APPENDIX K

RESPONSE OF THE FEDERAL ENERGY REGULATORY COMMISSION TO THE SAFETY ADVISORY REPORT OF THE OREGON DEPARTMENT OF ENERGY FOR THE BRADWOOD LANDING PROJECT

1.0 INTRODUCTION

The Natural Gas Act (NGA), as modified by the Energy Policy Act of 2005 (EPAct), requires that the Federal Energy Regulatory Commission (FERC or the Commission) consult with the state in which a liquefied natural gas (LNG) terminal is proposed to be located regarding state and local safety matters. The governor of Oregon designated the Oregon Department of Energy (ODE) as the state agency that the FERC should consult with on safety and siting matters for the Bradwood Landing Project.

On July 6, 2006, the ODE submitted its Safety Advisory Report to the FERC. In the report, ODE addressed state and local considerations for the project and provided comments from the Columbia River Estuary Study Taskforce (CREST), a council of governments that includes the local counties, cities, and port districts surrounding the Columbia River Estuary in both Oregon and Washington. The Safety Advisory Report also includes the comments received directly from local governmental entities (Clatsop County and the Cities of Astoria and Warrenton).

The EPAct also stipulates that before the Commission may issue an order authorizing an LNG terminal, it must "review and respond specifically" to the safety matters raised by the state agency designated as the lead for the state and local safety matters. Table 2-1 of this appendix provides the FERC's response to the ODE Safety Advisory Report for the Bradwood Landing Project.

Section 3.0 contains the Safety Advisory Report including attached comment letters from CREST, Clatsop County, Astoria, and Warrenton. Only safety-related issues raised in the comment letter are addressed in this appendix.

2.0 FERC RESPONSE TO THE ADVISORY REPORT

The ODE identified the following key categories of potential safety concerns in the Safety Advisory Report:

- Emergency Planning and Response;
- Security Zone;
- Terminal Design;
- Hazard Identification;
- Quality Assurance;
- Safety Issues; and
- Emergency Response Capabilities near the Facility Location.

The Safety Advisory Report included both general and specific safety matters that ODE requested be included in the FERC's review of the NorthernStar application. The FERC's specific responses to those concerns are presented in Table 2-1 in the order of the issues presented in the report. Where appropriate, the response identifies the section of the EIS where information on the issue of concern is addressed.

As described in sections 1.0 and 2.0 of the EIS, the U.S. Coast Guard (Coast Guard) has shared responsibility with FERC in reviewing the Bradwood Landing Project and has summarized portions of its review in its Waterway Suitability Report (WSR). In addition to including the complete WSR in the EIS (see Appendix N), we have summarized portions of it in the EIS. As a result, for some concerns presented in the Safety Advisory Report, we have noted that the issue is addressed in the WSR, as well as the specific section of the EIS where the concern is addressed.

TABLE 2-1

The FERC's Responses to Concerns Presented in the ODE Safety Advisory Report for the Bradwood Landing Project

Commentor/Topic	Issue	Response [a]
ODE		
Emergency Planning and Response	The applicant has not accurately or adequately characterized the areas' emergency response capabilities in its WSA.	The emergency response capabilities of the local areas are discussed in sections 4.8.1.6 and 4.8.2.6 and the WSR (see Appendix N).
	The FERC should consider the issues and safety concerns raised by stakeholders and the safety of the communities along the shipping route on the Columbia River.	Stakeholder issues and concerns are addressed throughout section 4.11.
	The FERC should require an applicant to commit to covering 100 percent of the safety and security costs directly associated with the LNG vessel transits, the facility, and the pipeline, including all infrastructure, planning, training, and other associated costs identified in an emergency response plan agreed to by the state and local jurisdictions, or the FERC should explain its authority for imposing such costs on local jurisdictions and the state.	We included a recommendation that the Emergency Response Plan include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies (see section 4.11.7).
	The safety/security zones proposed for the vessel in transit and the vessel at dock must be sufficiently calculated and justified. The applicant or the Coast Guard must thoroughly explain any changes to those zones that might accompany heightened national security as well as any resulting impacts.	See section 4.11.5.5 and the WSR in Appendix N.
	The FERC should require the applicant to complete an acceptable emergency response plan prior to any Commission decision on its application and in conjunction with the Coast Guard's validation of the WSA.	In accordance with the EPAct, we included a recommendation in section 4.11.7 that NorthernStar develop an Emergency Response Plan (including evacuation) and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies, and that the Emergency Response Plan should be filed with the Secretary of the Commission (Secretary) for review and written approval by the Director of Office of Energy Projects (OEP) prior to initial site preparation (also see the WSR in Appendix N).
	The applicant's Emergency Response Plan must be developed in full cooperation with state and local authorities, including authorities from Washington State.	We included a recommendation in section 4.11.7 that NorthernStar develop an Emergency Response Plan (including evacuation) and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies.
	The applicant's Emergency Response Plan must sufficiently and accurately characterize the emergency response capabilities along the vessel transit route and near the facility, including response times and must include measures to mitigate for any safety gaps.	This will be addressed during the preparation of the Emergency Response Plan which must be filed with the Secretary for review and written approval by the Director of OEP prior to initial site preparation. See section 4.11.7
	The applicant's Emergency Response Plan must include all potentially affected communities along the LNG vessel route and near the terminal in a comprehensive, thoroughly publicized warning system.	See above.

TABLE 2-1 (cont'd)

The FERC's Responses to Concerns Presented in the ODE Safety Advisory Report for the Bradwood Landing Project

Commentor/Topic	Issue	Response [a]
	The applicant's Emergency Response Plan must account for potential population increases due to tourism.	See above.
	Any FERC authorization for an LNG terminal and associated pipeline in Oregon must fully comply with Oregon state and local laws and regulations, including energy facility siting laws.	As a matter of foreign commerce, the importation of LNG is subject to federal, not state, control. Although the Commission has exclusive jurisdiction over the proposed project, certain permits, approvals, and licenses are the responsibility of other federal agencies and state and local authorities. The Commission encourages cooperation between project applicants and these agencies. However, any state or local permits issued with respect to the jurisdictional facilities authorized by the Commission must be consistent with the conditions of the approving Order.
Terminal Design	Resource Report 1 states that the primary storage tank may be constructed of either 9percent nickel steel or, alternately, pre-stressed concrete. While either construction method is allowed by the National Fire Protection Association (NFPA) 59A, the FERC should require that the safer option be selected.	The tanks will be constructed of 9 percent nickel steel. See section 11.4 for an in-depth discussion.
	The ODE expects the FERC to perform a detailed design review to verify compliance with NFPA 59A and the codes referenced in Resource Reports 1, 11, and 13.	The proposed facilities must meet the federal safety standards prescribed by Title 49 Code of Federal Regulations (CFR), Part 193 including applicable portions of the NFPA 59A (2001) standard, as adopted by reference. During construction, facilities are inspected by the Department of Transportation (DOT) to ensure compliance. In addition, the facilities would be required to comply with the FERC staff's recommendations made as a result of the cryogenic design and technical review. See section 4.11.
	The ODE requests the opportunity to comment on design issues as more time and more information become available.	The FERC will gladly accept and address any future comments.
Hazard Identification	The FERC should verify that NorthernStar chose the most conservative assumptions regarding break size, meteorological conditions, and accident scenario for all calculations used to determine the thermal radiation and vapor dispersion from the design basis spill.	The FERC staff has performed its own thermal radiation and vapor dispersion modeling and agrees with the conditions NorthernStar selected. See section 4.11.4
	NorthernStar should use a non-mechanistic double ended ("guillotine") break with all pumps running for calculation purposes unless it can demonstrate that either a smaller break is more conservative or the guillotine break in this circumstance is not credible.	The design spills used in the thermal radiation and flammable vapor dispersion calculations are in accordance with 46 CFR 193.
	Verify that intentional spills were assumed.	See above.
	The thermal radiation maps and vapor dispersion maps should be shown centered at the location closest to an affected population (in this case, the dock). For the Bradwood Landing site, the nearest affected population is most likely the residences on Puget Island.	See Vapor Dispersion and Thermal Radiation maps in section 4.11.4.

TABLE 2-1 (cont'd)

The FERC's Responses to Concerns Presented in the ODE Safety Advisory Report for the Bradwood Landing Project

Commentor/Topic	Issue	Response [a]
	The FERC should verify that conservative assumptions were used in NFPA 59A required calculations. The EIS should include an explanation of how these assumptions were made and why they are the most conservative.	Conservative assumptions were made during calculations in sections 4.11.4 and 4.11.5.3. The exclusion zone analysis performed for the onshore facilities was in accordance with 49 CFR 193. The meteorological conditions used yielded the largest thermal and vapor exclusion zones. For marine calculations, the FERC staff used the full range of hull breaches identified in the 2004 Sandia report. In areas of uncertainty due to the lack of large-scale field data, the FERC staff used conservative assumptions (i.e., resulting in longer hazard distances) in the marine spill modeling. These conservative assumptions concern: calculation of the pool spread; determination of the pool fire flame height; and use of a higher surface emissive power. Our results have been in agreement with the Sandia guidance zones of concern, and support the conservative nature of the calculations.
Quality Assurance	Provide a sample quality assurance program from a previous project for state and public review. The sample quality assurance program should include evidence that the quality assurance function is independent of operations, scheduling, or budgeting. The program should include steps to ensure that: a. metal components are fabricated of metals with the specified metallurgical content and properties; b. concrete or other structural materials are tested to the strength specified; c. vendors of equipment and material are audited by qualified auditors; d. nondestructive tests are observed and approved by independent, quality control personnel; e. personnel performing safety related construction or operation activities are properly qualified, with documentation of that qualification available for audit; f. construction and operations are performed in accordance with approved procedures; g. only controlled copies of design documents are used in construction, with only the current revision used in the field; h. all changes in design documents are carried forward to other related and associated design documents; i. measurements are made with equipment that is calibrated and traceable; and j. conditions adverse to quality are subject to a corrective actions program that results in actions to prevent recurrence.	Quality assurance and control programs to monitor material selection, equipment fabrication, and installation would be provided by the Engineering, Procurement, and Construction (EPC) contractor selected by the project applicant if the project is authorized. In addition, the applicant would also have a similar program to provide oversight of the EPC. The FERC staff would review these programs during the periodic construction inspections occurring prior to a facility entering service.

TABLE 2-1 (cont'd)

The FERC's Responses to Concerns Presented in the ODE Safety Advisory Report for the Bradwood Landing Project

Commentor/Topic	Issue	Response [a]
Safety Issues	Resource Report 5 describes an area of relatively low population density with most of the affected houses on Puget Island in Washington State. The description of the affected area should take into account the fact that the City of Astoria is a growing community with increasing tourism largely concentrated along the shoreline.	Section 4.8.1 notes that the City of Astoria, located adjacent to the waterway, is a growing community with increasing tourism and a high population density along the shoreline.
	Resource Report 5 uses the entire county to characterize population density. The resource report fails to adjust for the fact that most of that population is along the shoreline, quite close to the river channel; therefore, the potentially affected population is actually much higher in density than implied in the application. The report also does not account for the fact that during parts of tourist season, the population can more than double.	Section 4.8.1 notes that within individual counties, population density is generally higher along the shoreline of the Columbia River. In addition, during parts of the tourist season, population in some areas can more than double.
	Roads during particularly busy summer weekends frequently back up, which would be a concern in the unlikely event that an evacuation might become necessary.	This will be addressed during the preparation of the Emergency Response Plan which must be filed with the Secretary for review and written approval by the Director of Office of OEP prior to initial site preparation. See section 4.11.7
	The ODE has reviewed the Safety Advisory Report on the proposed LNG terminal at the Port of Long Beach issued by the California Energy Commission (CEC) that relies largely on material taken from two readily available reports: (1) the Sandia Labs' November 2004 report "Guidance on Risk Analysis and Safety Implications of a Large LNG Spill Over Water" (Sandia Report) and (2) Richard Clark's "LNG Facilities in Urban Areas." The ODE agrees that the 5 kw/m^2 described in the Sandia Report is "the permissible level for emergency operations lasting several minutes with appropriate clothing" (Table 6, p.38). This is the lowest heat flux shown in the thermal radiation maps provided in Attachment 11A. Because the people occupying the nearest residences to the Bradwood Landing Project (those on Puget Island) are relatively far from the nearest fire station and do not have the appropriate clothing or emergency training, thermal radiation calculations should show the point at which worst case heat flux will permit safe evacuation, possibly requiring more than "several minutes" and without appropriate clothing or emergency training. The CEC advisory report at p. 15 suggests 1.5 kw/m^2. NorthernStar should calculate the distance to this heat flux for a design basis event at Bradwood Landing and issue a figure showing the results. NorthernStar should calculate this distance not from the tanks but from the point on the facility nearest the affected properties (presumably the dock).	As identified in section 4.11.4, the incident flux levels that are used to define thermal exclusion zones for the onshore facilities were developed by the DOT through its rulemaking process, starting with the Advance Notice of Proposed Rulemaking (Notice No. 77-4, Docket No. OPSO-46), and determined to be appropriate after evaluating comments in the regulatory review process. We believe this process supports the use of these incident flux levels for their intended purpose. These incident heat fluxes are also used to define the thermal exclusion zones in NFPA 59A which have been incorporated into the DOT standards in 49 CFR 193. The same incident flux levels are applied in section 4.11.5.3 to describe transient hazard areas for LNG spills on water.

TABLE 2-1 (cont'd)

The FERC's Responses to Concerns Presented in the ODE Safety Advisory Report for the Bradwood Landing Project

Commentor/Topic	Issue	Response [a]
Emergency Response Capabilities near the Facility Location	Information included in the WSA regarding measures to protect the public during a design basis event should be a part of public outreach and should be made available before the issuance of a FERC construction permit.	The WSA has been designated Sensitive Security Information as defined in 49 CFR 1520. Because any unauthorized disclosure of details of these measures could be employed to circumvent the proposed security measures, it is not releasable to the public. However, information in the Emergency Response Plan pertaining to items, such as off-site emergency response and procedures for public notification and evacuation, would be subject to public disclosure
	The communities along the Oregon and Washington shore are correctly characterized in the resource reports as primarily rural communities without extensive police, fire, and emergency medical organizations. If the hazards assessment in the WSA shows that additional resources are necessary in these communities to respond to a design basis emergency, the communities can only get these resources if NorthernStar funds them.	We included a recommendation that the Emergency Response Plan include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies (see section 4.11.7 and the WSR in Appendix N).
Clatsop County		
Emergency Planning and Response	Requests that FERC require the applicant to fund 100 percent of the costs related to public safety response associated with construction and operation of the Bradwood Landing facilities.	See above.
	Involve local first responders in the development of the WSA.	NorthernStar submitted its WSA to the Coast Guard in May 2006. The Coast Guard reviewed the WSA and consulted with the Area Maritime Security Committee, local law enforcement, and emergency response organizations in preparing its WSR (see section 4.11.5.5 and the WSR in Appendix N).
CREST		
Emergency Planning and Response	Include provisions for adequate police and fire protection for the site to be funded by the applicant.	We included a recommendation that the Emergency Response Plan include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies (see section 4.11.7 and the WSR in Appendix N).
City of Astoria		
Emergency Planning and Response	The City of Astoria has no marine law enforcement, little marine firefighting capability, and limited public safety resources, and a significant portion of the City geography is within the zones of concern.	We included recommendations in section 4.11.7 that NorthernStar develop an Emergency Response Plan (including evacuation) and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies; and that the Emergency Response Plan include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies (see section 4.11.7 and the WSR in Appendix N).

