

1 **OREGON DEPARTMENT OF ENERGY**

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4 REGARDING STATUTES, ADMINISTRATIVE RULES ) PROJECT  
5 AND OTHER REQUIREMENTS APPLICABLE TO THE ) ORDER  
6 PROPOSED BRADWOOD LANDING )

7 On April 15, 2005, Northern Star Natural Gas LLC (the “Applicant” or “Northern  
8 Star”), a Delaware limited liability company, submitted a Notice of Intent (“NOI”) to the  
9 Energy Facility Siting Council (“EFSC” or the “Council”) to construct a liquefied natural  
10 gas importation terminal at Bradwood in Clatsop County, Oregon, at River Mile 38 of the  
11 Columbia River. The proposed facility was originally called the Northern Star Natural  
12 Gas Storage and Receiving Facility but has since been renamed by the Applicant to  
13 Bradwood Landing (“Bradwood Landing” or “Project”).

14 The Oregon Department of Energy (the “Department” or “ODOE”) received the  
15 NOI on April 15, 2005. ODOE distributed the NOI to reviewers for comments and  
16 recommendations as required by ORS 469.350(2) and OAR 345-020-0040. On April 19,  
17 2005, the Department mailed notice to the Council’s general mailing list, to the mailing  
18 list set up for the Project, and to the owners of property whose names and addresses  
19 Northern Star supplied in the NOI. The notice requested public comment by June 19,  
20 2005. At the Department’s request, the *Daily Astorian* published the notice on April 22,  
21 2005, and May 13, 2005. The *Clatskanie Chief* published the notice on April 28, 2005,  
22 and May 11, 2005.

23  
24 The Department prepared a memorandum, as described in OAR 345-015-0129,  
25 and had Northern Star distribute it, together with a copy of the NOI, to the officers,  
26 agencies and tribes described in OAR 345-02-0040. In its memorandum, the Department  
27 requested comments from tribes, state agencies, and local governments by June 19, 2005.  
28 Clatsop County twice requested an extension to submit its comments because of staff  
29 turnover. The Department granted an extension until July 31, 2005. The Department held  
30 an informational meeting on May 19, 2005, in Knappa, Oregon, near the Bradwood site,  
31 and received public comment.

32  
33 Under Oregon law, the Department shall issue a project order, to the extent  
34 practicable, within 140 days following receipt of a notice of intent. OAR 345-015-  
35 0160(5).

36  
37 OAR 345-015-0160(1) requires in relevant sections that the Department issue a  
38 project order that establishes the following:

- 39  
40 (a) All state statutes and administrative rules containing standards or criteria  
41 that must be met for the Council to issue a site certificate for the proposed  
42 facility, including applicable standards of Divisions 22, 23 and 24 of OAR  
43 Chapter 345;

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- (b) All local government ordinances applicable to the Council's decision on the proposed facility;
- (c) All application requirements in OAR 345-021-0010 applicable to the proposed facility;
- (d) All state and local permits necessary to the construction and operation of the proposed facility and the name of each agency with the authority to issue such permits;
- (e) Any other data and information that must be included in the application for a site certificate to allow the Council to determine whether the proposed facility will comply with applicable statutes, administrative rules and local government ordinances;
- (f) The analysis area(s) for the proposed facility;
- (g) Public concerns that address matters within the jurisdiction of the Council that the Applicant shall consider and discuss in the application for a site certificate, based on comments from the public and reviewing agencies; and
- (h) The expiration date of the notice of intent, according to OAR 345-020-0060(1).

ORS 469.401(4) provides that a site certificate issued by the Council does not govern certain matters. This project order does not consider matters outside the Council's jurisdiction. However, Northern Star must still comply with all statutes, regulations and local ordinances applicable to the proposed facility.

As provided in ORS 469.330(4), the Department or the Council may amend this project order at any time.

THEREFORE, the Oregon Department of Energy, pursuant to 345-015-0160(1), orders that:

**I. DEFINITIONS (see ORS 469.300 and OAR 345-001-0010)**

As used in this project order:

"Energy facility" means the proposed liquefied natural gas terminal. The term "energy facility" does not include any related or supporting facility. If a reference is intended to apply to both the energy facility and its related or supporting facilities, the term "facility" is used.

1 “Energy facility site” means all land upon which an energy facility is located or  
2 proposed to be located.

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4 “Facility” means an energy facility, together with any related or supporting  
5 facility.

6  
7 “Related or supporting facility” means any structure proposed to be built in  
8 connection with the energy facility. The Council interprets the terms “proposed to be  
9 built in connection with” as meaning that a structure is a related or supporting facility if it  
10 would not be built but for construction or operation of the energy facility. The  
11 Department recognizes, however, that the proposed natural gas pipeline associated with  
12 the proposed facility is designated an “interstate pipeline” and as such is under federal  
13 rather than Council jurisdiction.

14  
15 “Related or supporting facilities site” means all land upon which related or  
16 supporting facilities for an energy facility are located or proposed to be located, including  
17 any linear rights of way.

18  
19 “Site” means all land upon which a facility is located or proposed to be located.  
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## 21 **II. STATUTES, ADMINISTRATIVE RULES, RELATED PERMITS OR** 22 **OTHER APPROVALS AND DISCUSSION OF SPECIFIC** 23 **INFORMATION**

24  
25 This section identifies Oregon statutes and administrative rules that Northern Star  
26 must address in the application as well as state and local permits and approvals necessary  
27 to the construction and operation of the proposed facility. It also identifies other data and  
28 information that Northern Star must include in the application.

### 29 30 **1. ENERGY FACILITY SITING COUNCIL**

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32 **Statutes and Rules:** ORS 469.310, .401, .501, .503, .504 and .507; OAR Chapter  
33 345, Divisions 21, 22, 24, 26 and 27.

34  
35 **Permit:** An energy facility site certificate is required before construction or  
36 operation.

37  
38 **Discussion:** Section IV below describes specific application requirements under  
39 OAR 345-021-0010.

40  
41 All general standards (OAR Chapter 345, Division 22) apply to the proposed  
42 facility.

43  
44 The need standard for non-generating facilities (OAR Chapter 345, Division 23)  
45 does not apply to the proposed facility. (For liquefied natural gas facilities, the

1 need standard applies only to storage facilities for liquefied natural gas and not to  
2 importation terminals.)  
3

4 The specific siting standards for energy facilities that emit carbon dioxide (OAR  
5 345-024-0500 through -0720) apply to the proposed facility. In addition, the  
6 Council is developing additional criteria for liquefied natural gas importation  
7 terminals that will apply to the proposed facility.  
8

9 If the Council issues a site certificate for the proposed project, the certificate  
10 holder must implement a compliance plan, as described in OAR 345-026-0048.  
11 The site certificate will contain the mandatory conditions, applicable site-specific  
12 conditions, and monitoring conditions described in OAR 345-027-0020, -0023  
13 and -028.  
14

## 15 **2. OREGON DEPARTMENT OF AGRICULTURE – PLANT** 16 **CONSERVATION BIOLOGY PROGRAM** 17

18 **Statutes and Rules:** ORS Chapter 564; OAR Chapter 603, Division 73.  
19

20 **Permit:** None required.  
21

22 **Discussion:** The Oregon Department of Agriculture (“ODA”) provides technical  
23 review and recommendations on compliance with the Council’s threatened and  
24 endangered species standard (OAR 345-022-0070) as it relates to plant species.  
25

26 OAR 603-073-0070 contains the state list of endangered and threatened plant  
27 species. OAR 603-073-0080 gives ODA the authority to designate candidate  
28 plants. If Northern Star finds any state-listed threatened or endangered plant  
29 species that may be affected by the proposed facility, Northern Star must address  
30 the requirements of OAR 603-073-0090(5)(d)(A)-(E) and OAR 345-021-  
31 0010(1)(q) in the application.  
32

33 Northern Star shall include in Exhibit Q of its application a list of both state and  
34 federally listed endangered, threatened and candidate plant species that have  
35 potential to occur in the analysis area. Northern Star shall identify these species  
36 based on a review of literature, consultation with knowledgeable individuals, and  
37 reference to species listed on the Oregon Natural Heritage Program database.<sup>1</sup>  
38 Northern Star shall include in its application a description and the results of a field  
39 survey for the listed plant species. A qualified individual shall conduct the field  
40 survey during the season or seasons appropriate to the plant species under

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<sup>1</sup> OAR 345-022-070 applies only to state-listed plant and animal species. However, OAR 345-021-0010(1)(q) requires applicants to consider plant and animal species listed as endangered or threatened under both state and federal law, because, in making its decision, the Council must be mindful of possible adverse impacts to federally listed species. Note also that OAR 345-022-0070 applies to all lands affected by a proposed facility including state, federal and private lands.

1 consideration. The field survey report should include written descriptions of the  
2 survey methods and areas surveyed.

3  
4 Northern Star should consult with the Oregon Department of Agriculture, Native  
5 Plant Conservation Program, regarding field survey methods, schedule and  
6 qualifications of field survey personnel.

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8 **3. DEPARTMENT OF ENVIRONMENTAL QUALITY**

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10 (a) AIR QUALITY

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12 **Statutes and Rules:** ORS Chapter 468A; OAR Chapter 340, Division 216

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14 **Permits:** Prevention of Significant Deterioration (“PSD”) Permit  
15 Air Contaminant Discharge Permit (“ACDP”)  
16 Federal Operating Permit (Title V)  
17 Acid Rain Permit (Title IV)

18  
19 **Discussion:** The air quality permit program is delegated by the U.S.  
20 Environmental Protection Agency to the Oregon Department of Environmental  
21 Quality (“DEQ”). The Council does not have jurisdiction for determining  
22 compliance with the applicable law. However, the Council may rely on the  
23 determinations of compliance and the conditions in federally delegated permits in  
24 making its determination about whether other standards and requirements under  
25 Council jurisdiction are met.

26  
27 Under OAR 345-021-0000(5), the Department shall not find an application for a  
28 site certificate complete unless the Applicant has submitted three copies of all of  
29 its federally-delegated permit applications. In addition, as described in OAR 345-  
30 021-0000(5)(b), before the Department may find the application for a site  
31 certificate complete, Northern Star must submit to the Department a letter or other  
32 indication from DEQ stating that DEQ has received the permit applications from  
33 Northern Star, identifying any additional information DEQ is likely to need from  
34 Northern Star based on DEQ’s review of the applications as submitted, and  
35 estimating the date by which DEQ will complete its review and issue its permit  
36 decisions. This condition applies to the PSD permit and ACDP. Northern Star  
37 must submit the Federal Operating Permit and Acid Rain Permit applications to  
38 DEQ one year after the facility begins operation.

39  
40 (b) WATER QUALITY

41  
42 **Statutes and Rules:** ORS Chapters 468 and 468B; OAR Chapter 340, Divisions  
43 40 and 45.

44  
45 **Permit:** National Pollutant Discharge Elimination System (“NPDES”) and Water  
46 Pollution Control Facilities (“WPCF”).

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**Discussion:** As described in OAR 345-021-0000(5), Northern Star must submit to the Department copies of any application for a state or local government agency permit. In addition, before finding the application for a site certificate complete, the Department must receive the letter or other indication described in OAR 345-021-0000(5)(a) or (b).

Storm Water

The U.S. Environmental Protection Agency has delegated authority to the Oregon Department of Environmental Quality (“DEQ”) to issue NPDES Storm Water Discharge permits for construction and operation activities. Northern Star may need an NPDES permit for storm water discharge during construction and/or operation of the proposed facility.

The Council does not have jurisdiction over the federally-delegated NPDES permit. However, the Council may rely on the determinations of compliance and the conditions in the federally delegated permit in making its determination about whether other standards and requirements under the council’s jurisdiction are met.

