(b) *All manufacturing, warehousing, wholesaling, compounding, assembling,*
16 *processing, storing, researching, or testing uses provided all operations*
17 *except off-street parking and temporary activities shall be conducted*
18 *entirely within an enclosed building unless approved by the Planning*
19 *Commission, and provided there are no emission or nuisance*
20 *characteristics discernible without instruments at the property line.*
21 “(c) *Public or semi-public buildings and uses.”*
22

23 TLUDC Section 4.141(3) specifies the uses that may be allowed in this zone subject to the
24 conditional use permit provisions of TLUDC Section 2.500, as follows:

- 25
26 “(a) *Manufacturing, warehousing, wholesaling, compounding, assembling,*
27 *processing, storing, researching, or testing uses having emissions or*
28 *nuisance characteristics discernible without instruments at the property*
29 *line or uses requiring a permit from a local, state, or federal agency.*
30 “(b) *Scrap, waste, recycling or wrecking yards.*
31 “(c) *Quarrying and related activities * * *.*
32 “(d) *Waste or hazardous material processing, storage or disposal.*
33 “(e) *Commercial activities in association with an approved industrial use.*
34 “(f) *A manufactured home for the owner or caretaker whenever an on-site*
35 *residence is necessitated by such use. * * *.”*
36

37 In terms of the types of uses allowed, the code specifies that the zone permits “manufacturing,
38 warehousing, wholesaling, compounding, assembling, processing, storing researching or testing
39 uses.” The intensity of the proposed use determines whether uses are permitted or conditionally
40 permitted. Those uses are “permitted” when they are “conducted entirely within an enclosed
41 building * * * and provided there are no emissions or nuisance characteristics discernible without
42 instruments at the property line.” In contrast, those uses are “conditionally permitted” when they
43 have “emission or nuisance characteristics discernible without instruments at the property line or
44 uses requiring a permit from a local, state or federal agency.” The first inquiry here is whether

1 the proposed energy facility fits within the types of uses listed as permitted, either outright or
2 conditionally, in the M-1 zone.

3
4 The terms “manufacturing” and “processing” are not defined in the City’s code. The dictionary
5 definition of “manufacture” is, in pertinent part, (1) “to make (as raw material) into a product
6 suitable for use; and (2) “to make from raw materials by hand or by machinery.” WEBSTER’S
7 THIRD NEW INT’L DICTIONARY (unabridged 1993 ed) at 1378. “Processing” is defined in part as
8 "to prepare for market, manufacture, or other commercial use by subjecting to some process."
9 *Id.*, at 1808. The energy facility would use raw materials, including natural gas, and convert them
10 into energy in the form of electricity suitable for sale to the public. Therefore, taking the term
11 “manufacturing” or “processing” as they are commonly used, the facility would fall within the
12 types of uses allowed in the M-1 zone. This interpretation is also consistent with the Oregon
13 Court of Appeals’ determination in Port of St. Helens v. Geiser, 526 P2d 626, 19 Or App 84
14 (1974), where it determined that the Port of St. Helens could classify the generation of electricity
15 as “manufacturing” within the meaning of a statute authorizing the Port District to acquire
16 personal property suitable for use by an industry for “manufacturing.” The Court held that “[t]he
17 manufacturing of electricity, regardless of the process, being a transformation of energy from
18 one form to another, is truly manufacturing, and is done by an industry.” Thus, the proposed
19 facility is correctly categorized as a manufacturing or processing use permitted in the City’s
20 industrial zone.

21
22 The second inquiry is whether the use is permitted or conditionally permitted in the M-1 zone.
23 TEC LLC acknowledges that, because the proposed facility would have “emission[s] or nuisance
24 characteristics discernible without instruments at the property line [and requires] a permit from a
25 local, state or federal agency,” it falls within the list of conditional, rather than out-right
26 permitted uses in the M-1 zone.

27
28 Portions of the 115-kV electric transmission line, raw water pipeline, municipal water pipeline,
29 sewer pipeline, rail spur, and temporary construction staging or lay down areas are also located
30 within the M-1 zone. TEC LLC characterizes these uses as accessory uses. The code defines
31 “accessory uses” as “[a] structure or use incidental, appropriate and subordinate to the main use
32 of the property and located on the same lot as the main use.” TLUDC 1.200(2). The list of
33 supporting uses is properly characterized as accessory uses and, therefore, would also be
34 conditionally allowed within the M-1 zone.

35
36 The Department recommends that the Council find the energy facility and its accessory uses are
37 permitted within the City's M-1 zone as a conditional use, subject to compliance with the City’s
38 conditional use criteria.

39 **Criteria for Conditional Uses**

40 **TLUDC 2.500(1) Conditional Use Application.**

1 *“An application for a use requiring a Conditional Use must be filed with the City*
2 *together with a site plan and other supplementary data using forms prescribed in Section*
3 *2.130.”*

4
5 Section 2.130 sets forth the local application procedure, which would apply had TEC LLC
6 elected to proceed under ORS 469.504(1)(a), which requires the facility to receive local land use
7 approval. TEC LLC has instead elected to have the application reviewed under ORS
8 469.504(1)(b), which requires the EFSC to determine compliance with the applicable local
9 substantive criteria, as well as any applicable LCDC rules and goals and any land use statutes
10 directly applicable to the facility under ORS 197.646(3).

11
12 **TLUDC 2.140 Application Site Plan**

13
14 *“Applications requiring a site plan shall include a Site Plan Drawing, drawn to scale,*
15 *and shall indicate clearly and with full dimensioning the following information, as*
16 *applicable, for all existing and proposed development. It is understood that some of the*
17 *requested information may not apply to every application.*

18
19 “(1) *The names of the owner(s) and applicant if different.*

20
21 “(2) *The property address or geographic location and the Assessor Map number and*
22 *Tax Lot number.*

23
24 “(3) *The date, scale and northpoint.*

25
26 “(4) *A vicinity map showing properties within the notification area and roads. An*
27 *Assessor Map, within all adjacent properties, is adequate.*

28
29 “(5) *Lot dimensions.*

30
31 “(6) *The location, size, height and uses for all existing and proposed buildings.*

32
33 “(7) *Yards, open space and landscaping.*

34
35 “(8) *Walls and fences: location, height and materials.*

36
37 “(9) *Off-street parking: location, number of spaces, dimensions of parking area and*
38 *internal circulation patterns.*

39
40 “(10) *Access: pedestrian, vehicular, service, points of ingress and egress.*

41
42 “(11) *Signs: location, size, height and means of illumination.*

43
44 “(12) *Loading: location, dimension, number of spaces, internal circulation.*

45

- 1 “(13) *Lighting: location and general nature, hooding devices.*
- 2
- 3 “(14) *Street dedication and improvements.*
- 4
- 5 “(15) *Topographic features including grades, trees, and vegetation proposed.*
- 6
- 7 “(16) *Water systems, drainage systems, sewage disposal systems and utilities.*
- 8
- 9 “(17) *Drainage ways, water courses, flood plain and wetlands.*
- 10
- 11 “(18) *The number of people that will occupy the site including family members,*
- 12 *employees or customers.*
- 13
- 14 “(19) *The number of generated trips per day from each mode of travel by type:*
- 15 *employees, customers, shipping, receiving, etc.*
- 16
- 17 “(20) *Time of operation, where appropriate. Including hours of operation, days of the*
- 18 *week and number of work shifts.*
- 19
- 20 “(21) *Specifications of the type and extent of emissions, potential hazards or nuisance*
- 21 *characteristics generated by the proposed use. The applicant shall accurately*
- 22 *specify the extent of emissions and nuisance characteristics relative to the*
- 23 *proposed use. Misrepresentation or omission of required data shall be grounds*
- 24 *for denial or termination of a Certificate of Occupancy.*
- 25
- 26 *“Uses which possess nuisance characteristics or those potentially detrimental to*
- 27 *the public health, safety and general welfare of the community including, but not*
- 28 *limited to; noise, water quality, vibration, smoke, odor, fumes, dust, heat, glare or*
- 29 *electromagnetic interference, may require additional safeguards or conditions of*
- 30 *use as required by the Planning commission or City Council.*
- 31
- 32 *“All uses shall meet all applicable standards and regulations of the Oregon State*
- 33 *Board of Health, the Oregon Department of Environmental Quality, and any*
- 34 *other public agency having appropriate regulatory jurisdiction. Prior to approval*
- 35 *of a land use decision, evidence shall be submitted to the City indicating that the*
- 36 *proposed activity has been approved by all appropriate regulatory agencies.*
- 37
- 38 “(22) *Such other data as may be necessary to permit the Planning Commission to make*
- 39 *the required findings.”*
- 40

41 A preliminary site plan containing all the required information is included in the site certificate
42 application and amendments for both the facility and accessory uses. The Department
43 recommends that the Council find that TEC LLC has provided all of the information required for
44 the site plan. In addition, the Department recommends that the Council find that TEC LLC has

1 satisfied this requirement and further recommends that the Council adopt the following condition
2 in the site certificate:

- 3
4 **(1) As part of its application for a building permit, the certificate holder shall**
5 **submit to the City of Turner its final site plan.**

6
7 **TLUDC 2.500(2)**

8
9 *“Conditional uses listed in this Code may be permitted, altered, or enlarged upon*
10 *authorization of the Planning Commission in accordance with the following findings:*

11
12 *“(a) That the proposed development complies with the City's Comprehensive Plan.*

13 *“(b) That the applicable provisions of the city codes and ordinances are complied*
14 *with.*

15 *“(c) That traffic congestion is avoided, pedestrian and vehicular safety are protected,*
16 *and future street right-of-way are protected.*

17 *“(d) That proposed signs or lighting will not, by size, location or color, interfere with*
18 *traffic, limit visibility or impact on adjacent properties.*

19 *“(e) That adequate water, sewage disposal system and utilities for the proposed use*
20 *are available.*

21 *“(f) That drainage ways are protected and drainage facilities provided.*

22 *“(g) That the extent of emissions and potential nuisance characteristics are compatible*
23 *with the land use zone, adjacent land uses, and the standards of all applicable*
24 *regulatory agencies having jurisdiction.*

25 *“(h) That the characteristics of the proposed development is compatible with the land*
26 *use zone, the surrounding area and potential impacts have been mitigated to the*
27 *maximum extent possible.”*

28
29 Each of these criteria is addressed below.

30
31 **TLUDC 2.500(2)(a)**

32
33 *“That the proposed development complies with the City’s Comprehensive Plan.”*

34
35 These standards are addressed separately in section B below.

36
37 **TLUDC 2.500(2)(b)**

38
39 *“That the applicable provisions of the city codes and ordinances are complied with.”*

40
41 These provisions are addressed separately in sections C and D, below.

42
43 **TLUDC 2.500(2)(c)**

1 *“That traffic congestion is avoided, pedestrian and vehicular safety are protected, and*
2 *future street right-of-way are protected.”*
3

4 The proposed facility is accessed from Wipper Road, which borders the facility site to the west.
5 Wipper Road is a minor collector, with a capacity of approximately 10,000 Average Daily Trips
6 (“ADT”). It is currently operating at approximately 10% of its maximum capacity, with
7 approximately 1,400 ADT. TEC LLC’s Traffic Impact Analysis (“TIA”) establishes that Wipper
8 Road has adequate capacity for construction access and operational traffic for the facility. During
9 construction, heavy haul rail deliveries would be made to the site on the rail spur, which would
10 further prevent traffic congestion.

11
12 The TIA and Marion County initially recommended widening Wipper Road for improved safety
13 in the immediate vicinity of the proposed facility. However, Marion County, which has
14 jurisdiction over Wipper Road, subsequently concluded that traffic safety issues would be better
15 served by replacing the existing Wipper Road Bridge, which crosses the Turner Bypass, and is
16 located within the City immediately north of the site. The Wipper Road Bridge was inspected by
17 ODOT in September of 2000. The bridge has a sufficiency rating of 75.5, which is "good." It has
18 a load capacity of 44 tons, which is "adequate." The bridge has 24.6 feet of pavement width,
19 which accommodates two full travel lanes.

20
21 At the County’s request, TEC LLC agreed to substitute replacement of Wipper Road Bridge for
22 widening of Wipper Road. TEC LLC has agreed that the bridge would be replaced during the
23 first summer construction season after bridge permits are approved and TEC LLC has completed
24 financial closing for the proposed facility. Prior to completion of the bridge replacement,
25 industrial truck deliveries to the proposed facility site would be diverted to other routes to avoid
26 the existing bridge.

27
28 TEC LLC’s agreement to replace the existing Wipper Road Bridge, and TEC LLC’s intention to
29 reduce heavy haul traffic on existing roads by using the proposed rail spur for deliveries of heavy
30 loads, would reduce the potential for safety-related traffic impacts. While trips by workers would
31 result in a noticeable increase in traffic flow during construction of the proposed facility, the
32 increase would be within acceptable levels of service, and not result in undue congestion
33

34 Pedestrian traffic is not expected due to the location of the energy facility site at the outer edge of
35 the UGB and the absence of any pedestrian attractions such as schools, parks or shopping. The
36 energy facility would have internal access control through a security gate. A secondary
37 emergency access would be provided to the energy facility, from the south through a locked gate.
38

39 The 115-kV electric transmission line would be located above the 20.1-foot minimum height
40 clearance standard of the National Electrical Safety Code. The line is projected to be
41 approximately 45 feet above grade. The transmission towers would be in the right-of-way of 4th
42 Street and outside the travel lanes. No future street rights of way are planned for the facility site.
43

44 Based on the foregoing discussion and the conditions proposed in Section D.13, Public Services,
45 of this Order, the Department recommends the Council find that the improvements to the Wipper

1 Road Bridge would prevent traffic congestion accessing the site; that no further improvements to
2 Wipper Road, or the Wipper Road right-of-way are necessary to avoid congestion; and that
3 pedestrian and vehicular safety are protected, in compliance with this criterion.
4

5 **TLUDC 2.500(2)(d)**
6

7 *“That proposed signs or lighting will not, by size, location or color, interfere with traffic,
8 limit visibility or impact on adjacent properties.”*
9

10 TEC LLC would place a sign at the main entrance to the energy facility site that would have
11 minimal lighting. No light at the facility would exceed the commonly used standard of five foot-
12 candles within 50 feet of the base of the light. The on-site lighting would be high-pressure
13 sodium, which is off white/yellow in color. Any nighttime lighting would be restricted to that
14 needed for operational safety and security. Exterior lights would be hooded, and lights would be
15 directed on-site so that significant off-site light or glare would not be created.
16

17 For areas where lighting is not required for normal operation, safety, or security, switched
18 lighting circuits or motion detectors would be used, minimizing the amount of lighting
19 potentially visible off-site. Landscaping planned around the property boundaries would provide
20 some screening of the facility’s required night lighting, particularly in views from areas located
21 close by. TEC LLC would also own the adjacent residentially-zoned property from the north
22 boundary of the energy facility site to the Turner Bypass. The dense vegetation along the Turner
23 Bypass would provide further screening. TEC LLC would also own the EFU land to the
24 northwest, west, southwest, and south so any lighting impacts would be further mitigated by
25 these buffer areas. The vacant property to the east, across the Union Pacific Railroad, is zoned
26 M-1 and is not a light-sensitive property.
27

28 The Department recommends that the Council find that TEC LLC has satisfied this criterion and
29 further recommends that the Council adopt the following conditions in the site certificate:
30

- 31 **(2) The certificate holder shall place any sign located at the main entrance to the**
32 **facility in a manner that requires no more than minimal lighting.**
33
- 34 **(3) The certificate holder shall design the lighting for the facility to ensure that:**
35 **(a) No light exceeds five foot-candles within 50 feet of the base of the**
36 **light;**
37 **(b) Night time lighting is restricted to that needed for operational safety**
38 **and security;**
39 **(c) Exterior lights are hooded and lights are directed on site to limit off-**
40 **site light or glare; and**
41 **(d) In areas where lighting is not required for normal operation, safety or**
42 **security, switched lighting circuits or motion detectors are employed**
43 **to minimize off-site light.**
44

1 **(4) As part of its application for a building permit, the certificate holder shall**
2 **provide to the City of Turner its final lighting plan.**

3
4 **TLUDC 2.500(2)(e)**

5
6 *“That adequate water, sewage disposal system and utilities for the proposed use are*
7 *available.”*

8
9 TEC LLC has proposed to furnish its process water through its water rights, which are adequate
10 to serve the need. (*See* ASC Amendment #2, Water Supply.)

11
12 TEC LLC has proposed two alternatives for the provision of its potable water and its sewage
13 disposal system. TEC LLC's first option is to hook up to the City for its potable water and
14 sewage disposal for both process wastewater and sanitary wastewater. The second option, if no
15 agreement can be reached with the City to provide such services, is to obtain potable water by
16 treating water obtained through water rights owned by TEC LLC and delivered by the SWCD
17 and to provide its own on-site systems for process and sanitary wastewater.

18
19 With regard to the first alternative, the City has represented that it has the capacity available in
20 both its water system and sewer system to provide the service required. In addition, the City of
21 Salem, which operates the City of Turner's sewage system, has indicated that the additional
22 wastewater load from the energy facility could be accommodated by the City of Salem's
23 wastewater treatment facility. Wastewater would be discharged into the City of Turner collection
24 system and pumped to the City of Salem's Willow Lake Treatment Plant along with the other
25 effluent generated in the City of Turner.

26
27 If an agreement cannot be reached with the City to provide the water and sewer service, TEC
28 LLC's proposed alternative is to use separate on-site systems for its process and sanitary
29 wastewater. The process wastewater would be run through a reverse osmosis and crystalizer
30 system, resulting in water that would be reused and a salty sludge that would be transported to a
31 landfill. At DEQ's direction, the sanitary wastewater would be disposed of in an on-site
32 bottomless sand filter system rather than in a standard on-site treatment system because of the
33 high, permanent water table at the site. Such a system would require a state Water Pollution
34 Control Facilities permit and would be regulated by DEQ.

35
36 Franchise providers provide other franchise utilities, *e.g.*, solid waste collection, telephone, and
37 cable, to properties within the city limits. The energy facility would receive those utilities by
38 extension of necessary lines. The facility would not have a significant impact on those utilities.

39
40 The Department recommends that the Council find that this criterion can be met for all utilities
41 with either of the proposed alternatives for water and sewage disposal. The Department further
42 recommends that, as a condition of the site certificate, the Council require TEC LLC to elect
43 which alternatives for water and sewage disposal it will implement, and to obtain all necessary
44 permits and agreements for the selected alternatives, as required by Conditions D.2(6) and
45 D.2(7).

1
2 **TLUDC 2.500(2)(f)**
3

4 *“That drainage-ways are protected and drainage facilities provided.”*
5

6 An existing drainage-way along Wipper Road borders the energy facility site to the west. The
7 application initially included a proposal to widen Wipper Road and to relocate portions of the
8 drainage-way along the road. However, as discussed above, Marion County has requested that
9 TEC LLC replace the Wipper Road Bridge rather than widen Wipper Road. As a result, the
10 drainage-way fronting the proposed energy facility site would remain in place. TEC LLC would
11 modify and protect the drainage-way at the Wipper Road Bridge as part of the bridge
12 replacement. Just south of the energy facility, the Wipper Road drainage-way turns east and
13 connects with a north-south ditch along the railroad tracks. A culvert would be installed during
14 construction along the east-west section of the ditch to allow the ditch to flow under the
15 secondary access road.
16

17 A small ditch, about 200 feet in length and running east-west along the driveway of an existing
18 residence on the proposed site, runs into the Wipper Road drainage-way. This small ditch is not
19 part of the City’s storm water drainage system. It is a shallow ditch that drains localized storm
20 water runoff. TEC LLC proposes filling the shallow ditch and mitigating for it as part of the
21 wetland mitigation plan.
22

23 The proposed energy facility site would include an on-site storm water drainage system that
24 requires National Pollution Discharge Elimination System (“NPDES”) permits for both
25 construction and operation. The facility’s storm water runoff from non-industrial areas would be
26 separated from runoff from industrial and chemical storage areas. The industrial storm water
27 would have an industry standard oil/water separator installed. In addition, storm water runoff
28 would be routed through a holding pond with a valved outlet subsequent to treatment to further
29 minimize the potential for contaminated runoff from the energy facility site. Storm water would
30 be discharged from the holding pond to the existing Wipper Road drainage-way that drains into
31 the Turner Bypass and ultimately into Mill Creek or to a newly created wetland as part of the
32 facility’s wetlands mitigation plan.
33

34 The electric transmission line and towers would not affect any delineated drainage-ways, and the
35 towers would be placed outside the riparian areas. TEC LLC would use PGE’s existing corridor
36 over Mill Creek for the 115-kV line.
37

38 The Department recommends that the Council find that, subject to compliance with the wetlands
39 mitigation plan and adoption of conditions set forth in Section E.1.b, Wetlands, of this Order,
40 and subject to obtaining the required NPDES permits, the facility would not have a significant
41 adverse impact on existing drainage-ways and would provide systems for managing storm water
42 runoff, in compliance with this criterion.
43

44 **TLUDC 2.500(2)(g)**
45

1 *“That the extent of emissions and potential nuisance characteristics are compatible with*
2 *the land use zone, adjacent land uses, and the standards of all applicable regulatory*
3 *agencies having jurisdiction.”*
4

5 Air quality, noise, lighting, electromagnetic fields, ammonia, visual impairment, and dust have
6 all been identified as emissions or potential nuisance characteristics associated with electrical
7 generating facilities.
8

9 Air Quality

10 DEQ issued an air permit for the proposed facility on January 5, 2005. The facility would be
11 required to comply with all air quality standards established by DEQ and EPA, using the best
12 available control technology. A significant part of the DEQ air permitting process is the
13 performance of an air quality impact analysis that examines the worst-case impacts of the air
14 emissions from the facility not only on adjacent property but also within a 200-kilometer radius
15 of the facility. Based on computer modeling, the predicted ambient levels caused by the facility
16 are sufficiently below the ambient air quality standards that they are considered to be
17 insignificant by DEQ and EPA. DEQ, EPA and Federal Land Managers (U.S. Park Service and
18 U.S. Forest Service) reviewed this modeling as part of the air permit application process.
19

20 Noise

21 The facility would be required to comply with DEQ and TRC noise regulations. For further
22 discussion of how TEC LLC would meet the noise standards. *See* Section III. D of this Land Use
23 Standard Analysis regarding compliance with TRC 5.21.03(c), and Section E.1.a, Noise, of this
24 Order regarding compliance with the DEQ noise regulations.
25

26 Lighting

27 *See* discussion of compliance with TLUDC 2.500(2)(d) under Section III.D of this Land Use
28 Standard Analysis.
29

30 Electromagnetic Fields

31 The 230-kV loop would be constructed with phasing arranged to provide cancellation of the
32 electromagnetic fields (“EMF”). TEC LLC would own the land over which the 230-kV electric
33 transmission line passes, together with buffer area to the north and south of that corridor. The
34 configuration of the 115-kV electric transmission line results in a lower field than the phasing
35 that currently runs on the residential side of 4th Street. The existing PGE local distribution lines
36 and towers located on the residential west side of 4th Street would be relocated to the industrial
37 east side of 4th Street. All electric transmission lines would exceed the minimum height
38 clearances recommended by the National Electrical Safety Code, thereby further reducing EMF.
39 *See* also Section E.1.c., Public Health and Safety, of this Order.
40

41 Ammonia

42 Aqueous ammonia would be used for the control of NO_x in the energy facility’s SCR system.
43 Shipping and transport of the ammonia would be coordinated with the City of Turner, the Turner
44 Fire District, and State Fire Marshall, as well as with the Oregon Department of Transportation,
45 to establish the safest and preferred route into the energy facility for proposed shipments. The

1 ammonia would be stored as a liquid in tanks near the HRSGs in two stationary, above ground,
2 storage tanks. The capacity of each tank would be about 20,000 gallons, but each tank would be
3 limited to storing a maximum of 17,000 gallons -- or 36,900 pounds -- of ammonia.
4

5 The tanks would be located within a secondary containment area, meeting the requirements of
6 Article 80 of the Uniform Fire Code. The secondary containment area would consist of a
7 reinforced concrete structure, including tank foundations and walls, with a volume sufficient to
8 hold the full contents of a single tank. The floor of the containment structure would be sloped to
9 a trench located between the two tanks. The trench, in turn, would be sloped to drain to a single
10 sump, also located within the containment area. There would be no external drain within this
11 sump.
12

13 Electric vaporizers would be used to convert liquid ammonia to a gaseous phase for use in the
14 HRSGs. The storage tanks would be equipped with tank level and pressure monitors and alarms.
15 Excess flow valves would be provided on storage tank piping connections to automatically shut
16 off the flow of ammonia in the event of a significant leak in the ammonia piping. An ammonia
17 gas detection and alarm system would be provided on the tank fill and process outlet lines,
18 allowing the valves to be remotely closed in the event of a leak in the piping. An ammonia gas
19 detection and alarm system would be provided for the ammonia unloading and storage area. The
20 ammonia storage tanks would be equipped with excess-capacity, bermed containment systems.
21

22 Visual

23 The energy facility site is designated and zoned for industrial use, and is located at the City's
24 southern boundary, as far south as possible on the proposed site. Existing vegetation along Mill
25 Creek and the Turner Bypass would help provide a visual buffer of the energy facility from the
26 north. TEC LLC would own the land from the energy facility site north to the Turner Bypass.
27 Existing industrial sites to the east also create visual buffer, as would the dense landscaping
28 required for the perimeter of the site. TEC LLC would own the three rural residences within
29 about 2,000 feet south, northwest and west of the energy facility site. To the east, across the
30 railroad tracks, the property is designated for Industrial Use.
31

32 Because the proposed facility will be water-cooled, there will be a visible steam plume. The
33 effect of that plume is described in this Order at Section D.7, Protected Areas, Section D.10,
34 Scenic and Aesthetic Values, and Section D.12, Recreation. As discussed in this Order with
35 regard to each of those standards, the plume would not have a significant adverse visual impact.
36

37 Dust

38 Construction would cause typical dust control issues. TEC LLC would spray water for dust
39 abatement during construction to reduce or eliminate any nuisance to adjacent land uses.
40

41 Compliance with Regulatory Standards

42 Compliance with all applicable local, state and federal standards would be required, as discussed
43 throughout this Order.
44

1 The Department recommends that the Council find that this criterion can be satisfied, subject to
2 the adoption of conditions set forth throughout this Order.

3
4 **TLUDC 2.500(2)(h)**

5
6 *“That the characteristics of the proposed development are compatible with the land use*
7 *zone, the surrounding area and potential impacts have been mitigated to the maximum*
8 *extent possible.”*
9

10 Compatibility with the Zone

11 The energy facility site is zoned M-1, which is intended for industrial development. The facility
12 and its related or supporting facilities constitute industrial development compatible with the M-1
13 zone. See discussion at Section III.A. of this Land Use Standard Analysis.

14
15 Uses in the Surrounding Area

16 The energy facility site is bordered on the west by Wipper Road, which runs north-south along
17 the entire site boundary. Across Wipper Road, land to the northwest, southwest, south, and west
18 of the energy facility site are EFU-zoned farms and are located in Marion County, outside the
19 Turner UGB. The parcel located northwest of the energy facility site is approximately 50 acres
20 and would be owned by TEC LLC and used as a buffer area. TEC LLC would also own the 20-
21 acre EFU parcel immediately to the west, which would be used for the 230-kV electrical
22 transmission line easement and as a buffer area. To the southwest is an approximately 65-acre
23 EFU parcel that TEC LLC would also own and use as a buffer area. The Union Pacific Railroad
24 runs north-south immediately to the east of the energy facility site. East of the railroad is vacant,
25 M-1 zoned land, inside the city limits. The land to the southeast, cross the railroad tracks, is in
26 farm use. To the immediate south of the energy facility site is approximately 47 acres of EFU
27 land outside the UGB. TEC LLC would own this land and, following construction, would use it
28 as a buffer area. During construction, it would be used in part for laydown and parking. Further
29 south are farms, zoned EFU. The property to the north of the energy facility site and south of the
30 Turner Bypass and Perrin Lateral is inside the city limits and zoned R-2. This land would be
31 owned by TEC LLC and used as a buffer area. North of the Turner Bypass, inside the city, is a
32 mix of industrial and residential uses on property zoned M-1 and R-2.

33
34 In total, TEC LLC would own approximately 200 acres of buffer area surrounding the energy
35 facility site. All of the EFU land owned by TEC LLC surrounding the energy facility site would
36 be available for continued farm use, in addition to serving as buffer areas. A map showing all
37 the property TEC LLC would own as buffer area is shown in the TEC Revised ASC, January
38 2003, Exhibit C, Attachment C-3.1.

39
40 Mitigation

41 Potential impacts from the facility are visual impairment, noise, air and water quality
42 degradation, and adverse effects to fish and wildlife and their habitat. To mitigate visual impacts,
43 TEC LLC would paint the energy facility earth and sky tones to blend into the viewscape.
44 Landscaping would be required to add to existing buffer vegetation.

1 TEC LLC would obtain required air, water, wetland removal/fill and other permits, and
2 mitigation would be required where necessary to address noise, air, water quality, and impacts on
3 fish and wildlife and their habitat. Mitigation requirements with regard to each of these potential
4 impacts are addressed in the findings related to each of the potential impacts. To ensure
5 compliance, the Department recommends that the Council adopt each of those mitigation
6 measures as conditions of the site certificate *See* Order, Sections D.7, Protected Areas; D.8, Fish
7 and Wildlife Habitat; D.9, Threatened and Endangered Species; E.1.a, Noise; and E.1.b,
8 Wetlands, and conditions recommended for adoption in each of those sections.
9

10 Based on the foregoing discussion, the Department recommends that the Council find that the
11 proposed facility can comply with this criterion and that impacts can be mitigated, subject to
12 compliance with recommended conditions in Sections D.7, Protected Areas, D.8, Fish and
13 Wildlife Habitat, D.9, Threatened and Endangered Species, E.1.a, Noise, and E.1.b, Wetlands, of
14 this Order. In addition, the Department recommends that the Council adopt the following
15 condition in the site certificate:
16

- 17 **(5) The certificate holder shall maintain in continued farm use all of the EFU-**
18 **zoned land owned by the certificate holder and acquired as a buffer.**
19

20 **B. Turner Comprehensive Plan**
21

22 **Open Spaces, Scenic Areas and Cultural and Natural Resources**
23

24 Goal 4: *“To protect fish and wildlife resources and habitats.” (Comp. Plan, 10-3)*
25

26 Policies:
27

28 Fish and Wildlife Resources, #3 (Comp. Plan 10-4)
29

30 *“In evaluating discretionary land use, the City shall consider the effect of the*
31 *proposed use upon identified fish and wildlife habitat. Conflicting uses are to be*
32 *prohibited unless satisfactory mitigation measures are provided.”*
33

34 As discussed in this Order, TEC LLC has proposed a terrestrial wildlife mitigation plan
35 acceptable to ODFW; a mitigation plan for water use acceptable to ODFW; and a wetlands
36 mitigation plan acceptable to both ODFW and DSL. The Department has recommended
37 conditions in this Order to ensure the adequacy of the mitigation plans. The facility would
38 require a removal/fill permit for its proposed wetlands work *See* Order, Sections D.8, Fish and
39 Wildlife Habitat; D.9, Threatened and Endangered Species; and E.1.b, Wetlands.
40

41 Air Quality and Noise Control, #1 (Comp. Plan 10-4)
42

43 *“All development within the City shall adhere to applicable federal and state air*
44 *and noise quality standards.”*
45

1 The DEQ Noise Standards, set forth at OAR Chapter 340, Division 35, require that there be no
2 more than a 10 dBA increase over the pre-existing ambient level, which is measured from the
3 nearest noise sensitive receptor at the lowest nighttime hours, excluding noise spikes. TEC LLC
4 has established that the proposed facility would satisfy this standard. TEC Revised ASC, January
5 2003, Exhibit X and Exhibit K, Table K-T.1. The Turner Noise Ordinance, at TRC Section 5.20
6 adopts the DEQ noise level standards, but takes the measurements from the property line of the
7 proposed activity. Applicability and compliance with that ordinance is addressed below at
8 Section III.D of this Land Use Standard Analysis, regarding compliance with TRC 5.21.03(c).

