

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

The Forest Service has received an application from Lower Valley Energy (LVE) for a special use authorization to construct and operate a pressurized natural gas pipeline on lands administered by the Big Piney and Jackson Ranger Districts of the Bridger-Teton National Forest (BTNF). This proposed pipeline would bring natural gas service (processed and odorized gas) to the Jackson, Wyoming area from a location near Merna, Wyoming and would cross National Forest System (NFS) lands, State of Wyoming lands, and private lands in Sublette and Teton Counties (**Figure 1-1**).

About half of the 49.7-mile pipeline route (25.4 miles) would be located on NFS lands. The outside diameter of the new steel pipeline would be 6.625 inches and no larger. The anticipated operational pressure of the pipeline would range between 60 and 300 pounds per square inch (psi), with an average system pressure of around 200 psi. A 75-foot wide corridor and additional work areas along the route would be disturbed during construction activities and then reclaimed. An estimated 370 acres potentially could be affected by short-term disturbance during construction activities. A 20-foot-wide corridor directly overlying the pipeline and containing about 120 acres would be revegetated without trees or shrubs and used over the long term as a monitoring and maintenance corridor during pipeline operations.

1.2 DOCUMENT STRUCTURE

The Forest Service has prepared this Final Environmental Impact Statement (FEIS) for the Lower Valley Energy Natural Gas Pipeline Project (Proposed Action) in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. Design of the proposed project, including final route selection, a proposed gas processing facility, and plans for maintenance and monitoring along the pipeline route also are considered in the FEIS. This FEIS discloses the direct, indirect, and cumulative environmental impacts that would result from the Proposed Action or its alternative. The document is organized into six chapters, as follows, with appendices.

- *Chapter 1.0 Purpose of and Need for Action*, describes the purpose of and need for the Proposed Action, and discusses how the project relates to the Land and Resource Management Plan (Forest Plan) for the BTNF. This chapter also details how the Forest Service informed the public of the proposal, describes how the public responded, identifies the significant issues driving the Environmental Impact Statement (EIS) analysis, and lists applicable laws and regulations.
- *Chapter 2.0 Proposed Action and Alternatives*, describes and compares the Proposed Action and a No Action alternative, and summarizes their environmental effects. Alternatives to the proposed action that were considered, but not analyzed in detail, are presented along with the rationale for dropping each of them from the analysis.
- *Chapter 3.0 Affected Environment*, describes the physical, biological, and human environments potentially affected by the Proposed Action and No Action alternatives.
- *Chapter 4.0 Environmental Consequences*, describes the potential effects of the Proposed Action and No Action alternatives.
- *Chapter 5.0 Consultation and Coordination*, contains information on consultation and coordination that occurred as part of the project, provides a list of preparers, and also contains information on the distribution of the FEIS.
- *Appendices* include references, a glossary, acronyms and abbreviations, design criteria, conservation easements, biological evaluation, response to DEIS comments, and an index.
- A *Summary* is located at the front of this FEIS.

The interdisciplinary team (IDT) used a systematic approach for analyzing the proposed project and its alternative, estimating the environmental effects, and preparing this FEIS. The process complies with NEPA and the Council on Environmental Quality (CEQ) regulations. Project planning was coordinated with the appropriate federal, state, and local agencies, and local federally recognized tribes. Copies of the FEIS may be obtained at the Big Piney Ranger District office in Big Piney or the Jackson Ranger District office in Jackson. Additional documentation, including more detailed analyses of project-area resources, is available for public review and may be obtained from the District Ranger in Big Piney.

1.3 PROJECT AREA AND GEOGRAPHIC BOUNDARIES

The Project Area for the LVE Natural Gas Pipeline Project is located in Sublette and Teton Counties, Wyoming along the proposed pipeline route from the Merna area to Jackson, a distance of 49.7 miles. The major portion of the Project Area is within Sublette County, with the remainder in Teton County. The Project Area encompasses lands within one mile of the proposed pipeline route and contains 63,767 acres (refer to **Figure 2-1** in Chapter 2), including 40,184 acres of NFS lands, 1,534 acres of lands managed by the Bureau of Land Management (BLM), 1,364 acres of State-owned lands, and 20,685 acres of privately owned lands. Although BLM lands are included in the Project Area, no lands managed by BLM would be crossed by the pipeline. Decisions related to the proposed project are limited to NFS lands.

The proposed pipeline would parallel existing roadways managed by the Wyoming Department of Transportation (WYDOT) and utility corridors for most of its proposed route. The pipeline would traverse Camp Creek Saddle, Hoback Canyon, the Hoback Basin area along and near the Hoback River, and Fisherman Creek. It would cross portions of the following townships: Township 36 North, Range 112 West; Township 37 North, Ranges 111, 112, and 113 West; Township 38 North, Ranges 113, 114, and 115 West; Township 39 North, Ranges 115 and 116 West; and Township 40 North, Range 116 West; Sixth Principal Meridian.

In most places, the proposed pipeline would be located along, but just outside, the narrow highway corridor managed by WYDOT. The pipeline route would encroach on the highway corridor in many locations along Hoback Canyon and would be outside the highway corridor as it crosses Camp Creek Saddle east of Hoback Junction. Although the Project Area contains Gros Ventre Wilderness lands within one mile of the proposed pipeline, the proposed pipeline route does not cross any designated wilderness.

1.4 BACKGROUND

The Forest Service has received an application from LVE for a special use authorization to construct and operate a pressurized natural gas pipeline on lands administered by the Big Piney and Jackson Ranger Districts of the BTNF. This application includes information on LVE's technical and financial ability to construct and operate the pipeline. This pipeline would bring natural gas service (processed and odorized gas) to the Jackson, Wyoming area from a location near Merna, Wyoming. Long-term supplies of natural gas to meet the needs of LVE's customers in the Jackson area are available in northern Sublette County.