Under OAR 345-021-0000(5), the Department shall not find an application for a site certificate complete unless the Applicant has submitted to the Department three copies of all of its federally-delegated permit applications. The Applicant must also provide a letter or other indication from DEQ stating that DEQ has received a permit application from the Applicant, identifying any additional information DEQ is likely to need from the Applicant based on DEQ’s review of the application as submitted, and estimating the date by which DEQ will complete its review and issue a permit decision.

The NOI contains little detail about Northern Star’s plans for managing storm water, but it states that Northern Star will ensure its design meets DEQ requirements. In detailing its plans in the application, Northern Star should provide evidence that its proposal to release 25 million gallons of water used for hydrotesting into its storm water system complies with applicable regulations. DEQ points out that Northern Star may need a state Water Pollution Control Facilities (“WPCF”) permit from DEQ for land application of this water used in hydrotesting or a federal National Pollutant Discharge Elimination System (“NPDES”) permit if the water is discharged to surface water.

Septic System

Northern Star’s NOI states that the facility would discharge sanitary wastes to an on-site septic system that is yet to be designed. The system would likely require a WPCF permit. Northern Star must first verify that the site is suitable for an on-site septic system by applying to DEQ or its designated agency for a site evaluation of groundwater and soil conditions. If the site is deemed suitable, Northern Star must then apply for a WPCF permit.

1 Wastewater

2 Northern Star's NOI appears to state that the Project would generate no  
3 wastewater other than domestic sewage, storm water and hydrotesting water.  
4 Northern Star must provide evidence that its plans to adjust the pH of condensate  
5 water from vaporization equipment and discharge the water into "the river"  
6 requires no permit. If a process wastewater disposal permit is required, Northern  
7 Star should work with DEQ to identify appropriate systems and permits.  
8

9 (c) NOISE

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11 **Statutes and Rules:** ORS Chapters 467.020, .030; OAR 340-035-0035

12  
13 **Permits:** None required.

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15 **Discussion:** Northern Star must comply with DEQ's noise standard. The  
16 requirement is incorporated in the general standard of review, OAR 345-022-  
17 0000.

18  
19 Northern Star must include in the application a noise analysis, incorporating sites  
20 in the States of Oregon and Washington, as appropriate. The application must  
21 contain information to support a finding by the Council that the proposed facility  
22 would comply with the requirements of OAR 340-035-0035.  
23

24 (d) HAZARDOUS MATERIALS

25  
26 **Statutes and Rules:** ORS Chapters 465 and 466; OAR Chapter 340, Division 100  
27 through 122.

28  
29 **Permits:** None Required.

30  
31 **Discussion:** Northern Star must include in the application a list of all hazardous  
32 materials stored or used at the facility site during construction and operation.  
33 Northern Star must comply with DEQ regulations concerning the use, clean up  
34 and disposal of hazardous materials. The requirement is incorporated in the  
35 general standard of review, OAR 345-022-0000.  
36

37 (e) EMERGENCY RESPONSE

38  
39 **Statutes and Rules:** ORS 468B.345

40  
41 **Permits:** An oil spill prevention and emergency response plan is likely to be  
42 required.  
43

44 **Discussion:** DEQ points out that vessels traveling the Columbia River are  
45 required to carry spill response plans that provide clear instructions for dealing

1 with oil spills. Northern Star should discuss the issue with Ed Wilson at DEQ  
2 (503-229-5373).

3  
4 (f) OTHER ISSUES

5  
6 **Discussion:** DEQ has posed the following questions or requests for additional  
7 information for Northern Star to address in its application. The Department  
8 recognizes that Northern Star may be addressing some of these issues in other  
9 permits.

- 10  
11 • Discuss the magnitude and duration of air emissions resulting from operation  
12 of LNG vaporizers and other project facilities.  
13 • Discuss the source of water for re-gasification and any discharge.  
14 • Describe closed or open loop system for heating/cooling water for re-  
15 gasification.  
16 • Discuss impacts on water quality from dredging operations, including  
17 characterization of sediments prior to removal for proper containment and  
18 disposal. DEQ points out that a 401 Water Quality Certification will be  
19 needed from DEQ for any 404 permits needed for in-water work or wetlands  
20 work associated with the Project.  
21 • Discuss impacts on water quality from horizontal directional drilling and  
22 trenching for stream and wetland crossings for pipeline installation. DEQ  
23 points out that a federal storm water erosion control permit would be needed  
24 from DEQ for this construction.

25  
26 **4. OREGON DEPARTMENT OF FISH AND WILDLIFE – WILDLIFE  
27 AND FISH DIVISIONS**

28  
29 **Statutes and Rules:** ORS Chapters 496, 506 and 509; OAR Chapter 635,  
30 Divisions 100, 415 and 425.

31  
32 **Permit:** In-water Blasting Permit, if in-water blasting will be needed.

33  
34 **Discussion:** The Oregon Department of Fish and Wildlife (“ODFW”) provides  
35 technical review and recommendations on compliance with Council rules set forth  
36 at OAR 345-021-0010(1)(p) and (q) and OAR 345-022-0040, -0060 and -0070.

37  
38 ODFW will base its review and recommendations on the following applicable  
39 statutes and rules:

- 40  
41 • ORS 496.012 Wildlife Policy  
42 • ORS 496.171 through 496.192 Threatened and Endangered Wildlife Species  
43 • ORS 498.301 through 498.346 Screening and By-pass Devices for Water  
44 Diversions or Obstructions  
45 • ORS 506.109 Food Fish Management Policy  
46 • ORS 509.140 Placing Explosives in Waters

- ORS 509.580 through 509.910 Fish Passage; Fishways; Screening Devices; Hatcheries Near Dams

OAR Chapter 635, Division 100, provides authority for adoption of the state sensitive species list and the Wildlife Diversity Plan, and contains the state list of threatened and endangered wildlife species.

OAR Chapter 635, Division 415, classifies habitat into six categories and establishes a mitigation goal for each category. The application must identify the appropriate habitat category for all areas of the Site and provide the basis for each category selection subject to ODFW review. The Council has incorporated these ODFW fish and wildlife habitat mitigation goals and standards in its Fish and Wildlife Habitat standard, OAR 345-022-0060.

OAR Chapter 635, Division 425, contains requirements for in-water blasting. If construction of the Project would require in-water blasting, an In-Water Blasting Permit would be required. An application for an In-Water Blasting Permit must include the information necessary to meet the requirements of ORS 509.140 and OAR 635-425-0000 through 635-425-0050 and be submitted to ODFW for approval. An application for an In-Water Blasting Permit must be submitted 90 days prior to the date of blasting. An In-water Blasting Permit Application form is available on the ODFW website at:

[http://www.dfw.state.or.us/lands/inwater/inwater\\_app.pdf](http://www.dfw.state.or.us/lands/inwater/inwater_app.pdf)

ODFW notes that Clatsop County provisions on restrictions and allowable impacts to big game habitat may be applicable to the Project.

ODFW's complete comments on the NOI are provided in the letter from Rose Owens, ODFW, to Cathy Van Horn, dated June 21, 2005. The letter is incorporated by reference into this project order. While ODFW's comments are largely discussed below, Northern Star should also refer to the June 21 letter during preparation of the application for a site certificate.

#### Biological Surveys/Analysis Areas

Exhibit J in a Notice of Intent requires identification of significant potential environmental impacts of construction and operation of the proposed facility on the study areas, including those impacts affecting wildlife, wildlife habitat, and threatened and endangered plant and animal species. OAR 345-020-0011(1)(j). Study areas are the minimum areas for which an Applicant shall assess environmental impacts for its Notice of Intent. In general, the study area is the site boundary. For impacts to threatened and endangered plant and animal species, the study area is five miles. OAR 345-001-0010(53). Northern Star's brief discussion in its Notice of Intent about potential impacts to wildlife did not address impacts within the context of study areas.

1 A project order imposes analysis areas that are based, in part, on the information  
2 about study areas provided in the Notice of Intent. The analysis areas for an  
3 application may be different from the Notice of Intent study areas described in  
4 OAR 345-001-0010(53).

5  
6 The discussion below makes reference to analysis areas ODFW has determined  
7 that Northern Star should study for fish and wildlife habitat-related impacts. In  
8 addition to the specific analysis areas listed below, ODFW recommends a  
9 thorough inventory of habitat quantity and quality on the proposed site and on any  
10 proposed mitigation areas. Survey plans should be developed in conjunction with  
11 ODFW and included in the application. Survey methodologies are generally  
12 described in Survey Methodologies for Sensitive, Threatened and Endangered  
13 Wildlife Species in Oregon.

14  
15 Wildlife and fish species listed under the State Endangered Species Act can be  
16 found on ODFW's website at:

17  
18 [http://www.dfw.state.or.us/wildlife/diversity/threatened\\_endangered.asp](http://www.dfw.state.or.us/wildlife/diversity/threatened_endangered.asp).

19  
20 The State Sensitive Species list for fish and wildlife is available on ODFW's  
21 website at:

22  
23 [http://www.state.or.us/wildlife/pdf/sensitive\\_species.pdf](http://www.state.or.us/wildlife/pdf/sensitive_species.pdf).

24  
25 As Northern Star evaluates potential impacts, ODFW is concerned that the  
26 Applicant not overlook the value of wildlife habitat that exists on the energy  
27 facility site despite its generally degraded condition. For example, ODFW points  
28 out that a proposed fence could affect wildlife movements, and the proposed  
29 transmission line corridor could pose an electrocution threat to nesting birds.

30  
31 ODFW has based its analysis areas on the approximate home ranges of target  
32 species. Northern Star should work with ODFW staff to identify potential species  
33 of concern.

#### 34 35 Wildlife Species

- 36
- 37 • For highly mobile species, such as raptors or large mammals that may move  
38 long distances daily for feeding, roosting or rearing of young, the analysis area  
39 should include all lands and inland waters/wetlands within a radius of five  
40 miles of the facility site.
  - 41 • For less mobile species, such as reptiles and amphibians, the analysis area  
42 should include all lands within a 0.25-mile radius of the facility site. Northern  
43 Star should sample the logging pond for fish use as the pond may provide off-  
44 channel rearing for coho salmon and cutthroat trout. The sampling should  
45 occur over a period of time covering winter and spring times of the year.  
46 Reptiles and amphibians classified as sensitive may be present in the Project's

1 wetland areas. ODFW recommends surveying suitable habitats for sensitive  
2 turtles and frogs.

- 3 • For marine mammals, the analysis area should be from the mouth of the  
4 Columbia River to the facility site.

### 5 6 Columbia River Fish Species 7

- 8 • For the Columbia River, the analysis area should be the entire width of the  
9 Columbia River from shore to shore and one mile upstream from Hunt Mill  
10 Point to River Mile 40, and five miles downstream from Hunt Mill Point to  
11 the west end of Clifton Channel at River Mile 33. If there are notable impacts  
12 at the termini of this analysis area, ODFW and other resource agencies should  
13 be consulted about potentially expanding the analysis area. The analysis will  
14 need to cover a year's flow regime, with attention to migratory periods of  
15 adults and juveniles as well as any local rearing times and needs. Flow  
16 changes in the Clifton Channel may alter juvenile rearing in that area.
- 17 • For dredging of the Columbia River, the analysis area should include any  
18 "new" areas to be added to the channel dredging area, *i.e.*, areas added to  
19 those currently being dredged by the U.S. Army Corps of Engineers.
- 20 • For impacts to traditional fishing grounds and drift rights associated with  
21 commercial fisheries resulting from incoming and outgoing LNG-carrying  
22 ships, the analysis area should include all of the Columbia River from the  
23 mouth to the energy facility site. The Department recognizes that such rights  
24 may not be legally enforceable, but it also recognizes that local planning  
25 efforts take such rights into account. The Department requests that Northern  
26 Star address this issue to the extent possible.

### 27 28 Hunt Creek Fish Species 29

- 30 • For impacts to Hunt Creek, the analysis area should be from the creek mouth  
31 to the "barrier" (a little less than a half-mile from the mouth). ODFW does not  
32 see a need to go above the barrier unless road or culvert work would need to  
33 be done in that area. Any such potential work could trigger ODFW's and  
34 NMFS' fish passage statutes. Analysis of Hunt Creek should cover a full  
35 year's time to address spawning use and juvenile rearing in the system.