TABLE 2-1 (cont'd)

The FERC's Responses to Concerns Presented in the ODE Safety Advisory Report for the Bradwood Landing Project

Commentor/Topic	Issue	Response [a]
	Requests continued coordination with the City regarding development of the Emergency Response Plan and WSA.	We included a recommendation that NorthernStar develop an Emergency Response Plan in coordination with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies (see section 4.11.7 and the WSR in Appendix N). NorthernStar submitted its WSA in May 2006 (see section 4.11.5.5 and the WSR in Appendix N).
	Vessel transit operational procedures and the Emergency Response Plan need to address safety concerns along the vessel transit route.	We included a recommendation that NorthernStar develop an Emergency Response Plan in coordination with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies that includes among others, the requirements Including procedures for notifying residents and recreational users within areas of potential hazard, and evacuation routes/methods for residents and public use areas that are within any transient hazard areas along the route of the LNG marine transit (see section 4.11.7 and the WSR in Appendix N).
	The FERC or Coast Guard should require at least two dedicated tug boats with firefighting capabilities including deluge system or water curtain to protect tug operators. Tugs should be able to pull a disabled LNG carrier.	The Coast Guard would require two tugs to escort the LNG ships upriver, at least one of which must be a tractor tug, which would be made up as soon as it is safe to do so. The primary tug would be tethered at the direction of the Pilot. A third tug would be required to assist with turning and mooring (see section 4.11.5.4 and the WSR in Appendix N).
	Recommends at least two Columbia Bar Pilots be on the LNG tanker ships at all times between the sea buoy, along the Astoria coast, and through the city jurisdictional limits.	The Coast Guard would require that LNG vessels must board a Pilot(s) at least 5 miles before the CR Buoy, and for at least the first 6 months, at least two Pilots must be present throughout the transit (see section 4.11.5.5 and the WSR in Appendix N).
	The City does not currently have marine law enforcement assets which will be needed to supplement the Coast Guard escorts, especially within the City's jurisdictional waters.	We included a recommendation that the Emergency Response Plan include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies (see section 4.11.7 and the WSR in Appendix N).
	Require the applicant to fund LNG emergency response training similar to that offered by Texas Engineering Extension Service (a member of Texas A&M System) and compensate fulltime and volunteer firefighters to attend training. A fireboat would be needed to provide adequate protection for waterfront properties.	See above.
	The City of Astoria expects to be fully compensated for the additional costs associated with added police, fire and emergency response personnel and equipment needed during LNG transit.	See above

TABLE 2-1 (cont'd)

The FERC's Responses to Concerns Presented in the ODE Safety Advisory Report for the Bradwood Landing Project

Commentor/Topic	Issue	Response [a]
City of Warrenton		
Emergency Planning and Response	The City of Warrenton has no marine law enforcement, little marine firefighting capability, and limited public safety resources, and a significant portion of the city geography is within the zones of concern.	We included recommendations in section 4.11.7 that NorthernStar develop an Emergency Response Plan (including evacuation) and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies; and that the Emergency Response Plan include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies (see section 4.11.7 and the WSR in Appendix N).
	Requests continued coordination with the City regarding development of the Emergency Response Plan and WSA.	We included a recommendation that NorthernStar develop an Emergency Response Plan in coordination with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies (see section 4.11.7 and the WSR in Appendix N). NorthernStar submitted its WSA in May 2006 (see section 4.11.5.5 and the WSR in Appendix N).
	Vessel transit operational procedures and the Emergency Response Plan need to address safety concerns along the vessel transit route.	We included a recommendation that NorthernStar develop an Emergency Response Plan in coordination with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies that includes among others, the requirements Including procedures for notifying residents and recreational users within areas of potential hazard, and evacuation routes/methods for residents and public use areas that are within any transient hazard areas along the route of the LNG marine transit (see section 4.11.7 and the WSR in Appendix N).
	The FERC or Coast Guard should require at least two dedicated tug boats with firefighting capabilities including deluge system or water curtain to protect tug operators. Tugs should be able to pull a disabled LNG carrier.	The Coast Guard would require two tugs to escort the LNG ships upriver, at least one of which must be a tractor tug, which would be made up as soon as it is safe to do so. The primary tug would be tethered at the direction of the Pilot. A third tug would be required to assist with turning and mooring (see section 4.11.5.4 and the WSR in Appendix N).
	Recommends at least two Columbia Bar Pilots be on the LNG tanker ships at all times between the sea buoy, along the Astoria coast, and through the city jurisdictional limits.	The Coast Guard would require that LNG vessels must board a Pilot(s) at least 5 miles before the CR Buoy, and for at least the first 6 months, at least two Pilots must be present throughout the transit (see section 4.11.5.5 and the WSR in Appendix N).
	The City does not currently have marine law enforcement assets which will be needed to supplement the Coast Guard escorts, especially within the City's jurisdictional waters.	We included a recommendation that the Emergency Response Plan include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies (see section 4.11.7 and the WSR in Appendix N).

TABLE 2-1 (cont'd)

The FERC's Responses to Concerns Presented in the ODE Safety Advisory Report for the Bradwood Landing Project

Commentor/Topic	Issue	Response [a]
	Require the applicant to fund LNG emergency response training similar to that offered by Texas Engineering Extension Service (a member of Texas A and M) and compensate fulltime and volunteer firefighters to attend training. A fireboat would be needed to provide adequate projection for waterfront properties.	See above.
	The City of Warrenton expects to be fully compensated for the additional costs associated with added police, fire and emergency response personnel and equipment needed during LNG transit.	See above.

[a] Sections listed are the relevant sections of the Environmental Impact Statement for the Bradwood Landing Project.

3.0 SAFETY ADVISORY REPORT ON THE PROPOSED BRADWOOD LANDING LIQUIFIED NATURAL GAS TERMINAL AT RIVER MILE 38 ON THE COLUMBIA RIVER, JULY 6, 2006

200607065083 Received FERC OSEC 07/06/2006 05:05:00 PM Docket# CP06-365-000, ET AL.

Oregon

Theodore R. Kulongoski, Governor

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VIA Electronic Filing

July 6, 2006

The Honorable Magalie Roman Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Bradwood Landing LLC LNG Import Project, Docket No. CPO6-365-000, CP06-366-000, CP06-376-000, CP06-377-000

Dear Ms. Salas:

On June 5, 2006, Bradwood Landing LLC filed an application for construction of a terminal for importation of liquefied natural gas (LNG) to be located at about River Mile 38 on the Columbia River in Oregon. Bradwood Landing also filed an application for an associated pipeline to run 36 miles from the proposed site, under the Columbia River and into Washington state. The Energy Policy Act of 2005, enacted on August 8, 2005, specifies in Section 311(d) that the Governor of a state where a proposed LNG terminal would be located shall designate a state agency to consult with the Federal Energy Regulatory Commission regarding applications and that this state agency may prepare a safety advisory report that addresses state and local safety considerations. This provision in the Energy bill appears to be specific to the terminal and not to any associated pipeline. The report is due 30 days from the application filing date.

The Governor of Oregon has designated the Oregon Department of Energy as the agency responsible for preparation of a safety advisory report for the proposed Bradwood Landing LNG terminal. Therefore, enclosed for filing in the above-mentioned proceeding, please find an electronic copy of the safety advisory report for the proposed LNG terminal. If you have any questions in this matter, please contact Catherine Van Horn at (503) 378-4041 or catherine.vanhorn@state.or.us

Sincerely

Ken Niles
Assistant Director
Nuclear Safety and Energy Facility Siting

200607065083 Received FERC OSEC 07/06/2006 05:05:00 PM Docket# CP06-365-000, ET AL.

SAFETY ADVISORY REPORT

ON THE PROPOSED BRADWOOD LANDING LIQUEFIED NATURAL GAS TERMINAL AT RIVER MILE 38 ON THE COLUMBIA RIVER

PREPARED BY THE STAFF
OF THE OREGON DEPARTMENT OF ENERGY

JULY 6, 2006

SAFETY ADVISORY REPORT ON THE PROPOSED BRADWOOD LANDING LIQUEFIED NATURAL GAS TERMINAL AT RIVER MILE 38 ON THE COLUMBIA RIVER

The Oregon Department of Energy (ODOE) issues this Safety Advisory Report on behalf of the State of Oregon pursuant to section 311(d) of the Energy Policy Act of 2005 (the Act). The report concerns the application to the Federal Energy Regulatory Commission (FERC) by Bradwood Landing LLC (Bradwood) to construct a Liquefied Natural Gas (LNG) import terminal and associated natural gas pipeline. The Bradwood Landing Terminal would be located in Clatsop County, Oregon on the southern shore of the Columbia River at about river mile 38. Bradwood filed its application with FERC on June 5, 2006.

The Act allows the state to file an advisory report that identifies "state and local safety considerations" within 30 days of the date the application is filed. The "safety" information solicited in the advisory report is largely repetitive of information that Bradwood itself provides in its application to FERC in its terminal application and in its Waterway Suitability Assessment to the Coast Guard. It is information that Bradwood also must provide in its emergency response plan to be developed in conjunction with the Coast Guard, the state, and appropriate local jurisdictions prior to any construction.

The State of Oregon has been intimately involved in reviewing and commenting on Bradwood Landing's pre-filing and application resource reports, and is involved with the Coast Guard in reviewing the project's WSA. To the extent that the State disagrees with the information Bradwood has provided or will provide on safety issues in those venues, the state will pursue corrections or changes through the above review processes. For example, Bradwood has not accurately or adequately characterized in its Waterway Suitability Assessment (WSA) the area's emergency response capabilities. The Department will work with the Coast Guard, other state agencies and local jurisdictions to correct the information under the WSA process.

The State considered providing FERC with specific scenarios for evaluating accidental or intentional releases of LNG from a vessel or the facility itself. Again, however, such scenarios play a role both in the WSA and in the forthcoming emergency response planning. Moreover, based on recent Commission approvals of LNG terminal projects, the State believes the Commission will find that the risk of any potential LNG release scenario can be reduced to an acceptable minimum.

On June 15, 2006, the Commission approved three new LNG terminal projects: Sempra's Port Arthur LNG in Port Arthur, Texas; Cheniere's Creole Trail LNG in Cameron Parish, Louisiana; and BP America Production Company's Crown Landing LNG in Logan Township in New Jersey. The language in the Commission's Creole Trail decision about the risk of an accidental LNG release is mirrored in the other two decisions:

> Based on the extensive operational experience of LNG shipping, the structural design of an LNG vessel, and the operational controls imposed by the Coast Guard and the local pilots, a cargo containment failure and subsequent LNG spill

> from a vessel casualty – collision, grounding, or allision – is highly unlikely. For similar reasons, an accident involving the onshore LNG import terminal is unlikely to affect the public. As a result, the FEIS determined that the risk to the public from accidental causes is negligible.

Further, the language in the Commission's Creole Trail decision about the risk of an intentional LNG release is also mirrored in the other two decisions:

> Unlike accidental causes, historical experience provides little guidance in estimating the probability of a terrorist attack on an LNG vessel or onshore storage facility. For a new LNG import terminal proposal having a large volume of energy transported and stored near populated areas, the perceived threat of a terrorist attack is a serious concern of the local population and requires that resources be directed to mitigate possible attack paths. If the Coast Guard issues a Letter of Recommendation finding the waterway suitable for LNG marine traffic, the operational restrictions that would be imposed by the Lake Charles Pilots on LNG vessel movements through this area, as well as the requirements that the Coast Guard would impose, would minimize the possibility of a hazardous event occurring along the vessel transit area. While the risks associated with the transportation of any hazardous cargo can never be entirely eliminated, we are confident that they can be reduced to minimal levels and that the public will be well protected from harm.

For the above reasons, what the State provides in this advisory report largely is broad safety policy statements about the proposed Bradwood project along with a limited amount of specific, technical comments. In addition, the State is attaching one letter each from the cities of Warrenton and Astoria and a package of information from Clatsop County for FERC's consideration. As well, the State of Oregon incorporates by reference the safety comments included in all of the State of Oregon/Department of Energy previous filings to the FERC Northern Star Docket #PF05-10-000, and especially those comments and attachments submitted on October 5, 2005, and posted to the docket on October 17, 2005.

Although the application to FERC is limited in scope to the LNG terminal and associated pipeline, we consider the risks from a release of LNG on the river to be among the most significant safety concerns associated with the facility. The safety of the LNG terminal is strongly connected to the question of safety on the river and in the communities that the LNG carriers must pass. We expect FERC to address issues and concerns raised by stakeholders in those communities and to consider the safety of those communities in determining whether to approve the LNG terminal and associated pipeline.

Each of the state and local agencies in Oregon, whether or not they contributed to this advisory report, reserve their right to file additional joint or separate comments and/or evidence on safety and other issues.

State of Oregon General Policy Comments

1. **FERC should require an applicant to commit to 100 percent of the safety and security costs directly associated with the LNG vessel transits, the facility and the pipeline.**
   Under Section 311(e)(2), an emergency response plan to be developed prior to construction must include a cost-sharing plan that includes a "description of any direct cost reimbursements that the applicant agrees to provide to any State and local agencies with responsibility for security and safety at the LNG terminal and in proximity to vessels that serve the facility." The State understands and appreciates that Bradwood Landing has agreed thus far to pick up the costs of most safety and security needs that the company has identified as necessary. However, the local jurisdictions are not in a position to dedicate their own limited funds to any LNG safety and security measures that may be required. In addition, local jurisdictions may not agree with an applicant about the level of resources required. An applicant should first be required to pay for an adequate assessment of safety and security needs and then pay for all infrastructure, planning, training and other associated costs identified in an emergency response plan agreed to by the state and local jurisdictions. Should FERC not require the applicant to commit to 100 percent of the costs, FERC should explain its authority for imposing such costs on local jurisdictions and the state.

2. **The safety/security zones proposed for the vessel in transit and the vessel at dock must be sufficiently calculated and justified. The applicant or Coast Guard must thoroughly explain any changes to those zones that might accompany heightened national security as well as any resulting impacts.**
   Some area residents have expressed concern that the safety/security zones will be so large that they will "shut down" traffic on the Columbia River or access to Clifton Channel near the proposed terminal site. Others have expressed concern that the safety/security zones will be too small, sized to avoid the above concern rather than for adequate safety protection. Any zones proposed should provide a rationale for their size.

3. **FERC should require an applicant to complete an acceptable emergency response plan prior to any Commission decision on an application and in conjunction with the Coast Guard's validation of the Waterway Suitability Assessment.**
   Under Section 311(e)(1), FERC will not require Bradwood to create an emergency response plan until after a positive decision by the Commission and just before any final approval to begin construction. However, to the extent that Bradwood's Waterway Suitability Assessment relies on the creation of a satisfactory emergency response plan to ensure that the Columbia River is suitable for LNG, that emergency response plan must be available for review prior to any decisions on both the WSA and the FERC application. It would be illogical for either the Commission or the Coast Guard to decide that LNG is safe for the region without knowing first if a suitable emergency response plan can be enacted along the vessel route and at the facility.

4. **The applicant's Emergency Response Plan must be developed in full cooperation with state and local authorities, including authorities from Washington State.**
   Emergency response planning must be an integrated, carefully developed effort with those potentially affected from both sides of the river.

5. **The applicant's Emergency Response Plan must sufficiently and accurately characterize the emergency response capabilities along the vessel transit route and near the facility, including response times. The Plan must mitigate for any safety gaps.**
   Thus far, the state and local jurisdictions have not seen in Bradwood's assorted filings accurate characterizations of the area's stretched emergency response capabilities. Clatsop County, the cities of Warrenton and Astoria, and the rural Knappa Fire Protection District all have expressed concern about the lack of personnel, equipment and storage facilities to support an LNG vessel and terminal/pipeline. In addition, Highway 30's slow, winding character, greatly affected by inclement weather, as well as the condition of Clifton Road should be taken into account in any discussion of emergency response capabilities.