The current gas supply for LVE's distribution system is a liquid natural gas (LNG) facility located adjacent to its Jackson, Wyoming office. Tanker trucks currently transport LNG from the Shute Creek facility, located south of La Barge, Wyoming, to LVE's facility. Delivery of LNG to the Jackson area requires that trucks travel approximately 120 miles (one way) on public highways (U.S. Highways 287/191/26 and 89/191) on a daily basis. From 2000 to 2003, the number of round trips by tanker trucks steadily increased from 392 to 492 round trips per year. Approximately 665 round trips per year by tanker trucks are projected by 2010. Each tanker truck carries approximately 10,000 gallons of LNG, which is equivalent to approximately 830,000 standard cubic feet (cf) of natural gas.

Figure 1-1 Project Location

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In addition to LNG, residences and businesses in the Jackson area also rely on a variety of energy resources. The principal energy source for the Jackson area is hydropower from the Pacific northwest (AllJacksonHole 2007, Jackson Hole News & Guide 2005). Other energy sources include coal-burning power plants near Rock Springs and elsewhere, wind power from the Foote Creek Wind Project between Laramie and Rawlins, hydropower from the Strawberry Creek Reservoir in the Star Valley, liquid propane (LP), fuel oil, wood burning, and solar power. LP and fuel oil are also trucked into the Jackson area from other areas in Wyoming.

Most of the proposed pipeline route is located along public highways that serve as a regional transportation corridor and have been designated as a national scenic byway. Primary uses of adjacent lands are recreation, wildlife habitat, agriculture, including irrigated hay fields, livestock grazing, and scattered ranch and residential structures. Important wildlife habitat, including two State-owned elk feedgrounds, Forest Service campground facilities, and the small community of Bondurant are located along the proposed pipeline route. A portion of the proposed route parallels the Hoback River. The scenic and natural characteristics of the Hoback River have been recognized as eligible for inclusion in the Wild and Scenic Rivers System as a Recreation River. A portion of the proposed route through the Hoback Canyon is just outside the Gros Ventre Wilderness.

1.5 PURPOSE OF AND NEED FOR ACTION

National Energy Policy to support a 21st century quality of life involves ensuring reliable energy and a clean environment by modernizing conservation and infrastructure, increasing energy supplies, including renewables, accelerating the protection and improvement of the environment, and increasing energy security (National Energy Policy Development Group 2001). According to the Transportation Research Board (TRB), transportation of energy fuels via transmission pipelines is safer than transportation via other modes, but a significant failure can result in loss of life, personal injury, property damage, and environmental damage (TRB 2004).

The importance of fuel diversity in supplying the nation's long-term energy needs has been explained by the Edison Electric Institute, the association of electric companies owned by shareholders. No single fuel is capable of providing enough energy for all of the U.S. needs. Using a variety of fuels, including coal, nuclear energy, hydropower, natural gas, and renewable energy resources, while enhancing efficiency and conservation, helps protect consumers and national security from fuel shortages or disruptions, price fluctuations, and changes in regulatory practices. A diverse fuel mix also takes advantage of regional differences in fuel availability and capitalizes on abundant natural resources in the U.S. By addressing challenges that limit the development and viability of fuel sources, the U.S. can enjoy an affordable and reliable supply of energy in the future (Edison Electric Institute 2005).

The purpose of and need for the Lower Valley Energy Natural Gas Pipeline Project is sixfold: 1) enhance the diversity of fuels available in Jackson by providing a steady supply of natural gas to the Jackson area; 2) use an economical supply of natural gas that has been developed nearby, in northern Sublette County, to meet the needs of LVE's customers in the Jackson area; 3) modernize the energy supply infrastructure in western Wyoming by installing a natural gas pipeline which would eliminate 500 or more round trips per year by tanker trucks along public highways; 4) improve the environment by reducing the effects on air quality from tanker truck emissions; 5) improve the protection of the environment, including scenic, recreational, fisheries, and wildlife values in Hoback Canyon, by using a pipeline which is less likely than a tanker truck to have an incident occur that could cause environmental damage; and 6) potentially reduce the risk of a wildland fire start associated with an incident related to the delivery of natural gas to Jackson.

The closest location to Jackson where long-term supplies of natural gas are available to meet the needs of LVE's customers is in northern Sublette County. Use of gas that is being produced in nearby Sublette County to supply Jackson would support the local economy, require a shorter pipeline to deliver the gas to Jackson, and take advantage of fuels available nearby. A connection to an existing gas pipeline in the SW1/4NW1/4 of Section 34, T.36N. R.112W. would give LVE the ability to provide gas directly to the Jackson area from producing fields near Merna or farther south in Sublette County.

The proposed pipeline would eliminate the need for 500 or more round trips per year by tanker trucks across more than 10 miles of NFS lands in Hoback Canyon that are managed to emphasize river and scenic recreation experiences and wildlife values. Commercial hauling of LNG across NFS lands managed for recreation experiences and wildlife values is not supportive of the Forest Plan management emphasis on protection from activities that could diminish or change any scenic, recreational, fisheries or wildlife values that make the river eligible for designation as a Recreation River under the Wild and Scenic Rivers Act.

Natural gas transmission pipelines are acknowledged to be a safer transportation method for natural gas than tanker trucks carrying LNG, based on Office of Pipeline Safety and Department of Transportation statistics analyzed by the Congressional Research Service (CRS) of the Library of Congress. The safety and security of oil and gas pipeline systems in the U.S. have been summarized by the CRS (2004, 2007).