### 36 37 Hazardous Material Spill/Release 38

- 39 • The analysis area for spills/emergency response should encompass the area of  
40 potential spill/release impact located within the Lower Columbia Geographic  
41 Response Plan study area.

### 42 43 Noise 44

- 45 • For impacts from noise, the analysis area should include all areas within  
46 which increased noise levels from project construction and operation will be

1 detectable by wildlife. The extent of this area will be determined by the noise  
2 analysis described below.

3  
4 Application of the Department's Mitigation Policy

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6 The application should categorize fish and wildlife habitat affected by the  
7 construction and operation of the facility pursuant to ODFW's Mitigation Policy  
8 (OAR Chapter 635, Division 415). The application should identify any impacts  
9 that project construction and operation will have on fish and wildlife habitat  
10 quality and quantity, and describe the actions that will be taken to mitigate for  
11 these impacts, consistent with the goals of the Mitigation Policy. These actions  
12 may include avoiding certain habitat areas, limiting the timing of construction to  
13 avoid sensitive time periods for wildlife, or compensation for unavoidable losses.  
14 The application should also describe how mitigation actions would be monitored  
15 and evaluated to ensure the success of mitigation.

16  
17 Based on experience with similar projects, ODFW anticipates the Project will use  
18 reseeding and revegetation of areas disturbed by construction to meet the goals of  
19 ODFW's Mitigation Policy. Therefore, ODFW requests that a revegetation plan  
20 with the following information be provided in the application, as appropriate:

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22
- 23 • A description of soil preparation and topsoil segregation methods
  - 24 • A list of species that will be used for revegetation and information on seeding  
and planting rates
  - 25 • A description of the process for selecting a qualified reclamation  
26 subcontractor to oversee revegetation efforts
  - 27 • A description of the process for approving the final mixture of species  
28 selected by the revegetation contractor
  - 29 • A description of the performance measures that will be used to evaluate the  
30 success of revegetation efforts
  - 31 • A description of the monitoring that will occur to ensure the success of the  
32 revegetation efforts
  - 33 • A description of the proposed reporting schedule to ODFW and the  
34 Department
  - 35 • A description of measures that will be undertaken for control of noxious  
36 weeds and erosion control during construction
- 37

38 Potential Impacts on Fish and Wildlife Habitat

39 ODFW anticipates that the Project will have impacts on a variety of nesting birds,  
40 burrowing small mammals, reptiles and amphibians, raptors (potentially including  
41 spotted owls and bald eagles), and game mammals.

- 42
- 43 • Threatened and Endangered Species: Bald eagles use the project area, and  
44 peregrine falcons are known to use the regional area, specifically Astoria, the  
45 Trojan Nuclear Plant and the Lewis and Clark Bridge. Northern Star can  
46 obtain current information on bald eagle, peregrine falcon, and spotted owl

1 nest locations, as well as other threatened, endangered and sensitive species  
2 information from the U.S. Fish and Wildlife Service and the Oregon Natural  
3 Heritage Program.

- 4
- 5 • Osprey: An active osprey nest exists on a piling just upriver of the Project.  
6 ODFW is concerned that nesting osprey may be negatively affected by  
7 construction and operation of the Project, and it may be appropriate to relocate  
8 the nest. Northern Star should consult with ODFW about the osprey. In  
9 addition, ODFW recommends that the proposed dock and any transmission  
10 towers or lines be designed to deter osprey and other birds from nesting on the  
11 structures.
  - 12
  - 13 • Other Migratory Birds: Construction of the Project may result in the on-site  
14 removal of trees and shrubs that may contain active bird nests. The federal  
15 Migratory Bird Treaty Act protects migratory birds and their nests. ODFW  
16 recommends that vegetation removal be scheduled to occur outside the active  
17 nesting season. Northern Star should consult with ODFW about protecting  
18 any great blue heron rookeries that may be present in the project area.
  - 19
  - 20 • Water Use: Salmonids, sturgeon and other fish and shellfish inhabit or migrate  
21 through (or both, depending on life-stage) waterways in this area. The  
22 Columbia River is a major pathway for several federally or state-listed  
23 threatened or endangered salmonids. Estuaries in the Columbia River, such as  
24 Hunt Creek, are important rearing and acclimation habitat for these species, as  
25 well as year-round habitat for numerous fish and wildlife species.

26

27 The Project's NOI proposes possible water use from Hunt Creek or the  
28 Columbia River. ODFW recommends that the Project avoid Hunt Creek as a  
29 water source because of the creek's importance as habitat for salmonids,  
30 sturgeon, other fish and shellfish. Should the Project pursue Hunt Creek as a  
31 water source for construction, operation or both purposes – even if only for  
32 “domestic use” – ODFW would require creek flow information as well as fish  
33 flow studies to determine the impact of water withdrawals on flows needed for  
34 fish. ODFW suggests that groundwater wells might be considered for the  
35 Project's water needs.

36

37 For any surface water withdrawal, ODFW notes that fish screening would be  
38 required on intakes and attraction flow modifications would be required on  
39 intakes and outfalls. Screening and fish attraction flows must meet applicable  
40 NOAA Fisheries standards, as they are enforced for similar Columbia River  
41 uses at the time of the Council's decision, including during ballast up-take and  
42 any one-time operations, such as tank hydrotesting.

43

44 ODFW recommends that Northern Star develop on-site storage facilities for  
45 water for construction, hydrotesting, ballast, firefighting and general  
46 commercial purposes. Such facilities would help avoid sudden water up-take

1 that could either suck migrating fish into the ballast or pull in small fish and  
2 shellfish unable to escape. On-site storage would also provide the opportunity  
3 to recycle water, reduce withdrawals and potentially reduce the size of screens  
4 and mitigation requirements.

5  
6 Ballast water is a potential source of plant and animal invasive species.  
7 Northern Star must adhere to federal and state regulations regarding ballast  
8 water to avoid any possible transport and local release of invasive plants and  
9 animals found in ballast water. Northern Star should address this issue in its  
10 application or explain why this issue is not applicable.

- 11
- 12 • Dredging and In-Water Work: All in-water work (dredging, in-water  
13 construction, etc.) in creeks and the Columbia River should be restricted to the  
14 timeframes given in the in-water work guidelines for the relevant areas. For  
15 creeks on the project site, the in-water time period is July 1 – September 15.  
16 For the Columbia River, the in-water time period is November 1 – February  
17 28. The application must provide information about the proposed creek,  
18 crossing methods (*e.g.*, trench and fill, directional drilling, etc.) and associated  
19 impacts.

20  
21 If dredging has not occurred recently in the project area now proposed for  
22 dredging, Northern Star may need to survey the area for plant and animal  
23 species and habitat functionality. Mitigation may be required. Northern Star  
24 should also include in its application any mitigation proposed for habitat that  
25 would be affected by dredging.

26  
27 Structures such as a dock, trestles, etc., must meet ODFW conditions for  
28 installation. Pile driving must provide for protection of juvenile fish, such as  
29 the use of bubble curtains to dissipate sound shock. Northern Star should  
30 consult with ODFW about any need to analyze the effects to hydrology  
31 associated with development on and near the shoreline.

32  
33 Northern Star should consider bio-engineering techniques when stabilizing the  
34 banks of the Columbia River. ODFW recommends that Northern Star leave  
35 existing old dock pilings and “board” them (with willow bundles or similar  
36 natural materials) to collect sediments and form natural vegetation armoring  
37 along the bank.

- 38
- 39 • Roads: Access roads that cross streams must be constructed with  
40 consideration of fish passage needs. New road development or work on  
41 existing roads may trigger fish passage statutes (ORS 509.580 – 509.910).  
42 Northern Star should consider early in the planning process the trigger  
43 thresholds for fish passage.
  - 44
  - 45 • Wetlands: Northern Star should work to locate the facility’s footprint away  
46 from Hunt Creek and associated wetlands found near the creek’s mouth as

1 well as along the Columbia River. In general, Northern Star should avoid  
2 disturbance of wetlands on site. If avoidance is not possible, Northern Star  
3 must perform wetland mitigation in accordance with state and federal  
4 regulations. Wetland buffers will need to be put in place on site to protect  
5 existing wetlands and shoreline from any industrial run-off.  
6

- 7 • Fishing: ODFW recommends that Northern Star consider the Project's impact  
8 on traditional fishing grounds and drift rights associated with commercial  
9 fisheries. A plan for ship operations should be developed that addresses this  
10 issue. The Department recognizes that such rights may not be legally  
11 enforceable, but it also recognizes that local planning efforts take such rights  
12 into account. The Department requests that Northern Star address this issue to  
13 the extent possible.  
14
- 15 • Hazardous Materials: The U.S. Coast Guard and DEQ require any ships  
16 traveling the waters of the Columbia River to have oil spill contingency plans  
17 and to pay for spill recovery and response readiness costs. ODFW plays a role  
18 in spill response and resulting fish and wildlife impacts through the State's  
19 Natural Resource Damage Assessment statute, ORS 468B.060. To address  
20 spill response readiness, the Washington Department of Ecology, in  
21 conjunction with the State of Oregon, has prepared a Geographic Response  
22 Plan ("GRP") for the Lower Columbia River. The plan can be found on the  
23 web at:

24  
25 [www.ecy.wa.gov/programs/spills/preparedness/GRP/lower\\_columbia.htm](http://www.ecy.wa.gov/programs/spills/preparedness/GRP/lower_columbia.htm).  
26

27 In its application, Northern Star should make reference to aspects of the GRP  
28 that apply to the proposed facility's operation, including delivering tankers.  
29 Similar consideration should be given in the application for spills of other  
30 products and by-products of the liquefied natural gas off-loading, storage,  
31 vaporization, and delivery into gas pipelines.  
32

- 33 • Noise: The application should address the noise impacts on wildlife habitat  
34 resulting from construction and operation of the facility. The application  
35 should include a noise analysis that identifies how the ambient noise levels  
36 will change as a result of facility construction and operation, the geographic  
37 area within which these changes will be detectable to wildlife, and the  
38 duration of the noise, i.e., continuous or intermittent.  
39

#### 40 Additional Information

41  
42 ODFW requests the following specific information be supplied in Northern Star's  
43 application for a site certificate:  
44

- 45 • Fish species and habitats affected by the intake location and water  
46 withdrawals.

- Total quantity of water use during construction and operation, distinguishing for operation between domestic and commercial operation uses.
- Specific detail about how equipment fuel and oil will be contained and prevented from moving through the permeable layer (as described in the NOI) and into the wetlands or waterways.
- Fish and wildlife habitats and presence where storm water will be disposed.
- Necessary water right applications and regulations for water use on waterways with sensitive, threatened or endangered species in the Lower Columbia Basin.
- Evidence that any condensate discharged does not need to be adjusted for temperature.

### Review of Site Certificate Application

Rose Owens will be responsible for coordinating ODFW’s review of the site certificate application. Other ODFW staff members participating in the review include: Jill Zarnowitz, Water Quality/Quantity Program biologist in Salem; Herman Biederbeck, North Coast District Wildlife biologist in Tillamook; Keith Braun, North Coast District Fish biologist in Tillamook; Susan Barnes, Region Wildlife Diversity biologist in Clackamas; and Wayne Van der Naald, Columbia River Management Program biologist in Clackamas.

## **5. DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES**

**Statures and Rules:** OAR 345-022-0020

**Permit:** None required.

**Discussion:** The Department of Geology and Mineral Industries (“DOGAMI”) provides technical review and recommendations on compliance with the Council’s structural standard, OAR 345-022-0020. In its application, Northern Star must include a geotechnical report that includes, as a minimum, the information required by OAR 345-021-0010(1)(h). Also relevant is the information required by OAR 345-021-0010(1)(i).

