

## MEMO

To: Drue Pearce, U.S. Federal Coordinator  
Office of the Federal Coordinator, Alaska Natural Gas Transportation Projects

From: William P. Doyle  
Director of Permits, Scheduling & Compliance  
Office of the Federal Coordinator

Date: June 9, 2009

Re: ***First Phase Consolidated Implementation Plan Report—Denali***

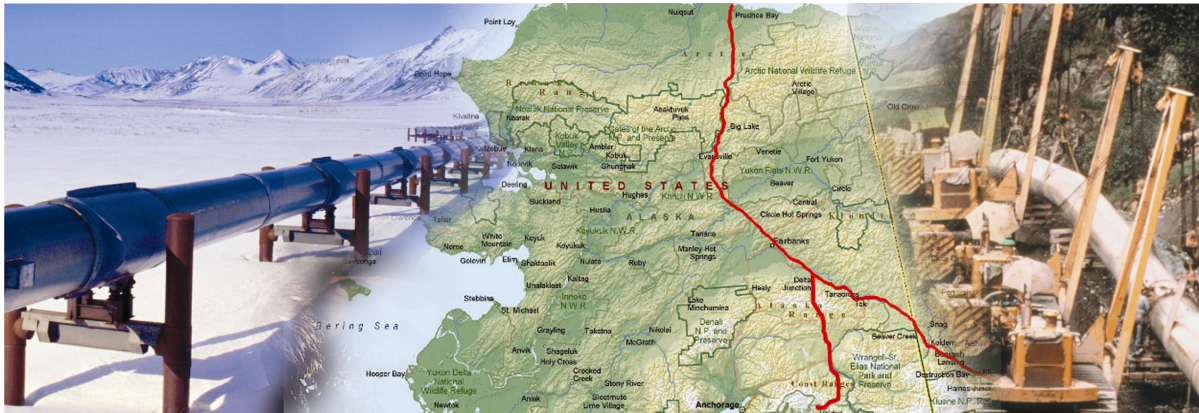
---

Appended is the First Phase Consolidated Implementation Plan regarding federal agency activities. This Plan is specific to Denali—The Alaska Gas Pipeline, LLC (Denali). The Consolidated Implementation Plan is being drafted in phases. The first phase encompasses the FERC Pre-filing Process to the point where FERC deems Denali's application "complete." A Second Phase Denali Consolidated Implementation Plan covering the EIS phase will be completed prior to Denali's complete application being accepted by FERC.

The federal regulatory review process will help to expedite the delivery of North Slope natural gas through a North American natural gas pipeline system that can reach markets throughout the continental United States. We began writing the implementation plan in November 2008. Four rounds of comments with 20 agencies and a review by the Executive Office of the President were included. The federal agencies were prompt in their responses, accessible and very helpful throughout the entire process.

The Plan, which establishes the federal agency framework for meeting our statutory obligations, may now be made public.

**Office of the Federal Coordinator  
for  
Alaska Natural Gas Transportation Projects**



**First Phase Consolidated Implementation Plan  
PF08-26-00**



William P. Doyle  
Director of Permitting, Scheduling & Compliance  
Office of the Federal Coordinator  
1101 Pennsylvania Avenue, N.W., 7th Floor  
Washington, DC 20004  
202.756.4961  
[wdoyle@arcticgas.gov](mailto:wdoyle@arcticgas.gov)

## Table of Contents

Introduction	5
Overview: Alaska Natural Gas Pipeline State and Federal Laws	6
Summary of Current Natural Gas Market Trends	7
Attention Items	8-15
1. Five Natural Gas Pipeline Line Proposals in Alaska	8
2. Efficient Use of Federal Government Resources	8
3. Government-to-Government Consultations	8
4. Native Land Conveyances	8
5. Infrastructure Projects and Challenges	9
6. Reporting NEPA Status and Progress for Recovery Act Projects	9
7. Wetlands	9
8. Flood Plains	10
9. Water Quality Certificate	11
10. Contaminated Sites	11
11. Geological Studies	11
12. Climate Change	12
13. Human Health Effects	12
14. Non-Attainment	12
15. Special Permits, PHMSA	12
16. Bridges	13
17. Historic Properties	13
18. Threatened and Endangered Species	14
19. Essential Fish Habitat	14
20. Coastal Zones	15
21. Labor	15
22. Statement of Purpose and Need and Scope of Project Alternatives	15
Alaska Natural Gas Pipeline Projects	15-19
Denali-- The Alaska Gas Pipeline	16
TransCanada, Alaska	17
Bullet Line	18
B2F ANGDA Line	18
The Alaska Natural Gas Port Authority LNG Line	19
Consolidated Implementation Plans, Federal Agency Roles	19-36
The Office of the Federal Coordinator	19
The Federal Energy Regulatory Commission	21
U.S. Army Corps of Engineers	23
U.S. Coast Guard Bridge Program	24

Advisory Council on Historic Preservation	25
Pipeline Hazardous Materials and Safety Administration	27
Bureau of Indian Affairs, DOI	28
Bureau of Land Management, DOI	29
U.S. Fish and Wildlife Service, DOI	30
U.S. Geological Survey, DOI	30
National Park Service, DOI	32
Federal Highway Administration	32
Environmental Protection Agency	33
National Oceanic and Atmospheric Administration	33
Department of Energy	35
Department of Labor	35
Forest Service, Agriculture	36
Transportation Security Administration	36
U.S. State Department	36
Additional Matters	37-38
Agency Outlines	37
Engineering Based Reviews	37
Workforce Development and Labor Activities	37
Continuous Review	38
Conflict and Dispute Resolution	38
Conclusion	38
Table of Select On-Line Guidance and Manuals	39-40
Appendices	
Appendix 1, Summary of Studies on Current Natural Gas Market Trends	41-45
Appendix 2, Graphic-Four Proposed Natural Gas Pipeline Routes	46

## Introduction

In accordance with the 2004 Alaska Natural Gas Pipeline Act (ANGPA) and the 2006 Interagency Memorandum of Understanding (MOU), the Office of the Federal Coordinator (OFC) requested draft implementation plans from each agency that has specific duties related to the environmental analysis, permitting and construction of an Alaska natural gas pipeline.

In June 2006, most of the federal agencies with responsibilities relevant to an Alaska natural gas transportation project entered into the MOU. The participating agencies agreed to use their best efforts to achieve early coordination and compliance with deadlines and procedures established by the environmental impact statement lead agency and in accordance with relevant laws and regulations. The Federal Energy Regulatory Commission (FERC) is the lead agency.

Early coordination includes adopting a project management approach built on a common understanding and commitment to the permitting process. In accordance with the MOU, participating agencies agreed to submit to the Federal Coordinator “draft agency implementation plans” to ensure this coordination.

Pursuant to ANGPA, the Federal Coordinator is responsible for coordinating the expeditious discharge of all activities by federal agencies with respect to an Alaska natural gas transportation project. Further, the Federal Coordinator must ensure that all federal agencies comply with ANGPA.

As discussed herein, there are five projects related to interstate and intrastate transportation of Alaska’s natural gas. However, at this time, it is reasonably foreseeable that only the two proposed interstate natural gas projects will seek a FERC certificate. Project sponsors, Denali-The Alaska Gas Pipeline, LLC (Denali), and TransCanada Alaska Company (TC Alaska) have initiated FERC’s Pre-filing Process.

At this time, Denali and TC Alaska indicate they will move forward under their own timelines and seek separate certificates of public convenience and necessity from FERC. Accordingly, in November 2008 the OFC requested draft implementation plans from the MOU participating agencies that directly relate to Denali’s timeline.<sup>1</sup> That timeline encompasses pre-filing through the application being deemed complete by FERC.

On March 17, 2009, OFC sent the 1<sup>st</sup> Draft of the Draft Consolidated Implementation Plan Report to all federal agencies for comment. On April 21, 2009, the OFC finished receiving comments and incorporated same into a 2<sup>nd</sup> Draft of the Draft Consolidated Implementation Plan Report that was then circulated to the agencies for

---

<sup>1</sup> TC Alaska’s request to utilize FERC’s Pre-file Process was granted on or about May 1, 2009. FERC granted Denali’s request in June of 2008. Therefore, the OFC will be addressing TC Alaska’s issues in a separate Draft Consolidated Implementation Plan Report.

comment. On May 12, 2009, OFC finished receiving comments and incorporated same into a 3<sup>rd</sup> Draft of the Draft Consolidated Implementation Plan Report that was then circulated for comment. On May 20, 2009, all comments were received, incorporated, and presented to the Executive Office of the President (EOP) for review. On June 9, 2009, after review and comment, the Office of Management and Budget cleared the implementation plan for publication.

### **Overview: Alaska Natural Gas, State and Federal Laws**

The Alaska Natural Gas Pipeline Act (ANGPA or Act)<sup>2</sup> was enacted on October 13, 2004. ANGPA clarifies procedures for processing applications for an Alaska natural gas pipeline; authorizes loan guarantees of up to \$18 billion (indexed for inflation) for a project; and establishes the Office of Federal Coordinator that is responsible for the expediting the necessary federal agency permits, authorizations and environmental reviews.

ANGPA provides that FERC is the lead agency<sup>3</sup> for purposes of compliance with the National Environmental Policy Act of 1969 (NEPA) and the preparation of a single, consolidated environmental impact statement (EIS) for all federal agencies. The Act directs FERC to issue a final EIS no more than 18 months after the filing of a complete application. Further, FERC is directed to issue a final determination to grant or deny the application within 60 days after issuance of the final EIS. ANGPA also prohibits an over the top route.<sup>4</sup> FERC drafted regulations governing the conduct of open seasons for Alaska natural gas transportation projects, including procedures for allocation of capacity. The regulations were affirmed in all respects by a July 27, 2007 ruling from the U.S. Court of Appeals for the District of Columbia Circuit.

ANGPA removed potential legal obstacles concerning applications for a new Alaska pipeline project and established procedures to work with Canada, Alaska, and other interested parties to expedite construction of a pipeline to deliver natural gas to the lower 48 States.

---

<sup>2</sup> Alaska Natural Gas Pipeline Act of 2004, 15 USC 720.