9
10 DEQ air quality standards require the facility to have a Prevention of Significant Deterioration
11 Permit from EPA and an Air Contaminant Discharge Permit from DEQ before operation is
12 allowed. Thereafter, ongoing operations are monitored by DEQ/EPA under the Operating Permit.
13 Exhibit Y demonstrates how TEC LLC would mitigate its carbon dioxide emissions in
14 accordance with DEQ standards. Air emissions from the facility would comply fully with all
15 DEQ and EPA air quality regulations.

16
17 The Department recommends that the Council find that TEC LLC can comply with necessary
18 federal and state air and noise quality regulations, subject to obtaining required air quality
19 permits from DEQ and EPA and subject to conditions recommended in Sections E.1.a, Noise,
20 and D.15, Carbon Dioxide Standard for Base Load Gas Plants, of this Order.

21
22 Air Quality and Noise Control, #4 (Comp. Plan 10-4, 10-5)

23
24 *“The City will require the separation and/or buffering of potential sources of*
25 *noise from residential areas and will give consideration to the potential for noise*
26 *pollution when approving street design.”*

27
28 The proposed facility is located in an industrial zone, which is identified in the City’s noise
29 ordinance as a “high impact area” from which noise sensitive uses should not encroach. The
30 proposed facility borders residentially-zoned properties to the north, and TEC LLC has proposed
31 a buffer between the proposed facility and residential development north of the Turner Bypass.
32 This policy is further implemented through the City’s Noise Ordinance (TRC Section 5.20). *See*
33 *Section E.1.a. DEQ Noise Standards, and Section III.D of this Land Use Standard Analysis*
34 *regarding the Turner Noise Ordinance, TRC 5.21.03(c). The proposed facility does not require*
35 *approval of any street design, And the two proposed internal access drives would derive access*
36 *from Wipper Road to the west, away from residentially-zoned properties, thus obviating any*
37 *potential for street-related noise pollution.*

38
39 Water Quality, #1 (Comp. Plan. 10-5)

40
41 *“All development within the City shall adhere to applicable federal and state*
42 *water quality standards.”*

43
44 As discussed in this Order, TEC LLC would either hook up to the City’s water and sewer system
45 or it would produce its own potable water and handle its wastewater with on-site facilities. TEC

1 LLC would follow state and federal water quality standards in providing on-site systems,
2 including obtaining a WPCF permit for a proposed on-site sanitary sewer system. TEC LLC
3 would also obtain NPDES permits for its storm water runoff. *See* Section E.1.d, Water Pollution
4 Control Facilities Permit for Sanitary Waste, and Section D.6, Soil Protection, of this Order.

5
6 Water Quality, #7 (Comp. Plan, 10-5)
7

8 *“The City recognizes the potential for groundwater contamination due to the*
9 *existence of a shallow alluvial aquifer present throughout the low-lying areas of*
10 *Turner. Groundwater impacts shall be considered when reviewing new*
11 *development proposals.”*
12

13 If the energy facility connects to the City's wastewater disposal system, groundwater would be
14 protected because all mains and private service lines would be sealed systems to prevent
15 discharge. Buried pipeline would be designed to account for the groundwater table and thrust
16 blocks or ground anchors would be installed if necessary. Alternatively, the energy facility
17 would include an on-site system for handling process wastewater, which would recycle water
18 and create a sludge waste. While the waste is stored on site, it would be placed in appropriate
19 containers to prevent any contaminants from leaching into the ground. Waste would be hauled to
20 an appropriate waste facility. Spill kits containing items such as absorbent pads would be located
21 on-site to respond to any spills.
22

23 The Department recommends that the Council find that the applicable Open Space, Scenic Areas
24 and Cultural and Natural Resources Plan goal and policies can be satisfied, subject to compliance
25 with recommended conditions in Sections E.1.d., Water Pollution Control Facilities Permit for
26 Sanitary Waste, and D.6, Soil Protection, of this Order.
27

28 **Economic Development (Comp. Plan 10-6)**
29

30 Goals:
31

- 32 “1. *To provide an atmosphere conducive to economic activity.*
33 “2. *To achieve diversification of Turner's economic base.”*
34

35 Policies:
36

- 37 “1. *The City will encourage the development of those economic activities which place*
38 *a minimal burden upon the city water supply and which have minimum sewage*
39 *disposal requirements.”*
40

41 If TEC LLC connects to the City water supply, it would require the City to provide only potable
42 water, not process water, which is anticipated to be, on average, 1.26 gallons per minute. Both
43 the City of Turner and the City of Salem have indicated that the energy facility's water and sewer
44 needs can be met. The City of Turner has issued a Will-Serve letter to TEC LLC (ASC
45 Supplement, Rev. 3-2, September 2003, Exhibit O, Attachment O-10), though the City and TEC

1 LLC have not reached an agreement regarding the provision of those services. If TEC LLC
2 receives both its potable and process water through its water rights, it would place no burden on
3 the City water supply. Likewise, if TEC LLC builds an on-site sewage system, it would place no
4 burden on City services.

5
6 “3. *The City will encourage the expansion and diversification of the economic base.*”
7

8 The facility would provide employment opportunities for up to 500 workers during the peak
9 construction phase, and would require 20-25 full time employees for the facility’s ongoing
10 operation after construction. Such employment opportunities are not generally available within
11 the City. TEC LLC estimates the property tax revenue from the facility would increase the
12 current City general fund budget by seven fold.

13
14 The Department recommends that the Council find that the proposed facility satisfies the
15 applicable Comprehensive Plan Economic Development goals and policies.

16
17 **Public Facilities and Services (Comp. Plan 10-9)**

18
19 Goal:

20
21 *“To provide for the timely, orderly, and efficient development of public facilities and*
22 *services to serve as a framework for future community growth and development.”*
23

24 Policies:

25
26 Water System, #2 (Comp. Plan 10-10)

27
28 *“Future developments are required to install distribution lines that will provide a*
29 *maximum and minimum water pressure and flow for the proposed use and future*
30 *uses, at the discretion of the City Engineer.”*
31

32 TEC LLC would construct an 8-inch diameter underground water supply line to connect to the
33 City of Turner water system on the north side of the Turner Bypass at the corner of 5th Street
34 and Elgin Street. In accordance with the planned Phase III improvements in the City of Turner's
35 Water System Master Plan (April 1999), TEC LLC would also construct an 8-inch diameter
36 underground water supply line along 5th Street from Chicago Street to Elgin Street, and then
37 along Elgin Street from 5th Street to 4th Street.

38
39 A private wastewater pump station and force main would be constructed to lift wastewater to the
40 north to the public system in 5th Street. The exact alignments of wastewater and water supply
41 line extensions, and the location of the pump station, would be determined during the design and
42 engineering phases of the energy facility. TEC LLC would enter into a Development Agreement
43 with the City of Turner that clearly outlines TEC LLC's responsibility for extension of these
44 utilities to the energy facility site and identifies those elements that would become part of the

1 public system. TEC LLC and the City would enter into this Development Agreement before
2 construction of extensions begins.

3
4 To ensure compliance with this proposal, the Department recommends that the Council adopt the
5 following condition in the site certificate:

- 6
7 **(6) If the certificate holder elects to connect to the City of Turner’s water**
8 **system, before beginning construction of the facility, the certificate holder**
9 **shall enter into a Development Agreement with the City of Turner that**
10 **clearly defines the measures the certificate holder must take to extend**
11 **utilities to the energy facility site and identifies the elements of the system**
12 **that will become part of the public system.**

13
14 If TEC LLC does not connect to the City's water system, this policy is inapplicable.

15
16 Storm Drainage, #1 (Comp. Plan 10-10)

17
18 *“Future developed areas shall be provided with an adequate storm drainage*
19 *system with full costs being borne by the developer.”*

20
21 On-site storm water drainage facilities would be provided as part of the facility. The facility's
22 storm water runoff from non-industrial areas would be separated from runoff from industrial and
23 chemical storage areas. The industrial storm water drainage facilities would include an industry
24 standard oil/water separator. In addition, to further minimize the potential for contaminated
25 runoff from the energy facility site, subsequent to treatment storm water runoff would be routed
26 through a holding pond with a valved outlet. Storm water would be discharged from the holding
27 pond to the existing Whipper Road ditch that drains into the Turner Bypass and ultimately into
28 Mill Creek or to a newly created wetland as part of the facility’s wetlands mitigation plan.

29
30 Solid Waste and Hazardous Waste Management, #4 (Comp. Plan 10-11) (K-89)

31
32 *“All development within the City shall adhere to applicable Federal and State*
33 *solid waste and hazardous waste regulations.”*

34
35 *See discussion in Section D.14, Waste Minimization, of this Order and recommended conditions.*

36
37 The Department recommends that the Council find that the proposed energy facility can satisfy
38 the applicable Public Facilities and Services goal and policies, subject to compliance with the
39 condition discussed above, and subject to obtaining identified permits as required by
40 recommended Condition D.2(6) of this Order.

41
42 **Land Use (Comp. Plan 10-12)**

43
44 Goal #1:

1 *“To create and maintain an efficient and aesthetically pleasing working and living*
2 *atmosphere for city residents.”*

3
4 Policies:

5
6 Industrial Land Use, #3 (Comp. Plan 10-13)

7
8 *“The City will require industrial uses to locate so as to minimize any adverse*
9 *social, economic and environmental impacts.”*

10
11 The energy facility is located in the very southern portion of the City limits on M-1 zoned
12 property. This location reduces impacts to the area. The undeveloped property between the
13 Turner Bypass and the energy facility site would serve as a buffer area from the residential area
14 north of the Turner Bypass. The buffer would also reduce the visual impact of the energy facility
15 on the area by means of separation and vegetation, as well as serve as a wetlands mitigation area.
16 Its location would not create adverse economic impacts, but rather, as discussed above, with
17 regard to the City’s economic development goal (Comp Plan 10-6), the energy facility would
18 benefit the economic base of the City of Turner. The energy facility site and related or supporting
19 facilities have a low risk of seismic or geologic hazard. *See* discussion in Section D.5, Structural
20 Standard. The environmental impacts would be avoided or mitigated. *See* discussion in Section
21 D.8, Fish and Wildlife Habitat; Section D.9, Threatened and Endangered Species; and Section
22 E.1.b, Wetlands.

23
24 The Department recommends that the Council find that the proposed facility can satisfy the
25 applicable Land Use goal and policy, subject to compliance with recommended mitigation
26 conditions in section E.1.b, Wetlands, of this Order.

27
28 **Development Limitations (Comp. Plan 10-13)**

29
30 Goal:

31
32 *“To protect life and property from natural disasters and hazards.”*

33
34 Policies:

35
36 Flood Hazard, #4 (Comp. Plan 10-14)

37
38 *“The City will not permit new development to obstruct the flow of a natural*
39 *drainageway.”*

40
41 There are no natural drainage-ways in the interior of the energy facility site. The facility would
42 not obstruct the Perrin Lateral, the Turner Bypass, Mill Creek, or McKinney Creek.

43
44 Land Capability, #4 (Comp. Plan 10-14)

1 *“The City will require utilities such as power, water, and waste*
2 *disposal/treatment facilities be readily available and adequately sized prior to*
3 *construction of industrial buildings or operating systems.”*
4

5 Public facilities are available and would be extended to the facility site at TEC LLC's expense if
6 an agreement is reached with the City to provide water and waste disposal/treatment facilities.
7 The state WPCF permit required for an on-site sanitary wastewater disposal system would set the
8 requirements for an adequately-sized system. Utility requirements have either been reviewed in
9 this Order or would be reviewed as part of local or state requirements outside of this site
10 certificate prior to construction.

11
12 The Department recommends that the Council find that the proposed facility can satisfy the
13 applicable Development Limitations goal and policies, subject to compliance with recommended
14 conditions in Section E.1.d, Water Pollution Control Facilities Permit for Sanitary Waste, of this
15 Order.

16 **C. Turner Land Use Development Code**

17 **TLUDC 4.141(4) General Industrial District Development Standards**

18 **TLUDC 4.141(4)(a)**

19 *“Minimum lot area and configuration – Lots within a General Industrial District are*
20 *approved by the Planning Commission as part of the Site Plan Review procedures of*
21 *Sections 2.400. Lots are required to be large enough to accommodate the building,*
22 *sewage disposal system, required parking, service access and pedestrian circulation*
23 *including persons with disabilities.”*
24
25
26
27
28

29 The energy facility site would be about 41 acres in size and would house multiple components,
30 including the generation components, rail spur, water and wastewater treatment facilities, office
31 buildings, parking area, service access and pedestrian access. The energy facility site is large
32 enough to meet the City’s minimum lot area and configuration requirements.
33

34 The 5th Street right-of-way and Elgin Street right-of-way can accommodate the public
35 wastewater force main and water supply line extensions.
36

37 The electric transmission lines would be located along 4th Street within PGE's existing 60-foot
38 right-of-way. The right-of-way is large enough to accommodate the electric transmission lines
39 and towers together with improvements required for a local street under the TSP.
40

41 **TLUDC 4.141(4)(b)**

42 “Yards

43 *“1. Exterior yard setbacks – 30 feet. See Section 5.116 for additional street setbacks.*
44

1 “2. *Interior yard setbacks – 50 feet where abutting residential property and zero*
2 *where abutting commercial or industrial property subject to the requirements for*
3 *building construction specified in the Oregon Structural Specialty Code.”*
4

5 The northern boundary of the energy facility site is the only boundary that abuts residentially-
6 zoned property, and the setbacks are more than 50 feet, in compliance with this requirement.
7

8 **TLUDC 4.141(4)(c)**
9

10 *“Maximum Building Height – 45 feet unless a greater height is approved by the Planning*
11 *Commission with conditions of approval as part of the Site Plan Review procedures of*
12 *Section 2.400.”*
13

14 Several structures within the energy facility would exceed 45 feet in height. The top of the
15 generation building would be 105 feet. The platform for each of the HRSGs would be 80 feet and
16 the top of the relief valves would be 108 feet. The top of the cooling tower would be about 60
17 feet. The two HRSG stacks would be 155 feet tall. Electric transmission line towers would be
18 between 56 and 70 feet tall.
19

20 This standard regulates only the height of “buildings.” The term "building" is defined as "[a]ny
21 structure used or intended for supporting or sheltering any use or occupancy" in the City’s code.
22 TLUDC 1.200. Each of the structures exceeding the 45-foot height limitation satisfies this
23 definition of “building.” However, the Building Height Standards in TLUDC 5.111 specifies
24 that, “Vertical projections such as chimneys, spires, domes, elevator shaft housings, tower
25 aerials, flagpoles and similar objects not used for human occupancy shall not exceed the building
26 height limitations of the Code by more than ten (10) feet.” The proposed electric transmission
27 towers fit within this definition of “vertical projection” and, therefore, would be permitted to
28 exceed the 45-foot height limit by 10 feet. The proposed height of those towers nonetheless
29 exceeds that height limit as well.
30

31 As recited above, TLUDC 4.141(4)(c) specifies that the 45-foot height restriction may be
32 exceeded if approved through the site plan review process found in TLUDC 2.400(2). Under
33 TLUDC 5.020, the standards of TLUDC 5.111 may be adjusted “to provide an efficient land
34 division or a more efficient utilization of property” when the adjustment is requested “under the
35 city’s review and approval procedures.” The site plan review process provides a city review and
36 approval process for evaluation of an adjustment to the height limit of TLUDC 5.111 as well as
37 to the height limitations under TLUDC 4.141.(4)(c).
38

39 The site plan review process does not appear to provide specific criteria for determining whether
40 a proposed development should be allowed to exceed the building height restrictions. Rather,
41 that process requires evaluation under the same criteria as required for evaluation of conditional
42 use permit applications. The City’s code also contains criteria for a variance that contains criteria
43 by which modifications to code provisions can be evaluated. The process specified in TLUDC
44 4.141(4)(c) indicates that the city does not intend requests for increases in height to be processed
45 as variances. However, in order to provide a context in which to evaluate the increased heights

1 requested, the variance criteria of TLUDC 2.600(2) are instructive. In general, those criteria
2 consider the special circumstances affecting the property or proposed use, including: the
3 necessity of the modification “for the proper design and/or function of the proposed use; the
4 impact of the modification on the public welfare and other surrounding properties; and the
5 consistency of the modification on the purpose and intent of the zone in which the use is located.
6 The Department recommends that the Council evaluate the requested heights using the variance
7 standards as context in which to evaluate the proposed heights. In a resolution dated October 23,
8 2003, the City of Turner appears to state that it would not approve a variance for the requested
9 heights because the heights, along with other facility components, violate the spirit and intent of
10 the City’s land use codes.

11
12 The proposed energy facility must have equipment and buildings that are larger than 45 feet in
13 height in order to conduct the operations inherent to the proposed use. The requested heights are
14 necessary for the proper design of the energy facility. In order to achieve the lowest noise levels
15 practical, the energy facility is designed to house most of the equipment indoors, which increases
16 building heights. Additionally, the stacks must be of sufficient height to distribute airflow to
17 higher atmospheric elevations and to provide sufficient elevation for installation of
18 environmental control measures.

19
20 The facility building heights are also designed, in large part, to protect public safety and the
21 environment. As stated above, by housing the equipment indoors, noise would be decreased. The
22 stacks are designed to be a certain height to reduce air pollution.

23
24 The electric transmission line tower heights are set to accommodate the transmission lines and to
25 place them at a height so that they do not constitute a nuisance, visual impairment, or safety
26 hazard to the public. Transmission tower height was in large part determined based on public
27 safety considerations, because it would lessen the amount of electromagnetic radiation to which
28 the public might be exposed. The towers would be moved away from residences and into the
29 industrial zone, as an added safety measure.

30
31 The energy facility and electric transmission line towers would be located in the M-1 zone. The
32 purpose and intent of the M-1 zone is to allow industrial uses or land in appropriate locations. As
33 stated above, the energy facility and associated transmission lines are industrial uses and heights
34 above 45 feet are inherent features of such uses. Allowing the requested heights of these facilities
35 would further and not conflict with the purpose of the M-1 zone.

36
37 The offsite 115-kV electric transmission line towers are replacements of the existing towers that
38 comply with the purpose and intent of these regulations. Thus, their replacements should comply
39 as well.

40
41 The energy facility and the electric transmission line towers are consistent with the relevant
42 comprehensive plan provisions and other related City ordinances, as discussed in this Order.
43

1 The Department recommends that the Council find TEC LLC has justified the need for heights in
2 excess of 45 feet, and for the electric transmission line towers in excess of 55 feet through this
3 review process.

4
5 In the alternative, the Department considers the Industrial District Development Standards of
6 TLUDC 4.141(4) in the context of the Council’s requirement to evaluate the proposed facility for
7 compliance with those substantive local criteria “that are required by the statewide planning
8 goals.” The City’s development standards regulating height in the industrial district are not
9 required by a Statewide Planning Goals. Therefore, while the above recommended finding
10 indicates that the TEC LLC has justified the requested heights, in the alternative, the Department
11 recommends that the Council determine that the standards regulating height are inapplicable to
12 this review process because they are not required under ORS 469.504(1)(b)(A).

13
14 **TLUDC 4.141(4)(d)**

15
16 *“Access shall be designed to cause a minimum interference with traffic and may be*
17 *subject to the review and approval of the County Engineer or Oregon Department of*
18 *Transportation. The dedication of additional right-of-way and construction of street*
19 *improvements by the applicant may be required in order to facilitate traffic circulation.”*
20

21 The energy facility would be located at the southern edge of the City of Turner. The property is
22 bordered to the west by Wipper Road and by the platted but undeveloped Gaston Street along the
23 northern border. The Union Pacific Railroad borders the property to the east. The main entrance
24 to the facility from Wipper Road would be about 1,600 feet south of Chicago Street. A secondary
25 access point would be located to the south of the facility and would be controlled by a locked
26 gate. Based on TEC LLC’s TIA, the construction and operation of the facility would not cause
27 any unacceptable interference with traffic in the City of Turner. Wipper Road is operating at
28 approximately 10% of capacity, and the proposed facility would not generate sufficient traffic to
29 create an interference with traffic along that Road.

30
31 However, TEC LLC has agreed to Marion County’s request that it replace the Wipper Road
32 bridge, which crosses the Turner Bypass just north of the proposed facility, in order to improve
33 road safety and traffic flow in the area. Prior to and during that replacement construction,
34 construction traffic to the proposed facility would be rerouted to avoid interference with the
35 bridge.

36
37 **TLUDC 4.141(4)(e)**

38
39 *“See Article 5 for additional General Development Standards and Article 6 for Use*
40 *Standards that may apply in the M-1 District.”*
41

42 Article 5 and Article 6 standards are addressed below.
43

1 Based on the foregoing discussion, the Department recommends that the Council find that
2 proposed facility satisfies the applicable General Industrial District Development standards of
3 TLUDC 4.141(4).

4
5 **TLUDC 4.210 Flood Hazard Overlay District**

6
7 **TLUDC 4.210(2)(c)**

8
9 *“New development, including the construction of dwelling units and other structures, is*
10 *not allowed on undeveloped properties within the 100 year floodplain as identified on*
11 *FIRM #410171 0001B dated April 2, 1997 or as may be established on subsequent*
12 *updates unless no practicable, nonfloodplain sites are available. The burden of proof that*
13 *such sites are not available rests with the applicant. A finding that no practicable, non-*
14 *floodplain sites are available must be approved by the City Council to allow floodplain*
15 *development * * **

16
17 The rail spur and about four of the replacement towers for the 115-kV electric transmission lines
18 to the Turner Substation would be within the City's flood hazard overlay district. If TEC LLC
19 determines to connect to the City's water and sewer system, the underground sewer and water
20 supply lines would also be located within the flood hazard overlay district and subject to
21 compliance with these standards. (See discussion at Section III.C of this Land Use Standard
22 Analysis regarding compliance with TLUDC 2.500(2)(e))

23
24 No practical non-floodplain site is available for the location of the 4 towers for the 115-kV
25 electrical transmission lines to the Turner Substation due to the location of the energy facility
26 and of the existing substation. Any feasible route would be within the floodplain, as is the
27 location of the existing towers. The proposed route moves the existing towers from their current
28 location along 4th Street in front of residences to the city's industrial zone.

29
30 The permanent rail spur and a permanent berm would be constructed in a small portion of the
31 100-year floodplain. It was necessary to design the spur with an entry from the south, allowing
32 deliveries to be staged at the area rail hub, Salem, and then dropped at the site by southbound
33 trains. The spur would be located adjacent to the secure northerly equipment staging area. There
34 is no other practicable non-floodplain location on the site for the berm and rail spur.

35
36 The underground sewer and water supply lines will be buried and have no impact on the flood
37 carrying capacity of the flood plain.

38
39 **TLUDC 4.210(2)(d) Flood Hazard Overlay-District Permit Requirements**

40
41 *“A Development Permit shall be required before construction or development begins*
42 *within any Flood Hazard Overlay-District. The permit shall apply to all structures*

1 including manufactured homes and all other development including fill and other
2 activities. * * *”⁶
3

4 **TLUDC 4.210(2)(e)**
5

6 *“The City Administrator is the Permit issuing authority and shall:*

7 *“1. Determine that the requirements of this Code have been satisfied.*

8 *“2. Determine that all necessary permits have been obtained from those federal, state
9 or local governmental agencies from which prior approval is required.*

10 *“3. Review all development proposals to determine if proposed development
11 adversely affects the flood carrying capacity of the area of special flood hazard.
12 For the purposes of this Code, “adversely affects” means damage to adjacent
13 properties because of rises in flood stages attributed to physical changes of the
14 channel and the adjacent overbank areas.*

15 *“a. If it is determined that there is no adverse effect, then the proposal shall
16 be granted consistent with provisions of this Code without further
17 consideration of these effects.*

18 *“b. If it is determined that there is an adverse effect, then flood damage
19 mitigation measures shall be made a condition of the permit.”*
20

21 Flood Hazard Overlay Development Permits are required for all of TEC LLC’s proposed
22 development within the Flood Hazard Overlay zone, which include replacement of four existing
23 electric transmission line towers, the berm for the rail spur, and the installation of the sewer and
24 water supply lines, if necessary,
25

26 Replacement of four existing electric transmission line towers and the installation of the sewer
27 and water supply lines, if necessary, would have no impact on the flood carrying capacity of the
28 floodplain. The berm for the rail spur would be partially located in the floodplain, but TEC
29 LLC’s engineer has concluded that the proposed fill would not increase flood levels during the
30 occurrence of base flood discharge or otherwise negatively affect the property of others because
31 of the wetland mitigation plan that has would be imposed as a recommended condition of the site
32 certificate under Section E.1.b, Wetlands, of this Order. TEC LLC would own the potentially
33 impacted adjacent property south of the Turner Bypass and west of the elevated Union Pacific
34 Railroad. TEC LLC has committed to providing an equal offset on its property and in the
35 unimproved Gaston Street right-of-way to compensate for the fill to be placed in the floodplain.
36

⁶ TLUDC 4.210(2)(d) requires the submission of the following additional information for a Floodplain Development Permit:

1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures.
2. Elevation in relation to mean sea level to which any structure has been floodproofed.
3. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the flood hazard development standards of this Section.
4. Description of the extent to which any water course will be altered or relocated as a result of proposed development.

1 To ensure compliance with this development standard, the Department recommends that the
2 Council adopt the following condition in the site certificate:

- 3
4 **(7) In its application for a Flood Hazard Overlay Development Permit, the**
5 **certificate holder shall demonstrate that it has designed the facility to**
6 **compensate for fill to be placed in the floodplain.**

7
8 **TLUDC 4.210(2)(f)**

9
10 *“In approving or disapproving a Flood Hazard development proposal, the Planning*
11 *Commission shall also consider all technical evaluations, all relevant factors, standards*
12 *specified in other section of this code, and;”*

13
14 **TLUDC 4.210(2)(f)(1)**

15
16 *“The danger that materials may be swept onto other lands to the injury of others.”*

17
18 The electric transmission line towers would be appropriately constructed to avoid being swept
19 onto other lands. The sewer and water supply lines would be underground, and there is no
20 danger they would be swept away. The rail spur would be constructed on top of a berm and
21 elevated above the flood plain. The berm would be engineered to withstand erosion or collapse
22 in times of flood.

23
24 **TLUDC 4.210(2)(f)(2)**

25
26 *“The danger to life and property due to flooding or erosion damage.”*

27
28 There should be no increase in flooding or erosion damage due the placement of underground
29 lines, replacement of electric transmission line towers, or the rail spur, given that an equal offset
30 would be provided to compensate for the fill used to create the berm for the spur.

31
32 **TLUDC 4.210(2)(f)(3)**

33
34 *“The susceptibility of the proposed facility and its contents to flood damage and the effect*
35 *of such damage on the individual owner.”*

36
37 The wastewater force main would be sealed and would have special manhole covers to avoid
38 infiltration of floodwater. The water supply line is a sealed pressurized system and is not subject
39 to infiltration. The electric transmission line towers would be steel or treated wood and would be
40 designed and constructed to withstand flood damage. The rail spur would be built on top of an
41 engineered berm.

42
43 **TLUDC 4.210(2)(f)(4)**

44
45 *“The importance of the services provided by the proposed facility to the community.”*

1
2 The underground sewer and water supply lines are necessary for the energy facility, which would
3 provide economic benefit to the community. The rail spur would allow delivery of large heavy
4 equipment to the energy facility site without the use of the area road system, which is a public
5 benefit.

6
7 **TLUDC 4.210(2)(f)(6)**

8
9 *“The availability of alternative locations, for the proposed use which are not subject to*
10 *flooding or erosion damage.”*

11
12 The location of the overhead 115-kV electric transmission line is the most direct route from the
13 switchyard to the Turner Substation and follows an existing corridor in the public right-of-way.
14 The four electric transmission line towers simply replace four existing towers. The rail spur is
15 locationally dependent on the Union Pacific main rail line and is in the area proposed for long-
16 term construction laydown for the energy facility. Reasonable alternative locations are not
17 available for any of these facilities. The underground lines are not subject to flooding or erosion.

18
19 **TLUDC 4.210(2)(f)(7)**

20
21 *“The compatibility of the proposed use with existing and anticipated development.”*
22

23 The floodplain is currently occupied by existing underground utilities and overhead electric
24 transmission lines and towers. Therefore, the proposed underground utilities and overhead lines
25 and towers are compatible with existing and anticipated development. The rail spur is compatible
26 with the energy facility in the industrial zone. The berm would be permanent and would be
27 constructed with material that is resistant to flood damage per Code Section 4.210(3)(b).

28
29 **TLUDC 4.210(2)(f)(8)**

30
31 *“The relationship of the proposed use to the Comprehensive Plan and flood plain*
32 *management program for that area.”*
33

34 The Comprehensive Plan anticipates development of industrial land for industrial purposes, such
35 as the proposed energy facility. The Comprehensive Plan also recognizes the need for the rail
36 spur to serve the industrial zone next to the tracks.

37
38 The proposed uses would also comply with the FEMA floodplain management program, as
39 discussed throughout this section.