Tanker trucks traveling on mountain or canyon highways in the western U.S. are frequently involved in crashes that cause injury, death, and damage to property and the environment. Some crashes have involved fires, and one crash in Spain in 2002 involving a tanker truck resulted in a serious boiling liquid expanding vapor explosion or BLEVE (CH-IV International 2006). A number of recent crashes of tanker trucks carrying LNG are recounted in various sources (Christian Science Monitor 2006, San Francisco Chronicle 2007, Boston Globe 2006). A 1980's test of a pool fire involving 10,000 gallons of LNG, the amount of LNG transported in one tanker truck, generated a cone-shaped fire 60 feet in diameter and 250 feet high (Daily Astorian 2007). Continued reliance on transport of LNG along public highways also could leave the Jackson area vulnerable to occasional interruptions in supply when rockfalls, slides, or avalanches make highways impassable. Protection of scenic, recreational, fisheries or wildlife values that make the Hoback River eligible for designation as a Recreation River would be enhanced by reducing the need for commercial hauling of LNG along public highways. In addition, the potential for sabotage of various LNG transportation and storage facilities by terrorists is being increasingly considered (GAO 2007, Christian Science Monitor 2006).

The goals and objectives of the Forest Plan approved in 1990 guide all management on the BTNF. The purpose and need for the proposed pipeline responds to Forest Plan Goal 1.1 - Communities continue or gain greater prosperity, and directly supports Goal 1.1 (i) Help utilities provide services. Forest Plan Goal 1.1 supports Forest Challenge: Support Community Prosperity, which is associated with Problem Topic 1: Community Economics and Jobs from the Bridger-Teton National Forest – Competition for Resources.

1.6 PROPOSED ACTION

A pressurized natural gas pipeline would be constructed, operated, and maintained by LVE to bring natural gas service (processed and odorized gas) to the Jackson, Wyoming area from a tie-in to an existing pipeline near Merna, Wyoming. The outside diameter of the new steel pipeline would be 6.625 inches and no larger. The anticipated operational pressure of the pipeline would range between 60 and 300 pounds per square inch (psi), with an average system pressure of around 200 psi. The pipeline would be designed, constructed, and operated in accordance with federal and state regulations that assure safety in design, construction, inspection, testing, operation, and maintenance of natural gas pipeline facilities.

The proposed project would deliver processed and odorized natural gas to the Jackson area for distribution. The maximum allowable operating pressure (MAOP) of the pipeline would be 1,440 pound-force per square inch gauge (psig), a unit of measure to indicate the pressure on a surface. The design of the pipeline is based on using higher standard materials to increase the safety factor for the pipeline, because it would be installed near a community (Bondurant), two Forest Service campgrounds, and a highway. Because of the design materials selected to enhance public safety, the pipeline would have the technical capability of operating under pressures higher than needed to deliver the anticipated volumes of natural gas to Jackson (currently estimated to be up to 3 million standard cubic feet per day). The proposed pipeline would tie directly into LVE's facility in Jackson. The existing LNG facility located adjacent to LVE's Jackson, Wyoming office would be maintained as a backup gas supply system, requiring fewer than 50 round trips per year by tanker trucks to maintain LNG storage bullets.

The proposed pipeline would be located on NFS lands, State of Wyoming lands, and private lands. About half of the 49.7-mile pipeline route (25.4 miles) would be located on NFS lands. A 75-foot wide corridor and additional work areas would be disturbed during construction activities and then reclaimed. About 370 acres potentially could be affected over the short-term during construction activities. A 20-foot-wide corridor directly overlying the pipeline and containing an estimated 120 acres would be revegetated without trees or shrubs and used over the long-term as a monitoring and maintenance corridor during pipeline operations.

A small gas processing facility (Rim Station) would be constructed on private lands in the vicinity of U.S. 189/191 near the southern end of the pipeline route in Section 24, T. 36 N., R. 112 W. This facility would occupy a small site, less than 1 acre in size. It would be designed using best available control technology (BACT) and would include a glycol dehydration unit and a small natural gas-fired air compressor to inject air into the gas stream. The gas would be odorized at this location so that LVE customers along the pipeline route can receive gas that is ready for use. Once the gas is odorized and ready for delivery to customers, raw, unprocessed gas could not be added to the pipeline directly from a well tie-in.

Existing public roads and private roads would provide access to the pipeline construction corridor. No temporary or permanent roads would be constructed in association with the proposed pipeline. Improvements, upgrades, or modifications to existing roads would not be required for construction of the project. In locations where the pipeline route deviates from existing road corridors, personnel, equipment, and materials would be transported along the pipeline construction corridor.

About 4 acre-feet would be withdrawn from the Hoback River or obtained from another source within the Hoback River watershed for dust abatement, and 2 acre-feet would be withdrawn from the Hoback River or obtained from another source within the Hoback River watershed for hydrostatic testing. An estimated 150 to 200 workers would be needed to install the pipeline and ancillary facilities over six months.

1.7 DECISION FRAMEWORK

This Lower Valley Energy Natural Gas Pipeline Project EIS is not a decision document, however, it is the specific decision-making tool for the proposed special use authorization. The EIS provides the linkage between the management of special uses on NFS lands, as specified in the Forest Plan, and requirements established by NEPA to consider and inform the public when making decisions on federal actions.

The analysis will identify project design features at specific project locations, best management practices (BMPs), and mitigation and monitoring that will be used to manage impacts of the proposed project. The responsible BTNF officials will use this information to make decisions related to the proposed project. The decision, which will be based on this analysis, is whether a special use authorization will be issued to

LVE to construct and operate a natural gas pipeline on NFS lands occurring between a tie-in location to an existing pipeline in the Merna area and Jackson. The decision will include mitigation measures identified as being needed during this analysis in addition to any prescribed in the Forest Plan. This decision will be documented in the Record of Decision for the Lower Valley Energy Natural Gas Pipeline EIS. If the decision that is made would require an amendment to the Forest Plan, the analysis and documentation for the amendment will be included. The decision will be subject to appeal in accordance with Title 36 of the Code of Federal Regulations (CFR) Part 215.