<sup>3</sup> See, Council on Environmental Quality Regulations (CEQ Reg.) 1508.16, "Lead agency" means the agency or agencies preparing or having taken primary responsibility for preparing the environmental impact statement; see also, CEQ Reg. 1508.5 "Cooperating agency" means any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment. The selection and responsibilities of a cooperating agency are described in CEQ Reg. 1501.6. A State or local agency of similar qualifications or, when the effects are on a reservation, an Indian Tribe, may by agreement with the lead agency become a cooperating agency.

<sup>4</sup> Generally, in an over-the-top route, natural gas is transported north and east from Prudhoe Bay, buried on the sea floor of the Beaufort Sea through Canadian territorial waters and south through Canada into the natural gas distribution grid. This route, it is contended, by not traveling through Alaska's interior before heading into Canada, does not satisfy the in-state natural gas needs for Alaskans.

BP and ConocoPhillips formed a joint venture, Denali, in order to pursue a project to construct and operate an Alaska natural gas transportation system as defined by Section 103 of ANGPA. Denali plans to construct a 48-52 inch diameter pipeline system between Prudhoe Bay, Alaska and Alberta, Canada.

On June 25, 2008, Denali was granted permission to use FERC's pre-filing review process and has committed to fund a third-party contractor to assist FERC with development of the EIS.

The Alaska Legislature awarded a license under the Alaska Gasline Inducement Act<sup>5</sup> (enacted in May 2007) to TC Alaska. On December 5, 2008, the AGIA license was formally signed by the Governor and issued to TC Alaska. AGIA entitles TC Alaska to receive State of Alaska matching funds of up to \$500 million, but does not give the company any priority for federal licensing purposes. TC Alaska proposes to construct a 1,715-mile natural gas pipeline that would extend from Prudhoe Bay, Alaska to the Alberta Hub in Canada. The company has recently entered FERC's Pre-filing Process.

### **Summary of Current Natural Gas Market Trends**

When discussing the supply of natural gas for consumption in the United States, generally the focal points include pipeline imports from Canada; imports from overseas in the form of liquefied natural gas (LNG); and domestic production of non-conventional (supplemental sources of supply) natural gas.<sup>6</sup> Alaska has 35 trillion cubic feet (tcf) of identified gas reserves, with average estimates of another 227 tcf of technically recoverable undiscovered gas. Based on recent analysis, the Alaska natural gas pipeline would be completed in 2020 and the economics continue to be favorable.<sup>7</sup>

As a preliminary note, 2008 was a unique year for most commodities. Specifically, natural gas prices spiked to unprecedented levels in the summer and then finished the year more than 58% off its peak. Henry Hub prices topped-out at \$13.31/MMBtu in July. By the end of 2008, it was priced at \$5.71/MMBtu. As of May 26, 2009, the price was hovering around \$3.40.<sup>8</sup>

---

<sup>5</sup> Alaska Gasline Inducement Act, AS 43.90 et. seq. AGIA is a state law which allows the licensee to draw down on matching funds in exchange for "must haves" required by the state of Alaska including but not limited to, conducting an open season once every two years; 4.5 bcf/d initial design capacity with the ability to expand to 5.9 bcf/d; rolled in tolls of up to 115% of initial rates in Alaska and full rolled-in rates in Canada; minimum of five natural gas delivery points in Alaska; and executing a project labor agreement prior to construction; See: [http://www.gov.state.ak.us/agia/agia/pdf/agia\\_docs/HB0177F.pdf](http://www.gov.state.ak.us/agia/agia/pdf/agia_docs/HB0177F.pdf).

<sup>6</sup> See Energy Information Administration, *Annual Energy Outlook*, reports from 2005-2009.

<sup>7</sup> *Annual Energy Outlook Early Release Overview* for 2009, Energy Information Administration, published December 2008.

<sup>8</sup> See Appendix 1, *Summary of Studies on Current Natural Gas Market Trends*, appended hereto.

## Attention Items

In this section, the OFC captures several “Attention Items” that were discussed with various agencies. Importantly, each agency drafted its own implementation plan. Therefore, readers should not overlook the section of this report titled “Consolidated Implementation Plans: Federal Agency Roles.”

1. **Five Natural Gas Pipeline Proposals in Alaska:** There are five natural gas pipeline facility proposals in various stages of review in Alaska. There is a very low probability that all five projects may be constructed. It is more likely that one interstate and one in-state natural gas pipeline will be constructed. Nevertheless, U.S. federal agencies could be tasked with performing substantial environmental impact review and analysis on at least four projects at the same time. Attached is a Bureau of Land Management generated graphic of the proposed routes for four of the five potential gas pipeline projects.<sup>9</sup>
2. **Efficient Use of Federal Government Resources:** Some federal agencies are authorized to enter into cost recovery and/or reimbursable service agreements with public and private entities while others are not. Agencies are conducting thorough examinations of their budgetary needs for regulatory analysis of the proposed Alaska gas pipeline(s).
3. **Government-to-Government Consultations:** Government-to-government consultations with federally-recognized Tribal Governments are an essential component of effective federal agency decision making. FERC, as the lead agency for the NEPA process, will coordinate the government-to-government consultations for the interstate natural gas pipeline. Many agencies are required to perform consultations before issuing authorizations and permits. All agencies have agreed to coordinate with FERC on all government-to-government consultations. FERC is collecting comments from cooperating agencies on the draft framework for a consultation plan to ensure early attention to this process.
4. **Native Land Conveyances:** BLM manages the land conveyance program for the United States government. It has reviewed the status of lands along the potential project route. BLM has determined that the Alaska Native Corporation Settlement Act (ANCSA) village lands have been conveyed; some ANCSA Arctic Slope Regional Corporation and Doyon Regional Corporation lands remain unsettled; and BLM identified 27 pending native allotment applications within one mile of the expected centerline. The pending native allotment applications have the following status, 10 are located within the Tetlin National Wildlife Refuge which may not be directly impacted and the remaining 17 are subject to title recovery from the State of Alaska. These allotments are managed on behalf of the individual Alaska Native landowners by the Bureau of Indian Affairs.

---

<sup>9</sup> See Appendix 2, Graphic--Four Proposed Natural Gas Pipeline appended hereto.



**5. Infrastructure Projects and Challenges:** Infrastructure must be continuously addressed in order to expeditiously construct Alaska natural gas transportation projects. All necessary support systems must be in place before construction can begin. Indeed, inadequate road, port or railroad conditions may slow down construction and increase costs. Based on the current permitting and construction timelines, there are only five remaining construction seasons until the natural gas pipeline construction is scheduled to commence. Necessary infrastructure projects include upgrading bridges, highways, material sites and maintenance camps. Infrastructure routes can be categorized in two ways: (1) as the route parallel to the pipeline; and (2) logistical routes that may move freight, pipe, people, and modules.

According to the AK Department of Transportation and Public Facilities,<sup>10</sup> the routes parallel to the gas pipeline are: The Dalton-Elliott highway corridor to the North Slope which includes 32 projects along 415 miles; the Elliott Highway portion, the first 73 miles out of Fairbanks, includes four (4) projects; Richardson Highway from Fairbanks to Delta Junction is 95 miles and includes 17 projects; and the Alaska Highway from Delta Junction to the Canadian border is 200 miles and includes 22 projects.

**6. Reporting NEPA Status and Progress for Recovery Act Activities and Projects:**

There may be federal reporting requirements related to infrastructure that have independent utility status but may otherwise support the construction of a natural gas pipeline. For instance, Section 1609 (c) of the American Recovery and Reinvestment Act of 2009, states that the President shall report to Congress every 90 days on the status and progress of projects and activities funded by the Recovery Act with respect to compliance with the NEPA requirements and documentation.

On April 3, 2009, the Chair of the Council on Environmental Quality (CEQ) sent an updated memorandum to all agencies. The memo states that an agency funding a Recovery Act project will be responsible for reporting the status of all NEPA compliance associated with the project or activity—"including any environmental review and documentation prepared by or for an approving or permitting agency." For example, if the Federal Highway Administration is responsible for providing the State of Alaska with Recovery Act funds, and the USCG Bridge Administration performs permitting work related to a project that received funding, then the FHWA would report that permitting activity to the CEQ. All agencies are urged to review the [CEQ Reporting Guidance](#) for Recovery Act projects.

**7. Wetlands:**<sup>11</sup> Section 404 of the Clean Water Act (CWA) prohibits the discharge of dredged or fill material into "waters of the United States" except as authorized by the

---

<sup>10</sup> See, State of Alaska Gas Line Transportation Needs briefing, November 19, 2008 at: <http://dot.alaska.gov/stwdplng/gasneeds/documents/DOT-pres-GasLineNeedsmeeting-111908.pdf>; see also AK DOT &PF Gas Line Needs Web Page at: <http://dot.alaska.gov/stwdplng/gasneeds/docs.shtml>.

<sup>11</sup> The 1987 Army Corps of Engineers [delineation manual](#) is used in the Clean Water Act Section 404 regulatory program for the identification and delineation of wetlands. Additionally, the EPA has an instructive website with respect to defining "[waters of the United States](#)."

U.S. Army Corps of Engineers or an approved state/tribal 404 program. The CWA gives the Army Corps the responsibility to issue permits for proposed discharges of dredged or fill material into the waters of the United States, including wetlands that fall under CWA jurisdiction. The Environmental Protection Agency (EPA), in conjunction with the Army Corps, establishes the environmental standards that apply to the review of proposed discharges. The EPA may also restrict or prohibit the use of any waters of the U.S. for activities involving discharges of dredged or fill material if the discharge would result in unacceptable adverse environmental effects. An important role for the Army Corps in the context of administering the section 404 permit program is the identification of wetlands and other waters subject to the CWA. Information the Army Corps relies on for these decisions is often provided by permit applicants. Effective coordination, including information sharing, between the Army Corps and EPA regarding CWA jurisdiction determinations and permit reviews are essential to sound decision making throughout the EIS process. Conducting regular interagency meetings is a particularly effective method to ensure appropriate coordination.

The issuance of a FERC Certificate for the proposed pipeline(s) does not obviate the project proponent's requirement to obtain a Department of the Army (DA) permit from the Army Corps. As a cooperating agency, the Army Corps will actively participate in the development of the FERC EIS. Generally, the FERC EIS will satisfy the Army Corps' NEPA requirements; however, certain added conditions, (e.g. mitigation requirements) may be included in the Army Corps permit that would otherwise not be part of the FERC license. In order to more efficiently process the permit request for the pipeline(s), and to reduce the potential for duplication of processes, the project proponent is encouraged to coordinate early and often with the Army Corps. In addition, other projects associated with the pipeline, may require Army Corps permits. In these cases, where FERC is not the lead federal agency with respect to NEPA compliance, the Army Corps will be solely responsible for conducting its environmental review.