40
41 **TLUDC 4.210(2)(f)(9)**

42
43 *“The safety of access to the property in times of flood for ordinary and emergency*
44 *vehicles.”*
45

1 None of the utility lines in existing rights of way or the rail spur berm would impede access to
2 the property in times of flood. A driveway all the way around the facility would be available for
3 vehicles. Underground utility lines have no impact on access in times of flood.
4

5 **TLUDC 4.210(2)(f)(10)**
6

7 *“The expected heights, velocity, duration, rate of rise, and sediment transport of the flood*
8 *waters and the effects of wave action, if applicable, expected at the site.”*
9

10 Underground utilities have no effect on height, velocity or transport of floodwater. The electric
11 transmission line towers in the right-of-way are outside the floodway and would have no effect
12 on height, velocity, rate of rise, sedimentation, or transport of floodwaters or any wave action.
13 The floodplain in the vicinity of the rail spur berm is a backwater area with little or no water
14 movement or depth in time of flood. The water just backs up against the existing railroad tracks.
15

16 **TLUDC 4.210(2)(f)(11)**
17

18 *“The costs of providing governmental services during and after flood conditions,*
19 *including maintenance and repair of public utilities and facilities such as sewer, gas,*
20 *electrical, and water systems, and streets and bridges.”*
21

22 The cost of providing governmental services during or after any flood event due to the proposed
23 facility is negligible. Underground utilities would be unaffected by the floodwaters. The
24 transmission towers would be designed to withstand any impact of being in the floodplain. TEC
25 LLC does not anticipate that there would be any costs of providing governmental services for
26 maintenance and repair of these transmission towers or the electrical system they convey. The
27 transmission towers and line would not be owned or maintained by the government. The rail spur
28 would also be privately owned and would be elevated above the floodplain, so no damage would
29 occur to it in time of flood.
30

31 **TLUDC 4.210(3) Flood Hazard Development Standards**
32

33 *“(a)(1)All new construction and substantial improvements shall be anchored to prevent*
34 *flotation, collapse or lateral movement of the structure.”*
35

36 The electric transmission line towers would be constructed according to PGE engineering
37 standards to prevent flotation, collapse, or lateral movement. The rail spur would be elevated
38 above the floodplain. The berm would be engineered to prevent flotation, collapse or lateral
39 movement. Compliance with this standard would be verified as permits are issued.
40

41 *“(b)(1)All new construction and substantial improvements shall be constructed with*
42 *materials and utility equipment resistant to flood damage.”*
43

44 The underground water supply line would be made of high-density C-900 PVC pipe or similar
45 material, which is impermeable to flood infiltration. The sewer line would be made of sealed

1 ASTM 3034, SDR35 PVC pipe, or similar material, and also would be sealed to protect against
2 flood damage. The manholes for the sewer system would have specially designed covers to
3 prevent infiltration. The electric transmission line towers would be made of steel, which is
4 resistant to flood damage. The rail spur would be constructed of iron and is on top of an
5 engineered earthen berm.

6
7 “(3)(g) *Nonresidential construction. New construction . . . shall either have the lowest*
8 *floor, including basement, elevated to one foot or more above the base flood*
9 *elevation; or together with the attendant utility and sanitary facilities, shall:*

10 “1. *Be floodproofed so that below the base flood level the structure is*
11 *watertight with walls substantially impermeable to the passage of water.*

12 “2. *Have structural components capable of resisting hydrostatic and*
13 *hydrodynamic loads and effects of buoyancy.*

14 “3. *Be certified by a registered professional engineer or architect that the*
15 *design and methods of construction are in accordance with accepted*
16 *standards of practice for meeting provisions of this subsection based on*
17 *their development and/or review of the structural design, specifications*
18 *and plans. Such certifications shall be provided to the Turner Planning*
19 *Commission. * * * * **”

20
21 TEC LLC has retained Westech Engineering, Inc. to perform services related to the floodplain.
22 Westech Engineering’s assessment shows that compliance with this standard is feasible with
23 regard to the rail spur. TEC Revised ASC, January 2003, Exhibit K, Attachment K-15. While the
24 assessment concludes compliance is feasible, it does not specifically address the replacement
25 electric transmission line towers or the water and sewer lines. Accordingly, to ensure compliance
26 with this criterion, the Department recommends that the Council adopt the following condition in
27 the site certificate:

28
29 **(8) Before beginning construction of the facility, the certificate holder shall**
30 **provide to the Department certification by a registered professional engineer**
31 **or architect that the design and methods of construction of the replacement**
32 **electric transmission line towers and water and sewer lines are in accordance**
33 **with accepted standards of practice, based on development and/or review of**
34 **the structural design, specifications and plans.**

35
36 **TLUDC 4.210(3)**

37
38 “(j)(3) *A fill permit application will not be processed without a full explanation of the*
39 *purpose of the fill, the maximum quantity of fill to be placed, the exact location of*
40 *the proposed fill, and submission of a certificate by a registered professional*
41 *engineer or registered architect demonstrating that the proposed fill will not*
42 *increase flood levels during the occurrence of a base flood discharge or otherwise*
43 *negatively impact the property of others.*”
44

1 The fill related to the extension of sewer and water supply lines would be used to refill the trench
2 for the underground utilities. The fill would be compacted and the surface returned to existing
3 grade within the right-of-way. No increase in elevation or flood level would occur.

4
5 The replacement of about four electric transmission line towers would not increase the level of
6 floodwater because the new towers would replace existing electric transmission line towers.

7
8 The rail spur would displace a small floodplain area that is currently available to receive
9 backwater in time of a 100-year flood. FEMA regulations allow fill in the floodplain.
10 Nevertheless, TEC LLC has committed to excavating an equal offset within the unimproved
11 portion of Gaston Street to accept an equal amount of floodwater storage displaced by the fill for
12 the rail spur. Consequently, no property owned by others would be negatively affected. A
13 certificate from Westech Engineering, dated March 15, 2002, demonstrates that the proposed fill
14 would not increase flood levels during the occurrence of a base flood discharge or otherwise
15 negatively affect the property of others.

16
17 The Department recommends that the Council find that TEC LLC has satisfied all requirements
18 for a Flood Hazard Overlay Permit and that the Council instruct the City to issue the Permit in a
19 manner that conforms to the findings in this Order. The Department further recommends that the
20 Council find that satisfaction of these requirements is subject to compliance with the conditions
21 recommended above, with the removal-fill permit issued pursuant to recommended conditions in
22 section E.1.b, Wetlands, of this Order, and with the following condition that the Department
23 recommends the Council adopt in the site certificate:

- 24
25 **(9) Before beginning construction of the facility, the certificate holder shall**
26 **submit to the City of Turner a Flood Hazard Overlay Development Permit**
27 **application consistent with the findings of the Council’s Final Order.**

28
29 **TLUDC 4.220 Wetlands Overlay-District – WL**

30
31 *“Wetlands are defined as those areas that are inundated or saturated often enough to*
32 *support a prevalence of vegetation adapted for life in standing water or saturated soil.*
33 *Wetlands include swamps, bogs, marshes and similar areas.*

34
35 *“(1) Regulation. Development within wetlands is prohibited unless replacement or*
36 *enhancement mitigation is accepted by the regulatory agencies. The Oregon*
37 *Division of State Lands (DSL) is the coordinating agency for wetland permits.*
38 *The US Army Corp of Engineers (Corps) is the federal regulatory agency*
39 *administering Section 404 of the National Clean Waters Act. There are also other*
40 *state and federal coordinating agencies including DLCD.”*

41
42 *“(2) Notice. ORS 227.350 specifies that cities shall provide notice of proposed*
43 *wetlands development to the Division of State Lands.*

1 *“After DSL has provided the city with a copy of the applicable portions of the*
2 *State-wide Wetlands Inventory Map, the city shall provide notice to the DSL, the*
3 *applicant and the owner of record, within 5 working days of the acceptance of*
4 *any complete application for the following activities that are wholly or partially*
5 *within area identified as wetlands on the State-wide Wetlands Inventory Map:*

6 *****

7 “(b) *Building permits for new structures;*

8 “(c) *Other development permits and approvals that allow physical alteration to*
9 *the land involving excavation and grading, including permits for removal*
10 *or fill, or both, or development in floodplains and floodways;*

11 “(d) *Conditional use permits and variances that involve physical alterations to*
12 *the land or construction of new structures. * * **”

13
14 The energy facility site has not been inventoried as wetlands on any city, state or federal
15 inventories. However, wetlands have been identified on the energy facility site. TEC LLC is
16 working with DSL and the Army Corps of Engineers regarding any impacts to any jurisdictional
17 wetlands on the proposed facility site. All impacted wetlands would be replaced or meet
18 enhancement mitigation standards approved by the agencies. *See* Section E.1.b, Wetlands, of this
19 Order.

20
21 “(3) *The provisions of Subsection (2) of this Section do not apply if a permit from the*
22 *division has been issued for the proposed activity.*”

23
24 The analysis of compliance with DSL's permitting requirements is located in Section E.1.b,
25 Wetlands, of this Order. That section recommends that, subject to compliance with mitigation
26 conditions, DSL should issue a removal-fill permit. The issuance of the DSL removal-fill permit
27 renders the provisions of Subsection 2 inapplicable.

28
29 **TLUDC 4.220(10)**

30
31 *“Development Standards:*

32 “(a) *No development shall be permitted within designated wetlands unless a permit*
33 *has been acquired from DSL and any other regulatory agency having*
34 *jurisdiction.*”

35
36 The conditions recommended in Section E.1.b, Wetlands, of this Order ensure compliance with
37 this standard.

38
39 “(b) *The City of Turner shall not provide sewer service to any new structures or*
40 *development which would encroach upon or adversely affect any designated*
41 *wetlands within the Turner City Limits or Urban Growth Boundary.*”

42
43 The City has not designated any Goal 5 wetlands for purposes of this section. *See* Section E.1.b.,
44 Wetlands, of this Order. The facility does not encroach upon or adversely affect any wetland in
45 the Turner UGB inventoried in the local state or federal inventory. (*See* TEC Revised ASC,

1 January 2003, Exhibit K, Attachment K-3). Wetlands mitigation is addressed in Exhibit J of the
2 ASC.

3
4 The Department recommends that the Council find that TEC LLC has satisfied the criteria of the
5 Wetlands Overlay District, subject to compliance with recommended conditions in Section E.1.b,
6 Wetlands, of this Order and the removal-fill permit to be issued by DSL at the Council's
7 direction.

8
9 **TLUDC 5.020 Development Standards**

10
11 *“In addition to the development standards specified for each zoning district, there are*
12 *many standards that apply in more than one district. The following Sections specify*
13 *development standards applicable within any zoning district in the City of Turner.*

14
15 *“The City may adjust the development standards contained in Article 5 to provide an*
16 *efficient land division or more efficient utilization of a property when submitted for*
17 *approval under the City's review and approval procedures.”*

18
19 Each of the applicable development standards is addressed as follows:

20
21 **TLUDC 5.030 Plan Conformance**

22
23 *“All developments within the City shall conform to any approved development plan*
24 *adopted by the City. Developments located within an area that has an approved plan*
25 *shall comply with the design and construction standards of that approved plan in*
26 *addition to those contained in this Code. In cases of conflict, the approved plan shall*
27 *control.”*

28
29 There is no City-approved development plan for the area in which the proposed facility is
30 located. The Department recommends that the Council find that this standard is not applicable to
31 the proposed facility.

32
33 **TLUDC 5.110 Height Standards**

34
35 *“Building height standards are specified in item (4) of each Zoning District.”*

36
37 As discussed above in findings regarding TLUDC 4.141(4)(c), heights in the M-1 District are
38 limited to 45 feet unless a greater height is approved through the site plan process. The requested
39 heights of several components of the proposed facility exceed the 45-foot height limitation. For
40 the reasons explained above with regard to TLUDC 4.141.(4)(c), the Department recommends
41 that the Council determine that the requested heights are appropriate and acceptable for this
42 facility. In the alternative, the Department recommends that the Council determine that the city's
43 height limits are not applicable to this proposed facility because the Council's standards require
44 evaluation of the city's local provisions only to the extent those provisions are necessary to

1 satisfy the Statewide Planning Goals. The city’s height standards are not required for Goal
2 compliance.

3
4 **TLUDC 5.111 Building Height Exceptions**

5
6 *“Vertical projections such as chimneys, spires, domes, elevator shaft housings, towers,*
7 *aerials, flagpoles, and similar objects not used for human occupancy shall not exceed the*
8 *building height limitations of this Code by more than ten (10) feet.”*

9
10 The proposed electric transmission line towers fit within this description and are proposed to be
11 56-70 feet in height, which exceeds the 55-foot height limit otherwise allowed for projections.
12 The Department has recommended that the Council approve height standards that exceed those
13 specified in the TLUDC. *See* discussion of TLUDC 4.141(4)(c) under Section III. C of this Land
14 Use Analysis

15
16 **TLUDC 5.112 Building Projection Exceptions**

17
18 *“Architectural features such as cornices, eaves, canopies, sunshades, gutters, chimneys*
19 *and flues shall not project more than 30 inches into a required yard.”*

20
21 There are no features such as those mentioned in the Code that project more than 30 inches into a
22 required yard.

23
24 **TLUDC 5.113 Lot Size**

25
26 *“Lot size standards are specified in Item (4) of each Zoning District.”*

27
28 *See* discussion of TLUDC 4.141(4)(a) under Section III.C of this Land Use Analysis.

29
30 **TLUDC 5.115 Yard Setbacks**

31
32 *“Yard setback standards are specific in Item (4) of each Zoning District.”*

33
34 *See* discussion of TLUDC 4.141(4)(b) under Section III.C of this Land Use Analysis.

35
36 **TLUDC 5.116(1) Yard Setback Exceptions**

37
38 *“No building shall be erected on a lot which abuts a street having only a portion of its*
39 *required right-of-way (ROW) dedicated, unless the yard setbacks are increased to*
40 *accommodate the required ROW plus the required yard setback.”*

41
42 The energy facility would be bordered to the west by Wipper Road. The platted but undeveloped
43 Gaston Street extends along the northern border. The full required ROW has been dedicated for
44 both Wipper Road and Gaston Street.

1 **TLUDC 5.116(2)**

2
3 *“The Planning Commission may require additional setbacks, street right-of-way*
4 *dedications and street improvements for development projects which are required to be*
5 *submitted for review and approval.”*
6

7 TEC LLC has committed to replacing the Wipper Road Bridge, as requested by Marion County.
8 No additional setbacks, street rights-of-way dedications or street improvements have been
9 identified.

10
11 **TLUDC 5.117(1) Drainageway Setbacks**

12
13 *“All fish-bearing streams including Mill Creek shall have a minimum setback of 25 feet*
14 *from the top of each bank. Additional setbacks are required for riparian areas, wetland,*
15 *and floodplains. Building permit applications and land use applications to the City shall*
16 *clearly indicate the boundary limits for riparian areas, wetlands, and floodplains.*
17 *Alteration of these areas by grading or placement of structures or impervious surfaces is*
18 *prohibited unless approved by the City in accordance with the procedures of city*
19 *ordinances and state law.”*
20

21 There are no fish-bearing streams on the energy facility site or within 25 feet of the energy
22 facility site. Boundaries of riparian areas, wetlands and flood plains are depicted in the ASC and
23 Revised ASC at Exhibits J, P, Q, and Exhibit K, Attachments K-3 and K-5. Additional setbacks
24 are not necessary. The northeast corner of the energy facility site is within the 100 year FEMA
25 floodplain. Development in that area is addressed above in findings of compliance with TLUDC
26 4.210(2), regarding development in the floodplain. The 115-kV electric transmission line towers
27 would be set back more than 25 feet from the top of the bank of Mill Creek and the Turner
28 Bypass. There are no delineated drainage-ways that would be affected by the electric
29 transmission line and towers.
30

31 **TLUDC 5.117(2)**

32
33 *“All other drainageways and watercourses shall have a setback of 15 feet from the center*
34 *of the drainageway. Proposed developments within floodplain or wetland areas beyond*
35 *the 15 feet shall be in accordance with Sections 4.210 and Section 4.220.”*
36

37 There are no watercourses on the energy facility site. The utility extensions cross no other
38 drainage ways or watercourses. *See* Section E.1.b, Wetlands, of this Order and the discussion of
39 TLUDC 4.210(2)(c) under Section III.C of this Land Use Standard Analysis for discussion about
40 setbacks required for wetlands and development within the floodplain. The Wipper Road ditch
41 would have at least a 15-foot setback.
42

43 **TLUDC 5.118 Commercial and Industrial Setbacks**

1 *“In commercial or industrial districts where an interior yard is not required and a*
2 *structure is not located at the property line, it shall be set back at least five (5) feet from*
3 *the property line to accommodate access to the building.”*
4

5 No structures would be within five feet of the property line. Each structure has been set back at
6 least 5 feet from an interior property line to accommodate access.
7

8 Based on the foregoing discussion, the Department recommends that the Council find that the
9 proposed facility satisfies each of the applicable development standards required under TLUDC
10 5.020.
11

12 **TLUDC 5.120(1) Parking**
13

14 *“For each new structure or use, each structure or use increased in area and each change*
15 *in the use of an existing structure there shall be provided and maintained off-street*
16 *parking areas in conformance with the provisions of this section.*

17 “(a) *All parking areas and driveway approaches shall be surfaced with a minimum of*
18 *two inches asphaltic concrete or four inches Portland Cement Concrete over*
19 *approved base unless other methods are approved by the City. Under specified*
20 *conditions the City may defer paving and permit gravel parking areas as a*
21 *temporary use.*

22 “(b) *Services drives and parking spaces on surfaced parking lots shall be clearly and*
23 *permanently marked. Handicapped Parking must comply with the Oregon*
24 *Structural Specialty Code.*

25 “(c) *Parking areas for other than single-family and two-family dwellings shall be*
26 *served by a service driveway and turnaround so that no backing movements or*
27 *other maneuvering shall occur within a street other than an alley. Design for*
28 *parking lots shall conform to the Parking Diagram contained in Section 10.300,*
29 *Diagram DSD-1. Two-way driveways shall have a minimum width of 20 feet and*
30 *a maximum width of 30 feet. One-way driveways shall have a minimum width of*
31 *12 feet and a maximum width of 16 feet.*

32 “(d) *A Parking space shall conform to the Parking Diagram contained in Section*
33 *10.300, Diagram DSD-1.*

34 “(e) *The outer boundary and all landscaped islands of a parking area shall be*
35 *contained by a 6" inch high curb for protection of landscaping, pedestrian*
36 *walkways and to contain rainwater runoff. No motor vehicle shall project over the*
37 *property line.*

38 “(f) *All parking areas . . . shall have adequate drainage to dispose of the run-off*
39 *generated by the impervious surface area of the parking area. On-site collection*
40 *of drainage water shall not allow sheet flow of water onto sidewalks, public right-*
41 *of-ways or abutting property and shall detain out-flow velocities to that of*
42 *undeveloped land. All drainage systems must be approved by the City*
43 *Administrator.*

44 “(g) *Service driveways to off-street parking areas shall be designed and constructed to*
45 *facilitate the flow of traffic, provide maximum safety of traffic access and egress,*

1 *and maximum safety of pedestrian and vehicular traffic on the site. The number of*
2 *service driveways shall be limited to the minimum that will allow the property to*
3 *accommodate and service the traffic anticipated.*

4 “(h) *All off-street parking areas within or abutting residential districts or uses shall be*
5 *provided with a sight-obscuring fence, wall or hedge as approved by the City to*
6 *minimize disturbances to adjacent residences.”*
7

8 The parking areas and driveway approaches would be surfaced as required under subsection (1).
9 No request to defer paving has been made. As depicted on the Site Plan (TEC Revised ASC,
10 January 2003, Exhibit B, Attachment B-1), all service drives and parking areas would be clearly
11 and permanently marked as required by subsection (b), and handicapped parking would be
12 provided in compliance with the Oregon Structural Specialty Code.
13

14 The Site Plan shows that an interior driveway would serve the parking area. A turnaround would
15 be provided within the service parking area. Service vehicles could also circle around the entire
16 energy facility. The parking area and all parking spaces would be designed in conformance with
17 Diagram DSD-1, contained in TLUDC 10.300. The driveway to the parking area as well as the
18 service driveway would be two-way driveways and have a minimum width of 20 feet and a
19 maximum width of 30 feet.
20

21 The outer boundary of the parking area and all landscaped islands would contain a 6" high curb.
22 The parking area would be set back from the property line sufficiently so that no motor vehicles
23 would project over the property line.
24

25 The parking area would have an adequate drainage system that would not allow sheet flow of
26 water onto Wipper Road or abutting property. The storm drainage system would ensure that
27 outflow velocities would conform to City standards.
28

29 There are no facility service driveways that would provide ingress or egress to boundary streets.
30 The interior service drive around the energy facility would be designed to allow access
31 throughout the energy facility site without the need for turnaround in the parking area or any
32 public right-of-ways. The temporary construction parking and construction laydown area to the
33 south would use a driveway off Wipper Road. That driveway would be located approximately
34 2,500 feet south of the Chicago-Wipper curve and would present no traffic safety impairment.
35 The second access through a locked gate would be provided to the energy facility from this
36 driveway. Internal pedestrian walkways would be provided on site where necessary, as depicted
37 in the TEC Revised ASC, January 2003, Exhibit B, Attachments B-1 and B-2.
38

39 There would be no off-street parking proposed within or abutting residential districts or uses.
40 The parking area would be on the east side of the energy facility, abutting the railroad. (*See* TEC
41 Revised ASC, January 2003, Exhibit B, Attachments B-1 and B-2.)
42

43 **TLUDC 5.120(2)**
44

45 “(a) *Required off-street parking shall be provided on the development site.*

1 “(b) *Off-street parking areas may be located in a required yard setback provided a 5*
2 *foot wide landscaped buffer and screening, as required in Section 5.134(4), is*
3 *maintained at the property line * * **”
4

5 TEC LLC would provide required off-street parking, as shown on TEC Revised ASC, January
6 2003, Exhibit B, Attachment B-1. Off-street parking would not be located in a required yard.
7

8 **TLUDC 5.120(3)**
9

10 *“Required parking spaces shall be available for the parking of operable motor vehicles*
11 *for residents, customers, patrons and employees only and shall not be used for storage of*
12 *vehicles, trucks, or materials used in the business, or for repair or servicing.”*
13

14 TEC LLC would provide parking for employees and visitors. Separate storage areas would be
15 provided for vehicles, trucks or materials used by the energy facility. (See TEC Revised ASC,
16 January 2003, Exhibit B, Attachment B-1.)
17

18 **TLUDC 5.120(4)**
19

20 *“Provisions for and maintenance of off-street parking spaces are continuing obligations*
21 *of the property owner. No building permit or other approvals shall be issued until plans*
22 *are presented that show the complete parking layout. The subsequent use of property for*
23 *which approval is granted shall be conditional upon the unqualified continuance and*
24 *availability of the amount of parking space required by this Code.”*
25

26 TEC LLC does not anticipate a change in use of the property following development of the
27 energy facility site. There would be sufficient land on site for additional parking, if that became
28 necessary
29

30 **TLUDC 5.120(8)**
31

32 *“A plan, drawn to scale, indicating how the off-street parking requirements are to be*
33 *fulfilled, shall accompany all requests for City approval or a Building Permit.”*
34

35 TEC LLC has provided a parking layout plan that would comply with city parking requirements.
36 To ensure compliance, the Department recommends that the Council adopt the following
37 condition in the site certificate:
38

39 **(10) As part of its application for a building permit, the certificate holder shall**
40 **submit to the City of Turner a final parking lot plan.**
41

42 **TLUDC 5.120(9)**
43

1 *“Parking lots shall be provided with landscaping as provided in Section 5.134(4) and*
2 *other suitable devices in order to divide the parking lot into sub-units to provide for*
3 *pedestrian safety, traffic control, and to improve the appearance of the parking lot.”*
4

5 As depicted on the parking layout in the TEC Revised ASC, January 2003, Exhibit B,
6 Attachment B-1 and Exhibit K, Attachment K-13, the parking area would be developed with
7 landscaping in conformance with Code Section 5.134(4).
8

9 **TLUDC 5.120(10)**

10
11 *“Off-street parking spaces shall be required as defined in Section 5.121. Fractional*
12 *space requirements shall be counted as whole space . . . When the requirements are*
13 *based on the number of employees, the number counted shall be those working on the*
14 *premises during the largest shift at peak season.”*
15

16 Section 5.121(5) states that industrial facilities shall have one parking space per employee.
17 TLUDC 5.120(10) clarifies that a facility may determine the number spaces based on the number
18 of employees working the largest shift,. The energy facility would employ between 20 and 25
19 full time employees. Most energy facility staff would work normal business hours during the
20 day, with a maximum staff of 15 people. The night shift would generally include two operators.
21 Thus, the maximum overlap of staff on site at any one time would be 17. The facility would have
22 at least 17 parking spaces. In addition, parking would be available for visitors. There would be
23 no off-street parking that would abut residential districts or uses. The proposed number of
24 parking spaces meets this standard.
25

26 Based on the foregoing discussion and the recommended conditions, the Department
27 recommends that the Council find that the proposed facility complies with the applicable parking
28 requirements of TLUDC 5.120.
29

30 **TLUDC 5.122(1) Access and Vision Clearance**

31
32 *“Access: Every property shall abut a street other than an alley, for a minimum width of*
33 *25 feet, except where the City has approved an easement for access or where the*
34 *easement existed prior to the adoption of this Code.”*
35

36 The energy facility site would abut Wipper Road for approximately 1,200 feet along the west
37 property boundary line.
38

39 **TLUDC 5.122(3)**

40
41 *“Clear Vision Areas: In all districts a clear vision area . . . shall also be maintained at*
42 *all driveway-street intersections for safety vision purposes.”*
43

1 The driveway to the entrance of the energy facility would intersect Wipper Road in the northwest
2 portion of the energy facility site. A clear vision area of 125 feet to the north and the south would
3 be provided.

4
5 **TLUDC 5.122(3)(a)**

6
7 *“All properties shall maintain a clear triangular area at . . . driveway-street intersections*
8 *for safety vision purposes.*

9
10 *“The two sides of the triangular area shall be . . . 10 feet in length at all . . . driveway-*
11 *street intersections * * * ”*

12
13 As depicted on the site plan, TEC Revised ASC, January 2003, Exhibit B, Attachment B-1 and
14 Exhibit K, Attachment K-1, a clear triangular area of approximately 125 feet both north and
15 south would be maintained at the 90-degree intersection of the driveway and Wipper Road.

16
17 **TLUDC 5.122(3)(b)**

18
19 *“A clear vision area shall contain no plantings, fences, walls, structures, or temporary or*
20 *permanent obstruction exceeding 3 feet in height, measured from the top of the curb, or,*
21 *where no curb exists, from the established street center line grade. Trees exceeding this*
22 *height may be located in this area, provided all branches or foliage are removed to a*
23 *height of 8 feet above grade.”*

24
25 The site plan (TEC Revised ASC, January 2003, Exhibit B, Attachment B-1 and Exhibit K,
26 Attachment K-13) shows that no plantings, fences, walls, structures, or other obstructions would
27 exist within the required clear vision area.

28
29 Based on the foregoing discussion, the Department recommends that the Council find that the
30 access and clearance standards of TLUDC 5.122 are satisfied.

31
32 **TLUDC 5.124 Sidewalks**

33
34 *“Public sidewalk improvements are required for all land divisions and property*
35 *development in the City of Turner. Sidewalks may be deferred by the City.”*

36
37 The nearest sidewalk to the energy facility site is at Chicago and Third Street, about 2,200 feet
38 north of the site. At present, there are no sidewalks along Wipper Road or the unimproved
39 Gaston Street. The energy facility would be located on industrial land, and pedestrian access to
40 the facility would not be practicable, not desired by TEC LLC and not of any benefit to the
41 community. While the City has indicated that it would not waive the sidewalk requirement, the
42 Department recommends that sidewalks and curbs along Wipper Road be deferred. TEC LLC
43 has committed to executing and recording a deed CC&R agreement to pay for or to construct
44 future sidewalk improvements to benefit the energy facility site.

1 Based on the foregoing discussion and recommended conditions, the Department recommends
2 that the Council find that this standard is satisfied, subject to adoption of the following condition
3 in the site certificate:

- 4
5 **(11) Before beginning construction of the facility, the certificate holder shall enter**
6 **into and record a CC& R agreement to either construct or fund the**
7 **construction of sidewalk improvements to benefit the energy facility.**
8

9 *(See also discussion under Section III.D of this Land Use Standard Analysis regarding*
10 *compliance with TRC 7.300).*

11
12 **TLUDC 5.125(1) Bikeways**

13
14 *“Developments adjoining existing or proposed bikeways shall include provisions for*
15 *connection and extension of such bikeways through dedication of easements or rights-of-*
16 *ways. The City may include bikeway improvements as conditions of approval for*
17 *developments which will benefit from bikeways. Where possible, bikeways should be*
18 *separated from other modes or travel, including pedestrianways.”*
19

20 The proposed development does not adjoin any existing or proposed bikeways. Both the City and
21 the County have advised against construction of any bikeway along Wipper Road. The public
22 would not benefit from a bikeway along Wipper Road. The energy facility site is designated for
23 industrial development and would likely not be a destination for bicyclists. The Department
24 recommends that the Council find that this standard is satisfied.
25

26 **TLUDC 5.126(1) Storm Drainage**

27
28 *“Urban level curb inlets, catch basins, and drainage pipe improvements are required for*
29 *all land divisions and property development in the City of Turner. Urban storm drainage*
30 *systems may be deferred by the City in lieu of a rural system of culverts and open*
31 *drainageways.*

32
33 *“General Provisions. It is the obligation of the property owner to provide proper*
34 *drainage and protect all runoff and drainage ways from disruption or contamination.*
35 *On-site and off-site drainage improvements may be required. Property owners shall*
36 *provide proper drainage and shall not direct drainage across another property except*
37 *within a continuous drainageway. Paving and catch basin outflows may require detention*
38 *cells and/or discharge permits. Maintaining proper drainage is a continuing obligation*
39 *of the property owner. The City will approve a development request only where adequate*
40 *provisions for storm and flood water run-off have been made as determined by the City*
41 *Administrator. The storm water drainage system must be separate and independent of*
42 *any sanitary sewerage system. Inlets should be provided so surface water is not carried*
43 *across any intersection or allowed to flood any street. Surface water drainage patterns*
44 *and proposed storm drainage must be shown on every development plan submitted for*

1 *approval. All proposed drainage systems must be approved by the City as part of the*
2 *review and approval process.”*

3
4 The proposed drainage system would be separate from the wastewater collection system. It
5 would include curb inlets and catch basins in paved surfaces in the interior of the energy facility.
6 As depicted in the TEC Revised ASC, January 2003, Exhibit B, Attachment B-1, TEC LLC has
7 sufficient property to accommodate storm water detention and a basin area. Discharge of storm
8 water would be to open drainage ways or to a newly created wetland due to the rural-industrial
9 character of the area. Eventual storm water discharge is into the Turner Bypass, an open,
10 manmade canal. (See TEC Revised ASC, January 2003, Exhibits Q and P.) See discussion under
11 Section III.C of this Land Use Standard Analysis regarding compliance with TLUDC
12 2.500(2)(f).