DOGAMI has noted that Northern Star should provide a thorough geological characterization of the Project and surrounding area and a comprehensive site-specific geotechnical assessment. This assessment should include, but not be limited to, seismic, tsunami, slope stability (including lateral spreading), and erosion hazards at the proposed facility with supporting evidence sufficient to allow the Council to find that the facility can be appropriately constructed and operated. This is particularly important given the general seismic hazard, the potential of problematic native and/or fill soils, and the topographic setting close to mean sea level and adjacent to the Columbia River.

1 In addition, DOGAMI recommends that the analysis area for geotechnical work  
2 extend well beyond facility site boundaries so that any potential geologic hazards  
3 affecting the site are including in Northern Star’s geotechnical analysis. The  
4 Department recommends that Northern Star consult with DOGAMI about the  
5 precise extent of the analysis area.  
6

7 Further, the Department recommends that Northern Star follow DOGAMI’s  
8 advice about preparing its information using the Oregon Board of Geologist  
9 Examiners document entitled *Guidelines for Engineering Geologic Reports and*  
10 *Site-Specific Seismic Hazard Reports*. DOGAMI has attached the document to its  
11 comment letter.  
12

13 The Department notes that compliance with the Council's structural standard is  
14 not based on a general statement of Oregon Building Code Seismic Zone but on a  
15 detailed site-specific assessment of ground acceleration at the site. Furthermore,  
16 although OAR 345-021-0010(1)(h) refers to the Oregon Building Code Seismic  
17 Zone designation for the site, Oregon has recently adopted the IBC 2003, and the  
18 IBC does not use seismic zones. The use of the IBC 2003 instead of the Oregon  
19 Building Code Seismic Zone designation is appropriate and acceptable.  
20

21 The application should include all results of field and laboratory investigations  
22 and any other geotechnical and geologic hazard evaluation work. A thorough  
23 ground shaking amplification, liquefaction, and lateral spread analysis with all of  
24 the calculations, methodologies, and recommendations based on this site-specific  
25 analysis will be required.  
26

27 DOGAMI’s letter from Bill Burns to Cathy Van Horn, dated June 13, 2005, is  
28 incorporated by reference into this project order. The Department recommends  
29 that Northern Star consult directly with DOGAMI before drafting the application  
30 to work out precise information needs, and to include the Department’s project  
31 officer in those discussions. The DOGAMI contact for this review is Bill Burns at  
32 (503) 731-4100.  
33

34 **6. DEPARTMENT OF LAND CONSERVATION AND**  
35 **DEVELOPMENT**  
36

37 **Statutes and Rules:** ORS 197 and 215; OAR Chapter 660.  
38

39 **Permit:** None required for the Council’s process.  
40

41 **Discussion:** The Department of Land Conservation and Development (“DLCD”)  
42 provides technical review and recommendations on compliance with the  
43 Council’s land use standard, OAR 345-022-0030. For the Federal Energy  
44 Regulatory Commission’s review of the Project, DLCD’s Ocean and Coastal  
45 Management Program will conduct a “federal consistency review” to assure

1 compliance with the federal Coastal Zone Management Act. The Council and the  
2 Ocean and Coastal Management Program will work closely on their reviews.

3  
4 Northern Star has the option of obtaining the necessary land use permits directly  
5 from Clatsop County, pursuant to ORS 469.504(1)(a) (“Path A”). Alternately,  
6 Northern Star can request that the Council determine compliance with land use  
7 regulations, under ORS 469.504(1)(b) (“Path B”).

8  
9 Northern Star’s NOI indicates that Northern Star intends to request a Council  
10 determination of land use compliance under Path B. Northern Star need not make  
11 its final decision until it submits its application. Once the application is submitted,  
12 that election cannot be changed.

13  
14 The Project is in unincorporated Clatsop County. The county has a comprehensive  
15 land use plan acknowledged by the DLCDC. Under the Ocean and Coastal  
16 Management Program, DLCDC has provided detailed comments on land use issues  
17 and concerns in a letter from Dale Blanton to Cathy Van Horn, dated June 17,  
18 2005. The letter is incorporated by reference into this project order, and the  
19 Department recommends that Northern Star review it carefully.

20  
21 **7. OREGON PARKS AND RECREATION DEPARTMENT -**  
22 **HISTORIC PRESERVATION SECTION**

23  
24 (a) HISTORIC PRESERVATION SECTION

25  
26 **Statutes and Rules:** Includes ORS 97.740 and ORS 358.905.

27  
28 **Permit:** An archaeological permit may be required to conduct archaeological  
29 investigations of the site.

30  
31 **Discussion:** The Oregon Historic Preservation Officer and affected tribes provide  
32 technical review and recommendations on compliance with the Council’s historic,  
33 cultural and archaeological resources standard, OAR 345-022-0090.

34  
35 In the NOI, Northern Star states that the Legislative Commission on Indian  
36 Services identified the Confederated Tribes of Siletz and the Confederated Tribes  
37 of Grand Ronde as appropriate contacts for discussion about potential effects of  
38 the Project on historic and cultural resources. Northern Star noted that it would  
39 also contact the Chinook Nation of Washington. Northern Star shall show  
40 evidence in its application of consultation with the Confederated Tribes of Siletz  
41 and the Confederated Tribes of Grand Ronde regarding archaeological and  
42 cultural sites and materials or an explanation why such consultation did not occur.  
43 Northern Star shall summarize the results of consultation in the application.  
44

1 The Oregon State Historic Preservation Officer (“SHPO”) provided written  
2 comments in a letter from Dennis Griffin to Cathy Van Horn, dated April 22,  
3 2005. That letter is incorporated by reference into this project order.  
4

5 The SHPO noted that no previous cultural surveys have been completed within  
6 the proposed project area, but cultural sites are known to exist in the surrounding  
7 area. The SHPO stated that the Project would be located on a landform generally  
8 perceived to have a high probability for possessing archaeological sites and buried  
9 human remains.  
10

11 Northern Star shall hire a qualified archaeologist to conduct an archaeological and  
12 cultural resource survey within the analysis area described below. Northern Star  
13 shall provide the results of the survey to the Department and shall include such  
14 results as is appropriate in the application for a site certificate. It is the  
15 Department’s understanding that the SHPO has a suggested format for the  
16 archeological survey report that is not required but is helpful in facilitating a  
17 finding of “completeness” from the SHPO. In addition, SHPO recommends that  
18 Northern Star provide documentation of the dredge spoil fill areas along with its  
19 survey report. Northern Star should work with Dennis Griffin, SHPO lead  
20 archaeologist, to further refine these information needs for the application and  
21 include the Department in any discussions. Dennis Griffin can be contacted at  
22 (503) 986-0674 or at [dennis.griffin@state.or.us](mailto:dennis.griffin@state.or.us).  
23

24 While the Legislative Commission on Indian Services did not identify The  
25 Confederated Tribes of the Warm Springs Reservation of Oregon (“CTWSRO”)  
26 as a point of contact, the CTWSRO submitted comments on Northern Star’s NOI.  
27 The letter from Sally Bird, cultural resources program manager, to Cathy Van  
28 Horn, dated May 10, 2005, is incorporated by reference into the project order.  
29

30 The CTWSRO recommends that a pedestrian survey occur on the entire property  
31 held by Northern Star and within all areas of proposed construction, where  
32 feasible, and that an oral historical inventory be completed for the proposed site.  
33 While the Council’s standards may not require Northern Star to conduct a  
34 pedestrian survey on land it holds that will not be subject to Project impacts,  
35 Northern Star should consult with the CTWSRO as it prepares its application. The  
36 Department would encourage Northern Star to consider completing an oral  
37 historical inventory for the proposed site. Sally Bird can be reached at 541-553-  
38 2006.  
39

40 **(b) OTHER PARKS PROGRAMS**

41  
42 **Statutes and Rules:** ORS 390.010; OAR Chapter 736.

43  
44 **Permit:** None required.  
45

1           **Discussion:** The Oregon Parks and Recreation Department provides technical  
2 review and recommendations on compliance with the Council’s protected areas,  
3 scenic and aesthetic values, and recreation standards, OAR 345-022-0040, -0080  
4 and -0100. The Parks and Recreation Department did not provide any comments  
5 that identified concerns or issues for Northern Star to address in its application.  
6 The Department notes that the Bradley State Scenic Viewpoint is near the  
7 proposed site.

8  
9

## 8.       **OREGON DEPARTMENT OF STATE LANDS**

10  
11

### (a)       **WETLANDS**

12  
13

**Statutes and Rules:** Includes ORS 196.795 – 196.990, ORS 196.600 – 196.692  
14 and OAR Chapter 141, Divisions 85, 86 and 90

15  
16

**Permit:** A removal-fill permit is required if 50 cubic yards or more of material is  
17 removed, filled or altered within natural wetlands and waterways. A removal-fill  
18 permit also is required regardless of the number of cubic yards involved if any  
19 removal or fill activities occur in wetlands and waters of the State of Oregon and  
20 the United States that are classified as Essential Salmonid Habitat. Such activity  
21 includes piling placement. Any wetlands that are hydrologically connected to the  
22 river area also considered Essential Habitat.

23  
24

**Discussion:** The Department of State Lands (“DSL”) provides technical review  
25 and recommendations on compliance with removal-fill permit regulations. DSL’s  
26 comment letter on the Bradwood Landing NOI from Steve Purchase to Cathy Van  
27 Horn, dated June 15, 2005, is incorporated by reference into this project order.

28  
29

Wetland delineation: DSL points out that Northern Star must conduct a wetland  
30 delineation to identify all wetlands and waters of the State on the proposed site.  
31 The Department understands that a wetland delineation has already been  
32 completed for at least a portion of the proposed energy facility site and that DSL  
33 has concurred with that delineation. Northern Star must provide evidence of the  
34 delineation and DSL concurrence in its application, and it must perform wetland  
35 delineations for any other relevant areas of the facility site not covered by the  
36 existing delineation. The wetland delineation must be conducted by qualified  
37 individuals and must employ the criteria and procedures set forth in the 1987  
38 Corps of Engineers Wetland Delineation Manual.

39  
40

Hunt Creek and a portion of the Columbia River are classified by the State of  
41 Oregon as Essential Salmonid Habitat. Thus, any removal or fill activities in those  
42 areas will require a removal fill permit.

43  
44

Given the project site, the Department anticipates that Northern Star will require a  
45 removal-fill permit. If so, the application must include an itemized demonstration

1 of compliance with each applicable provision of ORS 196.825 and OAR 141-085-  
2 0050.

3  
4 Specific application requirements regarding potential wetlands impact are  
5 described in OAR 345-021-0010(1)(j).

6  
7 Mitigation: If the delineation indicates potential for impacts to wetlands or other  
8 waters, the application must identify the location and describe the nature and  
9 extent of each impact. It must also describe mitigation measures for each impact  
10 identified. Northern Star should work with DSL to define appropriate mitigation  
11 and include the Department in any discussions. The DSL contact for removal fill  
12 permit requirements is Louise Bos, resource coordinator, at (503) 378-3805, x231  
13 or [louise.bos@dsl.state.or.us](mailto:louise.bos@dsl.state.or.us).

14  
15 (b) PROPRIETARY

16  
17 **Statutes and Rules**: Includes ORS 274.005 – 274.994; OAR Chapter 141,  
18 Divisions 82 and 122.

19  
20 **Permit**: No permit. Any part of the facility occupying state-owned submerged  
21 and/or submersible lands in the Columbia River will require an appropriate  
22 proprietary authorization from DSL.

23  
24 **Discussion**: DSL recommends that Northern Star complete a delineation of state-  
25 owned lands to be occupied by the Project. The DSL contact for proprietary  
26 discussions is Clara Taylor, property manager, at (503) 378-3805, x276 or  
27 [clara.taylor@state.or.us](mailto:clara.taylor@state.or.us).