To date, Denali has studied 7,346 acres of wetlands between Delta Junction and the Canadian border. Denali states that the study includes its determination of acreage for wetlands, navigable waters, and uplands.

**8. Floodplains:** The base floodplain is the area that would be inundated by a base flood or what is otherwise known as a 100-year flood. The base flood is defined as that flood having a 1.0% or greater chance of occurrence in any given year.<sup>12</sup> Floodplain Management and Protection requires federal agencies to avoid adverse impacts to floodplains and the authorization of floodplain development unless there is no practical alternative.

Denali has conducted extensive hydrology surveys as part of its field study program. The surveys gathered basic water parameter information in all streams and rivers including estimates of stream and river peak flow conditions to determine

---

<sup>12</sup> [Executive Order 11988](#), 42 F.R. 26951(May 24, 1977).

floodplain areas. To this end, the gas pipeline and supporting infrastructure (bridges/camps) may be located in floodplains such as within the Tanana and Delta Rivers and some of their tributaries if no practicable alternatives exist. Therefore, early examination should be conducted in order to identify all measures practicable to minimize floodplain impacts, and to reduce flood impacts on human safety, health and welfare. Federal agencies should also provide the opportunity for early public review of any plans or proposals for actions in floodplains as required by the Executive Order.

**9. Water Quality Certificate:** In accordance with Section 401 of the federal Clean Water Act (CWA) of 1977 and provisions of the Alaska Water Quality Standards, the Alaska Department of Environmental Conservation (ADEC) is responsible for issuing a Certificate of Reasonable Assurance for construction activities. Several federal agencies will require that a Water Quality Certificate (WQC) be issued by ADEC before a permit can be issued. For example, the Corps of Engineers requires ADEC to certify that the pipeline project will meet state water quality standards prior to issuing a Section 404 permit under the CWA.

**10. Contaminated Sites:** A contaminated site is an area that has been affected by spills of petroleum products or other hazardous substances, by the migration of such substances from a separate source to the site, or by the improper disposal of petroleum or hazardous substances. There may be contaminated sites in the project area that indicate an existing release, past release, or a potential release into soil, groundwater or surface water. Every contaminated site should be identified early to ensure they are properly addressed in the EIS.

Denali has investigated contaminated sites along the study corridor to identify the exact locations of these sites, estimate their ground footprint, and perform preliminary assessments regarding impacts the sites may have on the construction, installation, and operation of the pipeline. So far, their reviews of existing contaminated site databases and aerial photos inventoried a total of 155 sites between Fox and the Canadian border of which 73 required field assessments. Denali also completed a desktop survey of existing contaminated sites between Prudhoe Bay and Fox. This survey identified 130 contaminated or potentially contaminated sites that require field assessments.

**11. Geological Studies:** The USGS indicates that several geologic studies need to be performed contemporaneously with the NEPA process and before construction. In some cases, particular studies have been conducted in specific regions for specialized purposes, but, those studies may be outdated because they were commissioned over 25 years ago during the preconstruction phase of Trans-Alaska (TAPS) pipeline. In other regions where the pipeline will transit, geological studies have never been conducted. USGS indicates that studies should include:

- Permafrost and Glacier Hazards
- Flood and Scour Hydrologic Hazards
- Landslides, Slope Stability and Mass Movement Processes

- Water Quality Associated with Infrastructure Improvements
- Earthquake Hazards
- Volcano Hazards

12. **Climate Change:** The climate in the Arctic is changing. It is important to understand the possible permafrost changes and other effects climate change may have on the pipeline after its construction. Permafrost trends must be incorporated into the design of a 30-plus year pipeline. It is assumed that areas of continuous permafrost will be displaced by discontinuous permafrost as change progresses. In addition, consideration of climate change in the overall context of NEPA analysis is an evolving policy consideration amongst federal agencies.

For your awareness, the University of Alaska, State of Alaska Department of Geological and Geophysical Surveys, and U.S. Geological Survey have been working together to map and understand the occurring changes. The International Arctic Research Center has developed a spatially distributed model of permafrost dynamics that analyzes permafrost in a changing climate from 1950-present and how it is forecast to shift by the year 2100.<sup>13</sup>

13. **Human Health Effects:** Evaluation of human health effects as part of a NEPA analysis is an emerging issue for consideration in large oil, gas and mining projects. Agencies will need to continue discussions on the extent to which human health effects will be addressed in the NEPA analysis for the Alaska gas pipeline project.

14. **Non-Attainment:** In December 2008, the Environmental Protection Agency designated a portion of the Fairbanks North Star Borough, including the City of Fairbanks and the City of North Pole, as a PM2.5 nonattainment area. Based on EPA's analysis, local heating emissions from woodstoves, distillate oil, industrial sources and mobile emissions contribute to primary and secondarily formed PM2.5 that violate the standard during stable weather events associated with extremely strong temperature inversions. With portions of the Fairbanks area being designated a nonattainment area, the effects of project related activities and emissions should be addressed during the EIS.

15. **Special Permits, PHMSA:** Early and regular coordination between project sponsors and the U.S. DOT, Pipeline Hazardous Materials and Safety Administration (PHMSA) is essential. PHMSA is responsible for oversight of intrastate and interstate pipelines for design, construction and operational safety. PHMSA anticipates that project sponsors will apply for Special Permits to waive certain pipeline safety regulations. Processing each Special Permit application would take up to 12 months, and possibly longer depending on the technical complexity. PHMSA indicates that the project sponsors should request Special Permits at least 12 months prior to the date needed. If a project sponsor submits more than one Special Permit application, PHMSA could process the applications together or separately, depending on the circumstances. It is important for

---

<sup>13</sup> See the dynamics of [permafrost in a changing climate](#).

Denali and any other applicant to actively engage PHMSA on their Special Permit requirements during the FERC pre-filing stage. Subject areas that may require PHMSA analysis and Special Permits include:

- Pipe Strength (e.g., X100);
- Pipe Ductility (crossing earthquake zones);
- Strain-based Design (ASME limit state and reliability based designs);
- Post-construction Testing (hydrostatic testing);
- Quality Control (hydrostatic testing);
- Valve Spacing (distance between valves);
- Cathodic Protection (composite piping); and
- Depth of Cover (permafrost issues).

PHMSA will conduct a technical evaluation and environmental assessment in accordance with NEPA as part of its Special Permit review. PHMSA will work with FERC to include Special Permit environmental assessment into the EIS.

It is important that the project sponsors provide as much technical and environmental information as possible in support of their Special Permit applications. The project sponsors should work with PHMSA early in the process, so that PHMSA can identify the nature and scope of information necessary to properly evaluate the applications. PHMSA will review and comment on the draft Resource Reports and participate with FERC as necessary to develop specific data requests to ensure the information provided is sufficient to meet agencies' regulatory and program oversight responsibilities and authorities.

**16. Bridges:** The U.S. Coast Guard's Bridge Program is responsible for approval of the locations and plans for bridges and causeways constructed across navigable waters of the United States. In Alaska, navigability is a concern for vessels that may range from canoes to small motorboats (used as guide boats or hunting and fishing) to tugs and barges (that might carry fuel or building materials). The responsibilities include conducting navigability determinations for each waterway to be crossed and issuing or denying bridge permits. Importantly, Denali's fact sheet states there are 750 river and stream crossings along the pipeline route to Alberta, Canada. Denali's 2008 field studies covered approximately 530 such crossing in Alaska. For each bridge site, navigability determinations will be required to determine whether a bridge permit is needed. Each bridge across a navigable waterway would require a bridge permit or bridge permit exemption issued by the Coast Guard. Even with extensive use of buried crossings under smaller waterways, it is anticipated that there are dozens of waterways that will ultimately require permits. Pursuant to the River and Harbors Act, the Army Corps has an independent responsibility to designate waters as navigable. Therefore, the USCG and Army Corps should actively coordinate navigability determinations.

**17. Historic Properties:** During the 2008 field study season, Denali's archeological survey model and helicopter survey identified 230 areas of high potential for archeological materials. On-site investigation identified a total of 72 new sites

(prehistoric and historic). In addition, field crews obtained documentation at 16 previously identified historic sites. Additional assessments are being conducted to determine the significance of these historic sites and the qualifications of the properties for listing on the National Register. Prehistoric sites were found to contain stone tools, stone tool manufacturing and maintenance debris, and faunal remains.

Given the large number of historic properties that may be affected, early coordination is essential. The Advisory Council on Historic Preservation reviews and provides comments on actions by federal agencies that may affect properties that are listed in or eligible for listing in the National Register of Historic Places (National Register). The National Register includes buildings, archaeological sites, districts, and objects of national, state and local significance. Resources that are eligible for the National Register are afforded the same level of protection as those formally listed. The review is carried out pursuant to Section 106 of the National Historic Preservation Act. The Section 106 process involves coordination with the State Historical Preservation Office and the Tribal Historic Preservation Office, appropriate native entities and other consulting parties. There are no Tribal Historic Preservation Officers for Alaska.

**18. Threatened and Endangered Species:** There must be careful consideration and coordination of how the project may affect listed species. The current threatened and endangered species lists are subject to change. The Fish and Wildlife Service and the National Marine Fisheries Service share responsibilities for the Endangered Species Act. Two species have been listed over the past year—the Polar Bear (Threatened) and the Cook Inlet Beluga Whale (Endangered). In all, there are 14 species and one (1) plant listed for Alaska. In addition, consideration should be given to conservation of species on the candidate species list.

The Fish and Wildlife Service maintains the website for listed species. Accordingly, visit the Alaska FWS website for the list of [threatened and endangered species](#). For additional information see NOAA’s Office of Protected Resources for [marine mammals](#).

Denali has conducted an ecological land survey (ELS) measuring a variety of ecosystem components including geomorphology, soils, hydrology, and vegetation. The data is being used to prepare an integrated-terrain-unit (ITU) map that can be used to evaluate land capabilities and sensitivities and will assist Denali and regulatory agencies in assessing the importance of the habitat to various wildlife and ecological systems.