13
14 **TLUDC 5.126(2)**

15
16 *“Natural drainageways. Open natural drainage ways of sufficient width and capacity to*
17 *provide for flow and maintenance are permitted and encouraged. For the purposes of this*
18 *Section, an open natural drainageway is defined as a natural path which has the specific*
19 *function of transmitting natural stream water or storm water run-off from a point of*
20 *higher elevation to a point of lower elevation.*

21
22 *“Natural drainageways should be protected as a linear open space feature wherever*
23 *possible within the community and shall be protected from pollutants and sediments.”*

24
25 There is an existing open drainage way along Wipper Road. TEC LLC would be required to
26 protect the drainage way along Wipper Road from pollutants and sediments that will be
27 addressed through required drainage system permits.

28
29 **TLUDC 5.126(4)**

30
31 *“Accommodation of Upstream Drainage. A culvert or other drainage facility shall be*
32 *large enough to accommodate potential run-off from its entire upstream drainage area,*
33 *whether inside or outside of the development. The City Administrator must review and*
34 *approve the necessary size of the facility, based on sound engineering principles and*
35 *assuming conditions of maximum potential watershed development permitted by the*
36 *Comprehensive Plan.”*

37
38 The two driveway access points on Wipper Road would have culverts placed underneath the road
39 that would be designed and sized to accommodate runoff from upstream drainage areas.

40
41 **TLUDC 5.126(5)**

42
43 *“Effect on Downstream Drainage. Where it is anticipated by the City Administrator that*
44 *the additional run-off resulting from the development will overload an existing drainage*

1 *facility, the City may withhold approval of the development until mitigation measures*
2 *have been approved.”*
3

4 Additional run-off resulting from the development is not anticipated to overload the existing
5 drainage facility. On-site detention would be used to restrict run-off to that of a five-year storm
6 on the undeveloped site, or during a fifty-year event on the developed energy facility site. The
7 existing drainage system in the area currently receives runoff from the energy facility site
8 without overloading
9

10 **TLUDC 5.126(6)**
11

12 *“Drainage Management Practices. Developments within the City must employ drainage*
13 *management practices approved by the City Administrator which limit the amount and*
14 *rate of surface water run-off into receiving streams or drainage facilities. Stormwater*
15 *runoff rates for new developments shall not exceed bare land runoff rates. Drainage*
16 *management practices must include, but are not limited to one or more of the following*
17 *practices:*

- 18 “(a) *Temporary ponding or detention of water to control rapid runoff;*
19 “(b) *Permanent storage basins;*
20 “(c) *Minimization of impervious surfaces;*
21 “(d) *Emphasis on natural drainageways;*
22 “(e) *Prevention of water flowing from the development in an uncontrolled fashion;*
23 “(f) *Stabilization of natural drainageways as necessary below drainage and culvert*
24 *discharge points for a distance sufficient to convey the discharge within channel*
25 *erosion;*
26 “(g) *Runoff from impervious surfaces must be collected and transported to a natural*
27 *drainage facility with sufficient capacity to accept the discharge; and*
28 “(h) *Other practices and facilities designed to transport storm water and improve*
29 *water quality.”*
30

31 As shown in the TEC Revised ASC, January 2003, Exhibit B, Attachment B-1, TEC LLC has
32 sufficient property to accommodate a storm drainage control system. The energy facility site is
33 nearly level with approximately five feet of fall south to north. Drainage management practices
34 would be used (*See* TEC Revised ASC, January 2003, Exhibit O.) Detailed engineering plans
35 would be submitted for review when permits are sought. *See* discussion under Section III.C of
36 this Land Use Standard Analysis regarding compliance with TLUDC 2.500(2)(f).
37

38 **TLUDC 5.126(8)**
39

40 *“NPDES Permit Required. A National Pollutant Discharge Elimination System (NPDES)*
41 *permit must be obtained from the Department of Environmental Quality (DEQ) for*
42 *construction activities (including clearing, grading, and excavation) that disturb 5 or*
43 *more acres of land.”*
44

1 The energy facility would require a federally delegated DEQ NPDES Storm Water Discharge
2 General Permit for both construction and operation. Because construction would disturb more
3 than five acres of land, TEC LLC would be required to obtain an NPDES Storm Water
4 Discharge General Permit #1200-C from DEQ for the construction phase of the facility. The
5 permit would require that an "Erosion and Sediment Control Plan" be prepared and implemented.
6 TEC Revised ASC, January 2003, Exhibits B and E establish the feasibility of complying with
7 NPDES permit requirements.

8
9 Based on the foregoing discussion, the Department recommends that the Council find that the
10 storm water drainage approval standards of TLUDC 5.126 are satisfied, subject to adoption of
11 the following recommended conditions in the site certificate to ensure compliance:

12
13 **(12) As part of its application for a building permit, the certificate holder shall**
14 **submit to the City of Turner a final plan for drainage management that**
15 **meets the requirements of TLUDC 5.126(6).**

16
17 **(13) Before beginning construction of the facility, the certificate holder shall**
18 **provide the Council with written documentation that it has obtained a**
19 **NPDES Storm Water Discharge General Permit #1200-C.**

20
21 **TLUDC 5.127(1) Water**

22
23 *“When Public Water is Available. All new development . . . must extend and connect to*
24 *the public water system when service is available within 200 feet of the property. Fire*
25 *hydrants, mains, and related appurtenances shall be installed by the developer as*
26 *required by the Local Fire District.”*

27
28 The energy facility is more than 200 feet from the nearest connection to the public water system
29 and therefore would not be required to connect to the public water system. However, to the
30 extent an agreement can be reached with the City, TEC LLC has committed to connecting to the
31 public water system.

32
33 A complete fire protection system would be installed in accordance with the Uniform Fire Code.
34 This system would include a water storage tank, a diesel fired backup pump, hydrants, mains and
35 related appurtenances. See Section D.13, Public Services, of this Order.

36
37 **TLUDC 5.127(3)**

38
39 *“Water Line Extensions. Water distribution lines must be extended along the full length*
40 *of the property's frontage along the right-of-way or to a point identified by the City*
41 *Administrator as necessary to accommodate likely system expansion. Water line*
42 *extensions may be required through the interior properties when necessary to provide for*
43 *service to other properties or to provide system looping for fire flows. All public water*
44 *system line extensions shall have a minimum 6 inch diameter unless a smaller size is*
45 *recommended by the City Engineer and approved by the City.”*

1
2 If TEC LLC connects to the city water supply, it would extend a water distribution line to the
3 energy facility site in the size and location required by the Code and the City's Water Master
4 Plan. Extension of public water supply lines south of the Perrin Lateral is unnecessary because
5 TEC LLC would own all land south of the Perrin Lateral and west of the railroad that is in the
6 UGB. Water supply line extension to the east is unnecessary because property to the east would
7 be served by southerly extensions of lines from 2nd and 3rd Streets. Property to the west is
8 outside the UGB, so no extension in that direction is necessary. TEC LLC would also own all the
9 land immediately west of Wipper Road to the northwest, west and southwest of the site.
10 Therefore, the Department recommends that the Council find that no water supply line
11 extensions to the west are necessary.

12
13 **TLUDC 5.127(4)**

14
15 *“Water Plan Approval. All proposed water plans and systems must be approved by the*
16 *City as part of the review and approval process.”*

17
18 If TEC LLC connects to the City water supply, it has committed to submitting its water supply
19 systems to the City as part of the building permit process. **TLUDC 5.127(5)**

20
21 *“Design Requirements for New Development. All new development within the City shall*
22 *make provisions for the extension of public water lines to serve adjacent areas, or as*
23 *provided in the Water System Master Plan.”*

24
25 See discussion under Section III.C of this Land Use Standard Analysis regarding compliance
26 with TLUDC 5.127(3).

27
28 **TLUDC 5.127(6)**

29
30 *“Restriction of Development. The Planning Commission or City Council may limit*
31 *development approvals where a deficiency exists in the water system or portion thereof*
32 *which cannot be corrected as a part of the proposed development improvements.”*

33
34 The City has indicated that its water system is capable of accommodating TEC LLC's water
35 needs.

36
37 Based on the foregoing discussion, the Department recommends that the Council find that the
38 approval standards of TLUDC 5.127 are satisfied, subject to adoption of the following
39 recommended condition in the site certificate to ensure compliance:

40
41 **(14) If the certificate holder elects to connect to the City of Turner water supply,**
42 **as part of its application for a building permit, the certificate holder shall**
43 **submit to the City of Turner a final plan for its proposed water supply**
44 **system.**

1 **TLUDC 5.128(1) Sanitary Sewers**

2
3 *“When Public Sewer is Available. All new development must extend and connect to the*
4 *public sewer system when service is available within 200 feet of the property.”*

5
6 This development standard is not applicable to the proposed development because there is no
7 public sewer system connection within 200 feet of the energy facility site.

8
9 However, if TEC LLC does reach an agreement with the City of Turner to provide sewer service,
10 TEC LLC has committed to connecting to the City's sewer system. *See* discussion under Section
11 III.B of this Land Use Standard Analysis regarding compliance with Turner Comprehensive
12 Plan, Public Facilities, Water System, #2.

13
14 **TLUDC 5.128(3)**

15
16 *“Sewer Line Extensions. Sewer collection lines must be extended along the full length of*
17 *the property’s frontage along the right-of-way or to a point identified by the City*
18 *Administrator as necessary to accommodate likely system expansion.”*

19
20 If TEC LLC connects to the City's sewer system, the City has identified the Turner Bypass as the
21 point where the wastewater system can become private. TEC LLC would own all the
22 developable land within the UGB from the Perrin Lateral to the south line of the Urban Growth
23 Notification Area, west of the railroad tracks. The Department recommends that the Council find
24 that public sewer line extensions to the south property line of the energy facility site are
25 unnecessary for the reasons identified in the discussion of TLUDC 5.127(3) in Section III.C of
26 the Land Use Standard Analysis.

27
28 **TLUDC 5.128(4)**

29
30 *“Sewer Plan Approval. All proposed sewer plans and systems must be approved by the*
31 *City of Turner and the City of Salem as part of the review and approval process.”*

32
33 If TEC LLC connects to the City's sewer system, detailed engineering plans would be submitted
34 as part of the permit process.

35
36 **TLUDC 5.128(5)**

37
38 *“Design Requirements for New Developments. All new development within the City shall*
39 *make provision for the extension of existing sewer lines to serve adjacent areas as*
40 *provided for in the Sewer System Master Plan. Line extensions may be required through*
41 *the interior of a property to be developed where the City Administrator determines that*
42 *the extension is needed to provide service to other properties.”*

43
44 *See* discussion under Section III.C of this Land Use Standard Analysis regarding compliance
45 with TLUDC 5.128(3).

1
2 **TLUDC 5.128(6)**
3

4 *“Restriction of Development. The City may limit development approvals where a*
5 *deficiency exists in the sewer system or portion thereof which cannot be corrected as a*
6 *part of the development improvements.”*
7

8 The City has indicated it has the capacity to serve the energy facility.
9

10 Based on the foregoing discussion, the Department recommends that the Council find that the
11 approval standards of TLUDC 5.128 are satisfied, subject to adoption of the following condition
12 in the site certificate to ensure compliance:
13

14 **(15) If the certificate holder elects to connect to the City of Turner’s sewer**
15 **system, as part of its application for a building permit, the certificate holder**
16 **shall submit to the City of Turner detailed engineering plans for connection**
17 **to the City’s sewer system.**
18

19 **TLUDC 5.129(1) Utilities**
20

21 *“It is the intent of the City to place all utilities underground wherever practical except as*
22 *otherwise provided herein.”*
23

24 **TLUDC 5.129(5)**
25

26 *“Exceptions. The City may permit overhead utilities as a condition of approval where the*
27 *Applicant can demonstrate one of the following conditions:*

- 28 *“(a) Underground utility locations are not feasible.*
29 *“(b) The proposed lots or parcels are larger rural properties or where existing*
30 *properties in the vicinity have overhead utilities.*
31 *“(c) Temporary or emergency installations.*
32 *“(d) Major transmission facilities located within right-of-ways or easement.*
33 *“(e) Industrial developments with large power requirements.*
34 *“(f) Surface mounted structures, substations or facilities requiring above ground*
35 *locations by the serving utility.”*
36

37 The water supply and wastewater pipelines and natural gas lateral pipeline would be located
38 underground. The 115-kV electric transmission lines are located within the City public right-of-
39 way and therefore fall within the exceptions. On-site electric transmission lines must be overhead
40 and placing them underground is not feasible. In addition, there are major electric transmission
41 lines in the vicinity. The Department recommends that the Council find the exceptions allowing
42 overhead electrical lines are met.
43

44 Based on the foregoing discussion, the Department recommends that the Council find that the
45 approval standards of TLUDC 5.129 are satisfied.

1
2 **TLUDC 5.130(3) Easements**
3

4 *“Utility easements shall be provided for sewers, water mains and public or private*
5 *utilities necessary to provide full service to all developments. Land dividers shall show on*
6 *the Tentative Plan and on the final Plat all easements and shall provide all dedications,*
7 *covenants, conditions or restrictions with the Supplemental Data submitted for review.*
8 *Unless otherwise specified by the City, standard exterior utility easements adjacent to*
9 *streets shall be 5 feet wide. Minimum interior utility easements shall be 10 feet wide*
10 *centered on lot or parcel lines where feasible except for utility pole tieback easements*
11 *which may be 10 feet in width.”*
12

13 TEC LLC has committed to providing the required utility easements to the City of Turner for any
14 public utility lines or public facilities on its property.
15

16 **TLUDC 5.130(4)**
17

18 *“Water Courses. If a tract is traversed by a water course such as a drainage way,*
19 *channel or stream, there shall be provided a storm water easement or drainage right-of-*
20 *way containing the top of bank, vegetative fringe, and such further width as will be*
21 *adequate for protection and maintenance purposes. Culverts or other drainage facilities*
22 *shall be sized to accommodate storm and flood run-off from the entire upstream drainage*
23 *area and shall be verified and approved by the City Administrator.”*
24

25 TEC LLC would dedicate the westerly 30 feet of its frontage to include the drainage way along
26 Wipper Road. All drainage into that ditch, other than that which would come from the energy
27 facility site, comes from property outside the UGB. TEC LLC would ensure that its culverts are
28 sized to accommodate storm and flood run-off from the entire upstream drainage area. The
29 driveway culvert sizes would be determined by TEC LLC’s engineers and verified by the City
30 Engineer during the permitting process.
31

32 Based on the foregoing discussion, the Department recommends that the Council find that the
33 applicable approval standards of TLUDC 5.130 are satisfied, subject to adoption of the following
34 conditions in the site certificate to ensure compliance:
35

36 **(16) Before beginning construction of the facility, the certificate holder shall**
37 **provide and record all dedications, covenants, conditions or restrictions for**
38 **utility easements. The certificate holder shall also demonstrate to the**
39 **Department that it has dedicated the westerly 30 feet of its property for**
40 **drainage along Wipper Road.**
41

42 **(17) As part of its application for a building permit, the certificate holder shall**
43 **provide to the City of Turner for verification its final engineering plans**
44 **demonstrating adequate sizing of culverts to accommodate storm and flood**
45 **run-off from the entire upstream drainage area.**

1
2 **TLUDC 5.132(1) Building Sites**
3

4 *“Size and shape: The size, width, shape and orientation of building sites shall be*
5 *appropriate for the location and use contemplated, and shall comply with the standards*
6 *of the Zoning District and the other standards of Article 5 specified herein.”*
7

8 The energy facility site is at the south and eastern borders of the UGB. It is approximately 41
9 acres in size and is zoned and designated under the Comprehensive Plan for industrial
10 development. On-site and off-site buffer areas are provided in all directions. The buildings are
11 oriented to the center of the energy facility site. The switchyard accommodates interconnection
12 of the electrical transmission lines. Buildings are designed in size, width and shape to efficiently
13 and safely conduct their functions and to meet all local, state and federal regulations. Compliance
14 with each of the standards of the Industrial zone, as well as other applicable TLUDC Article 5
15 standards is discussed individually in these findings.
16

17 **TLUDC 5.132(1)(a)**
18

19 *“No lot or parcel shall be created or utilized unless there will exist an adequate quantity*
20 *and quality of water and an adequate sewage disposal system to support the proposed*
21 *use.”*
22

23 The energy facility site would be served with sewer and water systems with adequate quality and
24 quantity to support the facility, whether they connect to the City's systems, or rely on their own
25 water rights delivered by the SWCD and their own onsite facilities. *See* discussion under Section
26 III.C of this Land Use Standard Analysis regarding compliance with TLUDC 2.500(2)(e).
27

28 **TLUDC 5.132(1)(b)**
29

30 *“In areas that will not be served by a public sewer, minimum lot and parcel sizes shall*
31 *permit compliance with the requirements of the Department of Environmental Quality for*
32 *sewage disposal by septic tank or other approved methods taking into consideration soil*
33 *characteristics and water table.”*
34

35 In the event a public sewer does not serve the energy facility site, the parcel is of sufficient size
36 and character to ensure compliance with DEQ standards for sewage disposal. TEC LLC's
37 compliance with the requirements for a WPCF permit allowing onsite sewage disposal is
38 discussed at Section E.1.d, Water Pollution Control Facilities Permit for Sanitary Waste, of this
39 Order.
40

41
42 **TLUDC 5.132(1)(c)**
43

1 *“Depth and width of properties reserved or laid out for commercial and industrial*
2 *purposes shall be adequate to provide for the off-street service and parking facilities*
3 *required by the type of use and development contemplated.”*
4

5 The energy facility would have adequate on-site parking and room for any off-street service the
6 facility might need. *See findings under Section III.C of this Land Use Standard Analysis,*
7 *regarding compliance with parking standards set forth in TLUDC 5.134(4)(a).*
8

9 Subject to compliance with conditions recommended in Section E.1.d, Water Pollution Control
10 Facilities Permit for Sanitary Waste, of this Order and the proposed WPCF permit, necessary to
11 ensure compliance with TLUDC 5.132(1)(b), the Department recommends that the Council find
12 that the proposed facility complies with the applicable standards of TLUDC 5.132.
13

14 **TLUDC 5.133 Grading**

15

16 *“General grading shall conform to the following standards unless engineered and*
17 *approved by the City.*

18 *“(1) Cut slopes shall not exceed one and one-half feet horizontally to one foot*
19 *vertically.*

20 *“(2) Fill slopes shall not exceed two feet horizontally to one foot vertically.*

21 *“(3) The type and characteristics of imported fill soils shall be the same or compatible*
22 *with the existing soils on the site.*

23 *“(4) Fills for streets and building sites shall be engineered and approved by the City.*

24 *“(5) All sites shall be graded to direct storm water to City storm sewers or to natural*
25 *drainage ways.”*
26

27 TEC LLC has committed to complying with all grading standards, with detailed grading plans to
28 be submitted through the permitting process. The Department recommends that the Council find
29 that compliance with this standard is feasible, subject to adoption of the following condition in
30 the site certificate to ensure compliance:
31

32 **(18) As part of its building permit application, the certificate holder shall submit**
33 **to the City of Turner its final detailed grading plans that demonstrate**
34 **compliance with each grading standard**
35

36 **TLUDC 5.134(1)(a) Landscaping**

37

38 *“All yard setbacks and parking areas shall be landscaped in accordance with the*
39 *following requirements:*

40 *“General Provisions*

41 *“Landscaping shall primarily consist of ground cover, trees, shrubs or other living plants*
42 *with sufficient irrigation to properly maintain all vegetation. Decorative design elements*
43 *such as fountains, pools, benches, sculptures, planters, fences and similar elements may*
44 *be placed within the area.”*
45

1
2 TEC LLC has provided a landscaping plan, at TEC Revised ASC, January 2003, Exhibit K,
3 Attachment K-13, that demonstrates feasibility of complying with this standard.

4
5 **TLUDC 5.134(1)(c)**
6

7 *“Landscape plans for proposed industrial, commercial or residential developments*
8 *shall be included with the Site Plans submitted to the City for approval. Existing trees,*
9 *plantings and special site features shall be shown on all submitted plans and shall clearly*
10 *indicate items proposed to be removed and those intended to be preserved.”*

11
12 TEC LLC has provided a landscaping plan (TEC Revised ASC, January 2003, Exhibit K,
13 Attachment K-13) that meets this standard.

14
15 **TLUDC 5.134(1)(d)**
16

17 *“Existing trees, plantings and special site features shall be preserved, protected and*
18 *maintained within the City to the fullest extent possible. Trees exceeding 6 inches in*
19 *diameter shall not be removed without approval of the City for projects requiring City*
20 *review and approval. Trees exceeding 6 inches in diameter shall not be removed from*
21 *undeveloped properties within the City without approval from the City Administrator*
22 *unless the tree poses an immediate danger. Building Permit Applications shall include*
23 *identified tree removals and be approved by the City Administrator.”*

24
25 At the time TEC LLC submitted its application, the energy facility site was farmed in grass seed
26 even though it is inside the City limits. TEC LLC proposes to leave standing trees larger than six
27 inches in diameter unless approval to remove is obtained from the City as part of the building
28 permit application process.

29
30 **TLUDC 5.134(2) Yard Setbacks and Open Space**
31

32 *“(b) Commercial and industrial developments abutting residential properties shall*
33 *have their yard setbacks landscaped and/or fenced to protect the abutting*
34 *residential properties.”*
35

36 The Energy facility site abuts residentially zoned property to the north. That abutting property
37 would be owned by TEC LLC and used as a buffer area. TEC LLC would fence the required
38 north yard setback. Landscaping of that area is depicted on the landscaping plan, TEC Revised
39 ASC, January 2003, Exhibit K, Attachment K-13. See Condition D.7(5).
40

41 **TLUDC 5.134(3) Fences**
42

43 *“(a) Commercial or industrial properties may have 8 foot high fences except in a*
44 *street facing front yard setback.*

1 “(b) *Materials. Residential fences and walls shall not be constructed of or contain any*
2 *material which would do bodily harm such as electric, barbed or razor wire,*
3 *broken glass, spikes, or any other hazardous or dangerous materials. Commercial*
4 *or industrial properties may have barbed wire at the top of fences over 6 feet in*
5 *height except in the street facing front yard setback.”*
6

7 TEC LLC proposes to install a 6-foot high chain link fence surrounding the energy facility site,
8 with an additional three strands of barbed wire, for a total of 8 feet.

9
10 **TLUDC 5.134(3)(d)**

11 *“Sight-obscuring fences, walls or landscaping may be required to screen objectionable*
12 *activities as part of the City’s review and approval process. Sight-obscuring means 75%*
13 *opaque when viewed from any angle at a point 25 feet away. Vegetative materials must*
14 *be evergreen species that meet this standard year-round within 3 years of planting.”*
15
16

17 TEC LLC has proposed a chain link fence around the entire energy facility site. TEC LLC does
18 not propose that the fence be sight-obscuring, but does propose landscaping as depicted on the
19 landscaping plan, TEC Revised ASC, January 2003, Exhibit K, Attachment K-13, as a visual
20 buffer surrounding the site. *See* Condition D.7(5).

21
22 **TLUDC 5.134(4)(a)**

23 *“Parking Areas*
24 *“Parking lots shall be screened from abutting residential districts by a combination of*
25 *fences, walls, and landscaping adequate to screen lights, provide privacy and separation*
26 *for the abutting residential districts.”*
27
28

29 No parking lot is proposed to abut a residential district. However, as discussed above, TEC LLC
30 would fence and landscape the northern portion of the energy facility site that abuts the
31 residential district. Existing vegetation in the buffer area between the energy facility site and the
32 residential area north of the site would serve as a screen as well.

33
34 **TLUDC 5.134(4)(b)**

35 *“Parking lots shall have curbed landscaped islands and trees at the ends of parking rows*
36 *to facilitate movement of traffic and to break large areas of parking surface. The*
37 *minimum dimension of the landscaped area excluding the curbs shall be 3 feet and the*
38 *landscaping shall be protected from vehicular damage by wheel guards.”*
39
40

41 The parking lot is proposed to have 6-foot curbed landscaped islands in order to facilitate
42 movement of traffic. Trees would be planted at the ends of each parking row. All landscaped
43 areas would be at least three feet wide and protected by wheel guards. *See* TEC Revised ASC,
44 January 2003, Exhibit B, Attachment B-1, and discussion of proposed parking layout at Section

1 III.C of this Land Use Standard Analysis regarding findings of compliance with TLUDC
2 5.120(2).

3
4 **TLUDC 5.134(5)**

5
6 “Service Facilities

7 *“Garbage collection areas, and service facilities located outside the building shall be*
8 *screened from public view and landscaped.”*

9
10 The facility’s garbage collection area and service facilities would be screened and landscaped, as
11 depicted on the site plan (TEC Revised ASC, January 2003, Exhibit B, Attachment B-1) and the
12 landscape plan (TEC Revised ASC, January 2003, Exhibit K, Attachment K-13). *See* Condition
13 D.7(5).

14
15 Based on the foregoing discussion, the Department recommends that the Council find that the
16 applicable landscape standards of TLUDC 5.134 are satisfied, subject to adoption of the
17 following conditions in the site certificate to ensure compliance:

18
19 **(19) As part of its application for a building permit, the certificate holder shall**
20 **submit to the City of Turner a final landscaping plan substantially as shown**
21 **in the TEC Revised ASC, January 2003, Exhibit K, Attachment K-13, and**
22 **the certificate holder shall implement the landscaping plan in accordance**
23 **with its terms.**

24
25 **(20) The certificate holder shall not remove trees larger than six inches in**
26 **diameter unless approval to remove the trees is obtained from the City of**
27 **Turner as part of the building permit application process.**

28
29 **TLUDC 5.135 Exterior Lighting**

30
31 *“Exterior lighting should be provided in parking lots and may be provided elsewhere.*
32 *Lighting shall be located and designed to not face directly into on-coming traffic or onto*
33 *an adjacent residential district or use.”*

34
35 TEC LLC’s lighting plan is included in the TEC Revised ASC, January 2003, Exhibit K,
36 Attachment K-12. TEC LLC would provide lighting in parking lots as required. Lighting would
37 not face directly into ongoing traffic or onto the adjacent residential district to the north. *See*
38 discussion of TLUDC 2.500(2)(d) regarding exterior lighting under Section III.C of this Land
39 Use Standard Analysis, and recommended conditions. The Department recommends that the
40 Council find that this standard is satisfied.

41
42 **TLUDC 5.136(1)(a) Signs**

43
44 “General Sign Provisions

1 *“No sign shall, by its light, brilliance, type, design, or character, create a public or*
2 *private nuisance. The use of flashing or rotating lights is prohibited.”*

3
4 The energy facility site would have a single sign located at the entrance, as depicted in the TEC
5 Revised ASC, January 2003, Exhibit B, Attachment B-1, and further discussed in findings
6 regarding TLUDC 2.500(2)(d) in Section III.C of this Land Use Standard Analysis, together with
7 recommended conditions. Signage would not include any flashing or rotating lights. As
8 proposed, the sign would not constitute a nuisance.

9
10 **TLUDC 5.136(1)(b)**

11 *“Each sign or outdoor advertising display shall be located on the same site as the use it*
12 *identifies or advertises or have Conditional Use approval from the City.”*

13
14
15 The sign would be located on the energy facility site, as depicted in the TEC Revised ASC,
16 January 2003, Exhibit B, Attachment B-1.

17
18 **TLUDC 5.136(1)(c)**

19 *“No sign shall be constructed or erected such that the vision clearance area or other*
20 *areas necessary for a safe sight distance by the traveling public would be inhibited or*
21 *impaired.”*

22
23
24 No signs would be constructed within the vision clearance area. The vision clearance area would
25 be maintained at the intersection of the driveway and Wipper Road. *See* discussion of TLUDC
26 5.122(3)(b) for findings regarding vision clearance area under Section III.C of this Land Use
27 Standard Analysis.

28
29 The Department recommends that the Council find that the applicable standards of TLUDC
30 5.136 are satisfied.

31
32 **TLUDC 6.114(1) Temporary Manufactured Home Use**

33 *“Application: Applicants for a temporary use permit shall make written application for a*
34 *Site Plan Review on the City’s Application form. The Planning Commission may grant*
35 *approval for a Temporary Manufactured Home use subject to the procedures of Section*
36 *2.400. The Applicant shall provide a statement of intended use and the estimated length*
37 *of time for the temporary use on the application form and shall submit the site plan*
38 *information specified in Section 2.140.”*

39
40
41 TEC LLC proposes to install temporary, modular construction buildings for construction-related
42 purposes. Such buildings would be subject to the standards of TLUDC 6.114 only if they
43 constitute temporary manufactured home uses. TLUDC 1.200 defines Manufactured Home as:
44

1 *“A structure transportable in one or more sections, each built on a permanent chassis,*
2 *and which is designed to be used for permanent occupancy as a dwelling and is not*
3 *designated as a “recreational vehicle” or prefabricated structure as defined by the State*
4 *of Oregon.”*

5
6 TEC LLC’s proposed temporary buildings do not meet the definition of “Manufactured Home.”
7 They would not be intended for permanent occupancy as a dwelling. They would not be Class A
8 or B Manufactured Homes, and are not intended to be accessible to the general public. Rather,
9 they would be temporary accessory uses to the proposed facility under TLUDC 4.141(3).
10 Therefore, the Department recommends that the Council find TLUDC 6.114 does not apply.

11
12 **TLUDC 7.300 Required Public Improvements**

13
14 *“The following improvements shall be installed to serve each building site . . . at the*
15 *expense of the developer . . . However, if the Planning Commission finds that conditions*
16 *make installation of some improvements unnecessary at the time of development . . . of*
17 *the property, the Planning Commission may defer those improvements by requesting a*
18 *deed CC&R agreement to pay for future improvements benefiting the property. In lieu of*
19 *deferring an improvement, the Planning Commission may recommend to the City Council*
20 *that the improvement be installed in the area under special assessment financing or other*
21 *facility extension policies of the City.”*

22
23 **TLUDC 7.300(1)**

24
25 *“Streets: Public or private streets, adjacent to, or within the development or land*
26 *division shall be improved. Catch basins shall be installed and connected to drainage tile*
27 *leading to storm sewers or drainage ways. Upon completion of the street improvement,*
28 *monuments shall be re-established and protected.”*

29
30 Wipper Road is adjacent to the energy facility site. That road is improved to County standards.
31 As requested by Marion County, TEC LLC has committed to replacing the Wipper Road Bridge
32 in lieu of making any improvements to Wipper Road. *See* discussion of TLUDC 2.500(2)(c) for
33 discussion, findings and recommended conditions regarding Wipper Road Bridge replacement
34 under Section III.C of this Land Use Standard Analysis.