The Deciding Officials for this project are Greg Clark, District Ranger, Big Piney Ranger District, P.O. Box 218, Big Piney, Wyoming 83113 and Dale Deiter, District Ranger, Jackson Ranger District, P.O. Box 1689, Jackson, Wyoming 83001.

1.8 MANAGEMENT DIRECTION AND RELATIONSHIP TO OTHER PLANS AND DOCUMENTS

The enabling authorities for the Forest Service are contained in many laws enacted by Congress and in regulations and administrative directives that implement these laws. The major laws (as amended) relevant to this project include the Organic Act (1897), Weeks Law (1911), Multiple-Use Sustained-Yield Act (1960), National Environmental Policy Act (1969), Forest and Rangeland Renewable Resources Planning Act (1974), and National Forest Management Act (1976).

Forest Plans prepared and revised in accordance with the National Forest Management Act (NFMA) provide the basic framework for the management of National Forests. Within each Forest Plan, management direction for the Forest is established and standards and guidelines for activities are defined. In a manner similar to local government zoning, Forest Plans prescribe a management emphasis for all portions of the Forest (**Figure 1-2**). Because no single acre in the Forest can serve all uses at once, the Forest Plan allocates different emphases to different areas of the Forest, based on the land's capabilities. All uses of the Forest must be consistent with the Forest Plan.

CEQ regulations (40 CFR 1502.20) direct agencies preparing EISs to avoid repeating decisions and analysis done in broad-level, programmatic NEPA documents, such as Forest Plans and associated EISs. Instead, agencies are instructed to simply reference them in a process called “tiering.” The goals and objectives of the Forest Plan guide all management on the BTNF and this analysis tiers to the Forest Plan and its accompanying EIS, approved in 1990. The 63,767-acre Project Area includes 48,018 acres within the National Forest boundary and 15,749 acres outside the National Forest boundary. NFS lands (40,184 acres) are included within the boundaries of the following Management Areas (MAs):

- MA 21 Hoback Basin (21,000 acres)
- MA 22 Cliff Creek (1,097 acres)
- MA 23 Upper Hoback (94 acres)
- MA 41 Jackson Hole South (6,065 acres)
- MA 47 Granite Creek (890 acres)
- MA 49 Willow Creek (7,832 acres)
- MA 72 Upper Green River (438 acres)
- Gros Ventre Wilderness (2,769 acres)

Figure 1-2 Forest Plan Management Guidance

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Desired Future Condition (DFC) areas, established within the Forest Plan, guide the management of Forest resources. Forest plan management direction is to achieve the DFC established for an area. The project area contains the following DFCs:

- DFC 2A – unroaded areas managed for quiet, almost primitive recreation experience.
- DFC 2B – areas managed for motorized recreation experience.
- DFC 3 – areas managed for river and scenic recreation experiences, with little evidence of development and protection from activities that could diminish or change the free-flowing characteristics, water quality, or scenic, recreational, fish and wildlife, and other values that make the river eligible for designation.
- DFC 9A – areas managed for campgrounds, other non-commercial uses, and Forest Service administrative sites, including related roads and sites.
- DFC 10 – areas managed for some resource development while having no adverse and some beneficial effects on wildlife.
- DFC 12 – areas managed for high quality wildlife habitat, escape cover, and dispersed recreation.

1.9 PUBLIC INVOLVEMENT

Public scoping for the Lower Valley Energy Natural Gas Pipeline Project was conducted during July and August 2004. A public scoping notice for the proposed project was mailed to a list of interested and affected parties on July 9, 2004. A Notice of Intent to Prepare an Environmental Impact Statement (NOI) was published in the Federal Register on July 16, 2004. A legal notice that described the proposed project was published in the Casper Star Tribune on July 16, 2004.

An advertisement that contained information about the proposed project and the public open houses was published in the following local newspapers: Jackson Hole News and Guide on July 14, 2004; Kemmerer Gazette on July 15, 2004; Pinedale Roundup on July 15, 2004; Rock Springs Rocket Miner on July 15, 2004; Star Valley Independent on July 15, 2004; Sublette Examiner on July 15, 2004; and Planet Jackson Hole on July 16, 2004. An informational flyer was posted at post offices in Bondurant, Wyoming (82922) and Hoback Junction and Jackson, Wyoming (83001).

Public open houses were held on July 19, 2004 at the Teton County Library auditorium in Jackson and July 20, 2004 at the Bondurant elementary school. The purpose of the open houses was to explain the project and solicit comments from the public. Representatives from the Forest Service and LVE attended both open houses and visited with 20 people who signed in at the Jackson meeting and 13 people who signed in at the Bondurant meeting. Four public comment forms were submitted at the open house in Jackson. No written comments were submitted at the open house in Bondurant.

After the open houses were held, a total of 17 written comments, including letters, public comment forms, and emails were received from 16 different parties before the Draft Environmental Impact Statement (DEIS) was issued, offering comments and potential issues for the proposed project. One individual submitted two separate public comment forms. Two parties provided their comments by telephone.

The DEIS released for public review in June 2006. A Notice of Availability was published in the Federal Register on July 3, 2006 and an amended notice was published in the Federal Register on July 14, 2006, extending the end of the comment period to August 25, 2006. A total of 16 written comments were received on the DEIS, 3 from federal agencies, 4 from state agencies, 1 from local government, 3 from organizations, and 5 from individuals. **Appendix G** contains a summary of the comments received, responses to the comments, and copies of the comments submitted by agencies.