**19. Essential Fish Habitat:** Section 305(b)(1)(D) of the Magnuson-Stevens Act requires the National Marine Fisheries Service to coordinate with and provide information to other federal agencies regarding the conservation and enhancement of Essential Fish Habitat (EFH). EFH has been identified for several federally managed species. Based on the current project information, NOAA has identified EFH to encompass streams that support Pacific Salmon runs. See the NOAA website for the “Description of Essential Fish Habitat” for [Alaska Stocks of Pacific Salmon](#).

20. **Coastal Zones:** The State of Alaska has a coastal management program that is the responsibility of the Alaska Department of Natural Resources (DNR). The program is approved by NOAA under the federal Coastal Zone Management Act (CZMA) and the program was last updated in 2005 and approved by NOAA. For the pipeline components and related activities, including any proposed LNG facility occurring within Alaska's coastal zone that require federal authorizations, Denali will need to provide DNR with a CZMA consistency certification and necessary data and information pursuant to 16 USC § 1456(c)(3)(A) and 15 C.F.R. part 930, subpart D. The [DNR's Coastal Zone Management Program](#) includes state coastal management enforceable policies that are approved by NOAA's [Office of Ocean and Coastal Management](#).

21. **Labor:** Construction of an Alaska natural gas transportation system will be an enormous undertaking. The gas pipeline will be the largest private sector construction project in the history of North America, and tens of thousands of direct and indirect jobs will be created over its lifespan. In Alaska there is a jointly administered corporate-labor structured entity called Alaska Works Partnership, Inc (AWP). It is the gateway to successful careers in construction. AWP's construction training and placement system reaches across Alaska and is open to everyone. AWP delivers services in partnership with Alaska's Building Trades Unions, the Alaska Department of Labor & Workforce Development, the U.S. Department of Labor, and the Denali Training Fund.

In November of 2008, a 52-acre pipeline training yard in South Fairbanks was officially opened. The Fairbanks field site offers real experience in an environment that replicates an actual pipeline right-of-way, complete with frigid temperature workspaces, mechanized welding operations, and associated pipeline construction machinery. The Alaska Department of Labor and Workforce Development has set a goal to have dormitories and other infrastructure in place by the end of 2009 which could open the training grounds to year-round operations capable of preparing Alaskans for the next generation of energy work in Alaska. See [New Pipeline Training Yard Opens in Fairbanks](#).

22. **Statement of Purpose and Need and Scope of Project Alternatives:** The agencies are waiting for Denali to move forward with project specifics such as a proposed pipeline route and aboveground facility locations. When that occurs, FERC will need to renew its discussions with the agencies to determine the scope of the Denali environmental impact statement and the range of alternatives that will be assessed.

### **Alaska Natural Gas Pipeline Projects**

This section provides a description of the five proposed Alaska gas pipeline projects. More than likely, there will be overlaps between two or more entities studying the same corridor(s).

**Denali:** Denali—The Alaska Gas Pipeline LLC (Denali)<sup>14</sup> is planning to construct and operate an Alaska natural gas transportation system as defined in Section 103 of the Alaska Natural Gas Pipeline Act (Public Law 108-324). Denali is wholly owned by ConocoPhillips and BP, two of the three major holders of Alaska's North Slope natural gas. Denali expects to transport approximately 4.0 billion cubic feet of gas per day (4.0-Bcf/d) through the pipeline. On April 3, 2009, Denali awarded an engineering contract to Bechtel for services including pipeline engineering, compressor station engineering, design basis development and cost estimating.

The Denali project includes a Gas Treatment Plant (GTP) that will be constructed on the North Slope of Alaska. At the GTP, impurities will be removed from the natural gas. The natural gas will be processed and then chilled for transportation (in February of 2009, Denali awarded a contract to Fluor Worley Parsons Arctic Solutions for preliminary engineering work on the GTP). The natural gas will then transit 48 or 52 inch-diameter buried pipeline system that will travel south from Prudhoe Bay; through South Central Alaska; and then head east to the border of Canada (approximately 730 miles across Alaska). The pipeline will then extend through Canada to northern Alberta and link into the existing natural gas hub. If additional pipeline capacity is needed to transport natural gas from the Alberta hub to the United States, Denali indicates that it may construct a further extension into the Chicago, Illinois area.

On June 16, 2008, Denali engaged the Federal Energy Regulatory Commission with a request to utilize FERC's pre-filing procedures. On June 25, 2008, FERC granted Denali's request to utilize the Pre-File Process. FERC assigned Denali the Docket Number: PF08-26-000.

In a submission dated December 22, 2008, Denali provided a detailed "Field Study Plan" to the FERC docket. This field study plan includes a resource data gap analysis for determining whether data from previous field study programs could be carried forward to complete Denali's regulatory requirements for this gas pipeline project. The gap analysis is primarily comprised of an examination of public and private information that was produced over the past ten (10) years. The field study submission also provides information regarding Denali's ongoing and future collection of environmental and cultural resource data. Additionally, on April 8, 2009, Denali filed a "Public Participation Plan" to the FERC docket which identifies the specific tools and actions that Denali will use to facilitate communications with project stakeholders.

On October 17, 2008, Denali submitted a right-of-way (ROW) application, Standard Form 299 (SF 299) with the Department of the Interior's, Bureau of Land Management (BLM). As filed, Denali's preliminary gas pipeline route in Alaska commences at Prudhoe Bay, and generally follows the Dalton Highway south to Livengood. It then follows the Elliott Highway from Livengood to Fairbanks. From Fairbanks, it follows the Richardson Highway to the Alaska Highway intersection in

---

<sup>14</sup> See Denali-The Alaska Gas Pipeline website at <http://www.denalipipeline.com/>.



Delta Junction. It then follows the Alaska Highway to the border of Canada. Denali submitted alignment sheets for its proposed corridor. The Denali SF 299-ROW documents can be located at the BLM, Alaska website.<sup>15</sup>

On May 15, 2009, FERC notified Denali, that it had selected Argonne National Laboratory as the third-party contractor that will provide assistance on the EIS. Denali intends to begin its Open Season in 2010. Bechtel's work will be used to develop Denali's commercial terms for its 2010 open season.

**TransCanada:** TransCanada Alaska (TC Alaska),<sup>16</sup> intends to construct a large diameter interstate natural gas pipeline commencing in Prudhoe Bay, Alaska and ending at its Alberta Hub in Alberta, Canada. Through the Alberta Hub, TC Alaska has access to all North American markets coast-to-coast on TransCanada's existing pipelines. TC Alaska anticipates that there will be enough downstream pipeline spare capacity to support full Alaska natural gas volumes by the time the gas pipeline becomes operational. The endpoint for the natural gas would be the lower 48-states.

The TC Alaska project will include a Gas Treatment Plant that will be constructed on the North Slope of Alaska (In April of 2009, TC Alaska awarded a contract to URS Corp. to develop a preliminary feasibility and engineering study for a Gas Treatment Plant). The GTP will be designed to process approximately 5.0 bcf/d of residue gas from the existing Central Gas Facility at Prudhoe Bay. TC Alaska will construct and operate the GTP or contract with a third party who would construct and operate the facility.

The proposed project study corridor parallels the route of the existing Trans-Alaska oil pipeline to a point south of Fairbanks. It would then follow the Alaska Highway, continuing through northern British Columbia to link with the Alberta Hub on TransCanada's pipeline grid in northwestern Alberta. The Alaska section would be approximately 750 miles in length, with six compressor stations at start-up and at least five natural gas delivery points in Alaska. The Canadian section to Alberta would be approximately 965 miles, with ten compressor stations at start-up and eight intermediate delivery points in the Yukon.

TC Alaska has committed to include an LNG pipeline option in its 2010 Open Season offering. This pipeline would extend from Prudhoe Bay to Valdez, to serve a potential LNG facility to be designed, owned and operated by others.

TC Alaska continues to be engaged in the state of Alaska legislative and executive process known as the Alaska Gasline Inducement Act (AGIA). On August 1, 2008, the Alaska Legislature approved an AGIA license. On August 27, 2008, the Governor of Alaska signed the required Alaska House Bill, authorizing the State to award TC Alaska the AGIA License. On December 5, 2008, the AGIA license was formally

---

<sup>15</sup> See Alaska Bureau of Land Management website at <http://www.blm.gov/ak/st/en.html>.

<sup>16</sup> See TransCanada Alaska website at [http://www.transcanada.com/company/alaska\\_pipeline\\_project.html](http://www.transcanada.com/company/alaska_pipeline_project.html).

signed by the Governor and issued to TC Alaska. AGIA allows TC Alaska to be reimbursed for 50 percent of qualifying expenses through the initial open season and 90 percent thereafter. The reimbursements are capped at \$500Million.

On January 9, 2009, TC Alaska submitted an SF 299 application with Bureau of Land Management for the temporary land use permits necessary for its proposed 2009 geotechnical investigations along the study corridor in Alaska. The investigations will characterize the major soil types and permafrost conditions along the pipeline corridor. In its application, TC Alaska states it is undertaking preliminary feasibility and routing studies in preparation for the design of a future gas transmission pipeline that will carry gas from Prudhoe Bay to connect with TransCanada's existing pipeline system in North Western Alberta, Canada. TC Alaska submitted alignment sheets for its proposed corridor. The TC Alaska SF 299-ROW documents can be located at the BLM, Alaska website.<sup>17</sup>

On April 23, 2009, TC Alaska submitted an application to initiate the Pre-filing Process with FERC. FERC granted TC Alaska's request on May 1, 2009. TC Alaska intends to complete its Open Season in July of 2010 and anticipates that its application will be deemed complete by FERC in October of 2012.

**Bullet Line:** There is a proposal by Enstar Natural Gas Company (Enstar)<sup>18</sup> to construct a natural gas bullet line to transport gas from the Gubik gas fields, Brooks Range-Foothills and/or Prudhoe Bay. The natural gas would be transported through Alaska's interior (serving Fairbanks through a lateral pipeline) and then into South Central Alaska ending in and around the Cook Inlet. It would be a 690 mile pipeline; with a diameter of 20 or 24 inches; have an operating pressure of 2500 psig; and deliver between 500-1000 million standard cubic feet per day (mmscf/d). This is a fluid proposal as the State is aggressively examining the best route for an instate gasline.