6. **The applicant's Emergency Response Plan must include all potentially affected communities along the LNG vessel route and near the terminal in a comprehensive, thoroughly publicized warning system.**
   Any community located within one of the three Sandia zones of impact must be considered in emergency response plans, including access to a reverse 911 system and sirens.

7. **The applicant's Emergency Response Plan must account for potential population increase due to tourism.**
   According to a 2004 Clatsop County Grand Jury Report, Clatsop County's population can increase by 50-to-100 percent or more during high tourism season. Depending on the location of those visitors, the influx may bring challenges for LNG emergency response education as well as LNG ship transit education

8. **Any FERC authorization for an LNG terminal and associated pipeline in Oregon must fully comply with Oregon state and local laws and regulations, including energy facility siting laws.**
   In particular, the State of Oregon requires large energy facilities to provide a bond or letter of credit to ensure that the proposed site can be restored to a useable, non-hazardous condition. We consider the bond or letter of credit to be a safety precaution against a potentially abandoned or otherwise vacated site. Thus far, the applicant does not appear to have addressed this issue in its application materials.

State of Oregon Specific Comments

Terminal Design

In resource reports 1 and 11, Bradwood Landing has committed to designing and constructing the terminal in accordance with all requirements of 49 CFR 193 and National Fire Protection Association (NFPA) 59A. Resource report 1 states that the primary storage tank may be constructed of either nine percent nickel steel or, alternately, prestressed concrete. While either construction method is allowed by NFPA 59A, FERC should require that the safer option be selected.

Resource reports 1, 11 and 13 consistently commit to compliance with NFPA 59A and codes referenced therein, but with little information on the actual details of compliance. Even if detailed design information were available, the short deadline for this advisory report does not

permit a detailed design review, sufficient to audit Bradwood Landing's design against NFPA code requirements on a line-by-line basis. We expect FERC to perform this detailed design review, and reserve the right to comment on design issues as more time and more information become available.

Hazard Identification

Hazards potentially affecting the public are discussed in Resource Report 11 and its attachments. As required by NFPA 59A, Bradwood Landing used the LNGFIRE and DEGADIS codes to calculate thermal radiation and vapor dispersion from the design basis spill. Resource report 11 includes isopleth drawings and input decks for these calculations at Attachment 11A. As noted above, the short deadline for this advisory report did not allow a detailed review of all the inputs and assumptions to these calculations. However, FERC should verify that Bradwood Landing chose the most conservative assumptions regarding break size, meteorological conditions, and accident scenario for all calculations. The input tables in attachment 11A show assumptions regarding pipe break sizes and leak rates. FERC should verify that the most conservative values were selected. For pipe breaks, the most conservative assumption is a non-mechanistic double ended ("guillotine") break with all pumps running. We assume but could not verify that this was the break used for calculation purposes. Bradwood Landing should use this break unless it can demonstrate that either a smaller break is more conservative or the guillotine break in this circumstance is not credible. We also assume but could not verify that intentional spills were assumed, since they likely bound any accident scenario.

We note that thermal radiation maps in attachment 11A appear to be centered at the tanks, and extend out to the dock. Because the accident or intentional spill could just as easily happen at the carrier or the unloading arms, the thermal radiation maps and vapor dispersion maps should be shown centered at the location closest to an affected population (in this case, the dock). For the Bradwood Landing site the nearest affected population is most likely the residences on Puget Island.

Our review of attachment 11A shows that the meteorological conditions assumed appear to be average conditions. For example, 51.5 degrees Fahrenheit, 50 percent relative humidity, and 4.5 mph wind speed may not be worst case conditions. Similarly, the assumption of pure methane is probably not representative of actual cargo and may not be conservative. We expect FERC to verify that conservative assumptions were used in NFPA 59A required calculations. The EIS for this project should explain how these assumptions were made and why they are the most conservative.

Quality Assurance

At various sections of its application, Bradwood Landing takes credit for the programmatic measures it will take to ensure that systems and components important to safety will function as designed. At resource report 1, section 1.4, Bradwood Landing commits to a quality assurance program "***in accordance with Bradwood Landing's standard policy***." In resource report 11, Bradwood Landing takes credit for programmatic safety measures such as enforcement of procedural compliance during construction and operation.

We agree that a rigorous and comprehensive quality assurance program is as essential to safety as the design of the facility or its location. However, our review of 49 CFR 193 and NFPA 59A did not reveal any standards for an acceptable QA program. Other than the reference to Bradwood Landing standard policy, the applicant did not identify the elements of its program. If the program is standard policy, then a sample plan from a previous project should be available for state and public review. We would expect to see evidence that the QA function is independent of operations, scheduling or budgeting. We would expect to see steps to ensure that:

i metal components are fabricated of metals with the specified metallurgical content and properties,

ii concrete or other structural materials are tested to the strength specified,

iii vendors of equipment and material are audited by qualified auditors,

iv nondestructive tests are observed and approved by independent quality control personnel,

v personnel performing safety related construction or operation activities are properly qualified, with documentation of that qualification available for audit,

vi construction and operations are performed in accordance with approved procedures,

vii only controlled copies of design documents are used in construction, with only the current revision used in the field,

viii all changes in design documents are carried forward to other related and associated design documents,

ix measurements are made with equipment that is calibrated and traceable,

x conditions adverse to quality are subject to a corrective actions program that results in actions to prevent recurrence.

Safety Issues

The material in resource report 5 describes an area of relatively low population density, with most affected houses on Puget Island in Washington state. As noted above, a complete description of the affected area would take into account the City of Astoria, a growing community with increasing tourism largely concentrated along the shoreline.

As written, the resource report is misleading in that it characterizes the entire county for population density. The resource report fails to adjust for the fact that most of that population is along the shoreline, quite close to the river channel where the LNG carriers would travel. Therefore the potentially affected population is actually much higher in density than implied in the application. The report also does not mention that during parts of tourist season, the population can more than double. Roads during particularly busy summer weekends frequently back up. This would be a particular concern in the unlikely event that an evacuation might become necessary.

The State of Oregon has reviewed the Safety Advisory Report on the proposed LNG terminal at the Port of Long Beach (POLB) issued by the California Energy Commission (CEC). That report relies largely on material taken from two readily available reports: (1) the Sandia Labs' November 2004 report "Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water" (Sandia Report) and (2) Richard Clark's "LNG Facilities in Urban Areas."

The safety significant events listed in Sandia and Clark and quoted in the CEC advisory report could apply to any terminal at any location and need not be repeated in this report. However, we agree with CEC that the 5 kw/m^2 is described in the Sandia Report as "the permissible level for emergency operations lasting several minutes with appropriate clothing" (Table 6, p.38). This is the lowest heat flux shown in the thermal radiation maps provided in Attachment 11A. Because the people occupying the nearest residences (those on Puget Island) are relatively far from the nearest fire station and do not have the appropriate clothing or emergency training, thermal radiation calculations should show the point at which worst case heat flux will permit safe evacuation, possibly requiring more than "several minutes" and without appropriate clothing or emergency training. The CEC advisory report at p. 15 suggests 1.5 kw/m^2. Bradwood Landing should calculate the distance to this heat flux for a design basis event at Bradwood Landing and issue a figure showing the results. As noted previously, Bradwood Landing should calculate this distance not from the tanks but from the point on the facility nearest the affected properties (presumably the dock).

Emergency Response Capabilities near the Facility Location

We note that Bradwood Landing, in its application, commits to an Emergency Response Plan but did not provide a detailed description. To our knowledge, FERC has not issued rules, regulatory guidance or a standard review plan for an acceptable emergency response plan for LNG facilities. We are familiar with the U.S. Nuclear Regulatory Commission's NUREG 0654, which is the regulatory standard for emergency plans at commercial nuclear plants, and consider it to be one good model, although not the only model.

Whatever model is used, FERC should make clear to the public what elements it is looking for in an emergency plan. Although the details of the WSA are withheld from public disclosure, information regarding measures to protect the public during a design basis event should be a part of public outreach and should be available before the issuance of a FERC construction permit. Most important, the communities along the Oregon and Washington shore are correctly characterized in the resource reports as primarily rural communities without extensive police, fire and emergency medical organizations. If the hazards assessment in the WSA shows that more resources are necessary in these communities to respond to a design basis emergency, the communities can only get these resources if Bradwood Landing funds them.

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MEMORANDUM

TO: Andy Jordan, Clatsop County Counsel

FROM: Kathleen Sellman, Community Development Director

SUBJECT: Bradwood Landing Proposal Comments

DATE: June 30, 2006

Clatsop County has prepared a number of detailed comments in response to the Bradwood Landing Terminal Application Under Section 3 of the Natural Gas Act. Many of our comments were raised in our March 29, 2006, letter to Magalie Salas, Secretary, Federal Energy Regulatory Commission (FERC) in response to Bradwood Landing's draft resource reports. It does not appear that the Resource Reports now under review have addressed these concerns adequately.

Attachment 1 is a Memorandum dated June 30, 2006, prepared for Clatsop County by Columbia River Estuary Task Force (CREST), a council of governments of which Clatsop County is a member. That Attachment contains several numbered exhibits. Attachment 2 is a Memorandum from Public Works Director Ed Wegner dated June 27, 2006.

In summary, the county asserts the following orders from FERC are necessary to preserve the public interest:

Clatsop County requests FERC to order Bradwood Landing Terminal to comply with the county's adopted land use regulations in the siting and development of its proposed liquified natural gas project. A Use and Permit Matrix Exhibit included in Attachment 1 provides the county's best effort to specify the land use requirements. While a portion of the Bradwood Landing site has been identified as future water-dependent development in the comprehensive plan, such future development has been described as small to medium in scale. Some portions of the site are zoned at this time to support industrial development, but other portions are not. Compliance with local land use ordinances and plans is integral to consistency with the Coastal Zone Management Act. The county reserves the right to expand or otherwise modify the approvals required when site-specific information becomes available from the applicant.

Clatsop County requests FERC to order the applicant to enter into a cost reimbursement agreement with the county for additional staff time, training, and expertise related to the review and inspection of land use plans, building plans, and site development and construction. A highly technical and specialized project such as this one may require, for example, additional training for Clatsop County inspectors or the temporary hiring of third party expertise.

Clatsop County requests FERC to order the applicant to fund 100% of costs related to public safety response related to development and operation of the proposed facilities. Such costs include both capital expenditure and ongoing operational costs including personnel, equipment and equipment storage, transportation, emergency access and facilities, and training.

Clatsop County requests FERC to order the applicant to fund 100% of capital improvements required to mitigate impacts of the proposed LNG facility's development and operation including improvement of transportation facilities such as Clifton Road. The applicant is producing a Traffic Impact Study and Traffic Management Plan. County Sheriff Tom Bergin expresses particular concern about increasing the volume of large truck traffic on Highway 30. Highway 30 is characterized by curves and no alternative route exists when it is closed as for a major accident.

Please let me know if you require additional information to prepare the county's protest.

ATTACHMENT I

CREST
Columbia River Estuary Study Taskforce

DATE: July 3, 2006

TO: Kathleen Sellman, Clatsop County CDD Director

CC: Patrick Wingard, Senior Planner

FROM: Catie Fernandez, Coastal Planner

SUBJECT: Comments to the Northern Star Natural Gas proposal to the Federal Energy Regulatory Commission for a liquid natural gas terminal at Bradwood, Oregon

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Bradwood Landing, LLC (also commonly referred to as Northern Star Natural Gas or NSNG) filed an application for authorization to site, construct and operate a liquefied natural gas terminal for the purpose of importing LNG into the United States under with the Federal Energy Regulatory Commission (FERC) on June 15, 2006. The project is proposed for Bradwood, Oregon, a former mill in Clatsop County.

CREST staff has prepared comments relative to the Resource Reports provided by Bradwood Landing, LLC as part of the FERC application. The comments are organized by Resource Report and attempt to relate as much as possible to Clatsop County's Land and Water Development and Use Ordinance (LWDUO), Standards Document and Comprehensive Plan. However, the comments do not represent a comprehensive review of the proposal to the County's approval criteria for land use applications.

This memo includes a number of attachments as follow:

Exhibit 1	Comments to draft Resource Report 8 dated March 29, 2006
Exhibit 2	Use/Permit Matrix
Exhibit 3	CREST memo to Clatsop County regarding dredged material management plan dated May 23, 2006 and revised June 20, 2006.
Exhibit 4	CREST Comments to Resource Report 2, dated July 3, 2006

A. General Project Comments

The Bradwood site was envisioned as an industrial site for a small to mid-size industrial use. This is reflected in the site's zoning designations, and supporting infrastructure. Elements of the proposed development are not permitted as currently zoned. Areas of the Bradwood site that can support industrial uses are zoned MI (Marine Industrial) and AD (Aquatic Development). Surrounding aquatic and wetland areas are zoned AC-2 (Aquatic Conservation Two) and AN

(Aquatic Natural) due to the ecological functions they provide. These land use designations are the product of a larger management plan for the Columbia River Estuary. Additional background was provided to FERC during the pre-filing process, and is enclosed as Exhibit 1 to this memo.

The Clatsop County Community Development Department asserts that compliance with local land use ordinances is integral to consistency with the Coastal Zone Management Act (CZMA).

County Staff has expended considerable time monitoring and commenting to the FERC pre-filing process, and now the filing process. This time has come out of a budget that has no contingency for a project of this scope or venue. If and when land use applications are submitted to the County for review, the County's land use application fee will be required with application. For a project of this nature, it is expected that the applicant, will enter an agreement with the County to reimburse for staff review time and materials beyond the application fees. This will allow the County to thoroughly review applications within the state-mandated timelines by hiring additional assistance for the review and/or pay for overtime as deemed appropriate by the Community Development Director.

Similarly, it is expected that the applicant will enter an agreement to reimburse the County for additional staff time and expertise related to the review and inspection of building permits.

B. Resource Report 1. Project Description

This Report, as the name implies, provides an overview of the overall project, including site description, terminal facilities, facilities in the aquatic areas, and off-site facilities such as roads and power lines. In the absence of land use applications or specific information relating to the County's ordinances, the following comments are provided. The comments attempt to relate the project activities and elements to County Ordinances, but given the volume and organization of materials, the following comments are not an exhaustive review of the project relative to all applicable County regulations. Exhibit 2 to this memo is a matrix that identifies the various project components, to the best extent possible, the zoning of that project component, and the land use permits that would be required.

The report does not address the pipeline, which is submitted as a separate filing. CREST, on behalf of the County, reserves the right to comment relative to the pipeline proposal in the future.

1. An in-water berth measuring 330 feet in length and 45 feet in width is proposed. New mooring dolphins are also proposed. The berth and dolphins appear to be proposed in waters that are zoned Aquatic Development by Clatsop County. While dredging and piling installation for water dependent industrial uses is permitted, these activities are subject to the Development Standards of the AD zone (LWDUO Sec. 3.754) and the requirements of the Standards Document (S4.208 and S4.232). Compliance with these standards has not been established.

In addition to the berth, an extensive turning basin will be necessary. The turning basin are proposed to be located in areas zoned AD and AC-2. Dredging for the berth and turning basin or installation of any piling/dolphins are not permitted in the AC-2 zone. Under the normal course of land use review, these activities could only be permitted if the zoning of the aquatic area were changed. This information was submitted to FERC when the second round of Resource Reports were submitted by NSNG during the pre-filing process (see Exhibit 1 to this memo).

At this point, NSNG has not submitted any requests for land use approvals, including zone changes to Clatsop County. NSNG has asserted that all County land use permits are preempted by the FERC siting process. To date, NSNG has provided a draft Coastal Zone Consistency determination document to the State of Oregon, Department of Land Conservation and Development (DLCD). This document included an identification that the site is not zoned properly, but provided inadequate information to support the document's conclusions that a zone change is appropriate for this site.