1.10 ISSUES

Issues were identified using two sources: internal Forest Service review and the comments received during external scoping. Not all comments led directly to issue development. For example, comments expressing general support for the project were not used to develop issue statements. Issues identified will be addressed in the following ways: formulation of alternatives; design criteria for the project; mitigation measures applied to alternatives; and analysis of alternatives. No issues were found to be beyond the scope of the analysis or not relevant to the project.

Significant issues were defined as a point of discussion, debate, or dispute about project design or environmental effects that are directly or indirectly caused by implementing the Proposed Action. Significant issues are issues used to formulate alternatives to the Proposed Action, whether or not the alternative is considered in detail. Non-significant issues represent substantial concerns; however, these issues are usually not used to formulate alternatives. Both significant and non-significant issues are used to establish design criteria for the project, prescribe mitigation measures, and analyze environmental effects. Indicators are measures used to track the effects of the Proposed Action on the issues. The significant and non-significant issues and indicators are summarized below.

The following **significant issues** were used in the formulation of alternatives.

1) Effects of Pipeline Route on Wildlife and Wildlife Habitat - The proposed pipeline route should be designed to minimize impacts to wildlife, especially elk feedgrounds, big game seasonal use habitats, and migration routes.

Indicators:

- Effects on species and habitat diversity and habitat components.
- Effects on big game populations and important habitat components.
- Effects on existing elk feedgrounds.
- Effects on Federally Listed Species.
- Effects on Forest Service Sensitive Species.
- Effects on Management Indicator Species (MIS).
- Effects on migratory birds.

2) Coordination of Pipeline Route, Specifications, and River Crossings with Other Agencies - The use of the Hoback Canyon highway corridor on NFS lands for the proposed pipeline route and specifications for pipeline construction, operation, and maintenance, including river crossings, should be coordinated with other agencies. Alternative routes that avoid the Hoback Canyon highway corridor should be explored.

Indicators:

- Effects of pipeline construction, operation, and maintenance on road corridors, existing road facilities and structures, and public travel.

3) Disturbance of the Hoback River and Hoback Canyon – The proposed pipeline route and specifications for pipeline construction, operation, and maintenance, including river crossings should minimize disturbance, prevent pollution of the Hoback River, and should not impact the scenic qualities of Hoback Canyon.

Indicators:

- Effects on stream channel conditions and stability, including compliance with Natural Drainage Channel Standard for the protection and restoration of natural drainage channels (Forest Plan, page 133).
- Effects on natural flow characteristics, water quality, and quantity, including compliance with Clear-Water-Diversion Standard for pipeline trenches that pass through a stream channel (Forest Plan, page 133) and Wyoming rules and regulations for surface and groundwater quality (Forest Plan, page 136).
- Effects on streambank stability, including compliance with Streambank Stability Guideline for maintaining natural streambank stability (Forest Plan, page 126).
- Potential sedimentation (by watershed).
- Effects on natural potential of fish habitat that is providing a fishery.
- Effects on existing scenic integrity and scenic attractiveness.
- Visibility from Gros Ventre Wilderness and the Shoal Creek Wilderness Study Area (WSA).
- Visibility from existing recreation facilities.
- Effects of pipeline construction, operation, and maintenance on the scenic byway corridor (a sensitive travel route), including compliance with the Scenic Byway and Wild and Scenic Rivers Visual Standard (Forest Plan, p. 123, as added by Attachment One to the Forest Plan Record of Decision).
- Effects on recreation values along segments and corridors of the Hoback River and its tributaries (Shoal, Cliff, Granite, and Willow Creeks) within the Nationwide Rivers Inventory (NRI) that are eligible for designation as Wild, Scenic, or Recreation Rivers.
- Effects on visual quality along segments and corridors of the Hoback River and its tributaries (Shoal, Cliff, Granite, and Willow Creeks) within the Nationwide Rivers Inventory (NRI) that are eligible for designation as Wild, Scenic, or Recreation Rivers, including compliance with the Wild and Scenic Rivers Standard and Visual Quality Standard (Forest Plan, p. 142, as added by Attachment One to the Forest Plan Record of Decision).
- Visual quality objectives (VQOs) of preservation or retention met or not met in the foreground viewing zone along the Hoback River and the scenic byway.

4) Public Safety – Construction and operation of the proposed pipeline should not increase hazards to public safety or violate environmental safety. Public safety concerns regarding the pipeline route and its construction and operation should be evaluated. The pipeline would reduce hazards associated with tanker trucks on highways, however, fire danger may increase during construction of the pipeline.

Indicators:

- Effects on public safety during pipeline construction.
- Effects on public safety related to pipeline operation and maintenance.
- Compliance with Soil Management Standard for special geotechnical/slope stability design to control risks (Forest Plan, page 136).
- Effects on wildland fire hazards.
- Effects on public safety related to delivery of LNG by truck.
- Effects on road corridors, existing road facilities and structures, and public travel.

The following **non-significant issues** are addressed within the design criteria or mitigation measures of the proposed project or tracked through the effects analyses.

5) Slope Stability and Pipeline Integrity in Steep or Unstable Areas – The proposed pipeline could increase the potential for slope failures in steep or unstable areas, potentially affecting pipeline integrity and public safety unless potential effects can be mitigated by pipeline design specifications or route adjustments.

Indicators:

- Soil disturbance (acres).
- Disturbance in areas physically unsuited to surface-disturbing activities, including fine-textured soils, active landslides, and steep slopes.
- On-site erosion (tons per acre – year 1).
- On-site erosion (tons per acre – year 5).
- Compliance with Soil Management Standard for special geotechnical/slope stability design to control risk of mass wasting and sedimentation (Forest Plan, page 136).

6) Roadless Areas and Roadless Characteristics – Pipeline construction should not occur in roadless areas in order to preserve their roadless characteristics.

Indicator:

- Effects on the undeveloped character of roadless areas.