**B2F ANGDA Line:** The Alaska Natural Gas Development Authority (ANGDA)<sup>19</sup> plans to construct a 460 mile buried bi-directional natural gas pipeline from the Beluga Gas Field (Cook Inlet) to Fairbanks/North Pole, Alaska. Other alternatives to transport gas from Brooks Range-Foothills and/or Prudhoe Bay into South Central Alaska ending in and around the Cook Inlet may be considered. Like the Bullet Line, this is a fluid proposal as the State is aggressively examining the best route for an instate gasline.

**The Alaska Gasline Port Authority (Port Authority):**<sup>20</sup> The Port Authority<sup>21</sup> was formed in 1999 to build or cause to be built a project that will commercialize

---

<sup>17</sup> See Alaska Bureau of Land Management website at <http://www.blm.gov/ak/st/en.html>.

<sup>18</sup> See Enstar Natural Gas Company pipeline which includes a web-based drawing of the proposed route at: <http://www.enstarnaturalgas.com/ENSTAR%20Pipeline.html>.

<sup>19</sup> See the B2F project website at <http://www.angdab2feis.com/>.

<sup>20</sup> See AGPA website at <http://www.allalaskagasline.com/>.

Alaska's North Slope gas through a liquefied natural gas (LNG) export facility. Over the past decade the Port Authority worked on developing an integrated natural gas transportation project including an 800-mile gas pipeline from Prudhoe Bay to Valdez; a multi-train LNG liquefaction and LPG fractionation facilities, storage, and marine facilities in Valdez; and a gas conditioning plant at Prudhoe Bay.

According to the Port Authority, the selection of TransCanada in 2008 as licensee under the AGIA has allowed the Port Authority to focus on developing the LNG facilities only, since TransCanada has committed to hold an open season for a stand alone line to Valdez for the LNG project. The Port Authority continues to work with Sempra LNG and Mitsubishi Corporation in the development of its project. In addition, the Governor of Alaska signed an administrative order<sup>22</sup> in 2008 directing State agencies to assist the development of the LNG project such as the project envisioned by the Alaska Gasline Port Authority.

According to the Port Authority's January 2009 presentation to the State legislative body, it believes the proposed LNG project will maximize Alaska North Slope gas wellhead value by exporting LNG out of Alaska to reach global markets, including the U.S. West Coast and Asia. The Port Authority notes however, that it has always been committed to prioritizing the needs of Alaska's domestic gas consumers. Toward this end, in January 2007 the Port Authority entered into a Memorandum of Understanding with the Alaska Natural Gas Development Authority for a joint study of the project as a means of supplying natural gas to Alaskan consumers.

### **Consolidated Implementation Plans: Federal Agency Roles**

This section pertains to the draft consolidated implementation plans. Each participating agency submitted a draft implementation plan and then each was provided the opportunity to comment during four rounds of draft plans over a six-month period.

#### **The Office of the Federal Coordinator (OFC)**

The Office of Federal Coordinator for Alaska Natural Gas Transportation Projects (OFC) has the congressional mandate to ensure that federal agencies act in a manner that leads to expedited pipeline permitting, construction and operation.

The OFC manages federal participation in the permitting, development, and construction of Alaska natural gas transportation projects that would provide gas to U.S. markets. To carry out its statutory obligations, the OFC is developing a program plan that will, in part, identify potential issues in the planning and development of an Alaska

---

<sup>21</sup> The Alaska Gasline Port Authority is municipal port authority established by the voters of the Fairbanks North Star Borough, the North Slope Borough and the City of Valdez on October 5, 1999 in accordance with AS 29.35.600 the Alaska Municipal Port Authority Act.

<sup>22</sup> See August 20, 2008, Alaska Administrative Order No. 242 at <http://gov.state.ak.us/admin-orders/242.html>.

natural gas transportation project (Alaska gasline project) and develop strategies to overcome potential regulatory bottlenecks. It is expected that at least 20 federal agencies will participate in the planning and approval process for an Alaska gas pipeline project.

The OFC is an independent agency in the Executive Branch, pursuant to the Alaska Natural Gas Pipeline Act (ANGPA) of 2004 (P.L. 108-324) with authorities derived from both ANGPA and the Alaska Natural Gas Transportation Act (ANGTA) of 1976 (P.L. 94-586). The Federal Coordinator authorities were vested with the Secretary of Energy until December 2006 when Drue Pearce was sworn into the post. The OFC is responsible for coordinating all federal activities for an Alaska gas pipeline project, including joint surveillance and monitoring with the State of Alaska during construction and for one year following the completion of the project. An Alaska gas pipeline project will deliver significant natural gas supply to the U.S. lower 48 states. In December 2007, Congress passed the Energy Independence and Security Act (Act) of 2007 (P.L. 110-140). The Act included technical amendments to the ANGPA that granted the OFC the authority to enter into reimbursable service agreements, among other changes.

ANGPA prohibits federal agencies from including any term or condition to and adding to, amending, or abrogating any certificate, right-of-way, permit, lease or other authorization that the Federal Coordinator determines would prevent or impair in any significant respect the expeditious construction and operation, or expansion, of the Alaska gas pipeline project.

The five (5) main roles of the OFC are: (1) to coordinate the expeditious discharge of all activities by all federal agencies with respect to an Alaska gas pipeline project; (2) to ensure compliance of a project with ANGPA and ANGTA; (3) to ensure that implementation or enforcement actions do not exceed the limitations established in ANGPA; (4) to enter into a joint surveillance and monitoring agreement with the State of Alaska for the purpose of monitoring the construction of the project; and (5) to provide a liaison function to ensure adequate communication with Congress, the State of Alaska, and federal U.S. and Canadian agencies.

In accordance with Denali's submitted timeline, ANGPA, and the 2006 MOU, the OFC is coordinating the development of a consolidated implementation plans for the various phases of the project.

In October 2008, the Federal Coordinator formed a working group to handle infrastructure issues within the state of Alaska including general route alignment, roads, bridges, workpads and "pinch points." Members of this work group include senior staff from the Alaska Department of Natural Resources, Alaska Department of Fish and Game and U.S. Bureau of Land Management.

In addition to coordinating the activities of the Alaska gas pipeline project, the OFC is also monitoring two in-State gas pipeline projects, sponsored by Enstar and the Alaska Natural Gas Development Authority (ANGDA). Of interest to the OFC are the

project routes, infrastructure and the federal agencies' resources dedicated to the projects. These two in-State projects have routes that may cross through some of the potential mainline route "pinch points". Some of the federal agencies will be required to process permits and conduct NEPA analysis for these two in-State projects in addition to the work they will be required to perform on the Alaska gas pipeline projects.

The OFC anticipates entering into a surveillance and monitoring agreement with the State of Alaska in the next 6-9 months. The agreement is expected to cover some or all of the following: (1) design and engineering review, (2) coordinating rights-of-way and other permit issuance, (3) inspection, surveillance, monitoring and enforcement during construction, and (4) inspection, surveillance, monitoring, enforcement and data management during post-construction.

The OFC anticipates formulating a position on the topic of Agency Authorized Officers (AAO). Under the Alaska Natural Gas Transportation Act (ANGTA), Presidential Executive Order No. 12142, and Reorganization Plan No. 1, each agency designated an individual to work for the Office of the Federal Inspector (OFI), who would exercise the agency's responsibilities with respect to the pipeline surveillance, monitoring and enforcement. The prebuilt sections of the ANGTS were built under the direction of the Federal Inspector with the assistance of AAO. The OFC is considering whether to recommend a similar approach for permitting and construction of the Alaska gas pipeline project.

### **The Federal Energy Regulatory Commission (FERC)**

FERC is responsible for issuing the certificate of public convenience and necessity (Certificate) authorizing the construction and operation of an Alaska gas pipeline project pursuant to Section 7, of the Natural Gas Act (NGA). In addition to confirming the Commission's authority to authorize a pipeline to bring natural gas from the Alaska North Slope to the lower 48-states, ANGPA designates FERC as the lead agency for the purposes of complying with NEPA and stipulates that FERC will prepare a single EIS consolidating the required environmental reviews of all federal agencies that have a permitting role in an Alaska natural gas transportation project. ANGPA also requires FERC to issue a draft EIS (DEIS) not later than one year after FERC determines that company's application is complete. The final EIS must be issued no later than 180 days after issuance of the DEIS.

The Energy Policy Act of 2005 (EPACT 2005) expanded FERC's role by making it the lead agency for coordinating all applicable federal authorizations on all interstate natural gas pipelines. To reduce redundancy and sequential processing, FERC is responsible for conducting several activities including:

- Establishing a schedule for agencies to review requests for all federal authorizations required for a project. This ensures the expeditious completion of all such proceedings and complies with applicable schedules established by federal law. Other

federal and state agencies considering an aspect of an application for federal authorization are to comply with the deadlines established by FERC; and

- Maintaining, with the cooperation of federal and state administrative agencies and officials, a complete consolidated record of all decisions made by FERC and other federal and state agencies responsible for any federal authorization and the relevant documents or studies.

In order to expedite the EIS process (and to ensure compliance with legislated timeframe), FERC will utilize its Pre-filing Process to begin the NEPA review before an actual Certificate application has been submitted by a project sponsor. The purpose of the Pre-filing Process is to encourage the early involvement of interested stakeholders, facilitate interagency cooperation, and identify and resolve issues before an application is filed with FERC. The Pre-filing Process is a means for meeting NEPA requirements and optimizing scheduling. It is designed to facilitate the development of a FERC application that is complete and that identifies all stakeholders and issues. The FERC Pre-filing Process is initiated by a letter from FERC's Director of Office of Energy Projects approving a request from the project sponsor.

During the pre-filing review period, it is expected that substantial progress can be made toward completing the federal permitting process.

*The agency activities include:*

- Familiarizing their staff with the project area
- Attending the project sponsor's stakeholder outreach meetings
- Initiating Alaska Native tribal government consultation
- Reviewing the route and alternatives
- Meeting with other federal and state agencies and stakeholders
- Conducting scoping meetings
- Identifying data gaps
- Evaluating the draft application for completeness
- Advising the project proponent on information needs and project modifications that may facilitate an expeditious federal permitting review.