35
36 **TLUDC 7.300(7)**

37
38 *“Surface Drainage and Storm Sewer System: Drainage facilities shall be provided with*
39 *the development or land division and connected to drainage ways or storm sewers*
40 *outside the land division. Design of drainage within a development area shall*
41 *accommodate the capacity and grade necessary to maintain unrestricted flow from areas*
42 *draining through the property and shall accommodate extension of the drainage system*
43 *beyond the property.”*

1 TEC LLC would provide drainage facilities that would connect to existing drainage ways.
2 Compliance with this section would be assured through the required NPDES permit and other
3 city permitting requirements. As discussed further in findings regarding TLUDC 2.500(2)(f) and
4 TLUDC 5.126(1) in Section III.C of this Land Use Standard Analysis, the Department
5 recommends that the Council find that the drainage requirements are met subject to conditions
6 proposed in those sections..
7

8 **TLUDC 7.300(7)(a)**
9

10 *“It is the obligation of the property owner to provide proper drainage and protect all*
11 *runoff and drainage ways from disruption or contamination. On-site drainage is required*
12 *and downstream improvements may be required to accommodate flows. The Owner shall*
13 *provide proper drainage and shall not direct drainage across another property except*
14 *within the continuous drainageway. Maintaining proper drainage is a continuing*
15 *obligation of the property owner.”*
16

17 TEC LLC has proposed a drainage plan that would ensure compliance with this standard. That
18 drainage plan is discussed in detail in findings regarding under TLUDC 2.500(2) (e) and (f) and
19 TLUDC 5.117(1) in Section III.C of this Land Use Standard Analysis.
20

21 **TLUDC 7.300(7)(b)**
22

23 *“Upstream flows shall be accommodated and downstream flows must limit impacts on*
24 *downstream properties. There shall be no increased impacts from the proposed*
25 *development on the Mill Creek drainage system.”*
26

27 TEC LLC has proposed on-site detention for storm water drainage that would result in no
28 increased impacts on the Mill Creek drainage system. Detention is designed to control runoff
29 rates that may be expected in the 10-year 24-hour return storm event.
30

31 **TLUDC 7.300(7)(c)**
32

33 *“Site drainage shall limit off-site impacts to those that would occur from vacant land.*
34 *Roof drains, paving and catch basin out-flows shall require detention facilities and/or*
35 *other discharge controls. All storm drains shall be connected to the detention pond inlet*
36 *pipng. This system must be engineered by the Applicant using the “ODOT Rationale*
37 *Method” to control runoff rates that may be expected in a 10 year, 24 hour return storm*
38 *event and approved by the City of Turner.”*
39

40 *See discussion of TLUDC 7.300(7)(a) and (b) under Section III.C of this Land Use Standard*
41 *Analysis.*
42

43 **TLUDC 7.300(7)(d)**
44

1 *“All drainage plans, calculations and work sheets shall be reviewed and approved by the*
2 *City Engineer prior to issuance of a Building Permit.”*

3
4 TEC LLC has submitted drainage plans and has committed to complying with this standard. To
5 ensure compliance, the Department recommends that the Council adopt the following condition
6 in the site certificate:

7
8 **(21) As part of its application for a building permit, the Certificate Holder shall**
9 **submit to the City of Turner its final drainage plans for review and approval**
10 **by the City Engineer.**

11
12 **TLUDC 7.300(7)(e)**

13
14 *“A Wetlands Delineation and Mitigation Plan shall be required for identified wetlands*
15 *and shall be provided by the Applicant prior to building permit approval. See Section*
16 *4.220 for Wetland Regulations and Development Standards.*

- 17
18 *“1. No development shall be permitted within designated wetlands unless a permit*
19 *has been acquired from DSL and any other regulatory agency having jurisdiction.*
20 *“2. The City of Turner shall not provide sewer service to any new structures or*
21 *development which would encroach upon or adversely affect any designated*
22 *wetlands within the Turner City Limits or Urban Growth Boundary.”*

23
24 See Section E.1.b, Wetlands, of this Order. That section establishes that the energy facility site
25 can comply with this standard, subject to compliance with recommended conditions.

26
27 **TLUDC 7.300(8)**

28
29 *“Sanitary Sewers: Sanitary sewers shall be installed to serve the development or land*
30 *division and to connect the properties to existing mains. Connection to City mains may*
31 *entail installation of pump stations and larger mains to serve the proposed development*
32 *at the developer’s or land divider’s expense. System design shall provide increased size*
33 *and grades to accommodate extension of the system beyond the property or land division.*
34 *If required sewer facilities will, without further sewer construction, directly serve*
35 *property outside the subdivision, the following arrangements will be made to equitably*
36 *distribute the cost.*

- 37 *“(a) If the area outside the property to be directly served by the sewer line has reached*
38 *a state of development to justify sewer installation at the same time as the*
39 *proposed development or land division, the Planning Commission may*
40 *recommend to the City Council that all of the construction occur as a single*
41 *assessment project. A specific agreement shall be made with the developer or*
42 *land divider to assure financing of their share of construction costs.*
43 *“(b) If the installation is not made as an assessment project, the City may elect to*
44 *reimburse the developer or land divider an amount estimated to be a*
45 *proportionate share of the cost for each connection made to the sewer by property*

1 *owners outside of the development or land division for a period of ten years from*
2 *the time of installation of the sewers. The actual amount shall be as determined by*
3 *the City at the time of approval of the development or Plat, considering current*
4 *construction costs.*

5 *“(c) In the event it is impractical to connect the development or land division to the*
6 *City sewer system, the City may authorize the use of on-site wastewater systems if*
7 *the property area and soil characteristics are adequate. An agreement to pay for*
8 *future improvements and connections shall be provided in the form of CC&R’s*
9 *attached to the deed of each property.”*

10
11 The City has affirmed that it has the capacity to provide sanitary sewer service to the proposed
12 facility, and has provided a Will-Serve letter to TEC LLC, and TEC LLC has proposed, as its
13 first option, to connect to the city sewer system. However, TEC LLC and the City have not yet
14 reached agreement regarding the City’s provision of sanitary sewer service. If the facility does
15 not connect to the City's sewer system, it would have an onsite sewer system that would not be
16 subject to this code provision. *See also* discussion, findings and conditions related to compliance
17 with TLUDC 5.128(1) under Section III.C of this Land Use Standard Analysis.

18
19 **TLUDC 7.300(9)**

20
21 *“Water system: Water lines and fire hydrants serving each building site and connecting*
22 *the property to existing mains shall be installed to the standards of the City taking into*
23 *account provisions for system extension beyond the development property.”*

24
25 *See* discussion of TLUDC 5.217(1) under Section III.C of this Land Use Standard Analysis.

26
27 **TLUDC 7.300(12)**

28
29 *“Utilities: The developer shall make necessary arrangements with serving utility*
30 *companies for the installation of underground lines and facilities.”*

31
32 The on-site raw water pipeline and natural gas lateral pipeline would be located underground.
33 On-site electrical transmission lines must be overhead. They are major electrical transmission
34 lines coming from the energy facility switchyard. TLUDC 5.129(5)(d) allows overhead
35 transmission lines to be located in the right of way. TEC LLC has made arrangements for service
36 from all other utility companies.

37
38 Based on the foregoing discussion and subject to compliance with the recommended conditions,
39 the Department recommends that the Council find that the applicable Public Improvement
40 requirements of TLUDC 7.300 can be satisfied.

41
42 **TLUDC 7.510 Improvements Agreement**

43
44 *“Before City approval of a development, site plan, or land division, the developer or land*
45 *divider shall file with the City an agreement between developer or land divider and the*

1 City, specifying the period within which required improvements and repairs shall be
2 completed and providing that, if the work is not completed within the period specified, the
3 City may complete the work and recover the full cost and expense, together with court
4 costs and attorney fees necessary to collect said amounts from the developer or land
5 divider. The agreement shall also provide for the reimbursement of the City's cost of
6 inspection in accordance with Section 7.100(3)."
7

8 To ensure compliance with this standard, the Department recommends that the Council adopt the
9 following condition in the site certificate:

10
11 **(22) Before beginning construction of the facility, the certificate holder shall enter**
12 **into an agreement with the City of Turner, identifying improvements subject**
13 **to this site certificate that are to be undertaken by the certificate holder and**
14 **specifying a time for completion of such improvements. The agreement shall**
15 **further provide that if the work is not completed within the period specified,**
16 **the City may complete the work and recover the full cost and expense of that**
17 **work, together with court costs and attorney fees necessary to collect said**
18 **amounts from the certificate holder. The Agreement shall also provide for**
19 **the reimbursement of the City's cost of inspection of improvements in**
20 **accordance with TLUDC Section 7.100(3). In the event that the certificate**
21 **holder and the City of Turner can not come to agreement, the Council shall**
22 **identify the improvements referenced above and specify a time for**
23 **completion of such improvements.**
24

25 **TLUDC 7.520 Security**

26
27 “(1) *The developer or land divider shall file with the agreement, to assure full and*
28 *faithful performance thereof, one of the following:*
29 “(a) *A surety or performance bond executed by a surety company authorized to*
30 *transact business in the State or Oregon in a form approved by the City*
31 *Attorney; or*
32 “(b) *A personal bond co-signed by at least one additional person together with*
33 *evidence of financial responsibility and resources of those signing the*
34 *bond sufficient to provide reasonable assurance of the ability to proceed*
35 *in accordance with the agreement to the satisfaction of the City Council;*
36 *or*
37 “(c) *A cash or negotiable security deposit.*
38
39 “(2) *Such assurance of full and faithful performance shall be for a sum approved by*
40 *the City as sufficient to cover the cost of the improvements and repairs, including*
41 *related engineering and incidental expenses, and to cover the cost of City*
42 *inspections and other costs.”*
43

44 To ensure compliance with this standard, the Department recommends that the Council adopt the
45 following condition in the site certificate:

1
2 **(23) Before beginning construction and at the time of entering into the agreement**
3 **required by Condition D.4(22), the certificate holder shall file a security**
4 **instrument consistent with the requirements of TLUDC Section 7.520 with**
5 **the City of Turner. The security instrument shall be for a sum sufficient to**
6 **cover the cost of the improvements and repairs, including the City of**
7 **Turner’s related engineering and incidental expenses and costs of City**
8 **inspections and other costs.**
9

10 Based on the foregoing discussion and subject to compliance with the foregoing conditions, the
11 Department recommends that the Council find that the required standards of TLUDC 7.510 and
12 .520 can be satisfied.
13

14 The Department recommends that the Council find that, as conditioned, TEC LLC has complied
15 with or has established the feasibility of complying with all applicable substantive criteria under
16 Turner's Land Use Development Code.
17

18 **D. Turner Revised Code (“TRC”)**
19

20 **TRC 4.03.00 Connection to Sewers Required**
21

22 *“Every building containing plumbing, any portion of which is within 200 feet of an*
23 *available sewer shall be connected with the public sewer within six months after the*
24 *owner, lessee, or occupant thereof receives written notice from the administrator to do*
25 *so. For the purposes of this section, notice shall be deemed to have been received upon*
26 *the mailing of said notice by certified mail directed to said owner, lessee, or occupant.”*
27

28 The energy facility site is not within 200 feet of an available sewer connection. Therefore, the
29 Department recommends that the Council find TEC LLC is not required to connect to the city
30 sewer system. However, if TEC LLC connects to the City's system, it has committed to
31 complying with this requirement, and in that case, the Department recommends that the Council
32 adopt the following condition in the site certificate:
33

34 **(24) If the certificate holder elects to connect to the City of Turner sewer system,**
35 **the certificate holder shall establish its connection with the public sewer**
36 **system within six months after the certificate holder has received notice from**
37 **the City to connect to the public sewer system.**
38

39 **TRC 4.03.00 Construction to Conform to Standards**
40

41 *“All public or private water distribution systems to be connected to the municipal water*
42 *system, whether publicly or privately constructed, shall conform to standards of design,*
43 *sizing, materials, and workmanship prescribed by the City. Failure to meet standards*
44 *shall be grounds for refusal of acceptance. Service connections will not be made until the*
45 *system is approved and accepted.”*

1
2 In the event TEC LLC determines to connect to the municipal water system, TEC LLC has
3 committed to conforming to all prescribed City of Turner standards. See discussion of
4 compliance with TRC 4.03.00 under Section III.D of this Land Use Standard Analysis. The
5 Department recommends that the Council adopt the following condition in the site certificate:
6

- 7 **(25) If the certificate holder elects to connect to the City of Turner municipal**
8 **water system, as part of its application for a building permit, the certificate**
9 **holder shall provide to the City of Turner a final plan that demonstrates**
10 **conformance with standards of design, sizing, materials, and workmanship**
11 **prescribed by the City.**

12
13 **TRC 4.04.14 Abandonment of Septic Tanks**

14
15 *“In every instance in which use of a septic tank or cesspool is discontinued upon*
16 *connection of plumbing facilities to a public or private sewer, the septic tank or cesspool*
17 *shall be pumped out and emptied of sewage and sludge and refilled with clean sand or*
18 *gravel in a manner approved by the Marion County Sanitarian.”*
19

20 There are two existing septic tanks on the energy facility site that would be decommissioned in
21 accordance with the requirements of this standard, when the existing buildings are removed. To
22 ensure compliance, the Department recommends that the Council adopt the following condition
23 in the site certificate::
24

- 25 **(26) Before beginning operation of the facility, the certificate holder shall provide**
26 **proof to the City of Turner that the existing septic tanks on the energy**
27 **facility site have been decommissioned in a manner approved by the Marion**
28 **County Sanitarian.**
29

30 **TRC 4.06.06(a) Accidental Discharges and Spill Prevention Plans**

31
32 *“Each user shall provide protection from accidental discharge of prohibited materials or*
33 *other substances regulated by this ordinance into the sanitary sewer system. Facilities to*
34 *prevent accidental discharge of prohibited materials shall be provided and maintained at*
35 *the owner or user’s own cost and expense. An accidental spill prevention plan (ASPP)*
36 *showing facilities and operating procedures to provide this protection shall be submitted*
37 *to the City for review, and shall be approved by the City before construction of the*
38 *facility and implementation of procedures. The City shall determine which user is*
39 *required to develop an ASPP and require said user to submit the ASPP within 60 days*
40 *after notification by the City. Review and approval of such plans and operating*
41 *procedures shall not relieve the user from the responsibility to modify the user’s facility*
42 *as necessary to meet the requirements of this chapter. * * * ”*
43

44 Prior to beginning operation of the facility, TEC LLC has committed to develop and implement
45 an Accidental Spill Prevention Plan (“ASPP”), a Spill Prevention, Control, and Countermeasure

1 Plan (“SPCC”), an Emergency Action Plan, a Hazardous Waste Emergency
2 Response/Contingency Plan, a Hazardous Communication Program, Hazardous Materials
3 Management Plan, and a Hazardous Waste Management Plan. See discussion in Section D.3,
4 Retirement and Financial Assurance, of this Order. The Department recommends that the
5 Council find that compliance with conditions recommended in Section D.3, Retirement and
6 Financial Assurance, of this Order demonstrates compliance with TRC 4.06.06(a) . The
7 Department further recommends that the Council find that any modifications necessary to
8 ensure continued compliance with the requirements of TRC 4.0606(a) are subject to the
9 Council’s jurisdiction and that the City may not impose any modification under this provision
10 that would conflict with or change the facility as described in the site certificate, or require a
11 change to a site certificate condition.

12
13 **TRC 4.10.04 Connection Required**

14
15 *“Connection to the municipal water system is mandatory for all new development within*
16 *the City after the effective date of this ordinance. Properties having water service*
17 *provided by the City on the effective date of this ordinance are required to remain*
18 *connected to the municipal water system.”*

19
20 This standard requires the City to provide connection to the city’s municipal water system.
21 However, as discussed above, and in Section III.C.1.a (the description of the proposed use), TEC
22 LLC and the City have not yet reached agreement about the connection. Accordingly, TEC LLC
23 has proposed two alternative methods for provision of potable water. As discussed in further
24 detail above regarding compliance with TLUDC 2.500(2)(e), TEC LLC would either connect to
25 the city’s municipal water system or provide its own onsite system using its own water rights. In
26 the event the City cannot provide the required connection, the Department recommends that the
27 Council permit TEC LLC to utilize the requested alternative, on-site system.

28
29 **TRC 5.13.02(a) Attractive Nuisances**

30
31 *“No owner or person in charge of property shall permit on the property:*

32 *“(1) Unguarded machinery, equipment, vacant buildings or other devices that are*
33 *attractive, dangerous, and accessible to children.*

34 *“(2) Lumber, logs or piling placed or stored in a manner so as to be attractive,*
35 *dangerous, and accessible to children.*

36 *****

37 *“(b) This section does not apply to authorized construction projects with*
38 *reasonable safeguards to prevent injury or death.”*

39
40 The energy facility site would be fenced (TEC Revised ASC, January 2003, Exhibit B,
41 Attachment B-1) and would have a video remote controlled locked gate and an internal security
42 system during both construction and operation of the facility.

43
44 **TRC 5.13.03 Scattering Rubbish**

1 *“No person shall deposit, on public or private property, rubbish, trash, debris, refuse, or*
2 *any substance that would mar the appearance, create a stench or fire hazard, detract*
3 *from the cleanliness or safety of the property, or would be likely to injure a person,*
4 *animal or vehicle traveling on a public way.”*
5

6 Construction debris and ongoing operational solid waste management would be handled in
7 compliance with this section and with TRC Section 4.20. *See* further discussion, findings and
8 recommended conditions in Section D.13, Public Services, of this Order.
9

10 **TRC 5.13.05 Surface Waters, Drainage**

11
12 “(a) *No owner or person in charge of a building or structure shall permit rainwater,*
13 *ice, or snow to fall from the building or structure onto a street or public sidewalk*
14 *or to flow across the sidewalk or street.*
15

16 “(b) *The owner or person in charge of property shall install, and maintain in a proper*
17 *state of repair, adequate drainpipes or a drainage system, so that overflow water*
18 *accumulating on the roof or about the building is not carried across or on the*
19 *sidewalk or street.”*
20

21 *See* discussion of compliance with TLUDC 2.500(2)(e) and (f) under Section III.C of this Land
22 Use Standard Analysis.
23

24 **TRC 5.14.01(a) Radio and Television Interference**

25
26 *“No person shall operate or use an electrical, mechanical, or other device, apparatus,*
27 *instrument, or machine that causes reasonably preventable interference with radio or*
28 *television reception by a radio or television receiver of good engineering design.”*
29

30 The energy facility site would generate no radio or television interference. *See* Section E.1.3,
31 Public Health and Safety, of this Order.
32

33 **TRC 5.14.04(a) Exterior Lighting**

34
35 *“No person shall permit direct light glare beyond the property of origin, when*
36 *perceptible without instruments on neighboring residentially zoned property and when*
37 *the direct light glare causes distress or discomfort to the residents of the property.”*
38

39 Lighting would comply with this requirement, as discussed in findings of compliance with
40 TLUDC 2.500(2)(d) and TLUDC 5.135 under Section III.C of this Land Use Standard Analysis
41 and recommended Conditions D.7(2) and D.7(3).
42

43 **TRC 5.21.03(c) Noise Limits for New Industrial and Commercial Activities**

1 *“After the effective date of this ordinance new industrial and commercial activities shall*
2 *provide evidence that sounds will not be created in excess of the limits set forth in Table*
3 *8, Chapter 340, Oregon Administrative Rules as measured at the property line of the*
4 *activity as a condition of approval of a Site Plan Application for new development or*
5 *building permit approval for expansion of existing activities.”*
6

7 OAR Chapter 340, Table 8, establishes that the applicable “allowable statistical noise level” for
8 the proposed facility is L₅₀ – 50 dBA. Compliance with the DEQ standards is discussed at
9 Section E.1.a, Noise, of this Order. The TRC noise standards mirror the DEQ noise regulations
10 in that both are concerned with protecting “noise sensitive property” from the excessive noise
11 levels.
12

13 OAR 340-035-0035(3)(b)(3) requires noise measurements to be taken at “noise sensitive
14 property.” The rule defines “noise sensitive properties as *“real property normally used for*
15 *sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in*
16 *industrial or agricultural activities is not Noise Sensitive Property unless it meets the above*
17 *criteria in more than an incidental manner.”*
18

19 Similarly, TRC 5.20.03 requires *“[T]he review of land use applications to insure new uses are in*
20 *consonance with this ordinance; i.e., new uses do not encroach on noise sensitive uses or noise*
21 *sensitive uses encroach on high impact areas such as industrial zones[.]”* TRC 5.20.02(c)(6)
22 defines a “noise sensitive use” as *“[T]he employment of real property by people for residential*
23 *occupancy, schools, churches, public libraries, or hospitals. This definition includes any place*
24 *where people normally sleep except those located in industrial or commercial zones.”* Thus, the
25 TRC recognizes both the necessity to protect noise sensitive uses as well as the necessity to
26 ensure that noise sensitive uses are separated from industrially zoned properties, which are
27 recognized to be “high impact areas.”
28

29 However, the TRC and DEQ noise regulations differ with respect to the noise measurement
30 location. In contrast to the DEQ rules, the TRC requires the noise measurement to be taken not
31 from the nearest noise sensitive use, but rather from the “property line of the new use.” TEC
32 LLC asserts that in order to accurately assess potential impacts on “noise sensitive uses” as
33 called for in the TRC, in this case it is appropriate to measure the noise levels at the closest noise
34 sensitive use, rather than at the property line of the proposed energy facility. TEC LLC takes the
35 position that measuring noise at the property line of the facility would suggest that noise
36 sensitive uses would be adversely affected by the facility, when in fact the closest noise sensitive
37 use is over 150 feet beyond TEC LLC’s northern buffer area.
38

39 TRC 5.21 does not provide for adjustments to the measurement location based on actual impact.
40 However, consistent with the purpose of the city’s Noise Ordinance to ensure separation of high
41 impact areas from noise sensitive areas, the “property line of the activity” is appropriately
42 defined in terms of the scope of the proposed development area or in terms of the industrial zone
43 itself.
44

1 The development area of the proposed energy facility extends beyond the facility site itself to
2 include the buffers surrounding the facility to the north, west and south. These buffers, which
3 would all be within TEC LLC's ownership and control, are expressly intended to buffer any
4 impacts of the proposed energy facility from the surrounding, non-industrially zoned properties,
5 including noise. Accordingly, for purposes of determining noise impact of the proposed facility,
6 the "property line of the activity" is appropriately interpreted to be the property line of the
7 buffers. TEC Revised ASC, January 2003, Exhibit K, Attachment K-11, Table K-T.1 establishes
8 that, as measured from the buffer property lines, to the north, west and south, the proposed
9 energy facility would satisfy the ambient noise standards of TRC 5.21.03(c).

10
11 To the east, the proposed energy facility would adjoin similarly industrially-zoned property. For
12 purposes of the City's noise ordinance, there is no encroachment on any noise sensitive uses
13 where the facility is adjacent to another industrially-zoned property. Rather, the activity would
14 be an industrial use, and the property line of the industrial activity would be properly interpreted
15 as that property line at the boundary between the industrial zone and a zoning district containing
16 noise sensitive receptors. No noise sensitive receptors are adversely affected by the construction
17 of the facility adjacent to another industrially zoned parcel.

18
19 The Department recommends that the Council find that the proposed energy facility would
20 satisfy the Turner Noise Ordinance.

21
22 In the alternative, and as discussed above with regard to the city's height standards of TLUDC
23 4.141(4), the Department considers the City's noise ordinance requirements in the context of the
24 Council's requirement to evaluate the proposed facility for compliance with those substantive
25 local criteria required for compliance with the statewide planning goals. Goal 6 does not require
26 that a project do more than is required under the applicable state and federal regulations. *See*
27 Applegate Watershed v. Josephine County, 44 Or LUBA 786 (2003). ("Goal 6 requires that the
28 local government establish that there is a reasonable expectation that the use that is seeking land
29 use approval will also be able to comply with the state and federal environmental quality
30 standards that it must satisfy to be built." *Id.* at 802.) The Goal 6 requirements regarding noise
31 are satisfied through compliance with the DEQ noise standards. To the extent the City's noise
32 standards are more stringent than the DEQ standards, those more stringent standards are not
33 necessary to ensure compliance with Goal 6. Accordingly, the Department recommends, in the
34 alternative, that the Council find that the Turner Noise Ordinance requirements are not applicable
35 to the extent they exceed the requirements for compliance with Goal 6.

36
37 **TRC 5.21.04 Temporary Occupancy of Recreational Vehicles Or Campsite**

38
39 *"(a) Permanent Occupancy Prohibited. No person shall permanently occupy a*
40 *recreational vehicle or campsite on any property within the city."*

41
42 No "resident" security personnel would be housed on the energy facility site, but there would be
43 24-hour a day, seven days a week, on-site security during both construction and operation of the
44 energy facility. No construction personnel would be allowed to live in RV's or campsites on the
45 site.

1
2 **TRC 7.21.03(a) Alarm System Requirements**

3
4 *“No alarm system shall be installed, used, or maintained in violation of any the*
5 *requirements of adopted provisions of the Uniform Fire Code or of any applicable*
6 *statute, law, or administrative regulation of the State of Oregon or of the City of Turner.”*
7

8 **TRC 7.21.04 Permits Required**

9
10 *“No person shall install, use, or maintain any alarm system without first obtaining a*
11 *permit for such system from the City. Systems approved and installed prior to the*
12 *adoption of this Ordinance 90-100 shall be governed by such rules and regulations as*
13 *contained herein.”*
14

15 The security systems in the energy facility would be installed and operated in accordance with
16 the requirements of TRC 7.21. The required permit would be obtained prior to installation of any
17 security system. The Department recommends that the Council adopt the following condition in
18 the site certificate:

19
20 **(27) Before installing any alarm system, the certificate holder shall obtain from**
21 **the City of Turner a permit to install an alarm system.**
22

23 **TRC 8.01.00 Building Code (See Ordinance 00-109)**

24
25 *“This section is adopted by Ordinance 00-109 and adopts the Uniform Building Code of*
26 *the State of Oregon unless otherwise indicated.”*
27

28 All buildings at the energy facility site would be constructed in accordance with applicable
29 Oregon Uniform Building Code standards. Compliance with the specific requirements of
30 building, structure design and construction practices and standards of the UBC are not within the
31 Council’s jurisdiction. ORS 469.401(4).
32

33 **TRC 8.02.00 Excavation and Grading (See Ordinance 01-100)**

34
35 **TRC 8.02.01 Adoption**

36
37 *“The City of Turner hereby adopts Appendix Chapter 33, Excavation and Grading, of the*
38 *1997 Uniform Building Code of the State of Oregon for use by the City of Turner without*
39 *modification, a copy of which is at Attachment A to Ordinance 01-100 and by this*
40 *reference, incorporated into this code section.”*
41

42 **TRC 8.02.02 Excavation and Grading Permit Processing**

43
44 *“Permit applications for excavation and grading activities required under this section*
45 *will be submitted to the City of Turner and processed by Marion County in accordance*

1 with TRC 8.01.00 through 8.01.22. Marion County Excavation and Grading permit forms
2 will be used.”
3

4 Excavation and grading would follow the mandates of the Uniform Building Code, as required
5 by TRC 8.02.01. The permit applications for excavation and grading would be obtained after
6 issuance of the site certificate. Detailed plans would be submitted by TEC LLC’s engineer to the
7 City of Turner, for review and processing by Marion County. Compliance with the specific
8 requirements of building, structure design and construction practices and standards of the UBC
9 are not within the Council’s jurisdiction. ORS 469.401(4).
10

11 **TRC 9.01.04 City Permission Requirement**
12

13 *“No person may occupy or encroach on a public right-of-way without the permission of*
14 *the City. The City grants permission to use rights-of-way by franchises, licenses and*
15 *permits.*
16

16 *****

17 “(c) *Permits. Permits are issued for uses of specific portions of public rights-of-way*
18 *for periods of time less than 30 days continual use. Each period of use requires a*
19 *new permit. Permits may be approved by the City Administrator. Compensation*
20 *for such use is established by resolution.”*
21

22 All work within the City right-of-way would comply with these requirements and be conducted
23 pursuant to required permits. The Department recommends that the Council find that this
24 requirement is satisfied by compliance with recommended Condition F.1(6) of this Order.
25

26 The Department recommends that the Council find that, subject to compliance with the
27 conditions discussed above, the proposed facility complies with all applicable substantive criteria
28 under Turner's Revised Code.
29

30 **IV. MARION COUNTY ZONING ORDINANCES (“MCZO”)**
31

32 Marion County implements the planning goals and policies of the Marion County
33 Comprehensive Plan through, as is applicable here, the Marion County Rural Ordinance. These
34 ordinances reflect the required statewide planning goals. Marion County has identified the
35 ordinances set out below as being applicable to the siting of the proposed energy facility.
36

37 The natural gas lateral pipeline, the 230-kV electrical transmission line, the raw water pipeline,
38 and part of the temporary construction laydown, parking, and modular construction buildings
39 would be located within Marion County's planning jurisdiction.
40

41 Natural Gas Lateral Pipeline

42 The two combustion turbines in the energy facility would be fueled by natural gas transported to
43 the energy facility site from the existing Grants Pass Pipeline located about two miles to the east.
44 A new natural gas lateral pipeline for service to the energy facility site would be built from the
45 Grants Pass Pipeline, west to the energy facility site.