2. The report identifies that Bradwood Road is proposed to be widened to 24-feet in width. NSNG should ensure that the road is constructed to Clatsop County Public Works Standards. These standards are administered by the County Roadmaster through the County Public Works Department.

3. Hunt Creek Bridge is proposed to be replaced with a 90 foot long by 28.5 foot wide rail car crossing. Based on the plans provided, it appears that the bridge and associated support structures will be located in the F-80 (Forest-80), AN (Aquatic Natural) and Marine Industrial (MI) zones. The purpose of the Forest-80 zone is to protect the County's forest income by conserving the County's forest lands and assuring continuous growth of forest lands for harvest with sound management of natural resources. To that end, new bridge support structures are only permitted as a Conditional Use after a goal exception to the County's agricultural and forestry goals has been taken. As described under item 2, taking a goal exception is an involved process that requires significant demonstration on the part of the applicant that the exception is warranted. In the AN zone, bridge crossings are a Review Development. This means that the applicant would need to show that the standards of the AN zone are satisfied, including that the development satisfies all policies of the Comprehensive Plan, Estuarine Resources and Coastal Shorelands Element in addition to the Columbia River Estuary Shoreland and Aquatic Use and Activity Standards. The portion of the bridge support structure in the MI zone is a Conditional Use, meaning that the development needs to satisfy the standards of the MI zone including all policies of the Comprehensive Plan, Estuarine Resources and Coastal Shorelands Element in addition to the Columbia River Estuary Shoreland and Aquatic Use and Activity Standards. In addition, uses that are listed as Conditional in the LWDUO are reviewed on an individual basis to determine if the use is compatible with their location, surrounding uses and the comprehensive plan.

4. The existing Portland and Western rail line is proposed to be relocated in order to accommodate the terminal facilities. The realignment would move the rail line from the Marine Industrial zone to the Aquatic Natural zone. The rail line is not permitted in the Aquatic Natural zone. NSNG has opined in the draft CZM consistency document that a zone change is warranted for the relocation of the rail line. However, there is no compelling evidence to support encroachment into natural resource areas. The Marine Industrial boundary has been established for the areas of the Bradwood site that are appropriate for industrial development. The argument that a zone change or encroachment into the AN zone simply for the purpose of allowing larger scale development than originally envisioned at the Bradwood site is not compelling and falls short of zone change criteria.

5. In addition to establishing zoning districts, the County has established riparian areas (also referred to as "riparian buffers" or "riparian zones") associated with water bodies and wetlands. Setting land use designation or zoning aside, the relocated rail line does not appear to meet this requirement of the County's standards. Areas of riparian vegetation are identified as 50-feet from the mean high waterline area for estuarine rivers and sloughs. Where emergent wetland vegetation exists next to a river, the 50-feet shall be measured from the landward extent of the emergent wetland area. If a shrub or forested wetland area exists next to a river, the zone of riparian vegetation shall be the entire area of shrub or forested wetland. This requirement is applied throughout Clatsop County, regardless of zoning district and whether or not a use is considered an "approved use", "review use" or "conditional use".

6. A 5-acre temporary construction parking lot is proposed off of Highway 30 at Clifton Road. The parking lot is proposed in the F-80 zone. This use is not permitted in this zone, as its purpose is to reserve forest lands for production. Setting aside the zoning issue, the Community Development Department recommends against locating the parking area at this location due to its isolated, rural nature. The parking area as proposed appears to offer easy opportunity for car prowls, particularly if construction schedule demands nighttime work. County resources are already stretched thin, and minimizing situations that will require additional law enforcement is a high priority. Further, NSNG's effort to "encourage carpooling" as mentioned in other Resource

Reports appears to be superficial at best. The County recommends limiting parking to the development site, while providing real incentives for carpooling or providing a shuttle bus service from an urbanized area.

7. A 1.6 mile electrical powerline is proposed from the Bradwood Landing site to the existing electrical infrastructure. The structures supporting the lines are proposed to be 65 feet in height. A 105 foot right of way is proposed to be cleared to accommodate the line, and the applicant's materials indicate that the alignment is, "to be determined during detailed engineering". However Figure 1-23 shows an aerial photo with an overlay of the proposed line and 105 foot right of way. The powerline and its associated right of way appear to pass through the riparian buffer associated with the Columbia River. As mentioned previously, the riparian buffer is 50-feet from the river, or in the instance where a shrub or forested wetland area exists next to a river, the entire area of shrub or forested wetland is the riparian area. Throughout Clatsop County, removal of vegetation in the riparian area is not permitted to accommodate development needs.

8. The two concrete storage tanks, which are 160 feet in height and 262 feet in outer diameter are proposed to be constructed upon dredge spoils. The applicant has provided a geotechnical report (Attachment 6B to Resource Report 6). It is anticipated that this report includes detailed information to assure the Clatsop County Building Codes Division that the soils are structurally sound to support the tanks. Additional geotechnical work may be required of the applicant at the time of building permit application to ensure compliance with County Ordinances and the International Building Code.

9. Resource Report 1 also briefly touches on "other" components of the development including such features as pipe racks, administrative offices and the control room. All of the structural elements will require building permits and inspections to ensure compliance with the applicable building codes. For a project of this nature where the components are highly technical and specialize, additional training for Clatsop County inspectors or the temporary hiring of third party inspectors may be required.

10. The County's standards document requires that water be provided for new development by either a public water system, well, spring, river, stream or pond. Depending on source, a permit from the State Water Resources Board will be required. Non-potable water for construction and irrigation is proposed to be drawn from an on-site well. It is assumed that the State Watermaster will comment relative to water rights and Permits. River water is proposed for ship ballast water (approximately 11-14 million gallons per carrier) and on-board cooling mechanisms as well as terminal fire suppression systems, which are tested on a weekly basis. Again, a permit from the State Water Resources Department will be required. Additionally, it is assumed that other regulating agencies, such as NOAA will identify the environmental issues and impacts to threatened and endangered species associated with drawing this volume of water from the Columbia River. Potable water is proposed to be provided by trucking in bottled water. Again, the County's standards document requires that water be provided for new development by either a public water system, well, spring, river, stream or pond. It does not make allowances for bottled potable water. This is an issue that will need to be resolved if/when the development moves forward.

11. One feature that the report doesn't address is a waste water outfall. It is assumed that the non-potable water used for construction purposes and operation of the facility will be returned to the Columbia River (water is proposed to be drawn from an on-site well for non-potable uses; bottled water is proposed for potable uses and hydrostatic testing; and, river water is proposed for ballast water and on-board cooling). Any outfalls, either for the return of waste water or storm water are subject to the requirements of Clatsop County as identified in Exhibit 2.

12. Attachment 1-A to Resource Report 1 is the NSNG Dredged Material Placement and Management Plan. Comments to this plan are provided in the attached memo from CREST to Clatsop County dated May 23, 2006 and revised June 20, 2006 (Exhibit 3).

C. Resource Report 2, Water Use and Quality

Please see Exhibit 4 to this memo.

D. Resource Report 3, Fish, Wildlife and Vegetation

The following comments are provided by Columbia River Estuary Study Taskforce (CREST) as the County has an interest in ensuring that new development does not negatively affect natural resources. In general, work proposed in the estuary is subject to an Environmental Impact Statement (EIS). The EIS will need to address many of the same issues discussed in Resource Report 3.

1. Page 5, paragraph 6: Need more detailed "local" information on sturgeon and their habitat in the Columbia River. Adults use shallow water as well as juveniles. Generally much too thin on sturgeon information and needs many more references for the Columbia River.

2. Page 6, paragraph 2: Cutthroat "roam" throughout the lower Columbia River, they do not remain in "these streams" throughout their life cycle. The report needs much better information on Columbia River cutthroat life history and many more references.

3. Page 6, paragraph 3: Need references and more information on shad.

4. Section 3.2.2.1, paragraph 1: Is there no EFH for chum? Needs to be mentioned.

5. Page 6 (3.2.2.1): Very poor information regarding Columbia River chinook salmon, needs much better references. There are a ton of papers and reports on the life history of chinook salmon, include these in this section.

6. Page 7, Coho: Very poor information regarding Columbia River coho salmon, needs much better references. There are a ton of papers and reports on the life history of coho salmon, include these in this section. This section stated that "most coho fry stay in for 1 year". This is not accurate, some stay, some go that year. Needs much better more accurate information on the life history of the lower Columbia River coho.

7. Page 7, Rec Fishing, last paragraph: Needs much more information on recreational fishing in the lower Columbia. Section should include times of year, how many people are out there, etc...Also take out the popularity of warm water species which seems too much like an opinion rather than true facts.

8. The following sections are suggested reading and references that could be included into the report. These do not include any references on life history of salmonids in the lower Columbia River.

Noise Effects

Arimoto, T., S. Akiyama, K. Kikuya, and H. Kobayashi. 1993. Fish-herding effect of an air bubble curtain and its application to set-net fisheries. – ICES mar. Sci. Symp., 196: 155-160.

Sharpe, F.A., and L.M. Dill. 1996. The Behavior of Pacific Herring Schools in Response to Artificial Humpback Whale Bubbles. Behavioral Ecology Research Group, Department of Biological Sciences, Simon Fraser University, Burnaby BC. December, 1996.

Amoser, S., and F. Ladich,. 2003. Diversity in noise-induced temporary hearing loss in otophysine fishes. Journal of Acoustic Society of America. 113(4):2170-2179.

Mann, D.A., Z. Lu, M.C. Hastings, and A.N. Popper. 1998. Detection of ultrasonic tones and simulated dolphin echolocation clicks by a teleost fish, the American shad (*Alosa sapidissima*). *J. Acoust. Soc. Am.* 104: 562-568.

Mann, D.A., D.M. Higgs, W.N. Tavolga, M.J. Souza, and A.N. Popper. 2001. Ultrasound detection by clupeiform fishes. *J. Acoust. Soc. Am.* 109: 3048-3054.

McCauley, R.D., J. Fewtrell,, and A.N. Popper. 2003. High intensity anthropogenic sound damages fish ears. Journal of Acoustic Society of America. 113(1):638-642.

Turnpenny, A. W. H., Thatcher, K. P. and Nedwell, J. R. 1994. The effects on fish and other marine animals of high-level underwater sound. Report prepared for UK Defense Research Agency. (FRRI 27/94).

Feist, B.E. 1991. Potential Impacts of Pile Driving on Juvenile Pink (*Oncorhynchus gorbuscha*) and Chum (*O. keta*) Salmon Behavior and Distribution. M.S. Thesis, Univ. of Washington, Seattle. 66 p.

Effects of Wharfs, Armoring, Dredging

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E. Resource Report 4 Cultural Resources

Resource Report 4 appears to address relevant historic and cultural resource issues, however, agencies with more expertise, such as the State Historic Preservation Office (SHPO) may require additional information. If the project moves forward, and archaeological resources are discovered during excavation or construction, the resource shall remain intact until a plan for excavation or reinternment has been developed by the State Historic Preservation Office.

F. Resource Report 5 Socioeconomic

1. The report explores the effects to commercial/recreational craft should safety zones be implemented around LNG carriers. The safety zones analyzed include a 1,000 yard zone (ahead and back) or a two mile ahead, one mile back scenario. The report also assumes a 200-yard zone when ships are docked at Bradwood and draws the conclusion that access to Clifton Channel would not be affected. It is unclear why a 200-yard zone assumption was made for a docked LNG carrier. However, if the Waterway Suitability Analysis (WSA) process results in a greater safety zone for docked carriers, there is a higher likelihood that access to Clifton Channel will be impacted (particularly in light of Army Corps navigational structures that are in the water at this location).

2. The report provides an overview of existing emergency service providers and makes no prediction or assumptions as to what additional public safety measures may be needed with the development of an LNG facility. It is expected that additional information is provided in the Waterway Suitability Analysis (WSA), although the WSA has not been made available for Community Development Staff's viewing. Due to the critical nature of public safety as it relates to this project, it is imperative that local first responders be involved in the development of this report. In particular, the numbers in Table 5-7 should be verified. Also, Table 5-7 should be qualified somehow to account for the local road conditions. Distance in miles may be deceptive due to slow traffic on Highway 30 caused by weather conditions (fog, rain, wind) and seasonal tourist traffic. It should also be noted that there are no alternate routes should Highway 30 be closed due to landslide, fallen trees or other hazard. It is also expected that the applicant will fully support additional public safety measures to accommodate a development of this nature.

3. The report briefly discusses existing transportation facilities and identifies that a traffic study is being developed for County Review. At this time, the traffic study has not been submitted.

4. With regard to rail service, an agreement to move the Portland & Western rail line is attached to this report. It should be noted that the area proposed for rail realignment is zoned AN (Aquatic Natural) due to the ecological value associated with the wetlands/riparian vegetation surrounding the Bradwood site. This issue is discussed in greater detail in section B.4 of this memo.

5. Appendix A, River Use Impact Analysis concludes that there is a general downward trend in shipping traffic on the Columbia and cites the loss of the Hyundai, K-Line and Evergreen lines to support this conclusion. However, in the recent past, the Port of Portland has recently added container service from Yang-Ming and ZIM AMP. These container line additions have been widely publicized, and it is unknown to CREST Staff if there have been any other developments that will increase or decrease shipping traffic in the Columbia River. The most recent data related to ship traffic should be reflected in the applicant's report and in the Environmental Impact Statement.

6. Appendix A also addresses recreational use of the river, including fishing. The report discusses spikes in fishing activities with seasonal fisheries, including Buoy 10 and suggests that timing LNG passages with the seasons could help mitigate conflicts.

7. "Wildlife Viewing" is discussed briefly in Appendix A, with a conclusion that wildlife viewing will not be affected by the construction or operation of the plant because it is located on private property. This section of Appendix A does not consider the potential for wildlife viewing from the river, particularly the value that the Bradwood Cliffs provide.

G. Resource Report 6 Geologic

The Bradwood site is not within the County's Geologic Hazard Overlay (GHO). However, additional geotechnical reports may be required by the Building Official to establish the site soils, particularly the dredged materials are suitable for construction.

1. Section 6.6 of Report 6 discusses the potential need to blast through basalt for the relocated Portland and Western rail line. The impacts of blasting should be a consideration in whether or not it is appropriate to move the rail line into an area that is zoned AN (Aquatic Natural).

2. Section 6.9.1.1 addresses flooding hazards and notes that the dredged materials placed on the site, once graded, will bring the site above flood elevation of 10-feet NGVD. The applicant and FERC should note that the site is mapped as floodplain on FEMA's Flood Insurance Rate Maps (FIRM), and will be treated as floodplain until such time the maps are revised. The applicant or property owner can initiate a map revision by filing the appropriate documents (Letter of Map Revision based on fill) with FEMA.

3. Section 6.12.2 discusses shoreline erosion and potential shoreline stabilization measures that may be implemented in the future. The applicant and FERC should note that shoreline stabilization is reviewed by Clatsop County as part of a land use permit. For areas zoned MI (Marine Industrial) and AD (Aquatic Development), vegetative shoreline stabilization is a permitted use and will require a development permit only while structural shoreline stabilization is a Review Use, subject to a Type II (public notice – no hearing) review in addition to a development permit.

4. Also, it should be noted that there is anecdotal reports of a portion of the Bradwood Cliffs sheering off, creating a wave that caused extensive damage on Puget Island.

H. Resource Report 7, Soils

1. Section 7.2.3.1 discusses revegetation of the temporary impact area and that this area will be seeded with grass rather than shrubs or trees. Vegetation removal in these areas needs to be reconciled with 1) impacts to wetlands, 2) conflicts with county zoning and 3) the requirement of Clatsop County's Land and Water Development and Use Ordinance for 50-foot riparian buffers and a 50-foot buffer around industrial development in the MI (Marine Industrial) zone.