28  
29 Proprietary interests in state-owned lands are not within the Council’s jurisdiction  
30 and Council approval of a site certificate does not bind DSL, or any other state  
31 agency, to grant a lease, easement or other approval related to land ownership.  
32 However, Northern Star should provide evidence prior to construction that it has  
33 proprietary approvals from DSL.

34  
35 **9. WATER RESOURCES DEPARTMENT--WATER RIGHTS**  
36 **DIVISION**

37  
38 **Statutes and Rules**: ORS Chapters 536 through 540; OAR Chapter 690,  
39 Divisions 1 through 410.

40  
41 **Permit**: Water right.

42  
43 **Discussion**: The Department of Water Resources (“WRD”) provides technical  
44 review and recommendations on compliance with water permit regulations.  
45 WRD’s comment letter on the Bradwood Landing NOI from Jerry Sauter to Cathy  
46 Van Horn, dated May 17, 2005, is incorporated by reference into this project

1 order. The Department understands that Northern Star’s water plans may have  
2 changed since it submitted its NOI. The comments here, however, refer to the  
3 plans as outlined in the NOI.  
4

5 WRD agreed with Northern Star’s statement in its NOI that a transfer of an  
6 existing water right or an application for a new water permit would be appropriate  
7 methods for supplying the proposed small but permanent use. WRD also noted  
8 that water use for construction and hydrotesting would require a permit or limited  
9 license. The Department points out that, in considering ways to provide its water  
10 needs, Northern Star should consider WRD regulations in conjunction with  
11 ODFW concerns about water use.  
12

### 13 **10. OREGON DEPARTMENT OF TRANSPORTATION**

14  
15 **Statutes and Rules:** ORS Chapter 818 and OAR Chapter 734 for regulations on  
16 the size and weight of truck loads on state and federal highways; ORS 374.305 -  
17 .310 and OAR Chapter 734, Division 55, for permits for construction on a state  
18 highway or county road.  
19

20 **Permit:** None required under the Council’s process.  
21

22 **Discussion:** Northern Star’s NOI identifies as transportation issues a potential  
23 relocated railroad on the energy facility site and “surface access” to the proposed  
24 site.  
25

26 Railroad: For the proposed railroad track relocation, Northern Star must include in  
27 its application appropriate analysis and mitigation plans for any environmental  
28 impacts. It is the Department’s understanding that, while the rail tracks that cross  
29 Northern Star’s property belong to Portland Western Rail Company, the  
30 underlying land belongs to the Oregon Department of Transportation (“ODOT”).  
31 Proprietary interests in state-owned lands are not within the Council’s  
32 jurisdiction, and Council approval of a site certificate does not bind ODOT, or  
33 any other state agency, to grant a lease, easement or other approval related to land  
34 ownership. However, Northern Star should provide evidence prior to construction  
35 that it has proprietary approvals from ODOT. The ODOT rail contact is Bob  
36 Melbo at (503) 986-4137. In addition, Northern Star should provide evidence of a  
37 railroad crossing easement agreement with ODOT or explain why one is not  
38 required. The ODOT rail easement contact is Kathy Schamp at (503) 986-4230.  
39

40 ODOT Rail staff has noted that ODOT discussed the possibility with Northern  
41 Star of including a rail spur on-site for the possible future ability to transport  
42 natural gas by rail. It would be helpful if Northern Star would respond to the  
43 request in its application.  
44

45 Roads: In its NOI, Northern Star stated that it would “assess access to the site and  
46 work closely with ODOT to maintain or improve traffic safety at site access

1 points.” As part of the assessment to be conducted, Northern Star must provide a  
2 traffic study that documents current traffic levels and increased levels that would  
3 occur with construction and operation. In addition, ODOT has expressed concern  
4 that eastbound access to the site currently requires vehicles to occupy an uphill  
5 passing lane on Highway 30, causing a potentially dangerous situation under  
6 increased traffic conditions. Northern Star should address the issue in its  
7 application, including any road improvements that may be required. The ODOT  
8 roads contact is Mike Spaeth in Astoria at (503) 325-7222.  
9

10 In addition, Clatsop County has expressed concern about roads, access and traffic  
11 for the proposed Project. Clatsop County notes that the Bradwood property’s only  
12 vehicular access currently is provided by the county’s Clifton Road, which  
13 extends 2.4 miles from state Highway 30 to the Bradwood property and then  
14 dead-ends about a mile beyond in the small, unincorporated community of  
15 Clifton. The County states that the steep and narrow Clifton Road is in poor  
16 condition, is poorly suited to large volumes of traffic or to large vehicles.  
17 Northern Star should work closely with Clatsop County in evaluating and, as  
18 needed, upgrading road conditions to the site, providing evidence in the  
19 application that the county’s Clifton Road and any private roads can be safely  
20 used for the level and kinds of traffic proposed.  
21

## 22 **11. OREGON DEPARTMENT OF FORESTRY**

23  
24 **Statutes and Rules:** ORS 477.625 and OAR 629-043-9976 regarding operation  
25 of power driven machinery on forestlands; ORS 527.610 to 527.770, ORS  
26 527.990(1), ORS 527.992, and OAR Chapter 629, Divisions 600-680, regarding  
27 commercial removal of trees from forestlands.  
28

29 **Permits:** A Department of Forestry Permit to Operate Power Driven Machinery  
30 may be required for operation of internal combustion equipment on forestlands on  
31 or adjacent to the proposed site. A Department of Forestry Notification of  
32 Operation may be required if trees will be removed from forestlands during  
33 preparation of the site or construction and maintenance of the proposed facility.  
34

35 **Discussion:** The proposed site is on or adjacent to forestlands. Operation of  
36 internal combustion equipment (*e.g.*, heavy equipment, power saws) on such  
37 lands during site preparation and construction will require a Permit to Operate  
38 Power Driven Machinery from the Department of Forestry as required in ORS  
39 477.625 and OAR 629-043-0076.  
40

41 If removal of trees will be necessary for site preparation, construction, or  
42 maintenance of the facility and such removal is part of a commercial operation  
43 (*e.g.* cut trees are sold or traded), then that activity is subject to the requirements  
44 of the Oregon Forest Practices Act, as described in ORS 527.610 to 527.770,  
45 527.990(1) and 527.992 and OAR Chapter 629, Divisions 600-680. As part of  
46 these requirements, the operator, timber owner or landowner must submit to the

1 Department of Forestry a Notification of Operation at least 15 days prior to the  
2 start of any such disturbance. In some cases, additional requirements for written  
3 plans and prior approvals may apply.  
4

5 More information on all these requirements is available from the local Columbia  
6 City Unit office of the Department of Forestry. The office is located at 405 "E"  
7 St., Columbia City, OR 97018, telephone (503) 397-2636.  
8

## 9 **12. CLATSOP COUNTY**

10  
11 The Department appreciates that Northern Star has been working with Clatsop  
12 County to determine appropriate criteria, pinpoint zoning boundaries and address  
13 other issues. The Department encourages Northern Star to continue that working  
14 relationship as it addresses in its application the land-use and other issues raised  
15 by Clatsop County in an extensive County Board of Commissioners document  
16 titled "Response to Notice of Intent" and dated July 28, 2005. That document is  
17 based on official commission action and is incorporated by reference into the  
18 project order.  
19

20 The Department recognizes that some of the questions posed by Clatsop County  
21 in its response document may not involve issues under the Council's jurisdiction.  
22 The Department also recognizes that detailed answers to security and other  
23 sensitive questions may not be appropriate in the application. However, the  
24 Department recommends that Northern Star view its application for a site  
25 certificate as a tool to respond whenever possible to the variety of concerns and  
26 questions posed by both the County and local residents, including residents of the  
27 State of Washington.  
28

29 For ease of reference, specific questions posed by Clatsop County in its response  
30 document under the heading, "Section II: Key Subjects and Issues to be  
31 Addressed", are excerpted here. Northern Star should, of course, refer to the entire  
32 document for additional issues to be addressed.  
33

### 34 Safety and Security

- 35
- 36 • What is the risk of an attack or accident involving the ships that would bring  
37 natural gas to the Bradwood facility?
  - 38 • What is the risk of an attack or accident involving gas storage facilities at  
39 Bradwood?
  - 40 • What is the risk of an attack or accident involving gas handling and  
41 distribution facilities at Bradwood and beyond?
  - 42 • What harm to people, property, and the environment might occur in the event  
43 of an attack or accident involving the Bradwood facility or the ships and  
44 pipelines that would serve it?
  - 45 • What measures would be taken to prevent such attacks and accidents?

- 1 • What measures would be taken to control or minimize harm if such an attack  
2 or accident did occur?
- 3 • To what extent, if any, would Clatsop County be liable for damages resulting  
4 from such an attack or accident?

### 5 6 Economic Impact

- 7
- 8 • How long will the construction phase last, and how many workers would be  
9 employed during that time?
- 10 • How long might the plant be expected to operate, and how many workers  
11 would be employed during that time?
- 12 • What types of worker will the facility employ, and to what extent would  
13 workers with skills necessary to develop or operate the proposed LNG facility  
14 be hired from the local labor force?
- 15 • What types of materials and services will be needed to build and operate the  
16 facility, and to what extent would they be obtained locally?
- 17 • What is the assessed value of the facility likely to be when it is completed, and  
18 what tax revenues would accrue to Clatsop County and to taxing districts in  
19 the county?
- 20 • What effect might construction and operation of the plant have on resource-  
21 based industries, such as fishing and tourism?
- 22 • What effects might construction and operation of the plant have on property  
23 values, and over what area would those effects occur?
- 24 • Would Clatsop County incur any liability or costs resulting from litigation or  
25 claims having to do with nuisance law, reduced property values, Measure 37  
26 compensation, or appeals of land use decisions?
- 27 • What costs to the county's economy and to resource-based industries such as  
28 fishing and tourism might result from accidents or problems (an LNG spill,  
29 for example) associated with an LNG facility at Bradwood?
- 30 • What would be the costs of maintaining proper security and safety for the  
31 facility and the surrounding area, and who would bear those costs?

### 32 33 Natural Hazards

- 34
- 35 • What are the risks and likely consequences of severe flooding (including  
36 tsunamis), where "severe" means inundation equal to or exceeding the "base  
37 flood" (*i.e.*, the "100-eyar flood" or "one-percent flood") specified in FEMA's  
38 Flood Insurance Rate Maps for Clatsop County?
- 39 • What are the risks and likely consequences of earthquakes, landslides, or other  
40 seismic hazards?
- 41 • What are the risks and likely consequences of wild fires?

### 42 43 Scenic and Aesthetic Resources

- 44
- 45 • How would the development affect views from the river?

- What site configuration and design measures could be undertaken to reduce visual impacts and related loss of property value from the development?

Housing

- Where would the several hundred workers reside during the construction phase?
- Would the county experience a sudden influx of population (workers, spouses, children) at the start of construction and a sudden decrease when the project was completed?
- What vacant housing currently is available for such an influx of people?
- How and where would housing be built to accommodate them if sufficient vacant housing is not currently available?
- What would be the effects of the development on Clatsop County’s housing market during the construction phase?
- What would be the effects on the housing market after construction is completed?

**10. OTHER CONSTRUCTION-RELATED REGULATIONS**

If the Council issues a site certificate, the certificate holder must comply with construction-related regulations that apply to the proposed facility. The site certificate does not address these regulations. The following list is for information only:

- Fire Protection and Hazardous Materials. Various programs addressing fire protection and fire safety and the storage, use, handling, and emergency response for hazardous materials and community right to know laws for hazardous materials, administered by the Oregon State Fire Marshal’s Office, under ORS Chapters 453, 476 through 479; OAR Chapter 837, Divisions 40, 85 and 90.
- Water Systems. Regulations pertaining to domestic water supply systems administered by the Health Division of the Oregon Department of Human Services under ORS Chapter 448 and OAR Chapter 333, Division 61.
- Building Codes. Regulations pertaining to building, structure design and construction practices administered by the Oregon Building Codes Division under ORS Chapter 455 and OAR Chapter 918.