1
2 The off-site natural gas lateral pipeline route begins at the tie-in location at Little Road, and
3 travels west within the existing right-of-way, to the intersection of Marion Road. At Marion
4 Road, the natural gas lateral pipeline would travel north, along the existing right-of-way of
5 Marion Road, for about 1,500 feet. The natural gas lateral pipeline would then travel west to 55th
6 Avenue, following the north-south property lines of three parcels zoned EFU and owned by
7 private property owners. One pass under the Perrin Lateral would be required, using trenchless
8 technology. The natural gas lateral pipeline would then cross 55th Avenue and continue across
9 one private property zoned EFU, for about 550 feet. The natural gas lateral pipeline would then
10 run north along the east side of the Union Pacific right-of-way for about 1,600 feet. It would then
11 pass under the railroad right-of-way and run west about 200 feet under EFU land. It would then
12 proceed north, on TEC LLC's property, for about 1,600 feet, to the energy facility site.
13

14 Land uses within 500 feet of the pipeline corridor are as follows: farming, transportation, and
15 rural residences. None of this area is designated by the County as Goal 5 open space.
16

17 Raw Water Pipeline

18 Raw water would be provided to the energy facility through TEC LLC's proposed water rights
19 and delivered by the SWCD. The underground pipeline would be installed along the same route
20 as the natural gas pipeline, starting at the Perrin Lateral between 55th Avenue and Marion Road,
21 passing underneath the railroad, and ending at the energy facility.
22

23 Land uses within 500 feet of the pipeline corridor are as follows: farming, transportation, and
24 rural residences. None of this area is designated by the County as Goal 5 open space.
25

26 230-kV Electric Transmission Line

27 A new looped 230-kV electric transmission line about 1,500 feet in length would be constructed
28 from the switchyard of the facility west to the north-south PacifiCorp 230-kV electric
29 transmission lines. This interconnection is the main outlet for power generated at the energy
30 facility. There would be two single circuit lines forming the dual circuit interconnect. No
31 reconductoring of the existing 230-kV PacifiCorp lines would be required. This dual circuit
32 electrical transmission loop to the PacifiCorp electric transmission line would be owned and
33 operated by PacifiCorp as part of its system. It would cross over property to be owned by TEC
34 LLC. That property is zoned EFU.
35

36 Existing land uses within 500 feet of the 230-kV electric transmission line are: farming,
37 transportation, and one farm residence (which would be owned by TEC LLC).
38

39 Temporary Construction Areas (K-107)

40 TEC LLC would acquire about 47 acres south of and adjacent to the energy facility site. A
41 portion of this acreage, within the County and zoned EFU, would be used for temporary
42 construction laydown, with accessory temporary modular buildings and construction parking.
43 Gravel would be placed on the temporary use areas and would be removed, along with any
44 temporary modular construction buildings after construction is completed.
45

1 **MCZO 136.040 Uses Permitted Subject to Standards**

2
3 *“The following uses may be permitted in the EFU zone subject to approval of the request*
4 *by the planning director, based on satisfaction of the standards and criteria specified for*
5 *each use, pursuant to Section 110.680.*

6 *****

7 *“(i) Utility facilities necessary for public service, except commercial facilities for the*
8 *purpose of generating power for public use by sale and transmission towers over*
9 *200 feet in height. A facility is “necessary” if it must be situated in the EFU zone*
10 *in order for the service to be provided.”*

11
12 A “utility facility” is defined in MCZO 110.582 as:

13
14 *“Any water, gas, sanitary sewer, storm sewer, electricity, telephone and wire*
15 *communication service, and CATV (Cable television) service lines, mains, pumping*
16 *stations, reservoirs, poles, underground transmission facilities, substations, and related*
17 *physical facilities which do not include buildings regularly occupied by employees,*
18 *parking areas, or vehicle, equipment and material storage areas, wireless*
19 *communications facility or wireless communications facility attached.”*

20
21 The proposed natural gas lateral pipeline is a “gas” “service line” and an “underground
22 transmission facility”. The proposed raw water pipeline is a “water” “service line” and an
23 “underground transmission facility”. The 230-kV electric transmission line is “electricity,”
24 “mains” and “poles”. None of these related or supporting facilities requires a building or other
25 site development that is prohibited by MCZO 110.582.

26
27 As of the date of this application, Marion County’s EFU zone had not been amended to comply
28 with ORS 215.275, which was enacted in 1999, and the accompanying administrative rule OAR
29 660-033-0130(16).⁷ When a local government does not amend its comprehensive plan and
30 zoning ordinance after a change in state law, then the ORS section applies directly. ORS
31 469.504(1(b)(A)); ORS 197.646(3).

32
33 The definition of “necessary for public services” is addressed in detail in ORS 215.275 and in
34 OAR 660-033-0130(16). In this case, the implementation of “necessary” under ORS 215.275
35 applies to the County EFU Ordinance and its Comprehensive Plan. As discussed in Section V.2
36 of this Land Use Standard Analysis regarding compliance with ORS 215.275, the natural gas
37 lateral pipeline, the raw water pipeline, and the 230-kV electric transmission line and towers
38 meet this statutory definition.

39
40 **MCZO 126.020(k) Permitted Secondary and Accessory Structures and Uses**

41

⁷ Marion County has amended its land use regulations to comply with ORS 215.275 as required by ORS 197.646(1). However, this application must be reviewed and evaluated based upon the regulations in effect on the date the application was submitted. This application was submitted on December 21, 2001.

1 *“The following secondary and accessory uses and structures shall be permitted on a lot*
2 *or parcel with a primary use and are subject to the limitations and requirements in*
3 *Chapters 110, 112, 113, 114, 116, 117, 120, 121 and the requirements in any applicable*
4 *overlay zone.*

5 *****

6 “(k) *Accessory and secondary uses not otherwise permitted may be allowed as a*
7 *conditional use provided the use is consistent with the definition of accessory or*
8 *secondary and is compatible with the purpose of the zone and land uses on*
9 *adjacent lots.”*

10
11 TEC LLC has proposed temporary construction and laydown areas, which would house
12 temporary construction modular buildings and include parking for construction crews. An
13 accessory use is defined as “[a] building, structure, vehicle, or use which is incidental and
14 subordinate to and dependent upon the primary use on the lot.” MCZO 110.015. The County has
15 advised TEC LLC that the construction laydown area may be allowed as a temporary accessory
16 use to the energy facility. Therefore, the temporary construction and laydown area is discussed
17 below to determine whether it meets the conditional use criteria, since it is not a use allowed
18 outright in the zone.

19
20 **MCZO 110.680 Administration of the Ordinance**

21
22 *“The Director or designee shall determine whether dwellings, structures or uses which*
23 *are subject to standards or regulations are a permitted use or a permitted use subject to*
24 *the limited use provisions in the applicable zone. The administrative review procedures,*
25 *as provided below, shall be followed in making these determinations. The same process*
26 *shall be used for other administrative reviews under this Ordinance including, but not*
27 *limited to, modifications of the special setbacks in Section 128.040(a), 136.050(a),*
28 *137.050(a), 138.050(a), and 139.050(a).*

29 “(a) *The decision shall be made on the basis of the Marion County Comprehensive*
30 *Plan and applicable standards and criteria in the Rural Zoning Ordinance. The*
31 *Director or designee may attach any conditions deemed necessary to ensure*
32 *conformance of the use or structure to the standards of criteria.”*

33
34 Under ORS 459.504(1)(b), TEC LLC has elected to have the Council make this determination.

35
36 **MCZO 136.100(a)(3) (K96)**

37
38 *“The following standards apply to development in an EFU zone:*

39 *“Maximum Height:*

40 *****

41 “(3) *Non-residential and non-farm structures—35 feet unless they are in conjunction*
42 *with conditional uses allowed in Section 136.050, and a greater height is*
43 *requested and approved as part of the conditional use permit.”*

1 The 230-kV electric transmission line towers would be approximately 80 feet in height.
2 Accordingly, under the County’s code, a variance is required to permit electric transmission line
3 towers at the requested height. However, as discussed above with regard to the height of
4 proposed energy facility structures within the city limits (*See* discussion of TLUDC 4.141(4)(c)
5 under Section III.C of this Land Use Standard Analysis), the County’s height regulations are not
6 required for compliance with any statewide planning goal. Because ORS 469.504(1)(b) requires
7 evaluation of local code criteria necessary to comply with those goals, compliance with the
8 County’s height restrictions is not required to comply with the Council’s land use standard.
9 However, to the extent the Council determines it appropriate to evaluate compliance with the
10 County’s height standards, the County’s variance process is evaluated as follows:

11
12 **MCZO 122.010 Power to Grant Variances**

13
14 *“Subject to the restrictions and provisions contained in this ordinance, the Director,*
15 *Planning Commission, Hearings Officer or Governing Body shall have the power to vary*
16 *or modify the strict application of any of the regulations or standards of this ordinance in*
17 *any case where such strict application would result in practical difficulties or*
18 *unnecessary hardships with reference to requirements governing: lot area, lot width,*
19 *percentage of lot coverage and number of dwelling units or structures permitted on a lot,*
20 *height of structures, location, yards, signs, parking and loading space, vision clearance*
21 *and other standards. Variances to allow uses or new uses not otherwise allowed are*
22 *prohibited.”*

23
24 The Council has the authority to grant the height variance for the 230-kV electric transmission
25 line towers.

26
27 **MCZO 122.002 Criteria for Granting a Variance.**

28
29 *“The Director, Planning Commission, Hearings Officer, or Governing Body may permit*
30 *and authorize a variance when it appears from the application and the facts presented*
31 *that:*

32 *“(a) There are unnecessary, unreasonable hardships or practical difficulties which*
33 *can be relieved only by modifying the literal requirements of the ordinance; * * ”*

34
35 The electric transmission line towers are designed at a height to allow connection to the existing
36 PacifiCorp 230-kV electric transmission line. Additionally, the electric transmission line must be
37 at a height to allow safe farming practices to be conducted beneath it. In this case, the National
38 Electrical Safety Code minimum clearance of 22.4 feet from surface is exceeded. In order to
39 maintain appropriate distance between towers, and to reduce their number, approximately 400 to
40 600 feet of spacing is provided. Given that some line sag would occur, the 80-foot pole height is
41 required to ensure adequate line height.

42
43 *“(b) There are unusual circumstances or conditions applying to the land, buildings, or*
44 *use referred to in the application, which circumstances or conditions do not apply*
45 *generally to land, buildings, or uses in the same zone; however, nonconforming*

1 *land uses or structures in the vicinity or violations of land use regulations or*
2 *standards on the subject property shall not in themselves constitute such*
3 *circumstances or conditions;”*
4

5 The towers accommodate a highly specialized use, i.e., a 230-kV electric transmission line. The
6 towers are designed at the appropriate height in order to provide proper electrical engineering,
7 function, interconnection, and public safety. They must be located above the travel lanes of
8 Wipper Road and above farming implements on the subject property. ORS 215.283 and MCZO
9 136.040(i) allow electric transmission main lines to be located in the EFU zone, and a variance
10 from the 35-foot height standard is necessary in this instance for public health and safety, and
11 proper functioning.
12

13 *“(c) The degree of variance from the standard is the minimum necessary to permit*
14 *development of the property for the proposed use;”*
15

16 The towers are designed to be no higher than necessary and are of a height and design that is
17 customary for other main electric transmission towers in the area. Due to minimum line height
18 requirements (22.4 feet) and line sag characteristics, the towers must exceed the 35 foot height
19 standard. Line height is also a factor for EMF reduction.
20

21 *“(d) The variance will not have a significant adverse affect on property or*
22 *improvements in the neighborhood of the subject property; * * * “*
23

24 It is estimated that about six to eight new 230-kV towers, spaced about 400 to 600 feet apart,
25 would be needed on TEC LLC’s property west of Wipper Road. The towers would have no
26 impact on surrounding farm property. The nearest residence to the north is about 1,200 feet away
27 and is inside the City. To the south the nearest residence is about 1,250 feet from the facility site,
28 and TEC LLC would own that property. The southerly most towers and lines are set back more
29 than 50 feet from the southerly property line. At these distances, tower height would have no
30 adverse impact on property or improvements in the neighborhood.
31

32 *“(e) The variance will not have a significant adverse affect upon the health or safety of*
33 *persons working or residing in the vicinity * * * “*
34

35 The EMF from the dual circuit 230-kV electric transmission line would be lower than the most
36 stringent standard found anywhere in the United States. In addition, the 230-kV loop would be
37 constructed with phasing arranged to provide a cancellation of the EMF. No residence would be
38 within 1,200 feet of the proposed 230-kV electric transmission line. TEC LLC would own the
39 property where the interconnection is located. The towers would be single stand steel towers and
40 would be grounded. Fire protection and other rural services, should they be necessary, are readily
41 available from the fire station on Third Street, about one-half mile away. *See* EMF discussion in
42 Section E.1.c, Public Health and Safety, of this Order.
43

44 *“(f) The variance will maintain the intent and purpose of the provision being varied.”*
45

1 There is no “intent” or “purpose” statement attached to the 35-foot height standard of MCZO
2 136.100(e)(3). In this case the “structure” is a single stand steel tower, and there is no danger of
3 collapse. The higher towers create no significant impairment of view or airflow, and the towers
4 would be set back from the property line a minimum of 50 feet. Fire safety or other occupant
5 related life/safety concerns have been addressed above. Engineering and design would be
6 reviewed for code compliance and public safety when permits are issued.
7

8 The Department recommends that the Council find that TEC LLC has met the criteria for a
9 height variance for the 230-kV electric transmission line towers. In the alternative, the
10 Department recommends that the Council find that no variance is required to permit the
11 requested 80-foot height of the 230-kV electric transmission line towers because the County
12 height limitation is not related to or required for compliance with the Statewide Planning Goals.
13

14 **MCZO Floodplain Overlay Zone**

15
16 TEC LLC intends to place compacted gravel at grade in the temporary construction laydown and
17 parking areas on a portion of TEC LLC’s 47 acres to the south of the energy facility site. These
18 areas are outside the 100-year floodplain but are within the 500-year floodplain. MCZO
19 178.040(A)(2) grants an exception from the Floodplain Overlay Zone to, “[S]treets, driveways,
20 parking lots and other open space use areas where no alteration of topography will occur.”
21 However, while parking is one use of this area, it is not the only use, and, therefore, a floodplain
22 permit is necessary for the temporary construction laydown and parking on the property south of
23 the UGB.
24

25 A portion of the underground natural gas lateral pipeline and raw water pipeline would be
26 located outside the 100-year floodplain but within the 500-year floodplain. The towers for the
27 230-kV electric transmission lines to the west would be in the 500-year floodplain and two
28 towers would be in the 100-year floodplain. There is an exemption to the Floodplain Overlay
29 Zone under MCZO 178.040(A)(5) for, “placement of utility facilities necessary to serve
30 established and permitted uses, within floodplain areas, such as telephone poles. This exemption
31 does not apply to buildings, substations, or other types of floodplain development.” TEC LLC
32 asserts that the gas pipeline, water pipeline and electric transmission lines fall within the
33 definition of “utility facility” in MCZO 110.582. However, the ordinance contemplates
34 exempting placement of utility facilities that would serve established and permitted uses and the
35 proposed energy facility is not an established or permitted use. Therefore, the exception from the
36 floodplain development regulations does not apply to these pipelines and electric transmission
37 lines.
38

39 **MCZO 178.040 Uses**

40
41 *“Within a FP (Floodplain) Overlay zone no uses, structures, recreational vehicles and*
42 *premises shall be used or established except as provided in the applicable underlying*
43 *zone and the provisions of this overlay zone. Except as provided herein all uses and*
44 *floodplain development shall be subject to issuance of a conditional use permit*
45 *(Floodplain Development Permit) as provided in Section 178.050.”*

1
2 The proposed underground pipelines, the 230-kV electric transmission lines, and the temporary
3 construction and laydown area must meet the conditional use requirements.

4
5 **Conditional Use Procedures and Requirements**

6
7 **MCZO 178.050(A)**

8
9 *“Except as provided in Section 178.040 a conditional use permit (Floodplain*
10 *Development Permit) shall be obtained before construction or development begins within*
11 *the Floodplain Overlay Zone. The conditional use permit shall include conditions*
12 *ensuring that the Flood Protection standards in Section 178.060 are met.”*

13
14 The standards in MCZO 178.060 are discussed below.

15
16 **MCZO 178.050(D)**

17
18 *“Prior to obtaining a building permit, commencing development or placing fill in the*
19 *floodplain the applicant shall submit a certification from a registered civil engineer*
20 *demonstrating that a development or fill will not result in an increase in floodplain area*
21 *on other properties and will not result in an increase in erosive velocity of the street that*
22 *may cause channel scouring or reduce slope stability downstream of the development or*
23 *fill.”*

24
25 TEC LLC has submitted evidence that the proposed development will not result in an increase in
26 the floodplain area, and will not result in increased erosive velocity of the street. The Department
27 recommends that the Council find that the standard has been met and instruct Marion County to
28 issue the Floodplain Development Permit upon submission of the application and payment of
29 appropriate fees. To further ensure compliance, the Department recommends that the Council
30 adopt the following condition in the site certificate:

31
32 **(28) Before beginning construction of the facility or placing fill in the floodplain,**
33 **the certificate holder shall submit to Marion County a certification from a**
34 **registered civil engineer demonstrating that development or fill will not**
35 **result in an increase in floodplain area on other properties and will not result**
36 **in an increase in erosive velocity of the street that may cause channel**
37 **scouring or reduce slope stability downstream of the development or fill.**

38
39 **MCZO 178.050(E)**

40
41 *“Prior to any mining, dredging, filling, grading, paving or excavation within the 500*
42 *year floodplain of the Mill Creek Basin Flood Hazard Area (MCBFHA), as shown on the*
43 *Marion County zoning maps, a floodplain development permit shall be obtained.”*

1 To ensure compliance with this criterion, the Department recommends that the Council adopt the
2 following condition in the site certificate:

- 3
4 **(29) Before beginning construction of the facility or placing fill in the floodplain,**
5 **the certificate holder shall obtain from Marion County the necessary**
6 **floodplain development permits for the underground pipelines, the 230-kV**
7 **electric transmission lines, and the temporary construction and laydown**
8 **areas, as required by MCZO 178.050(D) and (E).**
9

10 **MCZO 178.050(F)**

11
12 *“Prior to occupancy the applicant shall provide a certificate signed by a licensed*
13 *surveyor or civil engineer certifying that the actual elevation (in relation to mean sea*
14 *level) of the lowest floor (including basement) of all new or substantially improved*
15 *manufactured homes, dwellings or structures meets the requirements of Section*
16 *178.060(A), (B) and (C) where applicable.”*
17

18 To ensure compliance with this criterion, the Department recommends that the Council adopt the
19 following condition in the site certificate:

- 20
21 **(30) Before beginning operation of the facility, the certificate holder shall provide**
22 **to Marion County a certificate signed by a licensed surveyor or civil engineer**
23 **certifying that the actual elevation (in relation to mean sea level) of the lowest**
24 **floor (including basement) of all new or substantially improved**
25 **manufactured homes, dwellings or structures meets the requirements of**
26 **MCZO Section 178.060(A), (B) and (C) where applicable.**
27

28 **MCZO 178.050(H)**

29
30 *“In addition to other information required in a conditional use application, the*
31 *application shall include:*

- 32 *“(1) Land elevation in mean sea level data at development site and topographic*
33 *characteristics of the site.*
34 *“(2) Base flood level expressed in mean sea level data on the site.*
35 *“(3) Plot plan showing property location, floodplain and floodway boundaries where*
36 *applicable, boundaries and the location and floor elevations of existing and*
37 *proposed development, or the location of grading or filling where ground surface*
38 *modifications are to be undertaken.”*
39

40 According to the applicable USGS Quad map, the land elevation at the energy facility site is
41 between 283 and 290 feet above mean sea level. The topographic characteristics of the site are
42 relatively flat, with a slope of .02%. According to the FEMA map, the base flood elevation for
43 the 100-year floodplain in the area of the energy facility is between 283 and 285 feet above mean
44 sea level.
45

1 **MCZO 178.060(C)**

2
3 “Non-residential development

4 “(1) *New construction and substantial improvement of any commercial, industrial or*
5 *other non-residential structures shall either have the lowest floor, including*
6 *basement, elevated to two (2) feet above the level of the base flood elevation.*
7 *Where the base flood elevation is not available, the lowest floor, including*
8 *basement, shall be elevated to two (2) feet above the highest adjacent natural*
9 *grade (within 5 feet) of the building site;*

10
11 “(2) *New construction of any commercial, industrial or other non-residential*
12 *structures are prohibited in the floodway. An exception to this prohibition may be*
13 *granted if a floodplain development permit, and variance consistent with Section*
14 *178.080, are obtained. This prohibition does not apply to water dependent uses.”*

15
16 The County does not have base flood elevations for its 500-year floodplain. Therefore, the lowest
17 floor of all temporary modular construction buildings would be elevated two feet above the
18 highest adjacent natural grade within five feet of each temporary building. The permanent energy
19 facility buildings are outside the floodway.

20
21 **MCZO 178.060(D)**

22
23 “Anchoring

24 “(1) *All new construction and substantial improvements shall be anchored to prevent*
25 *floatation, collapse or lateral movement of the structure.”*

26
27 The temporary construction buildings would be elevated and anchored against movement by
28 floodwater. The underground pipelines and the 230-kV electric transmission lines would also
29 meet this standard.

30
31 **MCZO 178.060(E)**

32
33 “Construction materials and methods

34 “(1) *All new construction and substantial improvements below base flood level shall*
35 *be constructed with materials and utility equipment resistant to flood damage,*
36 *and the design and methods of construction are in accord with accepted*
37 *standards of practice based on an engineer’s or architect’s review of the plans*
38 *and specifications.*

39 “(2) *All new construction and substantial improvements shall be constructed using*
40 *methods and practices that minimize flood damages.”*

41
42 As discussed above, the temporary buildings would be elevated two feet above the highest
43 adjacent natural grade within five feet of each temporary building.

44
45 **MCZO 178.060(F)**

1
2 “Utilities

3 “(1) *All new and replacement water supply systems shall be designed to minimize or*
4 *eliminate infiltration of flood waters into the system as approved by the State*
5 *Health Division.*

6 “(2) *New and replacement sanitary sewage systems including on-site waste disposal*
7 *systems shall be designed and located to minimize flood water contamination*
8 *consistent with the requirements of the Oregon State Department of*
9 *Environmental Quality.*

10 “(3) *Electrical, heating, ventilation, plumbing, and air-conditioning equipment shall*
11 *be designed and/or elevated as to prevent water from entering or accumulating*
12 *within the components during conditions of flooding.”*

13
14 Temporary water and septic service to the temporary buildings would be through sealed systems
15 that eliminate infiltration of floodwaters. Code compliance would be verified as inspections
16 occur. All electrical, heating, ventilation, plumbing and air conditioning equipment would be
17 elevated at least two feet above the highest adjacent natural grade within five feet. This would
18 prevent water from entering or accumulating in those components.

19
20 **MCZO 178.060(H)**

21
22 *“Storage of materials and equipment – Materials that are buoyant, flammable,*
23 *obnoxious, toxic or otherwise injurious to persons or property, if transported by*
24 *floodwaters, are prohibited. Storage of materials and equipment not having these*
25 *characteristics is permissible only if the materials and equipment have low-damage*
26 *potential and are anchored or are readily removable from the area within the time*
27 *available after forecasting and warning.”*

28
29 TEC LLC would not store flammable, buoyant, obnoxious or toxic materials within the 500-year
30 base flood elevation. Other construction materials in the temporary laydown area that are within
31 the 500-year base flood elevation would either be anchored, or would be readily movable from
32 the area in the event of a 500-year flood. The temporary construction buildings would be
33 elevated and anchored against movement by floodwater.

34
35 **MCZO 119.070 Findings of the Director, Planning Commission or Hearings Officer**
36 **(Conditional Use)**

37
38 *“Before granting a conditional use, the Planning Commission or Hearings Officer shall*
39 *determine:*

40 *“(a) That it has the power to grant the conditional use;*

41 *“(b) That such conditional use, as described by the applicant, will be in harmony with*
42 *the purpose and intent of the zone;*

43 *“(c) That any condition imposed is necessary for the public health, safety or welfare,*
44 *or to protect the health or safety of persons working or residing in the area, or for*
45 *the protection of property or improvements in the neighborhood.”*

1
2 TEC LLC has chosen Path b. Therefore, the Council has jurisdiction to make the required
3 conditional use findings.

4
5 The temporary construction and laydown area would only occur during construction and would
6 not affect the long-term use of the land. Commercial facilities for the purpose of generating
7 power are permitted in the EFU zone. Therefore, the Department recommends that the Council
8 find that this accessory use would be in harmony with the purpose of the zone, since the primary
9 use itself, can be located on EFU land.

10
11 TEC LLC has committed to providing for an equal offset to any displaced floodplain carrying
12 capacity that results from the use of the temporary construction and laydown area. To ensure
13 compliance, the Department recommends that the Council adopt the following condition in the
14 site certificate:

15
16 **(31) Before beginning construction of the facility, the certificate holder shall**
17 **demonstrate to Marion County that it has designed the facility to compensate**
18 **for fill to be placed in the floodplain**

19
20 The Department recommends that the Council find that, subject to the conditions discussed
21 above, the proposed facility satisfies the applicable conditional use requirements of the county
22 floodplain overlay zone and instruct Marion County to issue a conditional use permit consistent
23 with this Order upon receipt from TEC LLC of the appropriate permit applications and payment
24 of the required fees.

25
26 **V. DIRECTLY-APPLICABLE LCDC RULES, STATEWIDE GOALS AND**
27 **STATUTES**

28
29 Both the City of Turner and Marion County have acknowledged Comprehensive Plans through
30 which TEC LLC's compliance with applicable goals, LCDC rules and statutes can be evaluated.
31 However, as discussed above, as of the date of this application, Marion County had not
32 implemented ORS 215.275, enacted in 1999. Those statutory amendments are, therefore, directly
33 applicable to this application, In addition, to the extent any other applicable goals, rules or
34 statutes could be construed to be directly applicable to this application, the applicable goals, rules
35 and statutes are addressed below.

36
37 Pursuant to OAR 345-021-0010(k)(C) TEC LLC is required to:

38
39 *“(iii) Identify all Land Conservation and Development Commission administrative*
40 *rules, statewide planning goals and land use statutes directly applicable to the*
41 *Project under ORS 197.646(s) and describe how the Project complies with those*
42 *rules, goals and statutes:”*

43
44 **1. Statewide Planning Goals and LCDC Rules**

1 Goal 3: Agricultural Lands [OAR 660-015-0000(3)]

2
3 *“To preserve and maintain agricultural lands.”*

4
5 Goal 3 requires agricultural lands to be “preserved and maintained for farm use.” “Farm use” is
6 defined to include the uses authorized by ORS 215.213 and ORS 215.283. These permitted uses
7 include “utility facilities.” ORS 215.275, enacted in 1999, specifically regulates the placement of
8 utility facilities on EFU lands as is discussed below.

9
10 Portions of the 230-kV electric transmission line, the raw water pipeline, the natural gas lateral
11 pipeline, and the temporary construction laydown areas are located over or under agricultural
12 land. The routes for the natural gas lateral pipeline and raw water pipeline were chosen in order
13 to use existing road and railroad rights-of-way for most of their length. In addition, the natural
14 gas lateral pipeline and raw water pipeline would be buried, resulting in only a short-term impact
15 on agricultural uses where they cross land in farm use.

16
17 OAR 660-033-0010 to 0160: Division 33, Agricultural Lands

18
19 Division 33 implements the requirements for agricultural land as set out in Goal 3. Portions of
20 the electric transmission line, raw water pipeline, natural gas lateral pipeline, and temporary
21 construction laydown areas are located on agricultural lands. The natural gas lateral pipeline and
22 electric transmission lines cross soils primarily typed as Courtney Gravelly Silty Clay Loam and
23 Clackamas Gravelly Loam. Both are Class IV. OAR 660-33-020(8)(a)(D) defines Courtney soils
24 groups as high value soils.

25
26 Under OAR 660-033-0130(17), a power generation facility cannot take more than 12 acres out of
27 farm production without seeking an exception under OAR Chapter 660, Division 4. Fewer than
28 12 acres of farmland would be taken out of production for the proposed related or supporting
29 facilities. Only a minor area, less than a total of one acre, would be taken out of agricultural
30 production for the footprint of the six-to-eight 230-kV towers and guy wires.

31
32 The temporary construction and laydown area would take more than 12 acres of agricultural land
33 out of production on a temporary basis, but there would be no permanent loss of agricultural
34 land. Therefore, the Department recommends that the Council find that no exception under OAR
35 Chapter 660, Division 4, is necessary.

36
37 Most of the soils on the 47-acre tract that would encompass the temporary construction and
38 laydown areas are Courtney Gravelly Silty Clay Loam. The northwest corner of the 47-acre tract
39 also contains some Amity Silt Loam. A majority of the soils in the location of the temporary
40 construction and laydown areas are Class IV. OAR 660-033-020(8)(a)(D) defines Courtney soils
41 groups as “high value soils”. The temporary construction and laydown areas would be used on a
42 temporary basis only during construction of the facility, which can be expected to take
43 approximately two years, once construction starts. After construction is complete, gravel would
44 be removed and the soils would be restored for agricultural purposes. No permanent loss of, or

1 interference with, farm operations on agricultural land outside the urban growth boundary would
2 occur. Agricultural lands would be preserved for agricultural use.

3
4 In order to ensure that the agricultural land used for the temporary construction and laydown
5 areas is returned to agricultural uses, the Department recommends that the Council adopt the
6 following condition in the site certificate:

7
8 **(32) The certificate holder shall restore, as nearly as possible, to its former**
9 **condition any agricultural land and associated improvements that are**
10 **damaged or otherwise disturbed by the siting, maintenance, repair or**
11 **reconstruction of the facility. Mitigation measures applicable under the**
12 **Council’s soil protection standard, OAR 345-022-0022, shall apply to any**
13 **temporary construction and laydown area.**

14
15 Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces (OAR 660-015-0000(5))

16
17 *“To protect natural resources and conserve scenic and historic area and open spaces.”*

18
19 Protection of natural resources and conservation of scenic and historic areas and open spaces is
20 accomplished, in part, by inventorying these areas and resources. Marion County and the City of
21 Turner have inventoried Goal 5 open space, scenic and historic areas, significant natural areas,
22 mineral and aggregate, groundwater, and energy resources.

23
24 1. Open Space

25
26 There is no conflict between the energy facility and its related or supporting facilities and open
27 space areas. The energy facility would be constructed adjacent to existing industrial uses,
28 including the Caliper Forest Products plant and the Union Pacific Railroad. The energy facility
29 site is bordered on the west by Wipper Road. Although the 230-kV electric transmission line, the
30 raw water pipeline, and the natural gas lateral pipeline would cross agricultural lands, these
31 facilities would not adversely affect any Goal 5, open space resource. TEC LLC would construct
32 about six –to eight new 230-kV electric transmission line towers. They would be located on
33 property TEC LLC would own that is not Goal 5 designated resource area. The subsurface
34 natural gas lateral pipeline and raw water pipeline would not interfere with Goal 5 designated
35 open space areas. The temporary laydown and construction area would not have significant
36 adverse effects on Goal 5 resources.

37
38 2. Natural Areas

39
40 The energy facility site would not be located in a “protected area,” and no protected area would
41 be affected, directly or indirectly by the energy facility. Similarly, no conflicts with significant
42 natural areas would occur. Natural gas lateral pipeline and electric transmission line construction
43 would have minor wetland impacts and mitigation would occur as detailed in Section E.1.b,
44 Wetlands, of this Order. Plant and animal habitat would be protected as described in Sections

1 D.8, Fish and Wildlife Habitat, and D.9, Threatened and Endangered Species, of this Order. The
2 energy facility would have no adverse impacts on recreational sites in the area.

3
4 There are wetlands delineated on portions of the 47 acres of EFU land outside of the temporary
5 construction and laydown area. The temporary construction and laydown area would be fenced
6 so that no impacts would occur within the identified wetland area.

7
8 3. Groundwater Resources

9
10 TEC LLC would either obtain water from the City of Turner or through its proposed water rights
11 to be delivered by the SWCD. A groundwater permit would not be needed.

12
13 4. Historic and Cultural Resources

14
15 As discussed in Section D.11, Historic, Cultural and Archeological Resources, of this Order, no
16 significant historic or cultural areas or resources have been identified at the energy facility site.