2. Section 7.2.3.1 also discusses soil erosion control measures along the riverbank, including, slope breaks, mulching and rock armoring, as appropriate. As mentioned previously, bank stabilization requires review by Clatsop County pursuant to the Land and Water Development and Use Ordinance (discussed further under Report 6).

3. This Report also discusses that an erosion control plan will be prepared in the future. Erosion control plans are required by Clatsop County with all Development Permit applications.

I. Resource Report 8, Land Use, Recreation and Aesthetics

Clatsop County provided comments to the draft Resource Report 8 as part of the FERC pre-filing process. In general, Resource Report 8 has not been updated or revised to sufficiently address the County's comments and concerns as it relates to land use. These comments are attached for the record (Exhibit 1). Additionally, the following comments supplement those previously provided.

1. Section 8.2.1 indicates that the 52 acre area proposed for the turning basin is primarily within an area designated aquatic development. The report neglects to mention the area (acreage) of the turning basin that require dredging that is located within an area zoned Aquatic Conservation (AC-2). The conservation designation of the area was not arbitrarily applied by the County and Report 8 does not address the resource values that contribute to this zoning designation. As pointed out in the comments to the draft resource report 8 as part of the pre-filing process, the Goal Exception taken for the filling of the log pond for an industrial user specifically does not permit any new dock construction or new dredging projects in Aquatic areas.

2. Section 8.2.1 discusses that the County's Comprehensive Plan anticipates filling of the log pond for an industrial use. The applicant should also be aware that, 1) the area of the log pond will need to be rezoned upon filling and, 2) filling of the log pond is subject to State and Federal removal fill laws and compensatory mitigation requirements regardless of the exception that the County has taken.

3. 8.2.1 discusses Clifton Road and the Hunt Creek Bridge expansions. County comments have been provided in Section B, Resource Report 1, Project Description of this memo.

4. 8.2.1 discusses the facilities for off-loading LNG from carriers and indicates that they will be located in the MI and AD zones. The applicant should note that these facilities are not permitted in the AC-2 zone.

5. Section 8.2.1 indicates that fire suppression water will be drawn from the on-site well. We notice that in Report 1, fire suppression water is proposed to be drawn from the Columbia River. This is a discrepancy that needs to be clarified at the very latest, before building permits are issued.

6. Section 8.2.1 also discusses a buffer area that will surround the project. Clatsop County ordinances include two distinct buffers as it relates to this project. The first type of buffer is a riparian buffer, which is generally 50 feet, and discussed in greater detail in Item A.5 of this memo. The County's Land and Water Development and Use Ordinance also sets forth a buffer for uses in the MI zone. Where the MI zone adjoins a zone other than LI, there shall be an area of depth adequate to provide for a dense evergreen landscaped area which attains a minimum height of 8-10 feet, or such other screening measures as may be prescribed by the Community Development Director. In no case shall the buffer area have less width than the required 50-foot setback of this zone. The MI buffer has more to do with an industrial uses compatibility with surrounding zones, in this case, the Aquatic Development and Forest-80 zones. Therefore, it is expected that there would be a 50-foot riparian buffer provided to all estuarine rivers and wetlands as well as a 50-foot vegetated buffer between all site development and any adjacent zone boundaries. To clarify, the two buffers are not added to each other for a 100 foot buffer, rather, a 50-foot buffer applies to all areas of the site, not simply areas adjacent to rivers and wetlands.

7. Section 8.2.1 also discusses waterway leases and removal-fill permits for dredging and dredged material disposal. Note that the County is required by the State to sign off on these permits prior to submittal to the State for review.

8. Coastal Zone Management Consistency. Section 8.2.5 includes a brief statement with regards to Coastal Zone Management Consistency. Comments relative to CZM consistency have been provided to FERC as part of the pre-filing process (Exhibit 1). A draft CZM consistency certification document has been provided to DLCD, however, it was not included as part of the FERC application. The County Community Development Department believes that compliance with local ordinances is integral to consistency with the Coastal Zone Management Act. To date, adequate evidence for the County to support CZMA consistency has not been provided by the applicant.

9. Section 8.2.6 discusses the zoning of the land where construction of the terminal will occur and provides acreage calculations for each zone that will be impacted. The report also mentions that, "portions of AN land and AC-2 land will be used for purposes not listed as permitted or conditionally permitted in the corresponding zones. Exceptions allowing uses otherwise unpermitted are anticipated by Statewide Land Use Goal 2 and allowed where appropriate reasons justify the exception." This same statement was provided in the draft Resource Report 8. The County prepared a lengthy response to this statement and submitted it to FERC during the pre-filing process (see Exhibit 1 to this document). In the latest version of Resource Report 8, the applicant makes no further efforts to reconcile the zoning conflict.

10. Visual resources. Resource Report 8 has not been amended or improved upon as it relates to visual resources. County comments submitted to FERC (Exhibit 1) indicate that the County identifies the Bradwood Cliffs as a natural and scenic area in the County's Northeast Community Plan and places value on lands visible from the waterway. The LNG storage tanks, which will measure over 160 feet in height will have a significant impact on views of the cliffs from the river, despite the best attempts of the applicant to paint them in a color that will blend with the natural surroundings.

J. Resource Report 9, Air and Noise Quality

The applicant and FERC should note that the County's noise ordinance limits noise between the hours of 10:00 PM and 7:00 AM. Exceptions include businesses in the AF, QM, LI, HI, EFU or F80, or QMO zones and overlays.

K. Resource Report 10, Alternatives

1. Section 10.10.3.3.1 & 2 discuss local and regional alternative sites that were considered for location of the NSNG LNG terminal. Site considerations included, ease of acquiring permits, availability of adequate land, marine and shoreline features, avoidance of major population centers, avoidance of sensitive habitats in construction areas, proximity to pipelines and site control. A Puget Sound location is dismissed due in part, because, "environmental issues and associated regulatory requirements in this region as compared to the proposed project location. The significant permitting issues in the area are related to potential impacts on salmon, wetlands and other resources". Since potential impacts to salmon, wetlands and a host of other environmental issues are raised with the Bradwood application, the applicant's reasoning is ineffective.

2. Section 10.10.3.3.2 further discusses local alternatives based on the various site considerations including site control and availability of adequate land. As commented during the pre-filing process by Oregon's Division of State Lands, the State owns the submersed waters surrounding the site. Further, it could be questioned whether the site contains available adequate land, since the applicant is proposing to move a rail line outside the industrially zoned portion of the site into land zoned Aquatic Natural and dredge a vessel turning basin in aquatic areas with a Conservation designation. In terms of avoidance of sensitive habitats in construction areas, the alternatives analysis is not particularly strong considering the effects this proposed development will have on fish habitat. With respect to fish habitat, the alternatives analysis should consider operational effects such as ballast water intake and waste water outfalls.

3. Section 10.4, Summary and Conclusions includes the following statements:

- *The site is very large and can provide the required space for construction and operation of the terminal and an adequate buffer*...The alternatives analysis does not discuss that the Portland and Western rail line requires movement in to a natural area in order to accommodate the proposed development. Nor does the analysis discuss the extensive dredging required for the turning basin.
- *The site is adjacent to relatively deep water, and has sufficient area for an adequate turning basin.* Again, the alternatives analysis does not address the dredging that must occur to accommodate LNG carriers or the issue of the portion of the dredge area that is zoned Aquatic Conservation.
- *The portion of the site that would be used for the terminal is predominantly zoned for marine industrial use*...Again, there is no mention of the aquatic areas that are zoned aquatic conservation where dredging is not permitted under local ordinances.
- *The site is currently permitted as an official dredge deposit site on the Columbia River.* The analysis does not discuss the fact that upland dredge disposal sites are at a

premium, and upon development, the Bradwood site will no longer be available for disposal.

L. Resource Report 11, Reliability and Safety

Clatsop County Community Development Department offers no specific comments relating to the applicant's reliability and safety report, except to strongly urge provision of adequate police and fire protection for this site, fully funded by the applicant. The County's Comprehensive Plan Goal 11, Public Facilities Background Document discusses the deficiency in the police protection that is being provided in the County. It also recognizes that fire protection is provided by rural fire protection districts, staffed by volunteers.

M. Resource Report 13, Engineering and Design Material

Engineering specifications will be reviewed fully by the Clatsop County Building Codes Division if the project moves forward and an application for building permit is submitted. In the absence of detailed plans, specific comments to this resource report are not provided herein. However, the following general comments are provided.

1. Section 13.1.9 Adjacent Activities discusses a 200-foot vegetation free zone to minimize forest fire. This vegetation free zone will need to be reconciled with the County's requirement for riparian buffers and vegetated buffers around industrial development in the MI zone.

2. Section 13.1.11, Site Development. The applicant and FERC should note that in addition to land use approvals, a development permit and building permits will be required by the County prior to construction. A development permit is required for site grading, prior to any structural elements being constructed as well. In addition to plans and engineering specifications, an erosion control plan will be required with all development permit applications. Road construction is subject to approval by the County Public Works Department and the Community Development Department.

The above comments are provided based on the information available to date. If you have any questions or require any additional information, please contact CREST staff by phone or email. CREST is available for additional comments in the future at the County's request.

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EXHIBIT 1 ORIGINAL

Clatsop County

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SECRETARY

2006 APR -7 A 11:39
2006 Apr 7
FEDERAL ENERGY
REGULATORY COMMISSION

March 29, 2006

Department of Community Development
800 Exchange Street
Suite 100
Astoria, Oregon 97103

Economic Development
Planning & Development
Telephone (503) 325-8611
Fax (503) 338-3666

Building Codes Division
Telephone (503) 338-3697
Fax (503) 338-3666

Inspection Request Line
(503) 338-3698

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Bradwood Landing LNG Project, Docket #PF05-10
Comments on Bradwood Terminal Resource Reports

Dear Ms. Salas:

Clatsop County submits the following comments with the understanding that Northern Star Natural Gas' Bradwood Terminal Resource Reports for both the terminal and the proposed pipeline are at the draft stage. Clatsop County reserves the right to comment on future documents.

If you have any questions, please contact Kathleen Sellman, Community Development Director, at (503) 325-8611 or ksellman@co.clatsop.or.us.

Sincerely,

Kathleen A. Sellman

Kathleen A. Sellman AICP
Community Development Director

Enclosures

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Page 2, Applicable Zoning Codes. The applicant provides a table (Table 8.1-1) that lists applicable zoning designations. However, the resource report does not detail whether the proposed uses are permitted in these zones or describe the County requirements for review of development in these zones. Of particular concern is the proposed dredging activity within the AC-2 zone. **Note: Dredging is not a Permitted, Conditional or Review use in this zone. In other words, the site is not zoned appropriately for the proposed use.** The applicant should also note that there are mechanisms for requesting zone changes built into the County's Land and Water Development and Use Ordinance and the Clatsop County Comprehensive Plan. However, the applicant bears the burden of proof in establishing the appropriateness of a zone change. To that end, the applicant, must follow the appropriate procedures, identify all applicable County Goals, Policies and Standards and provide findings that establish the proposed zone change as consistent with the County's adopted plans.

Beyond the procedural nature of a zone change, the applicant will need to carefully analyze its request for zone change as the site is located within the Columbia River Estuary. The Estuary is managed cooperatively by jurisdictions within its influence through the adoption of the Columbia River Estuary Management Plan. The Management Plan was formulated by the Columbia River Estuary Study Task Force (CREST), local jurisdictions, state and federal agencies and concerned citizens in response to federal environmental protection laws and the Coastal Zone Management Act. The Management Plan represents a unique bi-state effort to manage the Estuary by balancing development needs with natural resource protection. To that end, the standards of the management plan were adopted into the Comprehensive Plans (for Oregon jurisdictions) and Shoreline Master Plans (for Washington jurisdictions) including the Comprehensive Plan for Clatsop County.

The Bradwood site is specifically addressed in the Columbia River Estuary Management Plan within the Eastern Clatsop Planning Area. The Bradwood Subarea is identified as a former industrial area, a stretch of steep forested shoreline to the east, where the planning areas extends either 200 feet inland or to the extent of geological instability and includes portions of the Columbia River. The subarea plan discusses the fishing resources, tidal marsh and wetlands; soils and old growth vegetation found at Bradwood. The plan also acknowledges the industrial nature of the site, but cautions against large scale development as follows, "The Bradwood industrial site offers excellent potential for small to medium sized water dependent industrial development. There is deep water close to shore, some available vacant land, and railroad access. There are constraints to development, however, including poor highway access and the proximity of the wildlife refuge. Large scale development involving extensive dredging or filling would not be appropriate." The above information is provided so that the applicant can gain an appreciation of the collective thought and effort

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that went in to the Estuary Plan and the establishment the zoning district boundaries at the Bradwood site.

Page 2, Dredged Material Disposal. Note that the Bradwood Dredged Material Disposal site is inventoried as site O-38.9 in the Columbia River Estuary Dredged Material Management Plan. The site's capacity is 420,000 cubic yards and special conditions apply to disposal of materials including:

- Runoff from the disposal site shall not be allowed to flow through potentially sensitive wetlands to the south and west of the site.
- Any dredging project proponent must demonstrate that the dredged material disposal will not preclude present or future water-dependent use at the site.
- The western boundary of the site shall be leveed to prevent dredge materials from entering the intertidal area west of the site.

Page 3, Wetland Fill. While the County's Comprehensive Plan sets forth a goal exception for the potential fill of the wetland for industrial uses, it does not permit the fill in advance of an approved permit for industrial use. Any proposal to fill the wetlands requires an approved permit for industrial development.

Page 3, Quarry. The applicant and property owner shall acquire all necessary county and State permits if extraction is to resume at the Bradwood rock quarry.

Page 3, Existing Buildings. If the proponent desires to remove the existing buildings, demolition permits will be required from the Clatsop County Building Codes Division.

Page 4, Public or Private Conservation Land. The report states that the Bradwood site is not among the scenic sites designated in Clatsop County's Comprehensive Plan. However, the proponent should note that the rocky bluffs discussed on this page are the "Bradwood Cliffs" identified as a Scenic and Natural Area in the Clatsop County Northeast Community Plan. The plan describes the cliffs as follows, "The area consists of 40 acres of old growth Douglas Fir forest standing on basalt ledge overlooking the Columbia River. This stand is highly natural and the old trees will continue to constitute a viable natural ecosystem if left alone. The steep rocky slopes could not tolerate logging."

Page 4, Areas of Environmental Sensitivity. The proponent's report goes on to state that, "there are no designated protected habitats, nor areas of environmental sensitivity...within .25 miles of the Terminal site. This statement is a mischaracterization of the site and surrounding land. The site does contain several areas of environmental sensitivity including wetlands, old growth forest (see previous comments relating to Bradwood Cliffs) and the Columbia River

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Estuary. The report also neglects to identify the Bradley State Wayside, a State Park, located near the top of Clatsop Crest approximately 1.5 miles from the Terminal site. Bradley State Wayside offers a sweeping vista of the Columbia River and surrounding miles of countryside.

Page 5, Flood Control Lands. The proponent's report states that the Terminal and accompanying facilities are above the 100-year floodplain. According to the Flood Insurance Rate Map for Clatsop County (Community Panel Number 410027 0014 A), portions of the site are located within Zone A3 (within the 100-year flood, base flood elevation has been determined to be 10' elevation). Other areas of the site are within Zone B (areas between the limits of the 100-year and the 500-year flood). This information is correctly identified in the proponent's Resource Report 2 (Page 9). Note that the proponent should request a Letter of Map Amendment (LOMA)or Letter of Map Revision (LOMR) from FEMA to establish the site as outside the 100-year flood based on fill activities that have taken place. Until the map correction is made by FEMA, the site will continue to be mapped as is.