*The project sponsor's pre-filing activities include:*

- Project design and engineering
- Route surveys
- Analysis of infrastructure needs
- Conducting stakeholder outreach meetings and open houses
- Preparing permit applications, including but not limited to, special permit applications and providing supporting information.
- Tracking and responding to stakeholder comments on the proposal.
- Facilitating the required consultations under the Endangered Species Act (ESA), the National Historic Preservation Act, and the Magnuson-Stevens Fishery Conservation and Management Act.

The 2006 MOU between the cooperating agencies on the Alaska pipeline project (June 2006) establishes a project management framework for cooperation among participating federal agencies with responsibilities related to the approval of an Alaska natural gas transportation project. In particular, FERC is clearly identified as the lead agency and the other agencies agree to cooperate with FERC in order to streamline the regulatory reviews. The participating agencies agree to implement their related agency reviews and permitting processes on a concurrent rather than sequential basis to enable completion of the EIS within the time limits required by ANGPA.

The participating agencies agree to participate in the Pre-filing Process and to meet the schedules set by FERC. The schedule established by FERC will be as expeditious as possible while remaining consistent with any statutory permit review periods. To foster interagency cooperation, FERC would seek input from the relevant participating agencies in developing the schedule, setting the range of alternatives, and determining the application is complete before beginning the EIS.

FERC granted Denali's request to enter into the Pre-filing Process on June 25, 2008. FERC established a public docket<sup>23</sup> to track activities for the Denali gas pipeline project. Since commencement of the pre-filing on Denali, FERC has held two federal interagency scoping meetings, one in Washington, DC, and one in Anchorage, Alaska. FERC has also attended the interagency meetings sponsored by the OFC, as well as the Senior Intergovernmental Management Team (SIMT) meetings that include State of Alaska and U.S. and Canadian federal agencies.

FERC has drafted a chronological list of the major milestones and activities that will occur during the pre-filing review period.<sup>24</sup> The list includes designation of those specific activities on which the cooperating agencies are expected to provide input.

### **U.S. Army Corps of Engineers**

At this time and for the immediate future, the U.S Army Corps of Engineers (Corps) has the largest federal agency workload with respect to interstate and intrastate natural gas pipelines in Alaska. Indeed, the Corps shall be a cooperating agency in the mainline natural gas interstate pipeline for both Denali and TC Alaska. In addition the Corps is the lead federal agency on the EIS for the Alaska Natural Gas Development Authority's Beluga-to-Fairbanks intrastate gas line. At this time the Corps is also slated to be the lead federal agency for the Bullet Line. Finally, should the LNG being considered by the Alaska Gasline Port Authority move forward, the Corps will be a cooperating agency.

---

<sup>23</sup> See Denali E-Library at:  
<http://elibrary.ferc.gov/idmws/search/eSave.asp?cnt=200&dt=All&cat=submittal,%20issuance&dk=PF08%2D26&ft=fulltext&dsc=description>.

<sup>24</sup> The *FERC Milestones* are available on the OMB MAX website.

The Corps has the legal regulatory authority to issue or deny permits under three separate laws. First, the Corps may issue or deny a Section 404 permit under the federal Water Pollution Control Act of 1972, as amended (Clean Water Act) (33 United States Code 1344) for the discharge of dredged or fill material into waters of the U.S., including wetlands. The Corps issues or denies a Section 404 permit in accordance with guidelines developed by the Environmental Protection Agency (EPA) in conjunction with the Secretary of the Army; these guidelines are known as the 404(b)(1) Guidelines. Second, the Corps may issue or deny a Section 10 permit under the Rivers and Harbors Act of 1899 (33 United States Code 403) for structures or work in, or affecting, navigable waters of the U.S. Other permit authorities in the Rivers and Harbors Act are Section 9 for dams and dikes, Section 13 for refuse disposal and Section 14 for temporary occupation of work built by the United States. Last, the Corps may issue or deny a Section 103 Ocean Dumping permit under Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 United States Code 1413) for transport of dredged material for ocean disposal.

The Corps understands FERC's role as the lead agency for the mainline including the responsibility for government-to-government consultation with Alaska native entities. It needs to be understood that pursuant to the Department of Defense American Indian and Alaska Native Policy, the Corps will consult on a government-to-government basis with Tribes concerning Department of Defense activities, including issuance of Corps permits, which may have the potential to affect protected tribal rights and resources, on or off Indian Land, and interests in Indian Land. Early cooperative measures are needed between FERC and the Corps, particularly as the Corps is the lead agency on one intrastate natural gas line and has already begun the government-to-government process for that project.

#### **U.S. Coast Guard Bridge Program, U.S. Department of Homeland Security**

The U.S. Coast Guard's Bridge Program is responsible for approval of the locations and plans for bridges and causeways constructed across navigable waters of the United States; approval of the locations and plans for international bridges; issuing regulations associated with drawbridge operations; and the engineering and construction of the alteration of bridges found to be unreasonable obstructions to navigation under the Truman-Hobbs Act.

In Alaska, navigability is a concern for vessels that may range from canoes to small motorboats (used as guide boats or hunting and fishing) to tugs and barges (that might carry fuel or building materials). The specific Bridge Program responsibilities include conducting navigability determinations for each waterway to be crossed, participating in the NEPA review process as a cooperating agency, reviewing bridge permit applications, and issuing or denying bridge permits.

The laws authorizing the Coast Guard to approve the locations and plans of bridges and causeways across navigable waters of the United States include: Section 9 of the Rivers and Harbors Appropriations Act of March 3, 1899, as amended, 33 U.S.C.



401; The Act of March 23, 1906, as amended, 33 U.S.C. 491; The General Bridge Act of 1946, as amended, 33 U.S.C. 525; Section 124a of the Surface Transportation Assistance Act of 1978, as amended, 23 U.S.C. 144(h); Sections 107 and 108 of the Coast Guard Authorization Act of 1982, 33 U.S.C. 530; and various special acts of Congress authorizing individual bridge crossings. In addition, a bridge that crosses a waterway that includes an international border requires a Coast Guard Bridge permit per the International Bridge Act of 1972, 33 U.S.C. 535, whether or not the waterway is navigable.

Importantly, Denali's fact sheet states there are 750 river and stream crossings for the pipeline and its related infrastructure. For each bridge site, navigability determinations will be required to determine whether or not a bridge permit is required and what the required minimum navigational clearances are. Once the pipeline departs the TransAlaska oil pipeline (TAPS) corridor towards Canada, the waterways it will cross have not been reviewed to establish Coast Guard jurisdiction. Conducting the determinations will require several months of labor-intensive work and travel. Each bridge across a navigable waterway would require a bridge permit or bridge permit exemption issued by the Coast Guard. Even with extensive use of buried crossings under smaller waterways, it is anticipated that there will be dozens of waterways that will ultimately require permits.

The 17<sup>th</sup> Coast Guard District Bridge Office, in Juneau, AK, is responsible for all bridge actions in the state of Alaska and consists of one individual. Field work to evaluate bridge permit applications and approve environmental documents is completed at the district level and the majority of the bridge permits are drafted and signed at Headquarters.

### **Advisory Council on Historic Preservation**

The Advisory Council on Historic Preservation (ACHP) reviews and provides comments on actions by federal agencies that may affect properties that are listed in or eligible for listing in the National Register of Historic Places (National Register). This review is carried out pursuant to Section 106 of the National Historic Preservation Act (NHPA), which requires federal agencies to take into account the effects of their undertakings, or undertakings they regulate or assist, on historic properties and afford the ACHP a reasonable opportunity to comment on such undertakings. The implementing rules for the Section 106 process are outlined in regulations promulgated by the ACHP, Protection of Historic Properties (36 CFR Part 800).

The ACHP interprets the Section 106 regulations; provides guidance and advice to federal agencies and other consulting parties in the process; assists in resolution of disputes arising in the Section 106 process and participates formally in Section 106 consultations, when it determines it is warranted. The ACHP also engages in consultation with agencies to develop program alternatives to streamline and expedite reviews that tailor the Section 106 process to agency programs.

The Section 106 process is a four-step process that involves the following basic actions by the responsible federal agency/agencies prior to the initiation of project activities. If more than one federal agency is involved in an undertaking, some or all of the agencies can designate a lead federal agency that shall act on their behalf, fulfilling their collective responsibilities under Section 106. In the first step of the Section 106 process the federal agency official establishes the undertaking, and initiates consultation with all federal agencies, the appropriate State Historic Preservation Officer(s) (SHPOs) and Tribal Historic Preservation Officer(s) (THPOs), Native American tribes, and other consulting parties. The second step involves determination of the Area of Potential Effects (APE) and the identification and evaluation of historic properties in consultation with the SHPO, THPO, and other consulting parties, including Indian tribes. The third step involves the assessment of effects that the project will have on historic properties that are identified. Finally, in the fourth step of the Section 106 process, the federal agency official and consulting parties negotiate an outcome that avoids, minimizes, or mitigates adverse effects on historic properties. If the federal agency, SHPO, THPO(s), and ACHP, if participating, reach a consensus about resolution of adverse effects, this is embodied in a Memorandum of Agreement (MOA) or Programmatic Agreement (PA) that illustrates that the federal agency has fulfilled its responsibilities under Section 106 and its implementing regulations. This legal document is incorporated in the record of decision required under NEPA.

The heart of the Section 106 process is consultation which is defined in the regulations as the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process. There is no time limit established for consultation, rather parties meet and exchange information until the Agency believes a consensus regarding the outcome has been reached. The following parties have consultative roles in the Section 106 process: the SHPO/THPO, federally recognized Indian tribes including Alaska Native Villages and Regional and Village Corporations, representatives of local governments, the project proponent / applicant, and other individuals and organizations with a demonstrated legal or economic interest in the undertaking or affected properties, or a concern with the undertaking's effects on historic properties.

Preliminary discussions with the SHPO and THPOs will be focused on the identification and evaluation of historic properties and assessment of effects coordinated with the preparation of the DEIS required under NEPA. The ACHP will be involved in historic preservation reviews for Alaska natural gas intrastate support pipelines and infrastructure support projects given the complexity of this undertaking and the widespread public interest. Based on the magnitude and volume of reviews required for the Alaska natural gas projects, the Section 106 reviews will likely occur during the pre-filing phase of FERC's application process. A PA outlining the process for a long-term undertaking will likely be negotiated during the DEIS, as well.

The ACHP's Executive Director has identified the Alaska gas pipeline project as a priority.