17
18 5. Mineral and Aggregate Resources

19
20 There is one inventoried aggregate resource site in the City of Turner. The location of the energy
21 facility would not interfere with this aggregate and mineral resource site, because the energy
22 facility site is not in close proximity to that aggregate resource site. There is one inventoried
23 Goal 5 aggregate site in Marion County in the general vicinity of the energy facility site, but not
24 in close proximity to the site. Due to its location, the energy facility site would have no effect on
25 that aggregate site.

26
27 6. Energy Resources

28
29 The energy facility would enhance electric service capacity within the region west of the
30 Cascades. The energy facility would deliver electric power to the regional power grid at the
31 Turner, Fry and Bethel Substations.

32
33 Goal 6: Air, Water and Land Resources Quality [OAR 660-015-0000(6)]

34
35 *“To maintain and improve the quality of the air, water and land resources of the state.”*

36
37 Goal 6 addresses waste and process discharges and their impacts on air, water and land. All
38 waste and process discharges from the energy facility would comply with state and federal
39 environmental quality standards. *See* Sections D.13, Public Services; D.14, Waste Minimization;
40 D.15, Carbon Dioxide Standard for Base Load Power Plants; and E.1.a, Noise, of this Order.
41 TEC LLC asserts that air emissions would comply with all applicable DEQ and EPA standards,
42 with compliance assured through the air quality permit process. That process is outside of the site
43 certificate process. Sewer and wastewater discharges would either be handled through already
44 permitted municipal systems or be handled on-site in compliance with the proposed site
45 certificate and WPCF permit. *See* Section D.13, Public Services, of this Order.

1
2 The temporary construction and laydown areas would be used only temporarily during
3 construction. The surface would be pervious gravel. The nature of the use, its short duration, and
4 the removal of the gravel and return of topsoil after construction would ensure there are no
5 permanent impacts to air, water or land resources.
6

7 Goal 7: Areas Subject to Natural Hazards [OAR 660-015-0000(7)]
8

9 *“To protect people and property from natural hazards.”*
10

11 Both the City of Turner and Marion County have adopted ordinances that address reducing the
12 risks to people and property from natural hazards such as floods and earthquakes. *See* discussion
13 of TLUDC 4.210 and MCZO 178.050 - 178.060 under Sections III.C and IV.C of this Land Use
14 Standard Analysis, respectively. *See also* Section D.5, Structural Standard, of this Order.
15

16 Goal 9: Economic Development [OAR 660-015-0000(9)]
17

18 *“To provide adequate opportunities throughout the state for a variety of economic*
19 *activities vital to the health, welfare, and prosperity of Oregon’s citizens.”*
20

21 Goal 9 is directed toward identifying areas suitable for increased economic growth and activity.
22 The entire energy facility would be located within the City of Turner’s UGB on land zoned for
23 industrial use. The energy facility would have a positive economic benefit to the area. The
24 energy facility site has been inventoried and planned for industrial use by the City since its initial
25 Comprehensive Plan was drafted in 1980.
26

27 Goal 10: Housing [OAR 660-015-0000(10)]
28

29 *“To provide for the housing needs of citizens of the state.”*
30

31 Use of the approximate 12 acres of R-2 SFR land within the city limits as buffer area would not
32 significantly affect the City of Turner’s inventory of available land for housing under Goal 10,
33 because most of the 12 acres is within the floodway and floodplain. TLUDC 4.210(2)(c)
34 prohibits development in this area south of the Turner Bypass and north of Gaston Street. The
35 July 1999 City of Turner land use inventory shows only 1.49 acres of the 12 acres as being above
36 the 100-year floodplain and therefore possibly being available for development. The City’s April
37 1, 2001, inventory shows a surplus at year 2020 of 2.95 buildable acres of R-2 land and a surplus
38 of 52.12 buildable acres of R-1 land. Both R-1 and R-2 are single-family residential zones.
39 Therefore, removing 1.49 acres of R-2 land from the inventory would have little impact on the
40 city’s Goal 10 planning for housing. The inventory of buildable land would still exceed the
41 projected demand through year 2020.
42

43 Goal 11: Public Facilities and Services [OAR 660-015-0000(11)]
44

1 *“To plan and develop a timely, orderly and efficient arrangement of public facilities and*
2 *services to serve as a framework for urban and rural development.”*

3
4 The facilities and services required by the energy facility are adequate and suitable and do not
5 encourage the extension of inappropriate services to other rural uses. The energy facility is
6 within City limits. The City has adopted Sewer and Water Master Plans as public facility plans
7 under its Comprehensive Plan. The services to be provided to the Project comply with these
8 master plans.

9
10 OAR 660, Division 11: “Public Facilities Planning”

11
12 Turner has adopted under its Comprehensive Plan, a Water Master Plan and Sewer Master Plan.
13 The entire energy facility would be located within the City’s UGB on land zoned industrial. No
14 amendment to any comprehensive plan is required for approval of the facility.

15
16 No public facilities would be extended to the temporary construction and laydown areas.

17
18 Goal 12: Transportation [OAR 660-015-0000(12)]

19
20 *“To provide and encourage a safe, convenient and economic transportation system.”*

21
22 The TSP and the RTSP were adopted as facility plans under the City and County comprehensive
23 plans. All necessary transportation elements are currently provided to the energy facility site.

24
25 A portion of the temporary construction area would be used for parking during the construction
26 phase. This temporary use adjacent to the energy facility would reduce traffic impacts within the
27 City. There is no off-site parking area in the vicinity large enough to accommodate the expected
28 number of vehicles needed by the construction workers. Transportation impacts during
29 construction are addressed in the Traffic Impact Analysis.

30
31 OAR 660, Division 12: “Transportation Planning”

32
33 If the project required an amendment to the City of Turner or Marion County functional plans,
34 acknowledged comprehensive plans, or land use regulations, then OAR 660-012-0060 would
35 apply. No such amendments are required for the siting or operation of the facility. Wipper Road
36 is within the County’s jurisdiction. The City and the County have adopted TSP’s. Compliance
37 with these Plans is discussed in Section D.13, Public Services, of this Order.

38
39 Transportation facilities, services and improvements on rural or resource lands may trigger a
40 requirement for an exception to Statewide Planning Goals 3, 4, 11, or 14. OAR 660-012-0065
41 and 070. The project is not a transportation facility, service, or improvement, nor is it located on
42 resource land. OAR 660-012-0005(24) and (31). Therefore, the Department recommends that the
43 Council find TEC LLC does not need a goal exception under OAR 660-012-0065.

44
45 Goal 13: Energy Conservation [OAR 660-015-0000(13)]

1
2 *“To conserve energy.”*
3

4 The energy facility would be developed as an energy efficient electric generation facility. The
5 two HRSG units would operate a third steam turbine from “waste” heat. Electrical energy from
6 the plant is transmitted most efficiently to the area substations, due to its location. On site
7 recycling would be promoted.
8

9 Locating the temporary construction and laydown areas adjacent to the energy facility site would
10 aid energy conservation. The material would be transported once and then staged for
11 construction at a conveniently close location. This would avoid unnecessary energy consumption
12 in double hauling. Parking adjacent to the site would avoid traffic congestion and additional
13 energy consumption caused by shuttles.
14

15 Goal 14: Urbanization [OAR 660-015-0000(14)]
16

17 *“To provide for an orderly and efficient transition from rural to urban land use.”*
18

19 The energy facility is inside the Turner city limits and inside the UGB. No urban services would
20 be extended outside the UGB, and no amendment to the UGB is necessary or requested.
21

22 **2. Applicable State Statutes**

23

24 ORS 215.283(1)(d) permits the following uses on EFU lands:
25

26 *“Utility facilities necessary for public service, including wetland waste*
27 *treatment systems but not including commercial facilities for the purpose*
28 *of generating electrical power for public use by sale or transmission*
29 *towers over 200 feet in height. A utility facility necessary for public*
30 *service may be established as provided in ORS 215.275.”*
31

32 What constitutes a facility “necessary for public service” is governed by ORS 215.275, which
33 provides:
34

35 “(1) A utility facility established under ORS * * * 215.283(1)(d) is necessary
36 for public service if the facility must be sited in an exclusive farm use zone
37 in order to provide the service.

38 “(2) To demonstrate that a utility facility is necessary, an applicant for
39 approval * * * must show that reasonable alternatives have been
40 considered and that the facility must be sited in an exclusive farm use zone
41 due to one or more of the following factors:

42 “(a) Technical and engineering feasibility;

43 “(b) The proposed facility is locationally dependent. A utility facility is
44 locationally dependent if it must cross lands in one or more areas
45 zoned for exclusive farm use in order to achieve a reasonably

1 *direct route or to meet unique geographical needs that cannot be*
2 *satisfied on other lands;*

3 “(c) *Lack of available urban and non-resource lands;*

4 “(d) *Availability of existing rights-of-way;*

5 “(e) *Public health and safety; and*

6 “(f) *Other requirements of state or federal agencies.”*
7

8 Although the energy facility is inside the City of Turner on industrial zoned land, portions of the
9 related or supporting facilities are on Marion County EFU land, including the natural gas
10 pipeline, the raw water pipeline, the electric transmission lines, and the temporary construction
11 laydown areas. For these related or supporting facilities, TEC LLC must show that reasonable
12 alternatives were considered, and that the facility had to be sited on EFU land, applying the
13 criteria in ORS 215.275. According to ORS 215.275(3), cost associated with any of the factors
14 listed above may be considered, but cost alone may not be the only consideration in determining
15 that a utility facility is necessary for public service.
16

17 **Consideration of reasonable alternatives**

18 (1) Natural Gas Pipeline

19
20
21 TEC LLC investigated three route alternatives for the natural gas pipeline, but found no non-
22 EFU alternatives available for the natural gas pipeline.
23

24 The first route went more directly east to west over EFU land from the Grants Pass Pipeline to
25 the energy facility site. There were no rights of way along that route to follow so the entire route
26 would have affected EFU land. This route also would have affected a significant amount of
27 wetlands and potentially affected a sensitive species. Accordingly, this route alternative had the
28 potential to adversely affect public health in addition to being similarly located on EFU land.
29 This route would have required more open EFU land than the preferred alternative.
30

31 The second route considered the Aumsville Highway (Mill Creek Road) right-of-way to the
32 north. This alternative was unavailable because it was already encumbered with underground
33 utility lines and there was no room for another utility in that location. Even if the Aumsville
34 Highway route had been available, it would have been necessary to cross EFU land to reach the
35 energy facility site.
36

37 The third route is the preferred alternative. The natural gas lateral pipeline uses road right-of-way
38 wherever feasible. Although the route crosses two small wetlands, this alternative affects fewer
39 wetlands than the first alternative and no sensitive species have been identified in this alternative
40 route. The underground natural gas pipeline would traverse about one mile of EFU land, less
41 than the amount of EFU land that would have been crossed under the first alternative. Where
42 EFU land must be crossed, the pipeline would be about 6 feet underground. Therefore no EFU
43 land would be permanently taken from the inventory by the pipeline.
44

1 Accordingly, the third alternative was the selected route for the natural gas pipeline lateral
2 because: (1) it achieves a reasonably direct route for the locationally dependent facility; (2) it is
3 legally and technically available and feasible; (3) it crosses the least amount of open farm land;
4 (4) it uses available existing rights of way to the extent possible; and (5) it protects public health
5 by minimizing impacts to wetlands and sensitive species.

6 7 (2) Raw Water Pipeline

8
9 The raw water pipeline follows the same route as the natural gas pipeline between the Perrin
10 Lateral and the energy facility site. Therefore, the discussion above for the natural gas pipeline
11 route also applies to the raw water pipeline route.

12 13 (3) 230-kV Electric Transmission Line

14
15 For the 230-kV electric transmission line route, TEC LLC chose the most direct route for a
16 similarly locationally dependent facility. No non-EFU route is available. Any alternative electric
17 transmission line to the existing PacifiCorp line would have to cross EFU land no matter where it
18 was located. The selected route is also legally and technically feasible, and does not have any
19 significant adverse impacts on natural resources or public health and safety. Although wetlands
20 are located along this route, placement of the electric transmission line towers would affect only
21 .01 acre of wetlands. There would be only about 8 single stand towers along the route. Routes
22 further south or north also would likely affect wetlands.

23
24 TEC LLC first considered directing the transmission line to the north and then west or south and
25 then west. However, such alternatives would be significantly longer without avoiding EFU land.

26
27 Second, TEC LLC considered using the existing right-of-way for the dual circuit electric
28 transmission line from the switchyard to the PacificCorp 230-kV transmission line. However,
29 this was not technically feasible because an east-west corridor is required to connect the facility
30 site located to the east of the north-south-running electric transmission line. It also would have
31 required larger towers to be constructed in the City of Turner.

32
33 Third, TEC LLC considered using existing rights of way on Wipper and Delaney Roads. This
34 approach was rejected, because it is not a reasonably direct route. It would result in 7,000 feet of
35 out of direction lines and towers and would cross EFU at the interconnection point.

36
37 Additionally, since TEC LLC has no power of eminent domain, a route that has the consent of
38 the affected owners was necessary. An alternative route with a larger number of owners would
39 be more problematic. Finally, TEC LLC's interconnection routes were selected giving due
40 consideration to environmental issues.

41
42 The temporary construction and laydown area is on land zoned EFU. However, the use is only
43 temporary. For economic, transportation, and practical construction reasons, there is no non-EFU
44 alternative for the temporary construction parking and laydown area. The energy facility site is
45 located on the extreme southern end of the Turner UGB. Surrounding properties are zoned EFU

1 to the south and west, residential to the north and industrial to the east. It would not be practical
2 to cross the railroad tracks with temporary construction and laydown areas because there would
3 be no way to feasibly access the material on the east side of the tracks or to safely move workers
4 across the tracks. The land to the north is within the 100-year floodplain.

5
6 **Factors in ORS 215.275(2)**

7
8 **Technical, Engineering and Environmental Feasibility**

9
10 Natural Gas Lateral Pipeline and Raw Water Pipeline

11
12 TEC LLC has chosen the natural gas lateral pipeline route because it is the most feasible
13 alignment from a technical, engineering and environmental standpoint. The raw water pipeline
14 uses the same route as the natural gas pipeline, but does not extend east beyond the Perrin
15 Lateral. As discussed above, the energy facility must connect to the Grants Pass Pipeline to the
16 east for gas supply and to the Perrin Lateral for raw water supply. Based on technical,
17 engineering and environmental considerations, the most reasonable and efficient route from the
18 energy facility site to the Grants Pass Pipeline (and to the Perrin Lateral) is the route shown in
19 the TEC Revised ASC, January 2003, Exhibit C, Attachment C-3. Other than the segment that
20 crosses open EFU land, the remainder of the route primarily follows road and railroad rights-of-
21 way, to minimize impact on both the EFU land and residents of the area. The route follows
22 property lines where practical to avoid disturbing farmed lands. TEC LLC also chose the route to
23 avoid wetlands, wildlife habitat, and protected species. It has gentle slopes and good cover soil.
24 Because the natural gas lateral pipeline would be about four feet underground, it would not affect
25 air quality. Willamette River Steelhead Trout and Oregon Chub have the potential to occur in the
26 area. However, the impacts to the fish species would be minimized as discussed in Sections D.8,
27 Fish and Wildlife Habitat, and D.9, Threatened and Endangered Species, of this Order.
28 Furthermore, the single crossing of the manmade Perrin Lateral would be by way of non-
29 intrusive trenchless technology. Soil erosion would be minimized through compliance with the
30 measures required under the NPDES Storm Water Discharge General Permit #1200-C for
31 construction activities.

32
33 Electric Transmission Line and Towers

34
35 The proposed 230-kV electric transmission line connection is the most feasible from a technical,
36 engineering and environmental standpoint because it allows TEC LLC to connect to existing
37 PacifiCorp electrical transmission lines, towers, and right-of-way. No reconductoring is required.
38 No existing PacifiCorp towers would have to be replaced. There is no significant environmental
39 impact.

40
41 Temporary Construction and Laydown Areas

42
43 There is inadequate room on the energy facility site itself to handle all temporary construction
44 parking and laydown. Therefore, additional area is needed. Construction of the facility is
45 complex and materials and equipment must be located in a safe and convenient location. The use

1 of a portion of the adjoining 47 acres is the most technically feasible location. Any other location
2 would require additional transportation over public roads and would result in an inconvenient
3 and impractical construction method.

4 5 **The Proposed Facility Is Locationally Dependent**

6 7 Natural Gas Lateral Pipeline and Raw Water Pipeline

8
9 As discussed above, a utility facility is locationally dependent if it crosses lands in one or more
10 areas zoned EFU in order to achieve a reasonably direct route, or to meet unique geographical
11 needs that cannot be satisfied on other lands. The Grants Pass Pipeline that would provide the
12 natural gas necessary to fuel the energy facility is located directly east of the energy facility site,
13 across EFU land. All of the property between the energy facility site and the Grants Pass Pipeline
14 is zoned EFU. Thus, in order to establish a reasonably direct route to the Grants Pass Pipeline,
15 the lateral must cross EFU land. To minimize impacts, TEC LLC chose the raw water pipeline
16 route to the Perrin Lateral to follow the natural gas pipeline route.

17
18 The natural gas lateral pipeline and raw water pipeline location does not follow the shortest
19 possible route between the energy facility and the Grants Pass Pipeline and Perrin Lateral. The
20 shortest route (i.e., a straight pipeline, roughly west-east in orientation) would affect more
21 cultivated EFU land. Thus, the natural gas lateral pipeline routes are longer than technically
22 necessary. The additional length allows the natural gas lateral pipelines to follow existing road
23 and railroad rights-of-way, where practical, and thereby reduce impacts on cultivated land.

24 25 Electric Transmission Line and Towers

26
27 As discussed above, a utility facility is locationally dependent if it crosses land zoned for EFU in
28 order to achieve a reasonably direct route or to meet unique geographical needs that cannot be
29 satisfied on other lands. As discussed in the previous paragraph, the 230-kV electric transmission
30 line is locationally dependent. TEC LLC would connect to PacifiCorp's existing electric
31 transmission lines rather than construct a new 230-kV electric transmission line across miles of
32 EFU lands to the Bethel or Fry Substations. Nevertheless, in order to reach the PacifiCorp main
33 230-kV electrical transmission lines, TEC LLC must cross EFU land with the connecting dual
34 circuit line. No other route is more direct than the proposed route.

35 36 Temporary Construction and Laydown Areas

37
38 The temporary laydown and construction areas are adjacent to the energy facility site and
39 because of their function, locationally dependent to the energy facility site.

40 41 **Lack of Available Urban and Non-Resource Lands**

42 43 Natural Gas Lateral Pipeline and Raw Water Pipeline

1 The energy facility site and the City of Turner are surrounded by EFU land designed under the
2 County Comprehensive Plan as Primary Agriculture. In Marion County, land zoned EFU or
3 Special Agriculture (“SA”) is all designated EFU for purposes of ORS Chapter 215 and Goal 3.
4 There is no reasonably direct route from the energy facility site to the Grants Pass Pipeline across
5 urban or non-resource lands. There is no existing lateral connection in the City of Turner to the
6 Grants Pass Pipeline. The need to connect to the Grants Pass Pipeline dictates the feasible route
7 for the lateral. The presence of a subsurface natural gas lateral pipeline would not interfere with
8 ongoing farm use.

9
10 Similarly, the best route for the raw water pipeline to the SWCD’s system is to follow the natural
11 gas lateral pipeline route to the Perrin Lateral. Note that the Perrin Lateral referred to for the raw
12 water supply runs north-south to the east of the energy facility site. This section of the Perrin
13 Lateral is a private irrigation and drainage canal as part of the SWCD. The Turner Bypass that
14 runs east-west to the north of the energy facility site is a public waterway that was built to bypass
15 Mill Creek around Turner for flood control. The Turner Bypass is not part of the SWCD.

16
17 Electric Transmission Line and Towers

18
19 The line to the 115-kV Turner Substation would be located within an urban area and would not
20 use resource lands. That substation, however, cannot accommodate the total output of the energy
21 facility. Therefore, another interconnection to the area power grid is necessary. Given the
22 location of the existing PacifiCorp 230-kV electric transmission lines, any interconnection must
23 cross EFU land. There is no feasible alternative.

24
25 Temporary Construction and Laydown Areas

26
27 The property to the north of the energy facility site is within the 100-year floodplain and has
28 environmental and soil constraints that make it an unacceptable location for the temporary
29 construction laydown areas. Land to the east is across the railroad track and land north of the
30 Turner Bypass could not be used for a temporary construction and laydown area without
31 significant economic cost and disruption to the local transportation system. All other surrounding
32 lands are resource land, and zoned EFU.

33
34 **Availability of Existing Rights-of-Way**

35
36 Natural Gas Lateral Pipeline and Raw Water Pipeline

37
38 TEC LLC has chosen the natural gas lateral pipeline route based on the availability of existing
39 rights-of-way. The natural gas lateral pipeline follows existing road and railroad rights-of-way
40 for about two miles. The raw water pipeline follows railroad rights-of-way for about 0.7 mile.
41 Other routes would have greater impact on farmed land and the environment.

42
43 Electric Transmission Line and Towers

1 There is no practical way to use existing right-of-way for the dual circuit electrical transmission
2 line from the switchyard to the PacifiCorp 230-kV electric transmission lines because the
3 PacifiCorp lines run north-south. The facility switchyard lies to the east. Therefore, an east-west
4 corridor is required. The only alternative using existing rights-of-way would be to run the 230-
5 kV electric transmission lines from the switchyard north up Wipper Road to Delaney Road. The
6 route would then go east on Delaney Road and make the interconnection with the PacifiCorp
7 main transmission lines in that vicinity. That would result in more than 7,000 feet of out-of-
8 direction lines and towers due to the dual circuit nature of the interconnect. Even then, EFU land
9 would be crossed at the interconnection locations. Such a route is impractical and would not
10 reduce the amount of affected EFU land.

11 Temporary Construction and Laydown Areas

12
13
14 Use of a portion of the adjoining 47 acres for temporary construction and laydown avoids
15 impacts on existing public rights of way by containing the impacts on TEC LLC's property.

16 **Public Health and Safety**

17 Natural Gas Lateral Pipeline and Raw Water Pipeline

18
19
20
21 Underground pipeline laterals would have no impact on public health or safety. During any
22 construction in the road right-of-way, flaggers would be used to protect safety of workers and
23 persons using the roads.

24 Electric Transmission Line and Towers

25
26
27 The 230-kV electric transmission line would have no impact on public health and safety. The
28 line would not be located closer than 1,200 feet to any residence. EMF would be lower than the
29 most stringent state or federal standard.

30 Temporary Construction and Laydown Areas

31
32
33 Use of a portion of the adjoining 47 acres would have no impact on public health or safety of the
34 residents of the City and surrounding areas. However, it would benefit the health and safety of
35 construction workers and delivery persons because they would not have to cross public rights of
36 way in order to access the temporary construction and laydown areas from the energy facility
37 site. The temporary areas would be fenced during construction.

38 **Summary**

39
40
41 TEC LLC has demonstrated that the selected natural gas pipeline, raw water pipeline lateral,
42 230-kV electric transmission line, and temporary construction and laydown areas are "necessary"
43 because:
44

- 1 1. The facilities are locationally dependent in that they must connect the energy
2 facility site, located on industrial land, with the Grants Pass Pipeline, the Perrin
3 Lateral, the PacificCorp 230-kV electric transmission line, and the temporary
4 construction and laydown areas located on EFU land;
5
- 6 2. There are no “reasonable or feasible” “non-EFU” alternatives for the natural gas
7 pipeline, raw water pipeline, 230-kV electric transmission lines, or temporary
8 construction and laydown areas;
9
- 10 3. The preferred alternatives are the most reasonably direct routes;
11
- 12 4. The preferred alternatives considered the availability of and used, to the extent
13 available and feasible, existing rights of way;
14
- 15 5. The preferred alternatives considered protecting public health by locating
16 facilities to minimize disruption to significant natural resources.
17

18 As required by ORS 215.275(2), TEC LLC has considered reasonable alternatives and can
19 demonstrate that the facilities must be sited on EFU lands.
20

21 **ORS 215.275(4)**
22

23 *“The owner of a utility facility approved under ORS 215.213 (1)(d) or 215.283 (1)(d)*
24 *shall be responsible for restoring, as nearly as possible, to its former condition any*
25 *agricultural land and associated improvements that are damaged or otherwise disturbed*
26 *by the siting, maintenance, repair or reconstruction of the facility. Nothing in this section*
27 *shall prevent the owner of the utility facility from requiring a bond or other security from*
28 *a contractor or otherwise imposing on a contractor the responsibility for restoration.”*
29

30 TEC LLC would implement detailed mitigation measures to address any soil disturbance of
31 agricultural lands to ensure that the EFU land is restored, as nearly as possible, to its former
32 condition. *See* Section D.6, Soil Protection, of this Order. TEC LLC is capable of operating the
33 energy facility and complying with all restoration and mitigation requirements.
34

35 **ORS 215.275(5)**
36

37 *“The governing body of the county or its designee shall impose clear and objective*
38 *conditions on an application for utility facility siting under ORS 215.213 (1)(d) or*
39 *215.283 (1)(d) to mitigate and minimize the impacts of the proposed facility, if any, on*
40 *surrounding lands devoted to farm use in order to prevent a significant change in*
41 *accepted farm practices or a significant increase in the cost of farm practices on the*
42 *surrounding farmlands.”*
43

44 The mitigation measures the Department has recommended as conditions of the site certificate
45 would prevent any significant change in accepted farming practices. The transmission lines

1 would be at a height such that farming can proceed underneath them. The 230-kV electric
2 transmission line and towers would be on property owned by TEC LLC. Therefore, they would
3 not cause an impact on farm practices on the surrounding farmlands.

4
5 As stated above, after construction is completed the areas used for temporary construction and
6 laydown areas would again be made suitable for farming by removing gravel and replacing the
7 topsoil.

8
9 The Department recommends that the Council find that the components of the proposed energy
10 facility on EFU land constitute utility facilities necessary for public service that may be
11 established under ORS 215.283(1)(d).

12 13 **3. Other Regulatory Requirements**

14 15 **OAR 345-021-0010(k)(C)(iv)**

16
17 *“If the proposed facility might not comply with all applicable substantive criteria,*
18 *identify the applicable statewide planning goals and describe how the proposed facility*
19 *complies with those goals;”*

20
21 The Department recommends that the Council find the proposed facility complies with all
22 applicable substantive criteria.

23 24 **OAR 345-021-0010(k)(C)(v)**

25
26 *“If the proposed facility might not comply with all applicable substantive criteria or*
27 *applicable statewide planning goals, describe why an exception to any applicable*
28 *statewide planning goal is justified, providing evidence to support all findings by the*
29 *Council required under ORS 469.504(2);”*

30
31 The Department recommends that the Council find the proposed facility complies with all
32 applicable substantive criteria and applicable statewide planning goals.

33 34 **OAR 345-021-0010(k)(D)**

35
36 *“If the proposed facility will be located on federal land:”*

37
38 The project would not be located upon federal land.

39 40 **VI. CONCLUSION**

41
42 The Department recommends that the Council determine that, based on the evidence submitted,
43 and subject to compliance with the conditions discussed above, the proposed energy facility
44 satisfies, or can satisfy, all applicable Land Use Standard approval criteria.

1 The Department's recommendation to the Council that it find TEC LLC complies with
2 applicable land use criteria is based, in part, on many representations by TEC LLC that it will
3 comply with the criteria. Therefore, the Department recommends that the Council adopt
4 conditions based on the commitments made by TEC LLC, as required by OAR 345-027-
5 0020(10).
6

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ATTACHMENT C
DRAFT REMOVAL/FILL PERMIT

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**ATTACHMENT C
TURNER ENERGY CENTER
DRAFT REMOVAL/FILL PERMIT**

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Special Conditions for Removal/Fill Permit No. 25313-RF

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PLEASE READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT. This project may be site inspected by the Division of State Lands (Division) as part of our monitoring program. The Division has the right to stop or modify the project at any time if you are not in compliance with these conditions. A copy of this permit shall be available at the work site whenever authorized operations are being conducted.

1. This permit authorizes the removal of up to 1,045 cubic yards and placement of up to 39,559 cubic yards of clay, gravel, sand and silt material in wetland areas located in Township 08 South, Range 02 West, Section 32, Marion County for construction of a gas fired electrical generating plant, associated transmission line towers and gas pipeline, as outlined in the attached permit application, map and drawings, dated July 2003 (Rev.3).

This permit also authorizes removal and fill activities necessary to complete the required compensatory mitigation.

2. The permittee is responsible for carrying-out the terms and conditions of this permit unless the permit is transferred to another party as approved by the Division.

General Conditions

3. **CULTURAL RESOURCES.** If any archaeological resources and/or artifacts are uncovered during excavation, all construction activity shall immediately cease and the State Historic Preservation Office shall be contacted at 503-378-4168.
4. **ENDANGERED SPECIES.** When listed species are present, the permit holder shall comply with the State and Federal Endangered Species Acts. If previously unknown species are encountered during the project, the permit holder shall contact the appropriate agency as soon as possible.
5. **EROSION CONTROLS.** Practicable erosion control measures which shall be implemented, as appropriate, include but are not limited to the following:
 - a. Place fill in the water using methods that avoid disturbance to the maximum practicable extent (e.g. placing fill with a machine rather than end-dumping from a truck).
 - b. Prevent all construction materials and debris from entering waterway;
 - c. Use filter bags, sediment fences, sediment traps or catch basins, silt curtains, leave strips or berms, Jersey barriers, sand bags, or other measures sufficient to prevent movement of soil;

- d. Use impervious materials to cover stockpiles when unattended or during rain event;
- e. Erosion control measures shall be inspected and maintained daily to ensure their continued effectiveness;
- f. No heavy machinery in a wetland or other waterway;
- g. Use a gravel staging area and construction access;
- h. Fence off planted areas to protect from disturbance and/or erosion; and
- i. Flag or fence off wetlands adjacent to the construction area.

Erosion control measures shall be maintained as necessary to ensure their continued effectiveness, until soils become stabilized. All erosion control structures shall be removed when project is complete and soils are stabilized and vegetated.

6. **HAZARDOUS, TOXIC AND WASTE MATERIALS.** Petroleum products, chemicals, fresh cement sandblasted material and chipped paint or other deleterious waste materials shall not be allowed to enter waters of the state. No wood treated with leachable preservatives shall be placed in the waterway. Machinery refueling is to occur off-site or in a confined designated area to prevent spillage into waters of the state. Project-related spills into water of the state or onto land with a potential to enter waters of the state shall be reported to the Oregon Emergency Response System at 800-452-0311.