Page 5, Coastal Zone Management Area. The proponent has correctly identified the site to be within the Coastal Zone Management Area. However, the applicant does not address the special issues associated with the CZMA. Simply stating that the, "applicant has begun discussions with DLCD concerning the consistency determination process, and expects to be consistent with the Oregon Coastal Management Program" is insufficient. As representatives from OCMP have repeatedly pointed out in correspondence and meetings with the applicant, the federal Coastal Zone Management Act requires listed federal licenses to be consistent with the mandatory enforceable policies of the OCMP. These policies include: 1) applicable statewide planning goals; 2) applicable city or county comprehensive plan and land use regulation requirements that have been approved by the Land Conservation & Development Commission; and 3) applicable state agency authorities that are part of the federally approved coastal management program. OCMP staff has accurately and thoroughly explained the implications of the Coastal Zone Management Act as it relates to development of the Bradwood Site for a LNG terminal to the applicant on numerous occasions. For that reason, the County will not duplicate the information that has been transmitted by OCMP staff. However, the County would like to emphasize the following points:

- Applicable Plan and land use regulations of the Clatsop County Comprehensive Plan, Clatsop County Land and Water Development and Use Ordinance, Standards Document and the Columbia River Estuary Management Plan regulate development at Bradwood.
- Consistency with the Coastal Zone Management Act is dependant on the applicant satisfying the land use regulations of the above referenced documents.

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Page 5, Uses in the MI Zone. Water-dependent industrial and port uses are permitted in the MI zone. The applicant should be aware that specific standards apply to permitted development. These standards are described in Section 3.634 of the Clatsop County Land and Water Development and Use Ordinance.

Page 5, Activities in the F-80 Zone. The applicant states that 3.7 acres of land zoned F-80 will be used for temporary construction "lay-down". Temporary construction staging areas are not permitted within the F-80 zone.

Page 6, Uses in the AN and AC-2 zones. The applicant states that certain proposed uses are permitted in the AN and AC-2 zones, but that other proposed uses are not permitted in these zones. A complete report should identify specific uses proposed for each zone. The report goes on to state "Exceptions to allow uses that are otherwise unpermitted are anticipated by Statewide Land Use Goal 2 and allowed where appropriate reasons justify the exception." This statement seriously understates the process and scrutiny involved in requesting and granting a goal exception. Goal exceptions are processed as an amendment to the County's Comprehensive Plan and because the Plan is acknowledged by the State, the goal exception must satisfy Statewide Planning Goal 2 (please see attached) with ultimate approval by the State Department of Land Conservation and Development (DLCD). The bottom line is that goal exceptions are not taken lightly by the County or the State.

The applicant should note that an Exception to Goal 16 has already been taken for the Bradwood site. The goal exception places the former mill pond (wetland) into an Aquatic Development (AD) zone designation and ultimately anticipates the filling of the pond for an industrial use. The exception allows for lateral expansion of the existing dock and dredging to provide navigational access along the face of the existing dock and future new docks within the AD zone. **The Goal 16 exception specifically states that it does not permit any new dock construction or new dredging projects in Aquatic areas.**

Page 6, 45-Acre Dredge Area. As mentioned previously, the bulk of the 45-acre dredge area is zoned AC-2. Dredging associated with development is not permitted in the AC-2 zone. A change to this land use designation will require a Zone Change, Comprehensive Plan Amendment and Goal Exception.

Page 6, Wetland Fill. The applicant states that it would be appropriate to fill the former log pond for industrial development. This is supported by the Clatsop County Goal 16 Exception, as discussed previously. However, any fill of the pond will continue to require applicable permits from the State Division of State Lands and the US Army Corps of Engineers. Further, the filling of the former log pond will not be approved by the County without an associated permit approval for an industrial development. Other wetland fill also will require County permit approval in addition to State and Federal permits. Fill of any wetlands in the

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Aquatic Natural Zone (AN) raises the same issues as dredging in the AC-2 zone. The use is not permitted, therefore, if the applicant wishes to fill these areas, they will need to apply for a Zone Change, Comprehensive Plan Amendment and a Goal Exception would need to be taken.

Page 6 & 7, Visual Impacts. The report discusses that the Bradwood Terminal is visible from few developed areas. The report also acknowledges that the Terminal would be visible from vessels on the river. This is an important point that merits underscoring. The recreation activities associated with the Columbia River are an important component of Clatsop County's economic base. The County's reliance on tourism is ever increasing as natural resource industries (i.e. timber, commercial fishing) struggle. Recreational fishing and boat tours (small craft such as kayak outfitters and large sternwheeler tours) utilize this reach of the River and the visual impact of a large-scale industrial use at this site is unquantifiable. Clatsop County also has serious concerns about the visual impacts on our neighbors across the River in Wahkiakum County, Washington.

Page 7, Unique and Scenic Resources. The Report states that the Bradwood site is not a unique or scenic resource designated by Clatsop County or the State of Oregon. However, the applicant neglects to mention that the Bradwood Cliffs are identified as a Scenic and Natural Area in the Clatsop County Northeast Community Plan. In the context of the previous paragraph, the proposed development, and in particular, the 168-foot high tanks has the potential to impact views of the cliffs, the old growth forest and wildlife (i.e. raptors) from those using the River.

Page 8, Lighting Impacts. The County appreciates the applicant's suggestion to work together toward a responsible lighting scheme. Lighting at this remote location will have impacts on both humans and wildlife and should be designed with the utmost consideration.

Page 8, Construction Activities. The applicant indicates that construction activities will generally occur during the weekday, daytime hours, but that dredging may occur on a 24-hour basis. The applicant should take note of the County's Noise Control Ordinance No. 2001-11 in consideration of the nearby residences in Clatsop and Wahkiakum Counties.

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Oregon's Statewide Planning Goals & Guidelines

GOAL 2: LAND USE PLANNING

OAR 660-015-0000(2)

PART I -- PLANNING

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

City, county, state and federal agency and special district plans and actions related to land use shall be consistent with the comprehensive plans of cities and counties and regional plans adopted under ORS Chapter 268.

All land use plans shall include identification of issues and problems, inventories and other factual information for each applicable statewide planning goal, evaluation of alternative courses of action and ultimate policy choices, taking into consideration social, economic, energy and environmental needs. The required information shall be contained in the plan document or in supporting documents. The plans, supporting documents and implementation ordinances shall be filed in a public office or other place easily accessible to the public. The plans shall be the basis for specific implementation measures. These measures shall be consistent with and adequate to carry out the plans. Each plan and related implementation measure shall be coordinated with the plans of affected governmental units.

All land-use plans and implementation ordinances shall be adopted by the governing body after public hearing and shall be reviewed and, as needed, revised on a periodic cycle to take into account changing public policies and circumstances, in accord with a schedule set forth in the plan. Opportunities shall be provided for review and comment by citizens and affected governmental units during preparation, review and revision of plans and implementation ordinances.

Affected Governmental Units -- are those local governments, state and federal agencies and special districts which have programs, land ownerships, or responsibilities within the area included in the plan.

Comprehensive Plan -- as defined in ORS 197.015(5).

Coordinated -- as defined in ORS 197.015(5). Note: It is included in the definition of comprehensive plan.

Implementation Measures -- are the means used to carry out the plan. These are of two general types: (1) management implementation measures such as ordinances, regulations or project plans, and (2) site or area specific implementation measures such as permits and grants for construction, construction of public facilities or provision of services.

Plans -- as used here encompass all plans which guide land-use decisions, including both comprehensive and single-purpose plans of cities, counties, state and federal agencies and special districts.

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PART II -- EXCEPTIONS

A local government may adopt an exception to a goal when:

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

(b) The land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or

(c) The following standards are met:

(1) Reasons justify why the state policy embodied in the applicable goals should not apply;

(2) Areas which do not require a new exception cannot reasonably accommodate the use;

(3) The long-term environmental, economic, social and energy consequences resulting from the use of the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

(4) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

Compatible, as used in subparagraph (4) is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.

A local government approving or denying a proposed exception shall set forth findings of fact and a statement of reasons which demonstrate that the standards for an exception have or have not been met.

Each notice of a public hearing on a proposed exception shall specifically note that a goal exception is proposed and shall summarize the issues in an understandable manner.

Upon review of a decision approving or denying an exception:

(a) The commission shall be bound by any finding of fact for which there is substantial evidence in the record of the local government proceedings resulting in approval or denial of the exception;

(b) The commission shall determine whether the local government's findings and reasons demonstrate that the standards for an exception have or have not been met; and

(c) The commission shall adopt a clear statement of reasons which sets forth the basis for the determination that the standards for an exception have or have not been met.

Exception means a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that;

(a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;

(b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and

(c) Complies with standards for an exception.

PART III -- USE OF GUIDELINES

Governmental units shall review the guidelines set forth for the goals and either utilize the guidelines or develop alternative means that will achieve the

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goals. All land-use plans shall state how the guidelines or alternative means utilized achieve the goals.

Guidelines -- are suggested directions that would aid local governments in activating the mandated goals. They are intended to be instructive, directional and positive, not limiting local government to a single course of action when some other course would achieve the same result. Above all, guidelines are not intended to be a grant of power to the state to carry out zoning from the state level under the guise of guidelines. (Guidelines or the alternative means selected by governmental bodies will be part of the Land Conservation and Development Commission's process of evaluating plans for compliance with goals.)

GUIDELINES

A. PREPARATION OF PLANS AND IMPLEMENTATION MEASURES

Preparation of plans and implementation measures should be based on a series of broad phases, proceeding from the very general identification of problems and issues to the specific provisions for dealing with these issues and for interrelating the various elements of the plan. During each phase opportunities should be provided for review and comment by citizens and affected governmental units.

The various implementation measures which will be used to carry out the plan should be considered during each of the planning phases.

The number of phases needed will vary with the complexity and size of the area, number of people involved, other governmental units to be consulted, and availability of the necessary information.

Sufficient time should be allotted for:

(1) collection of the necessary factual information

(2) gradual refinement of the problems and issues and the alternative solutions and strategies for development

(3) incorporation of citizen needs and desires and development of broad citizen support

(4) identification and resolution of possible conflicts with plans of affected governmental units.

B. REGIONAL, STATE AND FEDERAL PLAN CONFORMANCE

It is expected that regional, state and federal agency plans will conform to the comprehensive plans of cities and counties. Cities and counties are expected to take into account the regional, state and national needs. Regional, state and federal agencies are expected to make their needs known during the preparation and revision of city and county comprehensive plans. During the preparation of their plans, federal, state and regional agencies are expected to create opportunities for review and comment by cities and counties. In the event existing plans are in conflict or an agreement cannot be reached during the plan preparation process, then the Land Conservation and Development Commission expects the affected government units to take steps to resolve the issues. If an agreement cannot be reached, the appeals procedures in ORS Chapter 197 may be used.

C. PLAN CONTENT

1. Factual Basis for the Plan

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Inventories and other forms of data are needed as the basis for the policies and other decisions set forth in the plan. This factual base should include data on the following as they relate to the goals and other provisions of the plan:

(a) Natural resources, their capabilities and limitations

(b) Man-made structures and utilities, their location and condition

(c) Population and economic characteristics of the area

(d) Roles and responsibilities of governmental units.

2. Elements of the Plan

The following elements should be included in the plan:

(a) Applicable statewide planning goals

(b) Any critical geographic area designated by the Legislature

(c) Elements that address any special needs or desires of the people in the area

(d) Time periods of the plan, reflecting the anticipated situation at appropriate future intervals.

All of the elements should fit together and relate to one another to form a consistent whole at all times.

D. FILING OF PLANS

City and county plans should be filed, but not recorded, in the Office of the County Recorder. Copies of all plans should be available to the public and to affected governmental units.

E. MAJOR REVISIONS AND MINOR CHANGES IN THE PLAN AND IMPLEMENTATION MEASURES

The citizens in the area and any affected governmental unit should be given an opportunity to review and comment prior to any changes in the plan and implementation ordinances. There should be at least 30 days notice of the public hearing on the proposed change.

1. Major Revisions

Major revisions include land use changes that have widespread and significant impact beyond the immediate area, such as quantitative changes producing large volumes of traffic; a qualitative change in the character of the land use itself, such as conversion of residential to industrial use; or a spatial change that affects large areas or many different ownerships.

The plan and implementation measures should be revised when public needs and desires change and when development occurs at a different rate than contemplated by the plan. Areas experiencing rapid growth and development should provide for a frequent review so needed revisions can be made to keep the plan up to date; however, major revisions should not be made more frequently than every two years, if at all possible.

2. Minor Changes

Minor changes, i.e., those which do not have significant effect beyond the immediate area of the change, should be based on special studies or other information which will serve as the factual basis to support the change. The public need and justification for the particular change should be established. Minor changes should not be made more frequently than once a year, if at all possible.

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F. IMPLEMENTATION MEASURES

The following types of measure should be considered for carrying out plans:

1. Management Implementation Measures

(a) Ordinances controlling the use and construction on the land, such as building codes, sign ordinances, subdivision and zoning ordinances. ORS Chapter 197 requires that the provisions of the zoning and subdivision ordinances conform to the comprehensive plan.

(b) Plans for public facilities that are more specific than those included in the comprehensive plan. They show the size, location, and capacity serving each property but are not as detailed as construction drawings.

(c) Capital improvement budgets which set out the projects to be constructed during the budget period.

(d) State and federal regulations affecting land use.

(e) Annexations, consolidations, mergers and other reorganization measures.

2. Site and Area Specific implementation Measures

(a) Building permits, septic tank permits, driveway permits, etc; the review of subdivisions and land partitioning applications; the changing of zones and granting of conditional uses, etc.

(b) The construction of public facilities (schools, roads, water lines, etc.).

(c) The provision of land-related public services such as fire and police.

(d) The awarding of state and federal grants to local governments to provide these facilities and services.

(e) Leasing of public lands.

G. USE OF GUIDELINES FOR THE STATEWIDE PLANNING GOALS

Guidelines for most statewide planning goals are found in two sections-planning and implementation. Planning guidelines relate primarily to the process of developing plans that incorporate the provisions of the goals. Implementation guidelines should relate primarily to the process of carrying out the goals once they have been incorporated into the plans. Techniques to carry out the goals and plans should be considered during the preparation of the plan.

EXHIBIT 2

Development	County Zone	Permittable Use?	Type of Review	Additional Stds?[1]
Dredge Turning Basin	AD	Y – Permitted Use	Development Permit	3.754, S4.208, S4.232
	AC-2	N		
Dredge Material Disposal	MI	Y – Permitted Use	Development Permit	3.634, S4.200-S4.243
Fill Old Log Pond	AD	Y	Development Permit	3.754, S4.235
Site Grading	MI	Y	Development Permit	3.634, S4.200-S4.243
	AD	Y[2]	Development Permit	3.634, S4.200-S4.243
	AN	L – only if in conjunction with Review or Conditional Use	Development Permit	Dependant on associated project/structure
Relocate RR[3]	MI	Y	Conditional Use[4]	3.634, S4.200-S4.243
	AN	N		
Reconstruct/widen Hunt Cr Bridge	F-80	Y	Type IIA Conditional Use – upon Goal Exception to Ag and Forestry Goals	3.557, S3.509, S6.000
	AN	Y	Review Use	3.810, S4.200-S4.243, S5.040-S5.051, S6.000
	MI	Y	Conditional Use	3.634, 4.200-4.243, S6.000
Widen Clifton Rd	F-80	Y	Conditional Use - upon Goal Exception to Ag and Forestry Goals	3.557, S3.509, S6.000
Temporary Construction Parking	F-80	N		
Tanks & Associated upland structures	MI	Y	Development Permit	3.634, S4.200-S4.243
Ship Berthing Facility	AC-2	N		
	AD	Y	Development Permit	3.754, S4.200-S4.243
Piling	AC-2	N		
	AD	Y	Development Permit	3.754, S4.200-S4.243
Waste Water	AD	Y	Conditional Use	3.754, S4.200-

[1] Additional standards may apply in addition to those listed in this table
[2] A zone change for the old log pond from AD to MI will be required upon filling, per Comprehensive Plan policies
[3] It appears that the relocated rail line will be in both the MI and AN zones
[4] Land Transportation Systems are a Conditional Use in the MI zone, Marine railway facilities are listed as a Permitted Use. The relocated rail, is not proposed for use by the LNG terminal facilities, therefore, it is more suitable to consider it a land transportation system than a marine railway facility.