**III. APPLICABLE LOCAL GOVERNMENT ORDINANCES, PERMITS OR OTHER APPROVALS [OAR 345-015-0160(1)(b)]**

Northern Star’s proposed site is located in unincorporated Clatsop County. The NOI states that Northern Star intends to seek a Council determination of whether the facility complies with applicable substantive criteria from Clatsop County’s

1 acknowledged comprehensive plans and with directly applicable LCDC rules, as set forth  
2 in ORS 469.504(1)(b). The applicable substantive criteria from the affected local  
3 government’s comprehensive plan are those in effect on the date the application is  
4 submitted. Clatsop County has submitted extensive comments about applicable criteria  
5 and other issues, and Northern Star should continue to work closely with the county on  
6 land use and other issues as it prepares its application. Northern Star shall include in the  
7 application an analysis of the proposed facility’s compliance with those applicable  
8 criteria. See further discussion under Exhibit K in Section IV below.

9  
10 Northern Star still has the option of seeking land use approval directly from  
11 Clatsop County. The choice between the Council and the County need not be made until  
12 the application for site certificate is submitted. Once the application for site certificate is  
13 submitted, the election of land use approval “path” cannot be changed.

14  
15 **IV. APPLICABLE REQUIREMENTS FROM OAR CHAPTER 345, DIVISION**  
16 **21**

17  
18 The application shall include the information described in OAR 345-021-0010(1),  
19 (2) and (4). Northern Star must also submit the information required by OAR 345-021-  
20 0000, particularly the information in section (5)(a) and (b) regarding the status of non-  
21 federally-delegated and federally delegated permits.

22  
23 All of the exhibits listed in OAR 345-021-0010(1) apply unless this project order  
24 states otherwise. This project order includes specific direction about some exhibits. If this  
25 project order does not provide specific direction for a certain exhibit, then the Applicant  
26 should follow the guidance in OAR 345-021-0010(1). If you believe some subsections of  
27 OAR Chapter 345, Division 21, do not apply, please contact the Department in writing  
28 regarding a waiver of those sections before submitting the application.

29  
30 (a) Exhibit A – General Information about the Applicant

31  
32 Paragraphs (A) through (D) apply. Note that paragraph (B) calls for a list  
33 of “participating persons, other than individuals.” “Person” is defined in  
34 OAR 345-001-0010(43). Include in the application information about all  
35 third-party entities (persons other than individuals) that are important to  
36 the Project.

37  
38 (b) Exhibit B – General Information about the Proposed Facility

39  
40 All paragraphs apply except (A)(vii), (viii) and (ix). Northern Star should  
41 identify the proposed method for wastewater disposal in Exhibit B in  
42 accordance with OAR 345-021-0010(1)(b)(A)(v). Northern Star should  
43 include a description of any underground storage tanks and the materials  
44 such tanks would contain in accordance with OAR 345-021-  
45 0010(1)(b)(A)(iii).

1 (c) Exhibit C – Location

2  
3 Maps included in Exhibit C should provide enough information for  
4 potentially affected property owners to tell whether their property is within  
5 or adjacent to the site. Major roads should be named. Northern Star must  
6 supply to the Department at least one 7.5-minute quadrangle map that  
7 shows at an intelligible scale the proposed locations of the energy facility  
8 site, and all related or supporting facility sites, in relation to major roads,  
9 water bodies, cities and towns, important landmarks and topographic  
10 features.

11  
12 (d) Exhibit D – Organizational Expertise

13  
14 All paragraphs apply. Bradwood Landing is different from the power  
15 plants and transmission lines that EFSC usually reviews, because there is  
16 little experience nationwide in construction and operation of LNG  
17 facilities. Moreover, Northern Star is not part of a larger company, and  
18 the Council has no familiarity with its track record. Therefore, the  
19 application should include detailed information on the expertise within the  
20 company and the company’s ability to retain necessary expertise from the  
21 outside if necessary. If the Project is described as a “turnkey” project, the  
22 application should include evidence of any agreements with experienced  
23 contractors, their capabilities, and their ability to comply with conditions  
24 likely to be included in the site certificate.

25  
26 The NOI does not state Northern Star will rely on third parties for project  
27 components under Council jurisdiction. Should that condition change,  
28 such components, even though provided by others, may be related or  
29 supporting facilities as defined at OAR 345-001-0010(47) if they would  
30 not be built “but for” construction and operation of the LNG facility.

31  
32 Such “third party” components may not require the full scope of Council  
33 review, but they must satisfy the Council’s organization expertise  
34 standard. The standard requires a finding that the named third party is  
35 likely to receive all needed approvals and is likely to enter into an  
36 agreement to serve the facility. The application for a site certificate should  
37 contain evidence that this part of the standard is met.

38  
39 (e) Exhibit E – Permits

40  
41 All paragraphs apply. Northern Star should include information about its  
42 schedule for applying for and receiving any wetland permits from the U.S.  
43 Army Corps of Engineers, to the extent that schedule is known. Note that  
44 even though federal and federally delegated permits are not under Council  
45 jurisdiction, the application for a site certificate must still include the  
46 information described at OAR 345-021-0000(5)(a) and (b).

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(f) Exhibit F – Property Owners

Northern Star must identify the site of the proposed facility, including all related or supporting facilities, and any corridor identified in Exhibit B. Northern Star must determine the appropriate distances as described in paragraphs (A) through (C), based on the location of urban growth boundaries and farms or forest zones, and provide the complete list of property owners.

(g) Exhibit G – Materials Analysis

All paragraphs apply. While this exhibit does not correspond to a particular standard, the Department will use the information in reviewing retirement costs, spill hazard, potential impact on soils under OAR 345-022-0022, and in identifying public safety conditions.

In section (g)(B), identify specifically the chemicals to be stored on-site. Northern Star should consult with DEQ Hazardous Waste Division to determine whether these chemicals would be hazardous waste if spilled or released. In the application, Northern Star should include information about that determination. Include information about containment, cleanup and disposition of hazardous waste spilled or released.

(h) Exhibit H – Geology

All paragraphs apply. Exhibit H should take into account DOGAMI’s comments included in Section II (5) of this project order.

(i) Exhibit I – Soils

All paragraphs apply. While the 1200-C and 1200-Z storm water discharge permits are federally delegated to DEQ, Exhibit I should describe erosion control measures proposed to meet DEQ storm water discharge permit requirements, in support of a Council finding of no adverse impact on soils under OAR 345-022-0022.

(j) Exhibit J – Wetlands

All paragraphs apply. Exhibit J should take into account DSL’s comments included in Section II (8) of this project order.

(k) Exhibit K – Land Use (Statewide Planning Goals)

Paragraphs A and C apply. Paragraphs B and D do not apply.

1 The Council's land use standard requires an evaluation of the proposed  
2 use under (1) applicable substantive criteria and (2) any rules, goals, or  
3 statutes directly applicable under ORS 197.646(3). [See ORS 469.504(1)  
4 and OAR 345-022-0030(2)].

5  
6 (l) Exhibit L – Protected Areas

7  
8 All paragraphs apply.  
9

10 (m) Exhibit M – Financial Capability

11  
12 All paragraphs apply.  
13

14 (n) Exhibit N – Need for the Facility

15  
16 Exhibit N does not apply. OAR 345-021-0010(G) applies to liquefied  
17 natural gas storage facilities and not to liquefied natural gas importation  
18 terminals. At its June 20, 2005, meeting, the Council decided not to  
19 impose a new need standard on such facilities.  
20

21 (o) Exhibit O – Water Use

22  
23 All paragraphs apply. Exhibit O should take into account WRD's  
24 comments included in Section II (9) of this project order.  
25

26 (p) Exhibit P – Wildlife Habitat

27  
28 All paragraphs apply. Exhibit P should take into account ODFW's  
29 comments included in Section II (4) of this project order.  
30

31 (q) Exhibit Q – Threatened and Endangered Species

32  
33 All paragraphs apply. Exhibit Q should take into account ODFW's  
34 comments included in Section II (4) of this project order.  
35

36 (r) Exhibit R – Scenic and Aesthetic Values

37  
38 All paragraphs apply.  
39

40 (s) Exhibit S – Historic, Cultural and Archaeological Resources

41  
42 All paragraphs except (C) apply. Exhibit S should take into account  
43 SHPO's comments included in Section II (7) of this project order.  
44

45 (t) Exhibit T – Recreation  
46

1 All paragraphs apply. In addition to the requirements of OAR 345-021-  
2 0010(t), Northern Star should discuss any exclusion zones required to  
3 ensure public safety, any need for alarms, sirens and evacuation plans in  
4 areas popular for recreation, and the effect that such safety precautions  
5 will have on both formal and informal recreational opportunities.  
6

7 (u) Exhibit U – Public Services  
8

9 All paragraphs apply. Include an analysis of estimated facility-related  
10 traffic during construction and operation and the potential impact on  
11 traffic safety. Discuss transportation of heavy equipment and shipments of  
12 facility components during construction. Include identification of  
13 approach routes, anticipated traffic volume and potential damage to public  
14 roads. Northern Star must pay close attention to nearby local towns that  
15 may host construction workers as well as permanent staff. The influx may  
16 represent a significant increase in population and traffic, and Northern Star  
17 must take care to analyze these possible impacts. Exhibit U should take  
18 into account comments from ODOT and Clatsop County included in  
19 Sections II (10) and (12) of this project order.  
20

21 Emergency preparedness is perhaps the most important of the local law  
22 enforcement functions considered under the Council’s public services  
23 standard. The Department anticipates that any FERC license will include  
24 conditions requiring FERC review of a fully developed emergency  
25 response plan prior to operation. The application for a site certificate  
26 should describe the federal regulations governing emergency response  
27 plans for LNG facilities, and the acceptance criteria set forth in federal  
28 regulations. If FERC, USDOT, or another federal agency has issued a  
29 standard review plan for emergency preparedness at LNG facilities, please  
30 make reference to that plan in the application. If FERC requires the  
31 emergency response plan pursuant to federal statutes or regulations, the  
32 application for a site certificate should list the substantive requirements  
33 from those regulations and show evidence of compliance. Should the  
34 Department recommend to the Council that it issue a site certificate for  
35 Bradwood Landing, the Department will require by condition an  
36 emergency plan and Council review of the plan prior to operation.  
37

38 The presence of an LNG facility will require extra preparedness for  
39 natural events, accidents or acts of terrorism, and those requirements will  
40 have an impact on public services covered under this standard. The  
41 application should indicate what extra resources an emergency plan will  
42 require of local law enforcement and first responders, the ability of those  
43 responders to perform their emergency function, and Northern Star’s  
44 commitment to augment their capabilities as needed.  
45

1 Security requirements under the Maritime Transportation Security Act of  
2 2002 (“MTSA”) and 49 CFR 193 could require the resources of local law  
3 enforcement agencies. The application for a site certificate should describe  
4 the security requirements, how local law enforcement will be involved,  
5 and what local law enforcement resources would be needed. The  
6 application for a site certificate should either include evidence that such  
7 requirements will not tax the current resources of those agencies or  
8 evidence of the agencies preparedness to augment those capabilities.  
9

10 Puget Island has limited egress routes. Therefore, the application should  
11 describe the maximum distance within which evacuation could be required  
12 in a design basis event (including natural events or human initiated events,  
13 whether accidental or deliberate), and an assessment of the local roads’  
14 adequacy to handle such an event. The application should also describe the  
15 visual and aural alarms that will be incorporated into the facility design or  
16 placed within appropriate communities.  
17

18 (v) Exhibit V – Solid Waste and Wastewater  
19

20 All paragraphs apply. Include in this exhibit any relevant information  
21 about existing or new dredge spoils.  
22

23 (w) Exhibit W – Facility Retirement  
24

25 All paragraphs apply. Northern Star should include a discussion of  
26 disposal of any hazardous waste or other hazardous materials.  
27

28 The Department has commissioned the preparation of a draft guide for  
29 estimating retirement costs that is currently being updated to include LNG  
30 facilities. The Council has not approved this guide and its use is not  
31 mandatory, but the guide has been the basis for retirement cost estimates  
32 for other Council jurisdictional facilities (*see* Final Order Approving the  
33 COB Facility or Order on Amendment #4 to the Summit/Westward  
34 Energy Project Site Certificate).  
35

36 The purpose of the standard is to ensure that Oregon taxpayers will not  
37 bear the burden of site restoration in the unlikely event that construction is  
38 started but not completed, or the event that the facility is closed  
39 prematurely. Therefore, the Department will review the retirement cost  
40 estimate to ensure that the probable actual site retirement costs would not  
41 exceed the amount of surety the Applicant must post before beginning  
42 construction of the proposed facility.  
43

44 (x) Exhibit X – Noise  
45

1 All paragraphs apply. Noise modeling and measurements must take into  
2 account Puget Island and any unique characteristics of sound traveling  
3 across water.