7) Effects of Pipeline Activities on Wildlife and Wildlife Habitats – The proposed pipeline construction, operation, and maintenance activities should be designed to minimize impacts to wildlife that reside or travel through the area and wildlife habitats, especially elk feedgrounds, big game seasonal use habitats, and migration routes.

Indicators:

- Effects on species and habitat diversity and habitat components.
- Effects on big game populations and important habitat components.
- Effects on existing elk feedgrounds.
- Effects on Federally Listed Species.
- Effects on Forest Service Sensitive Species.
- Effects on MIS.
- Effects on migratory birds.

8) Eligibility of Hoback River Segments for Inclusion in the Wild and Scenic Rivers System – Construction of the proposed pipeline should not jeopardize the eligibility of Hoback River segments in the Nationwide Rivers Inventory (NRI) for Wild, Scenic, or Recreational status.

Indicators:

- Effects on recreation values along segments and corridors of the Hoback River and its tributaries (Shoal, Cliff, Granite, and Willow Creeks) within the Nationwide Rivers Inventory (NRI) that are eligible for designation as Wild, Scenic, or Recreation Rivers.
- Effects on visual quality along segments and corridors of the Hoback River and its tributaries (Shoal, Cliff, Granite, and Willow Creeks) within the Nationwide Rivers Inventory (NRI) that are eligible for designation as Wild, Scenic, or Recreation Rivers, including compliance with the Wild and Scenic Rivers Standard and Visual Quality Standard (Forest Plan, p. 142, as added by Attachment One to the Forest Plan Record of Decision).
- Effects on natural flow characteristics; water quality and quantity, including compliance with Clear-Water-Diversion Standard for pipeline trenches that pass through a stream channel (Forest Plan, page 133); and Wyoming rules and regulations for surface and groundwater quality (Forest Plan, page 136).

9) Wetlands and Riparian Areas – Pipeline construction should be designed to minimize impacts in or near wetlands and riparian areas.

Indicators:

- Wetland and riparian disturbance (acres), including compliance with the Construction and Staging-Area Guideline for location of construction staging and equipment service areas outside riparian areas (Forest Plan, page 133).
- Effects on streambank vegetation, including compliance with the Streambank Vegetation Standard for maintenance of grass and shrub vegetation adjacent to streams (Forest Plan, page 133).

10) Mitigation and Monitoring – The impacts associated with pipeline construction, operation, and maintenance activities should be reduced or eliminated through project design, mitigation measures, reclamation, and monitoring. Funding for effective implementation of mitigation and monitoring plans should be addressed. Reclamation measures following pipeline construction should be adequate to restore the affected area to as natural a state as possible. The proposed project should comply with all applicable Forest Plan guidance and requirements for Forest Service special use permits.

Indicators:

- Effects on vegetation, by vegetation type.
- New disturbed areas susceptible to noxious weed infestation (acres).
- New corridors for seed transport (miles).
- Effects on livestock grazing.
- Effects on Federally Listed Species.
- Effects on Forest Service Sensitive Species.
- Effects on MIS.
- Effects on the Gros Ventre Wilderness and the Shoal Creek WSA.
- Effects on recreation opportunities and Recreation Opportunity Spectrum (ROS) Class.
- Effects on recreation use, including displacement of recreation activities.
- Effects on existing recreation facilities (campgrounds, trailheads, other facilities).
- Potential effects on heritage resources, including eligible sites and unknown sites.

11) Cumulative Impacts – The cumulative effects of all projects occurring or proposed in the area and reasonably foreseeable activities, including leasing or development of oil and gas resources, should be evaluated.

12) Private Interests and Conservation Easements – The impact of Forest Service actions regarding the proposed pipeline on private interests and federally recognized conservation easements should be considered.

Indicators:

- Effects of pipeline construction, operation, and maintenance on lands and minerals activities (non-recreation special uses, unpatented mining claims, mineral leases, or mineral material sale permits).
- Effects on recreation special uses.
- Effects of pipeline on landlines, private property, conservation easements, designated wilderness, roadless areas, and special uses.
- Visibility from residential areas.

13) Purpose and Need – The purpose of and need for the proposed pipeline should be framed broadly enough to support objective evaluation of all alternatives, including No Action.

14) Project Schedule – The feasibility and effects of the anticipated project schedule should be evaluated, considering the limited periods when activities in these areas are not restricted.

15) Economic Factors – Economic factors affecting the proposed pipeline should be addressed in the analysis.

Indicators:

- Effects of pipeline on employment, wages, housing, and community infrastructure in the Jackson Human Resource Unit (HRU), including Bondurant.
- Effects of pipeline on employment, wages, housing, and community infrastructure in the Big Piney HRU.
- Effects of pipeline on employment, wages, housing, and community infrastructure in the Pinedale HRU.
- Socioeconomic effects of LNG delivery by truck.
- Socioeconomic effects on communities, recreation, and tourism from closures and displaced activities during construction, changes in wildlife viewing or hunting, and scenery changes.

16) Air Quality and Noise – Air quality and noise impacts related to the proposed pipeline and reasonably foreseeable activities should be analyzed in detail.

Indicators:

- Emissions related to truck transport of LNG to Jackson, including nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOCs).
- Emissions related to treatment of natural gas by glycol dehydration and injection of air before gas enters pipeline (NO_x, CO, and VOCs).
- Effects related to noise and odor.
- Effects from fugitive dust and vehicle exhaust during pipeline construction.
- Effects related to operation and maintenance of pipeline.
- Effects on air quality-related values and regional haze at Class I and sensitive Class II areas.
- Compliance with Wyoming and National Ambient Air Quality Standards.