## **Pipeline Hazardous Materials and Safety Administration, U.S. Department of Transportation**

The Pipeline Hazardous Materials and Safety Administration (PHMSA) is responsible for establishing safety standards for the nation's pipeline transportation system in accordance with 49 USC 60101, et seq. PHMSA establishes and enforces minimum safety standards for the design, construction, operation, and maintenance of pipeline facilities in accordance with the Pipeline Safety regulations, 49 CFR 190-1999.

PHMSA has the role of reviewing *special permit* applications and determining the technical conditions of any special permits that are granted for pipelines that vary from existing regulations. For example, if the applicant wants to use X100 steel (a thinner, stronger steel, which, because it uses less material, can produce economic savings), or if it wants to deviate from standard hydrostatic strength testing requirements, it may need a special permit. PHMSA expects that there will be special permits. PHMSA indicates that it is ready, willing and able to work closely with Denali, other applicants and the state when processing special permits.

Processing any special permit would take no fewer than 12 months and may extend past the 12 month period based upon the technical requirements of the special permit request(s). PHMSA indicates that the project sponsors should apply for special permits at least 12 months prior to the date needed. Once an application is received, PHMSA publishes a notice in the *Federal Register* stating its intent to review the application, sets up a publicly viewable docket, reviews the application, addresses any comments, and ultimately posts its decision in the *Federal Register*. If a project sponsor submits more than one application, PHMSA could process the applications together or separately.

It is important that the project sponsors provide as much technical and environmental information as possible in support of their special permit applications. The sponsors should work with PHMSA early in the process, so that PHMSA can identify the nature and scope of information necessary to properly evaluate the applications. PHMSA will review and comment on draft Resource Reports for the special permits and participate with FERC as necessary to develop specific data requests to ensure the information provided is sufficient to meet the agencies' regulatory and program oversight responsibilities and authorities

Specifically, PHMSA notes that an Alaska natural gas mainline may require special permits, including but not limited to: Pipe Strength (X100); Pipe Ductility (crossing earthquake zones); Strain-based Design (ASME limit and reliability designs); Post-construction Testing (hydrostatic testing); Quality Control (hydrostatic testing); Valve Spacing (distance between valves); Cathodic Protection (composite piping); and Depth of Cover (permafrost issues). Again, it is important for Denali and any other applicant to actively engage PHMSA on their special permit requirements during this FERC pre-filing stage.

PHMSA recommends that in order to process the permits in the timeliest manner, it would be prudent to have completed technical studies available and/or conducted with respect to construction of pipelines in and around permafrost; seismic evaluation for the proposed right-of-way; landslide and slippage; and river and stream flood plain evaluations. The effects of climate change must be included in these studies.

### **Bureau of Indian Affairs, U.S. Department of Interior**

The Bureau of Indian Affairs (BIA), Alaska Region is responsible for administering federal Indian policy with respect to Alaska Native tribal governments and self-determination tribal organizations, and for discharging the Secretary of Interior's Indian fiduciary trust responsibilities. The BIA will be responsible for granting rights-of-way (ROW), with the consent of Indian owners, across Indian lands subject to federal restrictions; to protect and preserve Indian trust assets from loss, damage, unlawful alienation, waste and depletion; and to advance quality communities for Tribes and Alaska Natives.

Geographically, the Alaska natural gas pipeline will stretch from the North Slope Region into the Interior of Alaska. This geographic region covers over 265,561 acres of restricted lands or Native Allotments. These allotments are managed on behalf of the individual Alaska Native landowners by the BIA. However, the lands may also be managed pursuant to self governance agreements by tribal service providers in accordance with the Indian Self-Determination and Education Assistance Act of 1975; Public Law 93-638.

During the FERC pre-file phase the BIA states that three Alaska offices will be involved in the process, the Fairbanks Agency office; the Division of Environmental & Cultural Resources Management (DECRM); and the Branch of Natural Resources.

The responsibilities associated with BIA Fairbanks Agency office include the review and processing of realty transactions prepared by tribal realty service providers; contacting and working with the individual land owner(s) regarding ownership and land boundaries and use permits; and ensuring that federal Indian policy is followed.

The responsibilities associated with the DECRM office include compliance with the National Environmental Policy Act; field plan review; route alignment review; and reviewing resource report data.

The responsibilities associated with the Branch of Natural Resources include collecting and analyzing the natural resources data for the native allotments along the proposed pipeline corridor. The data and analysis will be used to become more familiar with the project and identify the villages, native allotments and resources that may be affected. This information will be provided to the tribes and tribal beneficiaries so they can fully participate in the scoping, comment and review of the pre-filing process. Natural resource specialists will be tasked with data collection and analysis as well as

attending the stakeholder meetings; Native consultations; and meetings with other federal and state agencies.

### **Bureau of Land Management, U.S. Department of Interior**

The Bureau of Land Management (BLM) has principal responsibility, under section 28 of the Mineral Leasing Act (MLA) of 1920, as amended, for issuing rights-of-way (ROW) grants and related permits authorizing natural gas pipelines to cross Federal lands, except lands in the National Park System, lands held in trust for an Indian or Indian tribe, and lands on the Outer Continental Shelf. The BLM is also bound by the pertinent regulations in 43 CFR 2880.

It is desirable for all agencies with responsibility for Tribal consultation to consolidate such efforts in order to reduce impacts to tribes and rural villages in Alaska. FERC, as the lead agency on the EIS, will take the lead in government-to-government tribal consultation. BLM will participate in meetings and teleconferences with tribes in coordination with FERC. The timing of the consultation for this project may be in the first half of 2009. The timing of the EIS for the ANGDA project may put the tribal consultation in roughly the same time period. BLM is coordinating with FERC and U.S. Army Corps to minimize disruption to tribal communities as these two projects go forward.

BLM is the record title holder and surveyor of federal land title for the United States government. The land title transfer program includes fulfilling land entitlement under the Statehood Act, the Alaska Native Claims Settlement Act and the Native Allotment Acts. Therefore, the BLM must coordinate and communicate to project applicants and other federal and state entities when land title passes into private ownership during the application process. BLM has prioritized conveyance of land title along natural gas pipeline routes.

At this time BLM is processing ROW applications for proposed interstate and intrastate natural gas pipelines. BLM has also entered into a contract with Denali on a cost recovery agreement. The schedule for the NEPA work is driven by the applicant and FERC. Denali has requested casual use of some BLM lands to conduct studies and gather data. The BLM will also process temporary use permits submitted by Denali to conduct studies and other work prior to granting a right-of-way. As Denali submits the resource reports to FERC, the BLM will review the reports to ensure adequacy and to meet deadlines in the FERC process. A graphic listing the resource reports together with the subject functions and outputs is attached to BLM's plan.

BLM identifies climate change and health impact analyses as issues that will likely impact the scope of the EIS. There is growing desire among the public to see consideration of these impacts.

### **U.S. Fish and Wildlife Service, U.S. Department of Interior**

The Fish and Wildlife Service (Service) provides technical information, comments and recommendations on proposed federal projects and private development as

a result of its obligations under the Clean Water Act (CWA), Endangered Species Act (ESA), Fish and Wildlife Coordination Act (FWCA), Migratory Bird Treaty Act (MBTA), Marine Mammal Protection Act (MMPA) and NEPA. Project activities that may affect National Wildlife Refuges are reviewed consistent with the Refuge System Improvement and Administration Acts, and special use permits are issued for activities on Service land.

It is important that the Service participate in the FERC pre-filing process. The objective of Service participation is to provide guidance on how best to conserve and enhance fish and wildlife resources, on and off Refuges, while accomplishing the goals of the project. The Service can help to facilitate the early resolution of important concerns on wetlands, endangered species, migratory birds, Refuges, and anadromous fish.

During the pre-filing phase the Service will provide technical advice on the collection of field data, and studies needed to assess the potential for impacts to trust resources. The Service will provide technical input on the type and amount of data required for impact assessment (including, but not limited to listed species, wetlands and other high-value habitats, raptors, and fish passage). The Service will also advise the applicant on an ongoing basis of critical information gaps in the FERC application and make recommendations on how to fill those gaps (if any).

The Service's Fairbanks Field Office will coordinate with Regional and Washington Office personnel as well as other agency staff.

### **US Geological Survey, U.S. Department of Interior**

The mission of the U.S. Geological Survey (USGS) is to "...serve the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life."

The USGS has a broad hazard science mission that in Alaska, for example, includes monitoring and hazard probability assessments through the Alaska Volcano Observatory; developing new earthquake probability models; providing hydrologic data for flood forecasting; and modeling river scour probabilities related to critical infrastructures such as roads, bridges, and the proposed pipeline. The USGS has itemized several scientific studies and tasks that should be undertaken with respect to the proposed natural gas pipeline project(s).

Based on the Denali timeline, USGS proposes that *Broad-level Hazard Probability Assessments* commence in 2009. Assessments should be performed on the following:

*Flood and Scour Hydrologic Hazard Issues*: Hydrologic hazards along the proposed route(s) relate to the magnitude and frequency of natural flows; the hydraulics and scour and fill from those flows; and the instability of the stream channels. Previous

studies identified potential channel crossings were conducted over 20 years ago. Channel forming flows have changed since then in response to the climate. For instance, the Sagavanirktok River has experienced floods in excess of two times the design flood used in the Trans-Alaska Pipeline System (TAPS) assessments. Moreover, the extent of lateral channel migration has increased in areas with melting permafrost.

Earthquake Hazard Probabilities: Earthquake hazards have been assessed from the North Slope to Delta Junction. Some of the studies were conducted more than 25 years ago. The region between Delta Junction and the Canadian border has not been studied.

Volcano Hazards: The pipeline corridor may be exposed to volcanic ash fall and volcanic mudflows (lahar). Mt. Wrangell and Mt. Churchill are two volcanoes whose potential hazard levels should be analyzed.

Landslides, Slope Stability and Mass Movement Processes: Mountain hazards, including snow avalanches, rock-fall, landslides, debris flows, and torrential flooding are of significant importance. The proposed route crosses major mountain ranges and a number of upland areas characterized by steep alpine terrain where mountain hazards are inherent and occur regularly. Processes that could be potentially damaging to the gas pipeline and associated infrastructure include rapid movement of water, snow, ice, debris, and rock on hill-slopes or in stream valleys along the route. Successful management of mountain hazards require a careful analysis of the hazard and the risks posed based on an understanding of past events, and event frequency and magnitude.