7. **TURBIDITY.** The authorized work shall not cause turbidity of affected waters to exceed 10% over natural background turbidity 100 feet downstream of the fill point. For projects proposed in areas with no discernible gradient break (gradient of 2% or less), monitoring shall take place at 4 hour intervals and the turbidity standard may be exceeded for a maximum of one monitoring interval per 24 hour work period provided all practicable control measures have been implemented. This turbidity standard exceedance interval applies only to coastal lowlands and floodplains, valley bottoms and other low-lying and/or relatively flat land.

For projects in all other areas, the turbidity standard can be exceeded for a maximum of 2 hours (limited duration) provided all practicable erosion control measures have been implemented. These projects may also be subject to additional reporting requirements.

Turbidity shall be monitored during active in-water work periods. Monitoring points shall be at an undisturbed site (representative background) 100 feet upstream from the turbidity causing activity (i.e., fill or discharge point), 100 feet downstream from the fill point, and at the point of fill. A turbidimeter is recommended, however, visual gauging is acceptable. Turbidity that is visible over background is considered an exceedance of the standard.

8. The Division of State Lands retains the authority to temporarily halt or modify the project in case of unforeseen damage to natural resources.

Site-Specific Conditions

9. Prior to any impacts, wetland areas to be avoided shall be marked with bright orange construction fencing, which shall be maintained in good condition during construction.
10. There shall be no heavy equipment operating or traversing in wetland areas outside the construction corridor or footprint.
11. Fill and removal activities in the Wipper Road Ditch shall be conducted between June 1st and September 30th, unless otherwise coordinated with the Oregon Department of Fish and Wildlife and approved in writing by the Division.
12. During trenching or excavation for the gas pipeline, the top layer of soil shall be separated from the rest of the excavated material and put back on top when the trench or pit is back-filled. If the native underlying soils are not used as bedding material, and a coarser, non-native soil or other material is used, preventative measures such as clay or concrete plugs shall be used so that underground hydraulic piping does not occur and dewater the site and adjacent wetlands. All disturbed areas shall be returned to original ground contours at project completion.

Wetland Mitigation Conditions

13. On-site compensatory mitigation (Turner By-Pass site and McKinney Creek site) for the loss of 5.212 acres of wetland shall consist of the following:

Authorized Impact, Mitigation Type	Acreage						HGM Class						Cowardin Class					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Auth. Fill	0.666	1	4.46	2		3	RFT	1	Flat	2		3	PEM	1	PEM	2		3
Auth. Removal	0.086	1		2		3	Flat	1		2		3	PEM	1		2		3
Mit. Creation (Turner By-Pass Area)	2.317	1	2.1	2		3	DCNP	1	DCNP	2		3	PEM	1	PFO	2		3
Mit. Enhancement (McKinney Creek Area)	5.18	1		2		3	Flat	1		2		3	PFO	1		2		3
Mit. Restoration (temporary impacts)	0.072	1		2		3	Flat	1		2		3	PEM	1		2		3

14. The mitigation site shall be protected in perpetuity by recording deed restrictions approved by the Division. **There shall be no wetland impacts until the approved Deed Restrictions are recorded with Marion County and a copy has been sent to the Division.**
15. Mitigation shall be completed **prior** to completion of the wetland fill project.
16. Mitigation for temporary impacts (0.072 acres) shall consist of site restoration and re-vegetation within 30 days of the completion of the pipeline installation. Failure to comply with this condition may result in additional compensatory mitigation.
17. The Turner By-Pass Mitigation Area shall be graded as described in Section 7.1.3 of the Mitigation Support Document and shown on Sheet 3 and 6.

- 1
2 a. At least 1 foot of suitable topsoil shall be replaced over graded areas.
3 b. An as-built survey shall be provided to the Division of State Lands **within 60 days** of
4 Turner By-Pass mitigation site grading.
5
6 18. The mitigation area shall be planted as shown on Sheet 4W, Turner By-Pass Mitigation Area,
7 and Sheet 5, McKinney Creek Mitigation Area, with species listed in the associated tables
8 and within the following timelines:
9
10 a. Turner By-Pass Mitigation Area.
11 i. Seeding of herbaceous cover vegetation shall be completed during the first
12 favorable period following completion of mitigation site grading activity.
13 ii. Tree and shrub planting shall be completed after it has been determined
14 adequate hydrology exists to meet wetland criteria and support the proposed
15 plant community.
16 b. McKinney Creek Mitigation Area – All mitigation planting shall be completed during
17 the first favorable periods following the initiation of wetland impacts.
18
19 19. If necessary to ensure plant survival the mitigation site shall be; 1) irrigated for two years
20 after the completion of planting, and/or 2) shrubs and trees shall be physically protected from
21 herbivory and other damage with heavy gauge wire mesh or other appropriate material.
22
23 20. The permittee shall monitor the mitigation site to determine success for a minimum period of
24 5 years. The annual monitoring report is due by December 31st of each year and shall include
25 the following information:
26
27 • Permit number
28 • Permittee's name
29 • Project name
30 • Impact and mitigation site location map(s)
31 • A brief narrative that describes maintenance activities and recommendations to meet
32 success criteria.
33 • Documentation that the success criteria listed in condition(s) is being met.
34 • Photos from fixed photo points.
35 • Other information necessary or required to document compliance with mitigation plan.
36
37 The monitoring period will start when the permittee has demonstrated that hydrology has
38 been established and initial plantings have been accomplished. Failure to submit a
39 monitoring report at the above date may result in an extension of the monitoring period, loss
40 of the performance bond, and/or enforcement action.
41
42 21. The Division retains the authority to extend the mitigation-monitoring period and require
43 corrective action in the event the success criteria are not accomplished for two consecutive
44 years within the monitoring period.
45

- 1 22. Pursuant to this permit, a surety performance bond in the amount of **\$300,000.00** has been
2 provided to the Division to ensure completion of compensatory mitigation in accordance with
3 the conditions of this permit. The surety shall remain in full force and effect until the
4 Division has determined that the mitigation has been deemed successful according to the
5 conditions in this permit. Failure to keep the bond continuously in effect through the date of
6 full performance of all of permittee's obligations hereunder shall constitute a violation and
7 default of this permit by permittee. At any time from and after receipt of a notice to cancel
8 the bond, the Division, in its sole discretion, may declare permittee to be in breach of default
9 of its performance obligations under this permit and thereupon claim the full penal sum of
10 the bond, which the surety under the bond shall pay over to Division within twenty (20) days
11 after delivery of written notice to the surety of such breach or default by permittee. Portions
12 of this bond will be released based on the following schedule:
13
- 14 a. 25% release upon approval of the first year monitoring report, which demonstrates
15 successful establishment of site hydrology through hydrology monitoring in March –
16 April following completion of grading.
 - 17 b. 25% release for completion of all initial re-vegetation and approval of second year
18 monitoring report.
 - 19 c. 50% release upon approval of final monitoring report and demonstrated success of
20 mitigation project based on success criteria.
- 21

22 **Success Criteria**

23

- 24 23. The topsoil depth in the Turner By-Pass mitigation area shall be 12 inches or greater after
25 construction.
26
- 27 24. There shall be 65% cover of planted and native recruits of herbaceous species after the first
28 year of planting, 75% after the third year, and 80% after five years, as measured by visual
29 observation in fixed sample plots.
30
- 31 25. There shall be 80% or greater survival of planted trees and shrubs by species for the duration
32 of the monitoring period, as measured by stem count.
33
- 34 26. There shall be no more than 10% invasive species (e.g., Reed canary grass, purple loostrife,
35 blackberry, wild rye) during any year of the monitoring period. The percentage of non-native
36 invasive species shall be stable or declining during the final 2 years of monitoring without
37 active maintenance.
38
- 39 27. The mitigation site shall be dominated by FACW and wetter species.
40
- 41 28. A vegetated buffer of at least 25 feet shall be maintained between the Turner By-Pass
42 mitigation wetland and surrounding areas. The buffer shall be planted as shown on Sheet 4
43 with the species in the associated table and meet the cover and survival criteria listed in
44 conditions 24 through 26.
45

- 1 29. Restored wetland areas (temporary impacts) shall meet the vegetation success criteria listed
2 in conditions 24 and 26.
3
- 4 30. 4.417 acres of created wetlands shall meet the hydrology criteria specified in the 1987 U.S.
5 Army Corps of Engineers Wetland Delineation Manual by the end of the third year of
6 monitoring.
7
- 8 31. 9.597 acres of created and enhanced wetlands shall meet the vegetation criteria specified in
9 the 1987 U.S. Army of Engineers Wetland Delineation Manual by the end of the third year of
10 monitoring.
11
- 12 32. The wetland mitigation shall result in 2.317 acres PEM/DCNP wetland, 2.1 acres
13 PFO/DCNP wetland, and 5.18 acres PFO/Flat wetland.
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ATTACHMENT D
DRAFT WATER POLLUTION CONTROL FACILITIES PERMIT FOR SANITARY WASTE

1 ATTACHMENT D
2 TURNER ENERGY CENTER
3 DRAFT WATER POLLUTION CONTROL FACILITIES PERMIT FOR SANITARY WASTE
4

5 Expiration Date:
6 Permit Number:
7 File Number: 112670
8 Page 1 of 8 Pages
9

10 WATER POLLUTION CONTROL FACILITIES PERMIT
11

12 Department of Environmental Quality
13 Western Region - Eugene Office
14 1102 Lincoln Street, Suite 210, Eugene, OR 97401
15 Telephone: (541) 686-7838
16

17 Issued pursuant to ORS 468B.050

18 ISSUED TO:

18 SOURCES COVERED BY THIS PERMIT:

19 Turner Energy Center, LLC
805 SW Broadway, Suite 850
Portland, OR 97205

<u>Type of Waste</u>	<u>System</u>	<u>Method of Treatment/Disposal</u>
Domestic Sewage	001	Intermittent Sand Filter without a Bottom

20 SYSTEM TYPE AND LOCATION:

On-Site Sewage Treatment and Disposal

8300 SE 4th Street, Turner

Located on: Twp.08S, R.02W, Sect.32A,
Tax Lot # 600/700/800 @ Lat.: 44^o 50'
20"N, Long: 122^o 57' 13"W

RIVER BASIN INFORMATION:

Basin: Willamette

Sub-Basin:

LLID:

River Mile:

County: Marion

Nearest surface stream which would receive waste if it were to discharge:

21
22 Issued in response to Application Number 984029 received September 22, 2003. This permit is
23 issued based on the land use approval issued by Oregon Department of Energy dated XXXX.
24
25

26
27 Michael Kucinski, On-site Manager
28 Western Region

Date

1 **PERMITTED ACTIVITIES**

2
3 Until this permit expires or is modified or revoked, the permittee is authorized to construct, install,
4 modify, or operate a wastewater collection, treatment, control and disposal system in conformance
5 with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

6 Page

7
8 Schedule A - Waste Disposal Limitations
9 Schedule B - Minimum Monitoring and Reporting Requirements
10 Schedule C - Compliance Conditions and Schedules (Not Applicable)
11 Schedule D - Special Conditions
12 Schedule E - Not Applicable
13 Schedule F - General Conditions.....
14

15 Discharge of untreated or partially treated sewage or septic tank effluent directly or indirectly onto
16 the ground surface or into surface waters constitutes a public health hazard and is prohibited. This
17 permit does not relieve the permittee from responsibility for compliance with any other applicable
18 federal, state, or local law, rule or standard.

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SCHEDULE A

Waste Disposal Limitations

1. The permittee is authorized to operate and maintain a domestic sewage treatment and disposal facility consisting of an Intermittent Sand Filter (ISF) unit without a bottom which has been constructed **in accordance with plans and specifications approved by the Department and** the following conditions:

a. The average daily sewage flow to the ISF should be approximately fifty percent (50%) of the maximum daily or peak flow to the treatment system. The maximum peak daily flow shall not exceed the following unless otherwise approved by the Department:

System	Maximum Daily Flow
001	600 GPD

b. The **influent** to the treatment unit shall not exceed the following maximum concentrations:

Parameter	Limitation
BOD5	300 mg/l
Greases and Oil	25 mg/l
TSS	150 mg/l
TKN	150 mg/l

c. The **effluent** from the treatment unit to the drainfield shall not exceed the following maximum concentrations:

Parameter	Limitation
BOD5	20 mg/l
TSS	20 mg/l

d. No discharge to surface waters is permitted. All wastewater shall be distributed into a soil absorption facility so as to prevent:

- 1) Surfacing of wastewater on the ground surface, surface runoff or subsurface drainage through drainage tile.
- 2) The creation of odors, fly and mosquito breeding and other nuisance conditions.
- 3) The overloading of land with nutrients or organics.

2. No cooling water, air conditioner water, water softener brine, groundwater, oil, hazardous materials, roof drainage, storm water runoff, or other aqueous or non-aqueous substances

1 which are, in the judgment of the Department, detrimental to the performance of the
2 system or to groundwater, shall be discharged into the sewage treatment system, unless
3 specifically approved in writing by the Department.

4
5 3. No activities shall be conducted that could cause an adverse impact on existing or
6 potential beneficial uses of groundwater.

1 **SCHEDULE B**

2
3 **Minimum Monitoring and Reporting Requirements**

4
5 1. **System Monitoring Requirements**

6 The permittee shall monitor the operation and efficiency of all treatment and disposal
7 facilities. Sampling and measurements taken as required herein shall be representative of
8 the nature of the wastewater, and shall be taken at peak usage during operation of the
9 system. Unless otherwise agreed to in writing by the Department of Environmental
10 Quality, data collected, and submitted shall include but not necessarily be limited to the
11 following parameters and minimum frequencies:
12

13 a. **INFLUENT TO THE TREATMENT UNIT**

Item or Parameter	Minimum Frequency	Type of Sample
Flow, GPD	Monthly Average	Measurement or calculation based on meter readings
Flow Meter Calibration	Annually	Verification

14 b. **Effluent from the Treatment Unit**

Item or Parameter	Minimum Frequency	Type of Sample
BOD ₅	Semi-annually	Grab
TSS	Semi-annually	Grab
NH ₃ -N	Annually	Grab
NO ₃	Annually	Grab
TKN	Annually	Grab

15 c. **Operation and Maintenance Activities**

The permittee shall record in writing all observations of operation and maintenance activities, as required in the Department approved Operation and Maintenance Plan, on a monthly basis.

16 d. **Solids Management**

The permittee shall maintain a record of the pumping dates and quantity (in gallons), of solids/wastewater pumped, and what licensed sewage disposal service company pumped the solids/wastewater, as well as the final disposal location and transfer locale (if applicable).

17 2. **Reporting Procedures**

Monitoring, maintenance practices, solids handling, and results shall be reported on Department-approved forms. The reporting period is the calendar year. Reports must be submitted to the DEQ office listed on the face page of this permit by **January 15 following the reporting period.**

1

SCHEDULE D

Special Conditions

1. The permittee shall maintain on file a complete Operation and Maintenance (O&M) Plan approved by the Department. The permittee shall operate, manage and implement preventative maintenance practices or corrections at the frequencies required in the Department approved O&M Plan. Any changes to the plan must be approved by the Department.
2. In the event that the a concentration limit, as specified in Schedule A, from the treatment unit is exceeded, the permittee shall within fourteen (14) working days of receipt of the analytical results:
 - a. Report the results to the Department;
 - b. Resample the effluent from the treatment unit to verify the results; and
 - c. Sample the influent to the treatment unit for the following parameters and report the results to the Department:

Item or Parameter	Type of Sample
BOD ₅	Grab
TSS	Grab
Grease and oils	Grab
NH ₃ -N	Grab
NO ₃	Grab
TKN	Grab

- d. In the event that resampling the effluent confirms a concentration limit violation or an influent concentration limit listed in Schedule A 1. b) is exceeded, within thirty (30) days of confirmation, the permittee shall submit to the Department a corrective action plan to reduce the waste strength so that the concentration limits are not violated. Upon Department approval, the plan shall be implemented by the permittee.
3. All septage/sludge shall be managed by a licensed sewage disposal service as defined in Oregon Administrative Rule 340-71-100.
4. The treatment unit area(s) including replacement area(s) shall not be subject to activities that would, in the opinion of the Department, adversely affect the soil or the functioning of the system. This includes, but is not limited to, vehicular or animal traffic, filling or cutting, covering the area with asphalt or concrete, or subjecting the area to excessive saturation.

- 1
2 5. The permittee shall not be required to perform a formal hydrogeologic characterization or
3 preliminary groundwater monitoring during the term of this permit provided that the
4 facilities are operated in accordance with the permit conditions, and there are no apparent
5 adverse groundwater quality impacts (complaints or other indirect evidence) resulting
6 from the facility's operation. If warranted, the Department may evaluate the need for or
7 require a full assessment of the facility's impact on groundwater quality and if necessary
8 may reopen this permit to include groundwater monitoring parameters.
9
- 10 6. An adequate contingency plan for prevention and handling of spills and unplanned
11 discharges shall be in force at all times. The permittee shall immediately notify the DEQ
12 office listed on the face page of this permit and the local County Health Department of
13 any occurrence of surfacing sewage. If a spill does occur that reaches or threatens to
14 reach public waters, the permittee shall immediately notify Oregon Emergency Response
15 (OER) at 1-800-452-0311.

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SCHEDULE F

GENERAL CONDITIONS

SECTION A. - STANDARD CONDITIONS

1. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws, or regulations.

2. Liability

The Department of Environmental Quality, its officers, agents, or employees shall not sustain any liability on account of the issuance of this permit or on account of the construction or maintenance of facilities because of this permit.

3. Permit Actions

After notice by the Department, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including but not limited to the following:

- a. Violation of any term or condition of this permit, any applicable rule or statute, or any order of the Commission;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

4. Transfer of Permit

This permit shall not be transferred to a third party without prior written approval from the Department. Such approval may be granted by the Department where the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of this permit and the rules of the Commission. A transfer application and filing fee must be submitted to the Department.

5. Permit Fees

The permittee shall pay the fees required to be filed with this permit application and to be paid annually for permit compliance determination as outlined in the Oregon Administrative Rules.

SECTION B. - OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and properly operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

1
2 2. Standard Operation and Maintenance

3 All waste collection, control, treatment, and disposal facilities shall be operated in a
4 manner consistent with the following:

- 5
6 a. At all times, all facilities shall be operated as efficiently as possible and in a
7 manner which will prevent discharges, health hazards, and nuisance conditions.
8
9 b. All screenings, grit, and sludge shall be disposed of in a manner approved by the
10 Department such as to prevent any pollutant from such materials from reaching
11 any waters of the state, creating a public health hazard, or causing a nuisance
12 condition.
13
14 c. Bypassing of untreated waste is generally prohibited. No bypassing shall occur
15 without prior written permission from the Department except where unavoidable to
16 prevent loss of life, personal injury, or severe property damage.
17

18 3. Noncompliance and Notification Procedures

19 In the event the permittee is unable to comply with all the conditions of this permit
20 because of surfacing sewage, a breakdown of equipment or facilities, an accident caused
21 by human error or negligence, or any other cause such as an act of nature, the permittee
22 shall:

- 23
24 a. Immediately take action to stop, contain, and clean up the unauthorized
25 discharges and correct the problem.
26
27 b. Immediately notify the Department's Regional office, so that an investigation can
28 be made to evaluate the impact and the corrective actions taken and determine
29 additional action that must be taken.
30
31 c. Within 5 days of the time the permittee becomes aware of the circumstances, the
32 permittee shall submit to the Department a detailed written report describing the
33 breakdown, the actual quantity and quality of resulting waste discharges,
34 corrective action taken, steps taken to prevent a recurrence, and any other
35 pertinent information.
36

37 Compliance with these requirements does not relieve the permittee from responsibility to
38 maintain continuous compliance with the conditions of this permit or the resulting
39 liability for failure to comply.
40

41 4. Wastewater System Personnel

42 The permittee shall provide an adequate operating staff which is duly qualified to carry
43 out the operation, maintenance, and monitoring requirements to assure continuous
44 compliance with the conditions of this permit.
45

1 **SECTION C. - MONITORING AND RECORDS**

2
3 1. **Inspection and Entry**

4 The permittee shall, at all reasonable times, allow authorized representatives of the
5 Department of Environmental Quality to:

- 6
7 a. Enter upon the permittee's premises where a waste source or disposal system is
8 located or where any records are required to be kept under the terms and
9 conditions of this permit;
- 10
11 b. Have access to and copy any records required to be kept under the terms and
12 conditions of this permit;
- 13
14 c. Inspect any treatment or disposal system, practices, operations, monitoring
15 equipment, or monitoring method regulated or required by this permit; or
16
- 17 d. Sample or monitor at reasonable times, for the purpose of assuring permit
18 compliance or as otherwise authorized by state law, any substances or parameters
19 at any location.
20

21 2. **Averaging of Measurements**

22 Calculations for all limitations which require averaging of measurements shall utilize an
23 arithmetic mean, except for bacteria which shall be averaged as specified in the permit.
24

25 3. **Monitoring Procedures**

26 Monitoring must be conducted according to test procedures specified in the most recent
27 edition of **Standard Methods for the Examination of Water and Wastewater**, unless
28 other test procedures have been approved in writing by the Department and specified in
29 this permit.
30

31 4. **Retention of Records**

32 The permittee shall retain records of all monitoring and maintenance information,
33 including all calibrations, copies of all reports required by this permit, and records of all
34 data used to complete the application for this permit, for a period of at least 3 years from
35 the date of the sample, measurement, report or application. The Director may extend this
36 period at any time.
37

38 **SECTION D. - REPORTING REQUIREMENTS**

39
40 1. **Plan Submittal**

41 Pursuant to Oregon Revised Statute 468B.055, unless specifically exempted by rule, no
42 construction, installation or modification of disposal systems, treatment works, or
43 sewerage systems shall be commenced until plans and specifications are submitted to and
44 approved in writing by the Department. All construction, installation or modification
45 shall be in strict conformance with the Department's written approval of the plans.

1
2 2. Change in Discharge
3 Whenever a facility expansion, production increase, or process modification is
4 anticipated which will result in a change in the character of pollutants to be discharged or
5 which will result in a new or increased discharge that will exceed the conditions of this
6 permit, a new application must be submitted together with the necessary reports, plans,
7 and specifications for the proposed changes. No change shall be made until plans have
8 been approved and a new permit or permit modification has been issued.
9

10 3. Signatory Requirements
11 All applications, reports or information submitted to the Department shall be signed and
12 certified by the official applicant of record (owner) or authorized designee.
13

14 **SECTION E. - DEFINITIONS**
15

- 16 1. BOD₅ means five-day biochemical oxygen demand.
17
18 2. TSS means total suspended solids.
19
20 3. FC means fecal coliform bacteria.
21
22 4. NH₃-N means Ammonia Nitrogen.
23
24 5. NO₃-N means Nitrate Nitrogen.
25
26 6. NO₂-N means Nitrite Nitrogen.
27
28 7. TKN means Total Kjeldahl Nitrogen.
29
30 8. Cl means Chloride.
31
32 9. TN means Total Nitrogen.
33
34 10. mg/L means milligrams per liter.
35
36 11. ug/L means micrograms per liter.
37
38 12. kg means kilograms.
39
40 13. GPD means gallons per day.
41
42 14. MGD means million gallons per day.
43
44 15. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform
45 bacteria, and E. coli bacteria.

- 1
2 16. Total residual chlorine means combined chlorine forms plus free residual chlorine.
3
4 17. Grab sample means an individual discrete sample collected over a period of time not to
5 exceed 15 minutes.
6
7 18. Composite sample means a combination of samples collected, generally at equal intervals
8 over a 24-hour period, and apportioned according to the volume of flow at the time of
9 sampling.
10
11 19. Week means a calendar week of Sunday through Saturday.
12
13 20. Month means a calendar month.
14
15 21. Quarter means January through March, April through June, July through September, or
16 October through December.
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ATTACHMENT E
DRAFT WATER RIGHT TRANSFER
(PRIMARY WATER RIGHT)

Township		Range		Meridian	Section	QQ
8	S	2	W	W.M.	29	SW SE
8	S	2	W	W.M.	32	NE NE
8	S	2	W	W.M.	32	NW NE

- 1
- 2 5. Application T-9501 also involves changing the character of use to industrial use,
- 3 including but not limited to non-hydroelectric power generation.
- 4
- 5 6. Pursuant to ORS 540.520 and OAR 690-380-4000, notice of the application for transfer
- 6 was published on August 12, 2003. Comments were filed in response to the notice by
- 7 Peter D. Mohr on behalf of Workers for the Environment, Clean Air Reliable Energy
- 8 (WE CARE) and the International Brotherhood of Electrical Workers Local #280 (IBEW
- 9 #280).
- 10
- 11 7. The water right to be transferred is a certificated water right and, by definition, is a water
- 12 right subject to transfer. (OAR 690-380-0100(11)(b)).
- 13
- 14 8. Norpac Foods is ready, willing and able to use the full amount of water allowed under the
- 15 right because the capacity of the authorized point of diversion and Salem Ditch exceed
- 16 that necessary to supply the full quantity of water allowed under the right to be
- 17 transferred.
- 18
- 19 9. Based on the affidavit of Mark Steele, Corporate Engineer, Norpac Foods, water has been
- 20 used under the right within the last five years and, pursuant to ORS 540.610(3), the right
- 21 has not been forfeited through use of less water than is allowed under the right.
- 22
- 23 10. With the inclusion of the condition prohibiting Turner Energy Center from entering into
- 24 an agreement with Norpac Foods that would assure that the water to be used by Turner
- 25 Energy Center be routed past Norpac's cooling water discharge point, the right would not
- 26 be enlarged because:
- 27
- 28 a. The water right held by Norpac Foods will be reduced by 7.6 cfs as a result of the
- 29 proposed transfer.
- 30
- 31 b. Norpac Foods will not retain the ability to call for that quantity of water for
- 32 cooling or any other purpose.
- 33
- 34 c. Although deliveries of water to Turner Energy Center via the Salem Ditch may
- 35 assist Norpac Foods in meeting water quality requirements, Norpac Foods will not
- 36 have any control over the deliveries and will not retain any assurances that
- 37 sufficient quantities of water would be available to satisfy water quality
- 38 requirements.
- 39

1 d. Deliveries of water to Turner Energy Center will be subject to the requirement
2 that the water be beneficially used for industrial purposes and would be allowable
3 only in the quantities of water necessary to satisfy Turner Energy Center
4 operational requirements, up to the quantity of water transferred.
5

6 11. The proposed change would not result in injury to other water rights. Any return flows
7 resulting from the exercise of the right by Norpac are not available to users calling on the
8 North Santiam River and therefore, there are no water users that are legally entitled to
9 Norpac's waste water.
10

11 **Conclusions of Law**

12
13 The changes in place of use and character of use proposed in application T-9501 are consistent
14 with the requirements of ORS 537.705 and 540.505 to 540.580, and OAR 690-380-5000.
15

16 **Now, therefore, it is ORDERED:**

- 17
18 1. The changes in place of use and character of use proposed in application T-9501 are
19 approved.
20
21 2. Water right certificate 66271 is cancelled. A new certificate will be issued to confirm that
22 portion of the right not involved in this transfer.
23
24 3. The right to the use of the water is restricted to the quantity beneficially used for
25 industrial purposes and only in the quantities necessary to satisfy Turner Energy Center
26 operational requirements, up to the quantity of water transferred.
27
28 4. The right to the use of water is subject to all other conditions and limitations contained in
29 Certificate 66271 and any related decree.
30
31 5. The applicant shall not enter into an agreement with Norpac Foods that would require
32 Turner Energy Center to route water past Norpac's cooling water discharge point.
33
34 6. The proposed changes shall be completed on or before _____.
35
36 7. A Claim of Beneficial Use prepared by a Certified Water Rights Examiner shall be
37 submitted by the applicant to the Department by _____.
38
39 8. When satisfactory proof of the completed changes is received, new certificates
40 confirming the rights transferred will be issued.
41

42 Dated at Salem, Oregon this ____ day of _____, _____.
43
44

45 _____ Director

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ATTACHMENT F
DRAFT PERMIT TO APPROPRIATE THE PUBLIC WATERS
(SUPPLEMENTAL WATER RIGHT)

1 The use of water allowed herein may be made only at times when sufficient water is available to
2 satisfy all prior rights, including prior rights for maintaining instream flows.

3
4 The EFSC finds that the proposed use(s) of water described by this permit, as conditioned, will
5 not impair or be detrimental to the public interest.

6
7 Complete application of the water to the use shall be made on or before October 1, 2008. If the
8 water is not completely applied before this date, and the permittee wishes to continue
9 development under the permit, the permittee must submit an application for extension of time,
10 which may be approved based upon the merit of the application.

11
12 Within one year after complete application of water to the proposed use, the permittee shall
13 submit a claim of beneficial use, which includes a map and report, prepared by a Certified Water
14 Rights Examiner (CWRE).

15
16 Issued _____, 200_

17
18 **DRAFT - THIS IS NOT A PERMIT**

19 _____
20 Director
21 Water Resources Department
22

23 **ASSIGNMENT OF PERMIT:** Pursuant to ORS 537.220, this permit may be assigned to a party
24 other than the permittee named hereon, if the land the permit is associated with changes
25 ownership, or if the permittee is an organization whose name changes as a result of sale or
26 merger. Request for Assignment forms are available from the Oregon Water Resources
27 Department web site at <http://www.wrd.state.or.us/>, or may be requested from the Department at
28 503-986-0801 or Water Right Application Section, Oregon Water Resources Department, 725
29 Summer St NE Ste A, Salem OR 97301-1271.

30
31 **MAILING ADDRESS CHANGES:** If the mailing address of the permittee named hereon
32 changes, it is important that the Oregon Water Resources Department be informed of the change.
33 Address changes must be submitted in writing with the permittee's signature to Water Right
34 Application Section, Oregon Water Resources Department, 725 Summer St NE Ste A, Salem OR
35 97301-1271.

36
37 **REAL ESTATE TRANSACTIONS:** Pursuant to ORS 537.330, in any transaction for the
38 conveyance of real estate that includes any portion of the lands described in this permit, the seller
39 of the real estate shall, upon accepting an offer to purchase that real estate, also inform the
40 purchaser in writing whether any permit, transfer approval order, or certificate evidencing the
41 water right is available and that the seller will deliver any permit, transfer approval order or
42 certificate to the purchaser at closing, if the permit, transfer approval order or certificate is
43 available.
44

1 CULTURAL RESOURCES PROTECTION LAWS: Permittees involved in ground-disturbing
2 activities should be aware of federal and state cultural resources protection laws. ORS 358.920
3 prohibits the excavation, injury, destruction or alteration of an archeological site or object, or
4 removal of archeological objects from public and private lands without an archeological permit
5 issued by the State Historic Preservation Office. 16 USC 470, Section 106, National Historic
6 Preservation Act of 1966 requires a federal agency, prior to any undertaking to take into account
7 the effect of the undertaking that is included on or eligible for inclusion in the National Register.
8 For further information, contact the State Historic Preservation Office at 503-378-4168,
9 extension 232.

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