Development	County Zone	Permittable Use?	Type of Review	Additional Stds?[1]
Outfall			Permit	S4.243
Power Lines	MI	Y	Development Permit	3.634, S4.200-S4.243
	F-80	Y	Type II Conditional Use Permit	3.557
Pipeline	AN	Y	Conditional Use	3.810, S4.200-S4.243, S5.860-S5.880
	F-80	Y	Type II Conditional Use	3.557
	MI	Y	Development Permit	3.634, S4.200-S4.243

CREST
Columbia River Estuary Study Taskforce

Exhibit 3

DATE:	May 23, 2006 & Updated June 20, 2006
TO:	Kathleen Sellman, Clatsop County CDD Director
CC:	Patrick Wingard, Senior Planner
FROM:	Catie Fernandez, Coastal Planner
SUBJECT:	Comments to Northern Star's Draft Dredged Material Placement and Management Plan

Northern Star Natural Gas (NSNG) has submitted a draft Dredged Material Placement and Management Plan to FERC as part of the NEPA pre-filing process. CREST staff has reviewed the draft document on behalf of the County and prepared the following summary and comments.

First, it is understood that the Dredged Material Placement and Management Plan is a draft and subject to further revisions. Additionally, should the County desire, the comments may be provided to the State of Oregon DOE as a coordinating agency or to FERC, as the County sees appropriate.

To summarize, the purpose of the NSNG's Draft Dredged Material Placement and Management Plan is to 1) define the project's dredging requirements (i.e. volume & area); 2) identify suitable methods; and, 3) identify suitable disposal locations.

NSNG will be seeking to dredge a turning basin in the Columbia River adjacent to the Bradwood site that can accommodate LNG ship operations. The dredge area is proposed to be approximately 58 acres with a depth of -43 feet (including overdredge allowance) for a total volume of approximately 681,000 cubic yards of material to be removed. Maintenance dredging requirements are estimated to be 150,000 cubic yards every five to ten years.

CREST has no comment regarding whether the dimensions are appropriate to accommodate LNG carriers. However, the issue as to whether the site is appropriately zoned remains unresolved. The location proposed to be dredged is zoned AC-2 (Aquatic Conservation-Two) and dredging is not a permitted use in this zone. More discussion regarding the process and appropriateness of rezoning, Comprehensive Plan Amendment and Goal Exceptions were provided to FERC by the County in previous comments to the draft terminal reports.

The NSNG Dredged Material Placement and Management Plan evaluates disposal options, including upland sites, open water placement, ocean disposal and beach nourishment. To summarize the Plan's conclusions, disposal at the existing Bradwood site is most desirable, although there may be capacity issues. Flow lane disposal, beach nourishment at Puget Island and filling of scour holes at locations such as Pancake Point and Welcome Slough in Wahkiakum County are considered potential options for disposal of excess materials that can not be accommodated at the Bradwood site.

CREST offers the following comments related to the disposal option analysis provided by NSNG. First, the capacity issue at the existing Bradwood site should be clarified. The Columbia River Dredged Material Management Plan (DMMP), which is adopted into the County's Comprehensive Plan identifies that the Bradwood Disposal Site (aka O-38.9) has a capacity of 420,000 cubic yards. The DMMP identifies that the site has already received materials, over ten years ago, but does not include a volume. Further, the DMMP notes that the capacity figure is the approximate cubic yard volume of the site based on surface area and disposal height. Therefore, with more analysis, NSNG may find there is capacity greater than or less than the 420,000 cubic yards identified in the DMMP. Upon construction of a terminal at the Bradwood site, NSNG will need to find alternate disposal sites for maintenance dredging.

In general, keeping sediment in the system for beneficial uses such as filling scour holes is positive. The NSNG plan makes the statement that, "The lower Columbia River is sediment deficient because upstream dams limit downstream movement of sediment. Consequently, addition of sediment in the lower Columbia River can benefit the environment". This statement could be supported by more substantial analysis, as the "sediment deficiency" issue has as much to do with how the sediment is distributed and its effects on habitat as the fact that less is being delivered from upriver sources.

Finally, a note about the dredging activity. It is understood that this report is primarily an analysis of disposal sites; however, additional hydrological studies commissioned by NSNG should address impacts associated with creation of the turning basin.

If you have any questions about the above comments or wish to discuss them in greater detail, please feel free to contact me.

CREST
Columbia River Estuary Study Taskforce

Exhibit 4

DATE: July 3, 2006

TO: Kathleen Sellman, Clatsop County CDD Director

CC: Patrick Wingard, Senior Planner

FROM: Catie Fernandez, Coastal Planner

SUBJECT: Addendum to Comments to Northern Star Natural Gas proposal to the Federal Energy Regulatory Commission for a liquid natural gas terminal at Bradwood.

This memo includes comments relating to the Bradwood Landing Resource Report 2, Water Use and Quality. Specifically, CREST has reviewed Resource Report 2 as it relates to wetland and wetland mitigation information.

In 2003, CREST prepared a wetland delineation at the Bradwood site for use by Clatsop County. This delineation received concurrence from Oregon Division of State Lands (DSL). CREST staff is familiar with the site wetlands and offers comments to Resource Report 2 based on this experience. The CREST wetlands delineation was utilized as one source of data by Bradwood Landing LLC/Northern Star Natural Gas in preparation of Resource Report 2.

General Comments: Compensatory Mitigation
A general overview was provided about the diversity of wetland classes in the area along with conceptual mitigation ideas. However at this time, it is difficult to provide comments without any specific details on what the actual mitigation activities will entail. This includes appropriate compensation for actual ecological function lost for each wetland type impacted by construction activities and the facility footprint itself. The resource report is correct in stating that this level of articulation will take place in the Joint Removal-Fill permit application. Estimates of acreages of each wetland type are given, but it would be valuable to articulate the approach to mitigate each wetland type at this juncture. For example, for estuarine wetland habitat types, applying HGM methods for tidal wetlands would be an appropriate framework to properly assess the functions associated to these unique wetlands. As the applicants are probably aware guidance has been developed by the State of Oregon for tidal wetlands that can be used to fit the specifics of this project.

Specific Comments: Compensatory Mitigation
The calculations given for required wetland mitigation ratios are not correct. What was provided are the ratios for freshwater wetlands. Given for the types of wetlands impacted by the project it is assumed that both freshwater and Estuary mitigation ratios would be applied using existing guidance. (OAR 141-085-0240 thru 0257).

Railroad Relocation:
The 30 foot buffer between the railroad tracks and Hunt Creek is not sufficient to comply with existing land use ordinance for Clatsop County (CLATSOP COUNTY STANDARDS DOCUMENT ORDINANCE 80-14, S4.237) According to Clatsop County standards, a minimum of 50 is required from non-aquatic vegetation. If this buffer cannot be feasibly accomplished because of construction activities, consultation with County staff should be conducted to develop a means to mitigate this impact.

We hope that the above information is helpful to you as you review this project. If you have any questions, or require any additional information, please feel free to contact CREST staff by phone or email.

Clatsop County

TO: Kathy Selman, Director of Community Development

FROM: Ed Wegner, Director of Public Works

DATE: June 27, 2006

RE: Comments on Bradwood Landing Proposal

ATTACHMENT 2

1100 Olney Avenue
Astoria, Oregon 97103

Public Works
Department

Phone (503) 325-8631
Fax (503) 325-9312

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DEPT. OF PLANNING AND DEVELOPMENT
CLATSOP COUNTY

- Traffic and transportation issues have not been resolved as of this date
- Information discussed to date is incomplete
- We are awaiting the required Traffic Impact Study and Traffic Management Plan
- Clatsop County Public Works and Community Development has not seen a complete plan for the proposed parking lot - issues remain unresolved
- Clatsop County anticipates Bradwood Landing to be responsible 100% of mitigation caused by or due to the project
- Bradwood LNG and Clatsop County have not yet agreed as to needed actions to take place on Clifton Road to become suitable for this construction traffic
- Bradwood Landing needs to address how local residents will have access to driving Clifton Road during construction phase
- Bradwood Landing will need to restore Clifton Road back to County standards or agreed upon improvements at the end of the construction period
- All traffic management plans will be reviewed in a public meeting with the residents before the County approves plan
- All involved emergency services agencies will need to review traffic management plan and make recommendation, i.e., Fire Department, Sheriff Office, Ambulance Service

Once the Traffic Impact Study and proposed Traffic Management Plan is presented to the County, we would request reserving comment of our specific concerns until that time.

Bradwood Landing Needs to Address:

Clatsop County Sheriff Tom Bergin would like to register concerns about the increased volume of large truck traffic on US 30 from Astoria to the Svensen intersection. His concerns are the curves and no alternative route for detour if a major accident was to occur.

RECEIVED
JUN 27 2006
DEPARTMENT OF ENERGY

CITY OF ASTORIA
OFFICE OF THE CITY MANAGER

June 26, 2006

Ms. Cathy Van Horn
Energy Facility Analyst
Oregon Department of Energy
625 Marion Street, NE
Salem OR 97301-3737

RE: Bradwood Landing LLC and Northern Star Energy LLC

Dear Ms. Van Horn:

Enclosed are the comments the City of Astoria would like included the State of Oregon's submittal to the Federal Energy Regulatory Commission (FERC). Thank you for your assistance in this matter.

Sincerely,

THE CITY OF ASTORIA

Paul Benoit
City Manager

PB:jl
Enclosure

C:\MANAGER\CORRES\VAN HORN LTR 6-26-06.DOC

CITY HALL • 1095 DUANE STREET • ASTORIA, OREGON 97103 • (503) 325-5824 • FAX (503) 325-2017
Founded 1811

CITY OF ASTORIA
OFFICE OF THE CITY MANAGER

June 26, 2006

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Lt. Shadrack L. Scheirman
United States Coast Guard
Sector Portland, OR
6767 N. Basin Ave.
Portland, OR 97217

RE: Bradwood Landing LLC
Docket No. CP06-365-000

Northern Star Energy LLC
Docket Nos. CP06-366-000
CP06-376-000
CP06-377-000

RE: Northern Star Natural Gas LLC
Docket No. CGD13-05-017

Dear Secretary Salas and Lieutenant Scheirman:

Please accept these comments filed by the City of Astoria, Clatsop County, Oregon in the above-referenced dockets.

The City of Astoria, Oregon is a municipality consisting of approximately 10 square miles in geographic jurisdiction located near the mouth of the Columbia River. Astoria is the largest city in Clatsop County with a year round population of 10,000. However, proposed development plans could increase our residential population to over 13,000 in the next several years. During the summer and early fall our tourism population increases considerably and that is likely to continue with the development of additional tourist attractions.

Included within or immediately adjacent to Astoria are a diverse number of private and critical government occupancies. Among these are Fort Stevens (Oregon's largest State Park), Astoria Regional Airport (Clatsop County's only commercial airport), Camp Rilea Armed Forces Training Center (Oregon's largest active military reservation), Columbia Memorial Hospital (the region's major healthcare facility), a 100-bed juvenile corrections facility, the Tongue Point Job Corps (supporting more than 500 students),

two major recreational and commercial fishing boat mooring basins, a commercial port, and various Coast Guard facilities.

Astoria and the greater Astoria area also has a variety of commercial and industrial establishments. Traditionally our industries have been fish and lumber related, but the largest employee base is service oriented, including government agencies and healthcare. Industrial examples include Bornsteins Seafood, a major fish processing plant, and Weyerhaeuser, the only major lumber mill in northwest Oregon. All of these major employers are located directly on or within a few hundred yards of the Columbia River.

Public Safety is provided by local police and fire departments. The Astoria Police Department is comprised of sixteen full-time officers and several reserve officers, who are responsible for twenty-four hour protection of the City's ten square mile area. The Astoria Fire Department consists of twelve full-time personnel, fifteen volunteer firefighters and five response vehicles. The Fire Department's service area is approximately twelve square miles and includes the numerous facilities noted above. The City has no marine law enforcement and limited marine firefighting capability.

The City has very limited funding resources available for public safety services. It relies on limited property tax revenues that are used primarily for personnel expenses. In recent years most public safety equipment purchases have depended on grants and loans.

The City's public safety responsibility extends for approximately seven miles along the southerly bank of the Columbia River beginning at approximately Buoy 31 then continuing eastward past Buoy 41. The Columbia River shipping channel defines the northern City limits and parallels the City for seven miles from the City of Warrenton past Tongue Point. Consequently, the City is directly and significantly impacted by the proposed vessel transits carrying liquefied natural gas ("LNG") to the proposed Northern Star Natural Gas LLC ("NSNG") facility at Bradwood Landing, located at approximately river mile ("RM") 38 upstream.

Astoria is the second municipality potentially impacted once the LNG Carrier enters the Columbia River. City representatives have had several meetings with the LNG project consultants and officers concerning the City's safety and security concerns as required by Section 311(d) of the Energy Policy Act of 2005. We respectfully request that City officials continue to be directly engaged in development of the required Emergency Response Plan and Waterway Suitability Assessment.

Specifically, because the Shipping Channel is located very close to the southwestern and southern bank of the Columbia River, a significant portion of the City's geography and water resources are located within the Zones of Concern identified in the United States Coast Guard's Guidance on Assessing the Suitability of a Waterway for Liquefied Natural Gas (LNG) Marine Traffic, NVIC 05-05 (the "NVIC"). Within these Zones of Concern are many areas where people congregate outdoors, including the full length of

the River Walk trail, the downtown commercial district, the Columbia River Maritime Museum, the area of the East and West Boat Basins, the businesses at North Tongue Point, the Tongue Point Job Corps campus, the Clatsop Community College Marine Environmental Research and Training Station, and several residential neighborhoods. Each of these businesses and public areas are sufficiently close to the vessel transit route to warrant heightened safety and security measures. Additionally, the majority of Astoria's population of 10,000 actually resides within one-half mile of the Shipping Channel.

Because of the large geographic area that makes up the City's jurisdiction and responsibility, during periods of vessel transits, under current staffing plans and procedures, the City may not have adequate police and fire resources to cover its entire area of responsibility in a manner which the City Council deems appropriate. Therefore, it is critical that City officials be involved in development of vessel transit operational procedures and the statutorily required Emergency Response Plan designed to address safety and security concerns, not only at the terminal site itself, but also along the vessel transit route, which includes the City of Astoria.

With regard to specific comments to resource Report No. 11 (Reliability and Safety) dated February 27, 2006, in addition to the FERC staff comments dated April 27, 2006, we have the following additional comments:

- Tugboats: FERC seeks information concerning the number and type of tugboats and a plan providing dedicated tug service. We think that as part of that submittal that FERC and/or the USCG should require a minimum of two (2) dedicated tugs, each with firefighting capability, including a deluge system and/or water curtain for protection of tug operators so that they may safely approach an LNG fire at a distance where the water cannons will be effective. Additionally, the tugs should be adequate to pull a disabled LNG Carrier out of the mouth of the Columbia River, in appropriate situations, in the event of an incident within or near the City of Astoria's jurisdiction.

- Pilots: We believe that it is imperative for the safe navigation along the vessel transit route, and within the City of Astoria's jurisdiction, that built-in redundancy exists for measures designed to provide positive vessel control, including pilots. Therefore, we recommend that at least two Columbia Bar Pilots be present on the ship at all times when traveling between the sea buoy, along the Astoria coast, and through the jurisdictional limits of the City.