4  
5 (y) Exhibit Y – Carbon Dioxide Emissions

6  
7 The Department currently is undergoing rulemaking to include more  
8 precise information about LNG facilities in the Council’s carbon dioxide  
9 standard giving full consideration to carbon dioxide emissions likely to  
10 occur at LNG facilities.

11  
12 (z) Exhibit Z – Cooling tower Impacts

13  
14 Exhibit Z does not apply.

15  
16 (aa) Exhibit AA – Electric and Magnetic Fields

17  
18 All paragraphs apply to any transmission line, regardless of size, that is a  
19 related or supporting facility, including transmission lines that transport  
20 electricity from the project site to any existing substation.

21  
22 (bb) Exhibit BB – Other Information

23  
24 Northern Star may use Exhibit BB for any information requested in this  
25 project order that is not addressed in any other exhibit. Northern Star may  
26 use Exhibit BB to respond to questions from Clatsop County and the  
27 public.

28  
29 (cc) Exhibit CC – Other Law

30  
31 Exhibit CC applies.

32  
33  
34 **V. PUBLIC HEALTH AND SAFETY**

35  
36 The site certificate shall contain conditions for the protection of public health and  
37 safety. ORS 469.401(2). The Council is authorized to adopt standards for the protection  
38 of public health and safety, including necessary safety devices and procedures. ORS  
39 469.501(1)(g).

40  
41 Under the Council’s standards at OAR Chapter 345, Division 22, safety is  
42 addressed in the structural standard, which requires the Council to find that the facility  
43 can be designed to protect public health and safety in the event of seismic events and  
44 geological hazards including tsunamis. Safety is also addressed in the public services  
45 standard, which requires the Council to find that the facility would not adversely affect

1 the community's ability to provide for fire and police protection, including security and  
2 emergency preparedness.

3  
4 Because LNG facilities pose a unique potential hazard when compared to other  
5 energy facilities, the Council requires information not explicitly described in OAR  
6 Chapter 345, Division 21, in order to fulfill the statutory requirement to adopt conditions  
7 for public health and safety.

8  
9 Under OAR 345-021-0010(bb), Exhibit BB provides for information that is  
10 needed but not captured by the other exhibits. For Northern Star, the Department  
11 recommends using Exhibit BB to address in detail the safety concerns associated with the  
12 facility.

13  
14 Exhibit BB should describe a "design basis event," which is the maximum  
15 credible event that could endanger the people or property in the community. The design  
16 basis event is a rational and believable event, but should include events that are unlikely  
17 but credible. The design basis event is the event you would use in designing safety  
18 features, quality assurance requirements, security measures, controlled area boundaries,  
19 warning sirens, and emergency plans. It includes events triggered by accident, human  
20 error, natural events and credible acts of terrorism.

21  
22 The application should analyze likelihood as well as consequences, so that safety  
23 and security measures can be based on risk (*i.e.*, the product of likelihood times  
24 consequences). If formal probabilistic risk assessments have been done, those  
25 assessments should be cited and described. If no formal probabilistic risk assessment is  
26 available for the LNG industry, then the application should include the rationale and  
27 factual basis for any subjective assessment of overall risk.

28  
29 The Council recognizes that the federal government has assigned primary  
30 responsibility for offshore safety and security to the U.S. Coast Guard. However, the  
31 hazards associated with LNG tankers would not exist but for the proposed facility.  
32 Therefore, the credible events described in the application should include events over  
33 water, notwithstanding the Coast Guard's responsibility for enforcing safety and security  
34 measures offshore.

35  
36 This order in no way directs the Applicant to disclose details regarding safety  
37 features or security measures that must be withheld from public disclosure to protect  
38 public health and safety.

39  
40 Exhibit BB should contain a description of safety controls and an analysis of  
41 reliability and safety. If a Draft Environmental Impact Statement ("Draft EIS") is  
42 available at the time the application is submitted, then Exhibit BB may contain  
43 appropriate cross-references to this information. If the Draft EIS is not yet ready, the  
44 Exhibit BB should contain information that would likely make up those sections of the  
45 EIS, to the extent known. As a minimum, the application should include:

- 1 • Sections of 49 CFR 193 applicable to the facility, and a description of how the  
2 facility will meet them.
- 3 • Other applicable federal regulations that address safety and emergency  
4 preparedness.
- 5 • Professional codes and standards (ASME, NFPA, IEEE, etc.) that will apply to  
6 design and construction of the facility.
- 7 • A description of design basis accidents and events that will inform the design and  
8 construction of the facility. In particular, a discussion of the methods, models and  
9 assumptions used to calculate the distances at which heat flux in a design basis  
10 event would reach levels of 5 and 18 kW per square meter. The application must  
11 include evidence that the modeling of the design basis event includes appropriate  
12 conservatism, particularly in the assumptions and inputs used for event modeling.
- 13 • Exclusion zones required by federal code. If such zones are not entirely within the  
14 property, an assessment of the ability to control those zones in an accident or  
15 event.
- 16 • Quality Assurance codes and standards (ASQC, ISO, etc.) that will be used to  
17 assure that components of the facility important to public safety will perform  
18 satisfactorily in service. If available, the application for a site certificate should  
19 include the quality assurance program that will cover design, procurement and  
20 construction. If a formal quality assurance program is not proposed, the  
21 application for a site certificate must include evidence that systematic and planned  
22 measures will be implemented to ensure that safety features will function as  
23 designed.
- 24 • Information on containment structures for the LNG storage tanks and for  
25 cryogenic pipes.
- 26 • Measures to ensure that persons who might intentionally commit acts that would  
27 endanger public health and safety are denied access.

28  
29 Identify all areas where the Project would exceed the minimum regulatory  
30 requirements.

31  
32 Any information on emergency preparedness can appear either in Exhibit BB or in  
33 the Exhibit addressing the Council's public services standard and need not be duplicated.  
34 If Northern Star is preparing similar information for its FERC license application, it may  
35 cross-reference that information whenever possible.

## 36 37 **VI. PUBLIC COMMENTS ON THE NOI (OAR 345-015-0160(1)(g) and (h))**

38  
39 In addition to the applicable statutes, rules and local land use requirements listed  
40 above, the application must address issues arising from public comments. The  
41 Department heard public comments at the informational meeting on April 19, 2005, and  
42 received written comments. Northern Star should also review Clatsop County's materials  
43 for relevant public comments as well as comments submitted by Washington's Board of  
44 Wahkiakum County commissioners.

1 The Department is providing all written comments to Northern Star, and  
2 summarizing written and oral comments below. The Department recognizes that many of  
3 these comments will be addressed in the application and during the review process.  
4 Further, the Department recognizes that some of the questions may not involve issues  
5 under the Council’s jurisdiction. The Department also recognizes that detailed answers to  
6 security and other sensitive questions may not be appropriate in the application.  
7 However, the Department recommends that Northern Star view its application for a site  
8 certificate as a tool to respond whenever possible to the variety of concerns and questions  
9 posed by local residents, including residents of the State of Washington.

10  
11 The Department understands that Northern Star is aware that the Council is  
12 undergoing a rulemaking that may result in a new “economic impact” standard that  
13 Northern Star would have to address. While the Department has placed public comment  
14 questions about economic impact to area businesses under a “miscellaneous” category  
15 outside of Council jurisdiction, it may prove true that those questions will relate to a  
16 Council standard in the future.

17  
18 **Comments Tied Directly to Council Standards**

19  
20 Comments Addressing Structural and Soils Issues

- 21  
22
- 23 • Earthquake and tsunami concerns must be researched and addressed fully.
  - 24 • The ground at Bradwood Landing is loose, sandy silt and dredge spoils and is likely unstable.
  - 25 • Northern Star must address the geologic stability of the hillside adjacent to the  
26 proposed facility. In 1965, a section of the cliff of this hill dislodged and fell into  
27 the Columbia. This was not caused by a seismic event. This slide created a wave  
28 that caused extensive property damage and loss of life on Puget Island. What is  
29 the hillside stability in the event of a large magnitude seismic event?
  - 30 • How will Northern Star address tank and facility building, tank and pipeline  
31 rupture, and dock stability during a large magnitude earthquake on a site situated  
32 on sandy soil?
  - 33 • How will Northern Star plan for a tsunami wave generated by an offshore seismic  
34 event?
  - 35 • How will Northern Star address ship and discharge hose safety during a seismic  
36 or tsunami event?
  - 37 • The Bradwood Landing site is in an active earthquake zone, which is not  
38 appropriate for an LNG facility.
  - 39 • Is the bottom topography of Clifton Channel such that Northern Star can  
40 appropriately dredge it to the depth needed?
  - 41 • Northern Star must address hydrology changes for Clifton Channel and the main  
42 Columbia River if Clifton Channel is to be widened and/or deepened.
  - 43 • Northern Star must address hydrology changes for the Columbia River and area  
44 shoreline erosion if the main Columbia River is to be dredged for a turning basin.

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Comments Addressing Organizational Expertise

- The application needs to give more details about Northern Star, its investors, and its qualifications to develop this facility.
- Does Northern Star have a parent company? What construction companies typically do the kind of construction work this site will require?

Comments Addressing Retirement and Financial Assurance

- Once construction begins, the developer must have responsibility for restoring the site at the end of the facility’s useful life.
- The developer must be responsible for restoring the site if the Project is begun and abandoned.

Comments Addressing Public Services

- Cost of needed infrastructure should not fall on taxpayers.
- Cost of necessary fire protection, security, emergency preparedness and safety should not fall on taxpayers.
- Who will pay for security efforts?

Comments Addressing Safety

- How will Northern Star and the various regulatory agencies address the vessel transit in such close proximity to the business community located on the Astoria waterfront?
- How will Northern Star and the various regulatory agencies address the narrow ship channel, foggy weather, remote land topography (ease of terrorist action) and other dangerous passage conditions from Altoona, WA to Skamokawa, WA?
- How will Northern Star and the various regulatory agencies account for the potential for human error or mechanical malfunction of ships?
- At least two grounding incidents have occurred at the entrance of Clifton Channel when a vessel failed to make the turn entering the Puget Island Range. With incidents like this, how can commercial traffic be allowed while an LNG tanker is unloading?
- Bridges are closed in Boston when LNG tankers go through. Do you contemplate the same for the Astoria-Megler Bridge?
- Please explain what an exclusion zone is and how large they typically are (such as the one in Alaska.) How will these apply to the facility itself?
- Please explain the boil off process and what kinds of vapors occur during that process. Are there any emissions during this process that are hazardous to health in any way?
- If LNG transportation and storage is such a safe process, why do you attempt to locate them in rural areas with small populations rather than near populated areas?

