



Bradwood Landing LLC NorthernStar Energy LLC

Item No. C-1
September 18, 2008

Good morning Chairman Kelliher and Commissioners. The draft order in item C-1 authorizes the construction of the Bradwood Project, consisting of an LNG import terminal proposed by Bradwood Landing LLC and a sendout pipeline proposed by NorthernStar Energy LLC. The facilities would be located in Clatsop and Columbia Counties, Oregon and Cowlitz County, Washington.

Project Facilities

- LNG Terminal
 - two LNG storage tanks
 - peak send out of 1.3 Bcf/d
- Pipeline
 - 36.3 miles of pipe
 - two delivery points
 - two pipeline interconnections

As described in the draft order, Bradwood Landing is authorized to construct an LNG import terminal that would be used to store and vaporize up to 1.3 billion cubic feet per day of LNG. The terminal facilities would include a single marine berth capable of accepting current size and future generation LNG carriers; two LNG storage tanks capable of storing a total of 320,000 cubic meters, and seven vaporizers, as well as other infrastructure and support systems.

The draft order also authorizes NorthernStar to construct and operate a 36.3-mile-long send out pipeline from the LNG terminal, consisting of 30- and 36-inch-diameter pipe.

Bradwood Landing anticipates receiving up to 125 LNG carriers per year.

Project Location



As shown on this map, the Bradwood Landing LNG terminal site is located on the Columbia River 38 miles upstream of its mouth. The transit route of the LNG vessels is denoted by the purple line.

The NorthernStar pipeline, shown in blue, would deliver gas from the LNG terminal to Georgia-Pacific's Wauna paper mill located near Wauna, Oregon and to Portland General Electric's Beaver power plant located near Port Westward, Oregon. In addition, the NorthernStar pipeline would interconnect with Northwest Natural Gas Company's intrastate pipeline system and Northwest Pipeline Corporation's interstate system.

Public Involvement

- Two scoping meetings
- Three public site visits
- 21 interagency meetings
- Six comment meetings on the Draft EIS
 - Comment period extended to 120 days
 - Over 1,800 individual comments addressed in the final EIS

The staff's analysis of the Bradwood Project began with the initiation of the pre-filing process on February 23, 2005. Bradwood Landing and NorthernStar filed their applications 15 months later on June 5, 2006. Staff issued the draft Environmental Impact Statement (or EIS) on August 17, 2007.

During the environmental review period there were numerous opportunities for federal, state, and local agencies and the public to participate in the process. This included dialogs with staff at scoping meetings, interagency meetings, site visits that were noticed for public participation, and meetings to take comments on the draft EIS.

In response to concerns expressed by the public and elected officials, staff held additional scoping and draft EIS comment meetings in the project area. Further, the comment period on the draft EIS was extended from the normal 45 days to 120 days because of the Columbia River's unique aquatic issues.

The final EIS was issued on June 6, 2008 and addressed 1,827 individual comments received on the draft EIS.

Environmental Review

- Full range of alternatives examined
- 109 environmental conditions to mitigate impacts
 - 75 requiring review and approval prior to starting construction

As required by the National Environmental Policy Act, the EIS identified a full range of alternatives including renewable energy resources, various pipeline system alternatives, and twelve other potential LNG terminal sites. Each alternative was evaluated to determine whether it:

- was technically feasible;
- could provide comparable volumes of natural gas to Washington and Oregon; and most importantly
- offered a significant environmental advantage over the Bradwood Project.

None of the alternatives were found to meet all of the stated criteria and the objectives of the Bradwood Project.

The EIS evaluated the Bradwood Project using the Commission's high standards for engineering and safety, and analyzed appropriate mitigation to avoid or lessen environmental impacts.

The draft order adopts the recommendations of the EIS and includes 109 environmental conditions that must be implemented in order to ensure that the project results in limited adverse environmental impacts.

Among the issues addressed by the conditions are seismic and geologic hazards, impacts on wetlands, crossing of waterbodies, clearing of forest, and impacts on threatened and endangered species including salmon.

Of the 109 conditions, 75 require that Bradwood Landing and NorthernStar provide further site-specific information to the Commission for review and approval prior to construction. Neither construction nor operation of the facilities will be allowed to commence until all of the applicable conditions have been satisfied.

Safety and Security Review

- FERC staff review of process engineering and storage facility design
 - 53 conditions to enhance safety and operability of the facility
- U.S. Coast Guard review of safety and security of the Columbia River
 - 22 measures to ensure the safety and security of the facility and the waterway

As part of its application, Bradwood Landing provided a front-end-engineering design for the proposed project. This information was reviewed by staff engineers and consultants to assess the engineering design, safety concepts, and the projected operational reliability of the project.

As the Commission has done with each of the other LNG terminals that have been recently approved, this Order contains numerous conditions to ensure that appropriate features and modifications would be incorporated into the facility design to enhance the safety and operability of the facility. Of the 53 safety-related conditions for this project, 8 concern issues which must be addressed prior to any site preparation; 31 concern modifications that must be made prior to construction, and 6 must be completed prior to the commissioning of the terminal. At each step in the process, the Director of the Office of Energy Projects will ensure that these conditions are met before the facility is allowed to move to the next phase. In addition, there are 8 conditions that place requirements on the terminal operator for the life of the facility.

In conjunction with the Commission's review of the Bradwood Project, the Coast Guard Captain of the Port reviewed the proposal's effect on the safety and security of the Columbia River. The Coast Guard's Waterways Suitability Report identified 22 risk mitigation measures that are necessary to make the waterway suitable for LNG vessel traffic. These risk mitigation measures include safety and security zone requirements, vessel traffic management and information systems, tug escorts, navigational aids, security boardings, waterway monitoring, shoreline patrols, and vessel escorts. To ensure compliance with these and other measures the Coast Guard may deem necessary, the draft order contains a requirement that, throughout the life of the facility, Bradwood Landing must ensure that the facility and any LNG vessel transiting to and from the facility comply with all requirements set forth by the Coast Guard Captain of the Port.

Public Record

No. of pages in the public record	50,000+
No. of comments addressed in the final EIS	1,827
Processing time	Pre-filing 15 mos. Application 27 mos.

I would like to emphasize that the Commission staff conducted an exhaustive review in the EIS. Over a period of 42 months, an interdisciplinary team of Commission staff scientists and analysts worked to arrive at the draft order that is before you today. This work included the review of over 50,000 pages in the public record. The final EIS consisted of 2,089 pages.

Conclusion

- With the required mitigation:
 - **construction and operation of the project will have limited adverse environmental impact**
 - **the project will be constructed and operated in compliance with the highest engineering and safety standards**

The draft order adopts the conclusion in the EIS that the Bradwood Project, with the successful implementation of mitigation proposed by the applicants and required by the order, would result in limited adverse environmental impact.

Further, the draft order finds that the Bradwood Project can be constructed and operated in a safe and secure manner, and emphasizes that the Commission will only allow construction and operation to proceed after a thorough review of each phase of the process.

That concludes my presentation. The full project team is available to answer any questions. Thank you.