- Marine law enforcement: As noted, the City does not currently possess any marine law enforcement assets, which are needed to supplement the USCG escorts, especially within the City's jurisdictional waters. The City intends to investigate potential funding sources, including federal Port Security Grants and is in the process of discussing marine law enforcement options with its neighbor, the City of Warrenton, and the Port Commission of Astoria.

- Fire response training/equipment: As noted, the City's fire department is dependent upon full time and volunteer firefighters. In the event of an LNG incident along the vessel transit route, and within the City's jurisdiction, these firefighters will be called on to assist (or may be called to cover other incidents within the City). It is imperative that these firefighters receive substantial additional training for these added duties and commitments. Specifically, we recommend that FERC and/or the USCG require the project proponent to fund such specialized LNG emergency response training, such as that offered by Texas Engineering Extension Service, a member of Texas A&M System, including mutually-agreeable compensation for the time the City's firefighters and volunteer firefighters missing work to attend such training. The current fireboat owned by the Port of Astoria and operated by the fire department is out-of-service because of its aging condition (over thirty-five years). A fireboat would be needed to provide adequate protection for waterfront properties along with firefighting efforts of any vessel carrying LNG. A "deep draft" fireboat that accompanies vessels that also operates as a tug is not suitable for waterfront fire protection.

- Cost-sharing plan: At a minimum, the City expects it will be fully compensated for the additional costs associated with added police, fire, and emergency response personnel during LNG vessel transits. Given the extensive waterfront area open to the public where people assemble outdoors, the City anticipates the possibility of additional police and fire resources pre-stationed and "on alert" during the LNG vessel transits through the City limits for approximately 125 vessel calls per year (as estimated by NSNG). Police and fire officers may also be needed at the Command Center to coordinate any response. Additional equipment, including communications gear, capable of communicating with all relevant stakeholders and officials, additional fire turn-out gear, high expansion foam generating engine, mobile command center, etc may also be required.

The City asks for the opportunity to discuss its specific needs with appropriate personnel from FERC, USCG and NSNG, all of whom are charged with coordinating these requirements.

Thank you for the opportunity to comment. We look forward to further discussion and coordination on these issues.

Sincerely,

THE CITY OF ASTORIA

Paul Benoit
City Manager

Copy to: Northern Star Natural Gas LLC
Van Ness Feldman
Astoria City Council
Rob Deu Pree, Astoria Chief of Police
Lenard Hansen, Astoria Fire Chief
Cathy Van Horn, Oregon Department of Energy
State Fire Marshal
Port of Astoria
City of Warrenton
Clatsop County
Pacific County
Wahkiakum County
Representative David Wu
Governor Ted Kulongoski
Senator Gordon Smith
Senator Ron Wyden
Senator Betsy Johnson
Representative Deborah Boone
Columbia River Bar Pilots
Columbia River Pilots

"Making a difference through excellence of service"

CITY OF WARRENTON

RECEIVED
JUN 27 2006
DEPARTMENT OF ENERGY

June 23, 2006

Cathy Van Horn
Energy Facility Analyst
Oregon Department of Energy
625 Marion Street NE
Salem, Oregon 97301

Dear Ms. Van Horn:

Enclosed is a copy of a May 24, 2006 letter the Warrenton City Commission sent to the Federal Energy Regulatory Commission and the U.S. Coast Guard. It is regarding the Northern Star Natural Gas proposal concerning LNG vessel transits through the City of Warrenton.

It would be appreciated if you would include this letter in the Oregon Department of Energy's comments to FERC.

Thank you for your consideration. Please let me know if you have any questions.

Very truly yours,

Edward C. Madere
City Manager

Copy to: City Commission
Harold Snow, City Attorney
Ted Ames, Fire Chief
Robert Maxfield, Police Chief

P.O. Box 250 Warrenton, OR 97146-0250
503/861-2233 FAX: 503/861-2351

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CITY OF WARRENTON

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MAY 26 2006
DEPARTMENT OF ENERGY

May 24, 2006

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Northern Star Natural Gas LLC
Docket No. PF05-10-000

Lt. Shadrack L. Scheirman
United States Coast Guard
Sector Portland, OR
6767 N. Basin Ave.
Portland, OR 97217

Re: Northern Star Natural Gas LLC
Docket No. CGD13-05-017

Dear Secretary Salas and Lieutenant Scheirman:

Please accept these comments filed by the City of Warrenton, Clatsop County, Oregon in the above-referenced dockets. The Warrenton City Commission the duly-elected governing body for the City of Warrenton, authorized me, the Mayor, to make this filing at its regular public meeting on May 23, 2006.

The City of Warrenton, Oregon is a municipality consisting of approximately 18 square miles in geographic jurisdiction located at the mouth of the Columbia River. It is the most northwesterly City in Oregon. The former Town of Hammond is merged into Warrenton. The City's year round population is currently 4,300, however based on proposed development plans this is expected to increase to over 7, 000 in the next several years. The summer time population can exceed 10,000 because of recreation activities in the City.

Included within or immediately adjacent to Warrenton are a diverse number of private and critical government occupancies. Among these are Fort Stevens (Oregon's largest State Park), Warrenton-Astoria Regional Airport (Clatsop County's only commercial airport), Camp Rilea Armed Forces Training Center (Oregon's largest active military reservation), a 100 bed juvenile corrections facility, and two major recreational and commercial fishing boat mooring basins.

Warrenton also has a variety of commercial and industrial establishments. Businesses range from small mom and pop stores to Fred Meyer, Costco, and Walgreens. Industries tend to be fish and lumber related and employ many people from the community. Industrial examples include Pacific Coast Seafood, a major fish processing plant, and Weyerhaeuser, the only major lumber mill in northwest Oregon.

P.O. Box 250 Warrenton, OR 97146-0250
503/861-2233 FAX: 503/861-2351

Public Safety is provided by local police and fire departments. The Warrenton Police Department is comprised of eight full-time officers and several reserve officers, who are responsible for 24 hour protection of the City's 18 square mile area. The Warrenton Fire Department consists of two full-time personnel, 32 volunteer firefighters, and seven response vehicles. The Fire Department's service area is 28 square miles and includes the numerous facilities noted above. The City has no marine law enforcement or firefighting capability.

The City has very limited funding resources available for public safety services. It relies on limited property tax revenues that are used primarily for personnel expenses. In recent years equipment purchases have depended on grants and loans.

The City's public safety responsibility extends for approximately seven miles along the southerly bank of the Columbia River beginning at approximately Clatsop Spit (Buoy 14) then continuing eastward to Smith Point. Approximately four and a half miles of the Columbia River shipping channel from Hammond Marina east to the Astoria city limits are within the City of Warrenton. As such, the City is directly and significantly impacted by the proposed vessel transits carrying liquefied natural gas ("LNG") to the proposed Northern Star Natural Gas LLC ("NSNG") facility at Bradwood Landing, located at approximately river mile ("RM") 38 upstream.

Warrenton is the first municipality potentially impacted once the LNG Carrier enters the Columbia River. Until May 22, 2006, the City had not been contacted by anyone from the project proponent or any contractors acting on its behalf to engage in discussion concerning the City's safety and security concerns as required by Section 311(d) of the Energy Policy Act of 2005. Please see attached email.

We understand from the filings made by NSNG, including most recently the draft Resource Report No. 11 (Reliability and Safety), that selected officials from selected jurisdictions have been involved since August 2005 in discussions to develop the required Emergency Response Plan and Waterway Suitability Assessment. However, none of those officials represent Warrenton's interests or needs. Therefore, we respectfully request that City officials be directly engaged in development of the required Emergency Response Plan and Waterway Suitability Assessment.

Specifically, because the Shipping Channel is located very close to the southwestern and southern bank of the Columbia River, from the sea buoy to the jurisdictional limits of the City, a significant portion of the City's geography and water resources are located within the Zones of Concern identified in the United States Coast Guard's Guidance on Assessing the Suitability of a Waterway for Liquefied Natural Gas (LNG) Marine Traffic, NVIC 05-05 (the "NVIC"). Within these Zones of Concern are many areas where people congregate outdoors including essentially the entire route from Fort Stevens State Park, along the River Walk trail, in the area of Hammond Boat Basin and at Carruthers Park. Each of these public assembly areas is sufficiently close to the vessel transit route to warrant heightened safety and security measures.

Additionally, because of the large geographic area which makes up the City's jurisdiction and responsibility, during periods of vessel transits, under current staffing plans and procedures, the

City may not have adequate police and fire resources to cover its entire area of responsibility in a manner which the City Commission deems appropriate. Therefore, it is critical that City officials be involved in development of vessel transit operational procedures and the statutorily-required Emergency Response Plan designed to address safety and security concerns, not only at the terminal site itself, but also along the vessel transit route, which includes the City of Warrenton.

With regard to specific comments to resource Report No. 11 (Reliability and Safety) dated February 27, 2006, in addition to the FERC staff comments dated April 27, 2006, we have the following additional comments:

- Tugboats: FERC seeks information concerning the number and type of tugboats and a plan providing dedicated tug service. We think that as part of that submittal that FERC and/or the USCG should require a minimum of two (2) dedicated tugs, each with firefighting capability, including a deluge system and/or water curtain for protection of tug operators so that they may safely approach an LNG fire at a distance where the water cannons will be effective. Additionally, the tugs should be adequate to pull a disabled LNG Carrier out of the mouth of the Columbia River, in appropriate situations, in the event of an incident within or near the City of Warrenton's jurisdiction.

- Pilots: We believe that it is imperative for the safe navigation along the vessel transit route, and within the City of Warrenton's jurisdiction, that built-in redundancy exists for measures designed to provide positive vessel control, including pilots. Therefore, we recommend that at least two (2) Columbia Bar Pilots be present on the ship at all times when traveling between the sea buoy, along the Warrenton coast, and through the jurisdictional limits of the City.

- Marine law enforcement: As noted, the City does not currently possess any marine law enforcement assets which are needed to supplement the USCG escorts, especially within the City's jurisdictional waters. The City intends to investigate potential funding sources, including federal Port Security Grants and is in the process of discussing marine law enforcement options with its neighbor, the City of Astoria, and the Port Commission of Astoria, with which it already has Mutual Aid Agreements.

- Fire response training: As noted, the City's fire department is dependant upon volunteer firefighters, ordinary citizens who voluntarily agree to put their lives at risk to help their fellow citizens. In the event of an LNG incident along the vessel transit route, and within the City's jurisdiction, these volunteers will be called on to assist (or may be called to cover other incidents within the City). It is imperative that these volunteers receive substantial, additional training, and compensation for these additional duties and commitments. Specifically, we recommend that FERC and/or the USCG require the project proponent to fund such specialized LNG emergency response training, such as that offered by Texas Engineering Extension Service, a member of Texas A&M System, (see course descriptions) http://www.teex.com/teex.cfm?pageid=ESTIprog&area=ESTI&templateid=1536 including mutually-agreeable compensation for the time the City's volunteer firefighters miss work to attend such training.

200607065083 Received FERC OSEC 07/06/2006 05:05:00 PM Docket# CP06-365-000, ET AL.

- Cost-sharing plan: Although NSNG acknowledges its requirement to implement an appropriate cost-sharing plan, until May 22, 2006, the City had not been contacted to negotiate such a plan. At a minimum, the City expects it will be fully compensated for the additional costs associated with added police, fire, and emergency response personnel during LNG vessel transits. Given the extensive waterfront area open to the public where people assemble outdoors, the City anticipates the possibility of additional police and fire resources pre-stationed and "on alert" during the LNG vessel transits from the sea buoy to the Astoria-Megler bridge, and during the out-bound ballast voyages (which still contain LNG heel) for approximately 125 vessel calls per year (as estimated by NSNG). Police and fire officers may also be needed at the Command Center to coordinate any response. Additional equipment, including potentially communications gear, capable of communicating with all relevant stakeholders and officials, additional fire turn-out gear, high expansion foam generating engine, mobile command center, etc may also be required.

The City welcomes the opportunity to discuss its specific needs with appropriate personnel from FERC, USCG and NSNG, all of whom are charged with coordinating these requirements.

Thank you for the opportunity to comment. We look forward to further discussion and coordination on these issues.

Very truly yours,

Gilbert Gramson

Gilbert Gramson
Mayor

Copy to: Northern Star Natural Gas LLC
Van Ness Feldman
Oregon Department of Energy
State Fire Marshal
Port of Astoria
City of Astoria
Clatsop County
Pacific County
Wahkiakum County
Representative Wu
Governor Kulongoski
Senator Smith
Senator Wyden
Senator Johnson
Representative Boone
Columbia River Bar Pilots
Columbia River Pilots

Edward Madere

From: Gary Coppedge [grcoppedge@northernstar-ng.com]
Sent: Tuesday, May 23, 2006 12:06 PM
To: citymanager@ci.warrenton.or.us
Subject: Re: Emergency response plan

Edward,

I have left a message for you at the office, please call me when you get a chance.

The only issue I have with the letter is that it is now outdated. We would like to see the letter reflect that NSNG has contacted you and has promised to work closely with you. You may want to delay the letter being sent until we can develop a more official participation for you.

Please call me to discuss a few other items,
--
Gary Coppedge
VP Development
Northern Star Natural Gas
505-532-5000 office
505-649-4084 cell

> From: Edward Madere <citymanager@ci.warrenton.or.us>
> Organization: City of Warrenton
> Reply-To: <citymanager@ci.warrenton.or.us>
> Date: Mon, 22 May 2006 17:22:31 -0700
> To: 'Gary Coppedge' <grcoppedge@northernstar-ng.com>
> Subject: RE: Emergency response plan
>
> Mr. Coppedge
>
> Thank you for your email. Attached is a copy of the letter the City
> Commission is scheduled to consider at it May 23 meeting. Please let me
> know if you have any questions.
>
> Edward Madere
> City Manager
> City of Warrenton
> P.O. Box 250
> Warrenton, OR 97146
> 503-861-2233
>
> -----Original Message-----
> From: Gary Coppedge [mailto:grcoppedge@northernstar-ng.com]
> Sent: Monday, May 22, 2006 12:30 PM
> To: citymanager@ci.warrenton.or.us
> Subject: Emergency response plan
>
> Dear Mr. Madere,
>
> It was good speaking with you today. I appreciate the issues we discussed,
> and want to confirm with you that we will be including the following persons
> from the City of Warrenton in our Emergency Response Planning meetings that
> will be coming up later this summer.
>
> Chief of Police Robert Maxfield 503-861-2235 Fire Chief Ted Ames
> 503-861-2494 Edward Madere 503-861-2233 (tentative)
>
> Please feel free to contact me directly if you have any questions or

> concerns. Northern Star certainly recognizes that the City of Warrenton
> will play an important role in the Emergency Response Plan preparation,
> including the identification of resource gaps that may occur.
>
> I look forward to developing a proactive, positive relationship with your
> staff and Warrenton City leaders as we continue in our permitting process.
> We would be happy to give a project update to you at a time that is
> convenient for you.
>
> Thank you for your time,
>
> --
> Gary Coppedge
> VP Development
> Northern Star Natural Gas
> 505-532-5000 office
>
>

200607065083 Received FERC OSEC 07/06/2006 05:05:00 PM Docket# CP06-365-000, ET AL.

Submission Contents

Cover letter for Oregon's Safety Advisory Report
CoverLetter.pdf 1-1

Safety Advisory Report
safetyadvisoryreport.pdf 2-9

Attachment to Oregon's Safety Advisory Report from Clatsop County
clatsopcountyjuly6.pdf 10-40

Attachments to Oregon's Safety Advisory report from Warrenton and Astoria
BradwoodLandings.pdf 41-53