1.11 REVIEWS, CONSULTATIONS, AND AUTHORIZATIONS

The following description of reviews, consultations, and authorizations is intended to provide an overview of other agency authorities and responsibilities that apply to the proposed project. This overview is not intended to be exhaustive or all-inclusive. The approval or denial of a special use authorization for the proposed project by the Forest Service is not contingent upon any of the agency actions described below, however, implementation of the proposed project, if approved by the Forest Service, may not proceed until all applicable reviews, consultations, and authorizations are completed.

The Forest Service decision would apply only to NFS lands analyzed in the FEIS. However, potential effects resulting from implementation of the proposed project on lands and activities administered by other federal, state, and local jurisdictions are also disclosed in this FEIS. Decisions by other jurisdictions to issue or not issue approvals related to this proposal may be aided by the analyses presented in this FEIS. **Table 1-1** at the end of this chapter provides a summary of the agencies and permits or approvals that may be required to implement the LVE Natural Gas Pipeline Project.

1.11.1 Air and Water Resources

The Wyoming Department of Environmental Quality (WDEQ) regulates air quality and water quality in the State of Wyoming, in cooperation with the Environmental Protection Agency (EPA). EPA authorizes the regulatory programs for these resources and provides oversight review of actions taken by WDEQ.

The Air Quality Division (AQD) of WDEQ enforces U.S. and Wyoming Air Quality Standards and Regulations. A Section 21 permit application is required prior to the construction, modification, or

operation of any site, equipment, source, facility, or process that may cause or increase the emissions of an air contaminant into the atmosphere. All operations also would be required to comply with WDEQ rules regarding noise limits.

The Water Quality Division (WQD) of WDEQ regulates state and federal water quality issues. The WQD controls the discharge of storm waters associated with temporary construction activities and requires that all activities be conducted in accordance with a stormwater management plan. There are two WQD permits that would apply to the project. Any discharges to waters of the state, including hydrostatic pipeline testing, must be permitted under the Wyoming Pollutant Discharge Elimination System (WYPDES) program. Some sampling would be required and effluent limits would be set for any constituents of concern. A general Notice of Intent (NOI) permit is required for surface disturbances of one or more acres associated with construction activities to provide for the sound management of storm water.

The proposed project has the potential to exceed the 10 nephelometric turbidity unit (NTU) limit on the Hoback River. The administrator of the Water Quality Division may authorize a temporary increase in turbidity above the numeric criteria in Section 23 (a) of the Standards in response to an individual application for a specific activity.

The Wyoming State Engineer's Office (WSEO) administers water rights for beneficial uses of water in the State of Wyoming. All natural waters in Wyoming, including groundwater and surface water, are the property of the state, but can be appropriated with the approval of the WSEO. Temporary water use agreements with water rights holders must be approved by the WSEO.

1.11.2 Fish and Wildlife Resources, Including Threatened or Endangered Species

The Forest Service consults with the Fish and Wildlife Service (FWS) to prevent the loss or damage to fish and wildlife resources where the waters of any stream would be modified. Under the Endangered Species Act (ESA), the Forest Service consults with the FWS during the evaluation of potential effects on threatened or endangered species that may be present in the project area. The Forest Service prepares a Biological Assessment (BA) to comply with the ESA and the FWS issues a Biological Opinion (BO), deciding whether the proposed project would jeopardize the continued existence of any species listed or proposed for listing as threatened or endangered under the ESA.

The Wyoming Game and Fish Department (WGFD) establishes population objectives for herd units of various species. The Forest Service confers with the WGFD on proposed projects that would have an effect on wildlife or fisheries. A right-of-way easement application will need to be filed with the Lands Branch Supervisor regarding permission for construction easements on state elk feedgrounds and Wildlife Habitat Management Areas (WHMAs).

1.11.3 Waters of the U.S., Wetlands, and Floodplains

The U.S. Army Corps of Engineers (COE) authorizes activities that would impact navigable water and waters of the U.S. through individual or nationwide permits for categories of activities and also receives pre-construction notification of activities. "Waters of the U.S." is a collective term for all areas subject to regulation by the COE under Section 404 of the Clean Water Act. The COE authorizes the placement of dredged or fill material in waters of the U.S. or adjacent wetlands. A permit is required for all surface-disturbing activities that involve dredge or fill activities in waters of the U.S. The COE consults with the FWS to prevent the loss or damage to fish and wildlife resources where waters of any stream would be modified. EPA provides oversight review and concurrence for all decisions made by the COE.

1.11.4 Heritage Resources

The Forest Service consults with the Wyoming State Historic Preservation Office (SHPO) and others, as necessary, regarding potential impacts of the proposed undertaking on heritage resources. This consultation is required as part of the process under Section 106 of the National Historic Preservation Act of 1966, as amended.

1.11.5 Tribal Consultations

Federal guidelines direct federal agencies to consult with American Indian Tribal representatives who may have concerns about federal actions that may affect religious practices, other traditional cultural uses, and cultural resource sites and remains associated with American Indian ancestors. Any tribe whose ancestral or tribal lands occur within a project area is afforded the opportunity to voice concerns. Applicable requirements are contained in Executive Order 13084 – Consultation and Coordination with Indian Tribal Governments.

1.11.6 Highways

The U.S. Department of Transportation (DOT), Federal Highway Administration (FHWA), and WYDOT recognize that it is in the public interest for utility facilities to use the rights-of-way of public roads and streets when such use does not interfere with the primary purpose of said right-of-way (WYDOT Rules – Chapter I - Utility Accommodation). Wyoming Statute (W.S.) 1-26-813 allows public utilities to be constructed and maintained along State highways, encroaching on the highway right-of-way (WYDOT Rules, Chapter XXIV – Highway Right-of-Way Encroachment). Gas pipelines crossing highways on highway bridges must have an inside diameter of four inches or less and a line pressure of 60 pounds per square inch gauge (psig) or less, in accordance with WYDOT Rules, Chapter VI – Utility Construction within Highway Rights-of-Way. Further guidance on gas pipelines (transmission and distribution) is contained in WYDOT Rules, Chapter 9, Document 6030 (2005).