- 1 • What is the industry regulation for LNG facilities to maintain “separation
- 2 distances from communities and other public areas?”
- 3 • Please discuss LNG as an asphyxiate and its rate of travel.
- 4 • Please discuss the type of insulation used between the primary and secondary
- 5 containment on LNG ships.
- 6 • Please describe the size (length, height) of current LNG tankers and the size of
- 7 those now being built. What is the most recent collision incident with one of these
- 8 tankers?
- 9 • Please describe the role of the Coast Guard and typical precautions taken by them
- 10 to escort LNG tankers from ocean to berth, while unloading, and back to ocean.
- 11 • Please discuss the latest LNG facility explosion in North Africa and how you
- 12 would prevent such a recurrence.
- 13 • How will Northern Star ensure security for ships transiting the 35 miles of rocky-
- 14 forested shoreline and the numerous marshy river islands?
- 15 • Who will be the security agency that coordinates a bi-state security situation?
- 16 • Who will have the responsibility for security issues on the federal lands in the
- 17 river, including two National Wildlife Refuges?
- 18 • How will Northern Star handle the safety zones as indicated in the Sandia report
- 19 regarding accidental spills or possible intentional cause of release during LNG
- 20 tanker transit to the Bradwood Landing and at the storage and re-gasification site?
- 21 The locations of concern that need to be addressed include Astoria, Clifton,
- 22 Skamokawa, Lewis & Clark NWR, Julia Butler Hansen NWR, and Puget Island.
- 23 • Aren’t coastal sites or offshore sites a more sensible place to locate an LNG
- 24 facility?
- 25 • How will Northern Star ensure safe tanker travel over the dangerous Columbia
- 26 River Bar?
- 27 • The Columbia River Bar is safer than many people think. Opinions about safety
- 28 of the bar should come from the bar pilots.
- 29 • How will Northern Star protect against LNG tanker grounding, especially at areas
- 30 of rock bluffs that stretch from Altoona to Skamokawa?
- 31 • Will railroad traffic compromise the safety of the site?
- 32 • The Columbia River navigation channel’s proximity to U.S. Fish and Wildlife’s
- 33 Columbian White-tailed Deer Refuge places it adjacent to a road that runs along
- 34 the Washington shoreline, through uninhabited and un-patrolled territory.
- 35 Similarly, at Skamokawa Vista Park the ship channel runs between buoys and the
- 36 park shoreline. The park is used on a year-round basis, with camping along the
- 37 adjacent shoreline. Is a security zone around LNG vessels possible or enforceable
- 38 at these sites?
- 39 • Wahkiakum County does not have adequate emergency planning resources, and
- 40 Puget Island does not have adequate emergency egress.
- 41 • Foreign ships are not well constructed.
- 42 • How will area residents be protected from any costs related to personal property
- 43 damage or human injury from an LNG accident on-site or with a tanker?
- 44 • Northern Star should have insurance to cover any and all accidents to the
- 45 environment and to people.

- 1 • Northern Star must determine how any vapor dispersion cloud would travel under  
2 local conditions.  
3

4 Comments Addressing Fish and Wildlife Habitat  
5

- 6 • The Project will have a negative impact on fragile fish, wildlife and native plant  
7 life.  
8 • Will Northern Star be required to extensively test the bottom sediment for  
9 contaminants prior to dredging operations? Will the results of this sampling be  
10 included in the EIS? If contaminants are found, how will the dredge spoils be  
11 disposed of? If disposed on land, how will the dispersion of contaminants via  
12 wind be addressed? How will the turbidity of the water during dredging affect  
13 migratory fish? Will Northern Star present evidence that their dredging operations  
14 will not adversely affect the hydrology and shorelines of the Clifton Channel and  
15 downstream channels? How will the change in hydrology affect local fish  
16 populations and migratory fish?  
17 • The Bradwood Landing site is in an area that is a stopping, resting point for many  
18 salmonids.  
19 • The need for dredging at this site would disrupt the feeding grounds of the  
20 sturgeon and would destroy their resting areas.  
21 • Endangered fish species would be affected by the Project.  
22 • The area is heavily forested. An accidental fire could destroy valuable forests.  
23 • Tankers will travel through a long stretch of the channel that goes through the  
24 Lewis and Clark National Wildlife Refuge and is adjacent to the Julia Butler  
25 Hansen Columbian White-tailed Deer Refuge, protected areas with significant  
26 environmental values, including being the home of the ESA-listed Columbian  
27 White-tailed Deer.  
28 • Dredging will destroy the estuary and essential habitat.  
29 • Mitigation for wetlands generally is ineffective.  
30

31 Comments Addressing Recreational and Scenic Impacts  
32

- 33 • How will you preserve the scenic value of the Bradwood site vistas specifically  
34 for Washington residents?  
35 • Northern Star must address light pollution impacts on area wildlife and residents.  
36

37 Comment Addressing Protected Areas  
38

- 39 • How will the Project affect protected conservation areas/refuges near the site?  
40

41 Comment Addressing Noise  
42

- 43 • Northern Star must address noise impacts on wildlife and area residents.  
44

45 Comments Addressing Land Use  
46

- Bradwood Landing is not an appropriate land use for portions of the site.
- The Wahkiakum County Land Use plan should apply. That county plan has elements for quality of life, scenic views and estuary protection.

Comment Addressing Historic, Cultural and Archeological Resources

- Northern Star must complete a full archeological survey.

**Miscellaneous Comments**

These comments are not tied directly to a Council standard but are listed here because they are concerns or questions raised by the public:

- How many short and long term jobs (exactly) do you contemplate will be open to local Oregon and Washington residents? What are the typical qualifications needed for these jobs?
- Please discuss where the LNG to be brought here will be coming from.
- How will Northern Star ensure that its operations don't have a negative impact on commercial and recreational fishing and tourism?
- How will Northern Star ensure the preservation of traditional fishing grounds and drift rights?
- How will Northern Star ensure that LNG tankers won't shut down the Columbia River?
- Tanker emissions will increase pollution.
- Reliance on the gas produced by Bradwood Landing will increase pollution.
- We should focus on renewable energy instead of on LNG.
- Northern Star should support union activity.
- The use of LNG makes the United States more dependent on foreign countries.
- LNG facilities might only be economically viable for a short time.
- More Washington residents would be affected by Bradwood Landing than would Oregonians.
- LNG siting shouldn't penalize people who live in "low density" areas.
- Comments in favor: The Department received a variety of comments favoring the Project, largely because of anticipated economic benefits and Northern Star's commitment to work with unions. The comments are noted but do not require a response in the application.

**VII. ANALYSIS AREAS FOR THE PROPOSED FACILITY (OAR 345-015-0160(1)(f))**

The analysis areas are the minimum areas that Northern Star must study for potential impacts from the construction and operation of the proposed facility. The analysis areas described in the project order do not limit the Applicant's responsibility. They are the areas in which the Department believes significant adverse impacts from the proposed facility could occur based on the NOI. If it appears that the Project's impacts

1 could reasonably extend beyond the analysis areas described here, then Northern Star  
2 must comply with the applicable standard with regard to the larger area where impacts  
3 could occur.

4  
5 For all potential impacts, the analysis area includes all the area within the site  
6 boundary. "Site boundary" means the perimeter of the site of the proposed energy facility  
7 and its related or supporting facilities. In its application, Northern Star must specifically  
8 describe the site boundary. If temporarily disturbed laydown or staging areas will be  
9 outside the site boundary, Northern Star must identify those areas in the application and  
10 must analyze those areas for potential impacts. For example, if dredging spoils will be  
11 placed somewhere outside the proposed site, the application should state where the spoils  
12 will be placed and analyze the impact of spoils deposition on resources protected by  
13 Council standards, including land use.

<u>Affected Standard or Resource</u>	<u>Analysis Area</u>
Structural Standard	The area within the site boundary, including docking facilities.
Soils	The area within the site boundary and all laydown and staging areas, including docking facilities.
Land Use	The area within the site boundary, docking facilities, dredging areas, plus laydown and staging areas.
Protected Areas	The area within the site boundary and within 20 miles of the site boundary, including the state of Washington.
Surface Water and Groundwater Quality and Quantity	The area within the site boundary and within 5 miles of the site boundary (or the distance to the point of withdrawal, whichever is greater).
Fish and Wildlife Habitat	The area described by Department of Fish and Wildlife in the project order and ODFW comment letter, including laydown, staging and mitigation areas.
Threatened and Endangered Species	For fish and wildlife, the area described by the Department of Fish and Wildlife in the project order and ODFW comment letter, including laydown, staging and mitigation areas. For plant species, the area within the site boundary and within 5 miles of the site boundary.
Scenic and Aesthetic Values	The area within the site boundary and within five miles of the site boundary, including the state of Washington.
Historic, Cultural and Archaeological	The area within the site boundary and all

Resources  
Recreation

laydown and staging areas.

The area within the site boundary and within 10 miles of the site boundary.

Public Services

The area within the site boundary and within 30 miles of the site boundary, including the state of Washington.

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**VIII. USE OF ENVIRONMENTAL IMPACT STATEMENT**

If a federal agency will review the facility under the National Environmental Policy Act (“NEPA”), ORS 469.370(13) directs the Council to conduct its review in a manner that is consistent with and does not duplicate federal agency review. This includes Council use of information in the documents prepared for the federal agency review. OAR 345-021-0010(3) states that:

“\*\*\*the applicant may copy relevant sections of such documents [the EIS] into the appropriate exhibits of the site certificate application. The applicant may otherwise submit full copies of those documents and include, in the appropriate exhibits of the site certificate application, cross-references to the relevant sections of those documents. The applicant may use such documents only to avoid duplication. The applicant shall include additional information in the site certificate application as needed to meet the requirements of section (1) of this rule.”

In summary, the application can use information in the EIS to demonstrate compliance with the EFSC standards at OAR Chapter 345, Divisions 22, 23 and 24, and other applicable state and local regulations. However, if additional information outside the EIS is needed to show compliance with such regulations, the application for a site certificate must include that additional information.

**IX. EXPIRATION DATE (OAR 345-015-0160(1)(j))**

Pursuant to OAR 345-20-0060(1) the Bradwood Landing NOI shall expire 18 months following the date this project order is issued. The date of expiration is February 8, 2007. Northern Star may petition the Council to extend the duration of the NOI for Bradwood Landing beyond February 8, 2007, as provided under OAR 345-020-0060(1).

If an application for a site certificate for the facility for which this project order is issued has not been submitted prior to December 8, 2006, or the date of any extension granted by the Council, a new NOI must be submitted for the facility in order to satisfy ORS 469.330.

**X. AMENDMENT AND COMPLETENESS**

1 In accordance with ORS 469.330(4), the Council or the Department may amend  
2 this project order at any time. Amendment may include changes to the analysis areas. As  
3 provided under ORS 469.503(3), to issue a site certificate, the Council must determine  
4 that the proposed facility complies with Oregon statutes and administrative rules  
5 identified in the project order, as amended, as applicable to the issuance of a site  
6 certificate for the proposed facility.

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8 Under OAR 345-015-0190(4), when the Department determines that the  
9 application for a site certificate contains adequate information for the Council to make  
10 findings on all applicable Council standards, the Department may determine the  
11 application complete, regardless of whether the application contains all information  
12 required under OAR 345-021-0010. As provided under OAR 345-015-0190(7),  
13 notwithstanding a determination that an application is complete, the Department may  
14 require additional information from the applicant if the Department identifies a need for  
15 that information during its review of the application

16  
17 **XI. PUBLIC CONCERNS**

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19 As described throughout this project order, the Department has received  
20 numerous public comments regarding the proposed facility. If the Department receives  
21 additional public comments that address matters within the jurisdiction of the Council  
22 during the review process, the Department may request that the Applicant respond to  
23 those comments. In addition, the Department may request additional information from  
24 the Applicant based on comments received from reviewing agencies.

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26 **XII. APPLICABILITY**

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28 Failure to include an applicable statute, rule, ordinance, permit or other  
29 requirement in this project order shall not render that statute, rule, ordinance, permit or  
30 other requirement inapplicable, nor in any way relieve Northern Star from the duty to  
31 comply with the same.

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39 \_\_\_\_\_  
40 Thomas M. Stoops, Council Secretary  
41 Oregon Department of Energy

42 Date of Issuance: August 8, 2005  
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