Federal highway regulations contained in 23 CFR identify the responsibilities of the FHWA and the State regarding easements and rights-of-way. The State is directed to acquire rights-of-way of such nature and extent as are adequate for the construction, operation, and maintenance of a highway project.

The State highway department is responsible for preserving such rights-of-way free of all public and private installations, facilities, or encroachments, except other approved use or occupancy. Subject to 23 U.S. Code (U.S.C.) 111, the temporary or permanent occupancy or use of a right-of-way, including air space, for non-highway purposes and the reservation of subsurface mineral rights within the boundaries of the rights-of-way of Federal-aid highways, may be approved if such occupancy, use, or reservation is in the public interest and will not impair the highway or interfere with the free and safe flow of traffic thereon. Access to the pipeline across state highways or through state-maintained fences will require approach permits and/or fence modification agreements.

No existing easement or right-of-way across NFS lands was found for the Hoback Canyon highway during a search of relevant land records. If there were a highway easement in place, it would contain the following condition, which allows other uses within the highway easement if the Federal Highway Administrator agrees.

The right of the Forest Service to use or authorize the use of any portion of the right-of-way for non-highway purposes shall not be exercised when such use would be

inconsistent with the provisions of Title 23 of the U.S.C. and of the FHWA regulations issued pursuant thereto or would interfere with the free flow of traffic or impair the full use and safety of the highway, and, in any case, the Grantee and the FHWA shall be consulted prior to the exercise of such rights.

Specific engineering design criteria were evaluated by a qualified independent engineer to ensure that the proposed design meets or exceeds all applicable safety codes and regulations. An independent engineering design review was conducted for the Wyoming Department of Transportation (WYDOT) by PB Energy Storage Services, Inc. (2005). The results of this review are being addressed in the final engineering designs for the proposed project, in consultation with WYDOT.

1.11.7 Land Use

The WGFD authorizes surface disturbance in State wildlife management areas, including feedgrounds. A utility easement must be approved prior to the start of construction activities.

The Wyoming Office of State Lands and Investments is responsible for easements and temporary uses of state lands. A temporary use permit authorizes surface disturbance on state lands. An easement authorizes the location of pipelines and other permanent facilities on state lands

Permits for utilities and road crossings applicable to the project must be obtained from Teton and Sublette Counties prior to the start of construction activities. A Grading and Erosion Control permit is required for this project to ensure that work done on private lands minimizes potential impacts and complies with applicable standards in the Teton County Land Development Regulations.

Existing Teton County regulations ensure compatibility of the proposed use at affected locations on private lands and adequate mitigation of environmental impacts and the effects on public facilities. An Environmental Analysis is required in accordance with existing Teton County regulations to assess the impacts and planned mitigation of the proposed development on private lands and protected resources designated on the Teton County Natural Resources Overlay and the Scenic Resource Overlay, as well as protected creeks and wetlands.

TABLE 1-1 PERMITS, APPROVALS, AND CONSULTATIONS

Agency	Type of Action	Description of Permit or Action
FEDERAL		
U.S. Forest Service	Special Use Authorization, including Operating Plan that contains construction plans and operating requirements or constraints.	Reviews plans and operating requirements for consistency with Forest Plan standards and guidelines, Appendix D and ROD. Evaluates technical and financial ability of LVE to construct and operate the pipeline. Authorizes use of NFS lands.
U.S. Environmental Protection Agency (EPA)	Compliance with NEPA, Clean Air Act, as amended, Federal Water Pollution Control Act, as amended by the Clean Water Act, and the Safe Drinking	Reviews and comments on major federal actions with a significant impact on the human environment. Provides comments, reviews EISs, and provides information and

Agency	Type of Action	Description of Permit or Action
	Water Act	technical assistance during and following the NEPA process. Provides oversight review and concurrence for all decisions made by the COE. Specific laws for which the EPA is responsible are shown at left. Responsibilities for air and water delegated to the State of Wyoming.
U.S. Fish and Wildlife Service	Formal/Informal Consultation and Biological Opinion under the Endangered Species Act and COE 404 Permit Consultation	Responsible for protection of threatened and endangered species and habitats. Provides consultation under the Fish and Wildlife Coordination Act.
U.S. Army Corps of Engineers	COE 404 Permit	Permits the discharge of dredged or fill materials into waters of the U. S., including wetlands.
STATE OF WYOMING		
Department of Transportation (WYDOT)	Approach permits and/or fence modification agreements	Regulates access across state highways or through state-maintained fences. Authorization required where pipeline crosses state highway.
<p>Department of Environmental Quality (WDEQ)</p> <p>WDEQ - Air Quality Division</p> <p>WDEQ – Water Quality Division</p>	<p>Permit application required for construction, modification, or operation of site, equipment, source, facility, or process that may increase emissions.</p> <p>Notice of Intent (NOI) permit is required for surface disturbance of one or more acres associated with construction activities to provide for sound management of stormwater.</p> <p>Discharge of hydrostatic pipeline test waters is permitted under the Wyoming Pollutant Discharge Elimination System (WYPDES) program. Some sampling would be required and effluent limits would be set for any constituents of concern.</p>	<p>Ensures air quality standards and noise limits are not exceeded. Approves permits for stationary pollution sources.</p> <p>Regulates state and federal water quality issues and certifies compliance with the Clean Water Act and all applicable standards. Controls discharge of storm waters associated with construction and requires that all activities be conducted in accordance with a stormwater management plan. Also issues permits for pipeline construction activities that involve discharge during hydrostatic testing. May authorize temporary increases in turbidity above the numeric criteria in Section 23 (a) of the Standards in response to an</p>

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