Permafrost and Glacier Hazards: Glaciers and permafrost are present along major portions of the proposed pipeline route. Changes in glaciers and permafrost are shifting hazard zones beyond historically documented areas, and in many areas, permafrost temperatures have risen and are close to 0 C. The recently accelerated retreat of glaciers in nearly all mountain ranges of Alaska has led to the development of numerous glacier lakes. Areas underlain by ice-rich permafrost have poor drainage conditions. Assessments of permafrost conditions and glacier hazards will need to be updated.

Water Quality Issues Associated with Infrastructure Improvements and Maintenance: Road construction often introduces fine-grained sediment. Fine-grained sediment has been shown to have adverse effects on fish populations. When roads are paved, the sealant has been shown to produce high levels of polycyclic aromatic hydrocarbons (PAHs) that are susceptible to runoff and have adverse effects on fish. Documentation of current streambed sediment particle-size distribution can be used as a baseline against which future change is measured. Water quality should be indexed before any construction commences.

**National Park Service, U.S. Department of Interior**

The National Park Service (NPS) in accordance with Organic Act of 1916 manages units of the national park system. Gates of the Arctic National Park and Preserve is located adjacent to the proposed natural gas pipeline. In establishing Gates of the Arctic National Park and Preserve, Congress placed emphasis on maintaining “the wild and undeveloped character of the area.”

The NPS administers the National Historic Landmarks (NHL) Program on behalf of the Secretary of the Interior. The NPS serves as an interested party throughout the National Historic Preservation Act Section 106 process as well as providing technical assistance to the land managers to ensure the integrity of the NHL. The proposed natural gas pipeline route passes close to the boundaries of the Gallagher Flint Station NHL. The NPS will advise FERC on the Section 106 consultation process.

### **Federal Highway Administration, U.S. Department of Transportation**

The Federal Highway Administration (FHWA) is responsible for carrying out two distinct programs: the Federal-Aid Highway Program and the Federal Lands Highway Program. The Federal-Aid Highway Program provides federal financial and technical assistance to the states for the planning, construction, and improvement of the National Highway System, urban and rural roads, and bridges. FHWA approval is required for certain types of highway projects and uses of the ROWs of federal-aid highways. Under the Federal Lands Highway Program, FHWA provides highway design and construction services for various federal land-management agencies, such as the Forest Service, the National Park Service and other federal and Tribal lands. The FHWA operates under the general authorities provided under Title 23 United States Code as codified in 23 Code of Federal Regulations.

The Alaska Natural Gas Pipeline project will rely heavily on the State’s infrastructure, and consequently, will impact many of the programs administered by FHWA. The Alaska Department of Transportation has estimated highway needs approaching \$2 Billion in preparation for construction of the gasline. In Alaska, major chokepoints are located on the Dalton Highway at Atigun Pass and the Yukon River Bridge; within the municipalities of Fairbanks, North Pole, Delta Junction; the Richardson highway at the Alaska Range and Thompson Pass; Haines and Haines Highway; and the Parks Highway from Anchorage to Wasilla. Some Projects are underway at this time to address the most pressing needs.

Alaska’s legislature recently passed the State’s capitol and operating budget which contains both Economic Recovery and Federal-aid Highways funding. These budgets list 143 projects estimated at more than \$1.2 billion for highways, aviation, and transit infrastructure. Many of these projects are directly tied to development of the gas pipeline. Particularly important is the \$52 million in funding for priority highway projects to improve the 415-mile long Dalton Highway haul road. The Dalton Highway handles all the traffic and freight needed to support the North Slope oil fields, Point Thompson gas fields, and is also the proposed route for an Alaska gas pipeline.

### **U.S. Environmental Protection Agency**



The Environmental Protection Agency (EPA) is responsible for administering a wide range of environmental laws. EPA responsibilities relevant to the pipeline permitting process include, but are not limited to: reviewing and commenting on an EIS under NEPA and Section 309 of the Clean Air Act (CAA); oversight authority of state issued CAA Title V operating permits; co-administering the Section 404 Clean Water Act (CWA) regulatory program; and oversight authority of oil spill prevention and response requirements under CWA and the Oil Pollution Act. In addition, EPA still maintains National Pollutant Discharge Elimination System (NPDES) permitting authority for oil and gas activities in Alaska. Authority for oil and gas sector permitting is expected to be transferred to the Alaska Department of Environmental Conservation in 2011. Also, EPA is the process of reissuing the North Slope general permit for facilities related to oil and gas extraction to include coverage for potential natural gas pipeline corridors in Alaska.

In addition, EPA's special expertise in the assessment of human health and ecological impacts; consultation and coordination with Tribal Governments; and evaluation of greenhouse gas emissions and climate change impacts, among other areas, may prove useful in expediting pipeline permitting, construction and operation. EPA will be a Cooperating Agency with FERC for the Denali pipeline project.

The EPA has established an Alaska Gas Pipeline Review team with senior technical involvement and senior management review. EPA understands the significance of these gas transportation projects and has appropriately prioritized their review. Employees from several parts of EPA are contributing to the Alaska pipeline review activities. EPA Headquarters' Office of General Counsel, Office of Federal Activities, Office of Water, Office of Air and Radiation, and Office of Solid Waste and Emergency Response are fully participating. In addition, EPA's Pacific Northwest Regional Office (Region 10) in Seattle, Washington, and the Alaska Operations Office in Anchorage, Alaska will continue to facilitate EPA's expert involvement in the review.

EPA will review and comment on the draft Resource Reports and participate with FERC to develop specific data requests to ensure they are sufficient to meet agencies' regulatory or program oversight responsibilities and authorities. Notwithstanding that upcoming review process, EPA expects to focus its data requests on several issues, including but not limited to: Air Quality; Water Quality; Wetlands; Greenhouse Gas Emissions; Climate Change; Hazardous Materials; Alternatives Analyses; Tribal Communities; and Human Health Impacts.

#### **National Oceanic and Atmospheric Administration, U.S. Department of Commerce**

The mission of the National Oceanic and Atmospheric Administration (NOAA) is to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. NOAA anticipates having minimal concerns with the proposed Alaska natural gas pipeline projects. However, should any route be proposed offshore in the Beaufort Sea, or to Tidewater port and tanker facilities, then the Implementation Plan would need to be updated.

NOAA's strategic goals to protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management, to understand climate variability and change, and to enhance society's ability to plan and respond are supported by the programmatic activities of NOAA's National Marine Fisheries Service (NMFS) and the National Ocean Service (NOS). The independent statutory authorities of the NMFS and NOS collectively provide agency-wide services to provide critical support for NOAA's mission.

NMFS is responsible for the stewardship of the Nation's living marine resources and their habitats within the United States Exclusive Economic Zone. NMFS's legal mandates and authorities are derived from the Magnuson-Stevens Fishery Conservation and Management Act, 16 USC 1801 (MSA); Endangered Species Act, 16 USC 1531 (ESA); Marine Mammal Protection Act, 16 USC 1361 (MMPA); Fish and Wildlife Coordination Act, 16 USC 661 (FWCA); National Environmental Policy Act 43 USC 4321; and the Federal Power Act 16 USC 791 (FPA).

Based on the information provided to date, NMFS's review and consultation will encompass those streams which support Essential Fish Habitat (EFH), and in particular, anadromous streams that support Pacific salmon runs. The NMFS review and consultation will be integrated with FERC's review under NEPA.

NOS administers the Coastal Zone Management Act, 16 USC 1451 (CZMA), and approves and works with states to implement Coastal Management Programs (CMPs) and National Estuarine Research Reserves and mediates disputes regarding CZMA issues.

The federal consistency requirements of the CZMA (16 U.S.C. § 1456 and 15 C.F.R. part 930) apply with respect to either: a) federal agency activities that have a reasonably foreseeable effect on any land or water use or natural resource of Alaska's coastal zone; b) private activities that have a reasonably foreseeable effect on any land or water use or natural resource of Alaska's coastal zone for which a federal license or permit is required; or c) activities by state agencies or local governments that have a reasonably foreseeable effect on any land or water use of Alaska's coastal zone and that would be funded by a federal agency. It is likely that the CZMA federal consistency provisions will apply to federal authorizations for the Denali project under 16 U.S.C. § 1456(c)(3)(A) and 15 C.F.R. part 930, subpart D (federal license or permit activities).

Denali will need to provide the State of Alaska with a CZMA consistency certification (*see* 15 C.F.R. § 930.57) and "necessary data and information" (*see* 15 C.F.R. § 930.58). The CZMA schedule cannot begin until Denali files an active application with an approving federal agency. For example, the CZMA review period cannot begin during FERC's pre-filing stage; rather it would begin when Denali files its actual application to FERC. Once Denali submits its CZMA consistency certification and necessary data and information to the Alaska CZMA program, Alaska has six months to concur or object. The applicant and Alaska can agree to stay the six-month review

period and Alaska may issue its decision before the six-month period ends. Alaska and/or the applicant must provide for public comment on Alaska's CZMA decision.

### **Department of Energy**

The Department of Energy (DOE) is responsible for developing and coordinating national energy policy. With respect to the Denali project, DOE's responsibilities arise under section 116 of Public Law 108-324, the Alaska Natural Gas Pipeline Act (ANGPA), 15 USC 720n; the National Environmental Policy Act, 42 U.S.C. 4321-4347; and section 3 of the Natural Gas Act (NGA), 15 USC 717b.

Section 116 of ANGPA authorizes the Secretary of Energy to enter into federal loan guarantee agreements to facilitate construction of an Alaska gas pipeline or liquefied natural gas (LNG) project that would be used to transport Alaska North Slope natural gas to the continental United States.

DOE's consideration of whether to issue a loan guarantee would also trigger review under NEPA. Therefore, if the project proponent seeks a DOE loan guarantee, then DOE likely would seek to become a participating agency in FERC's NEPA process.

For the purpose of the Denali pipeline project through the period when the FERC deems the application complete, DOE has a limited role. There are two different application processes that are relevant – the FERC application for the project and the DOE Application for the loan guarantee.

### **U.S. Department of Labor**

The U.S. Department of Labor (DOL) Employment and Training Administration is responsible for administering federal employment and job training programs, including programs authorized under the Workforce Investment Act (WIA). DOL was authorized by Public Law 108-324 to establish a grant program to train Alaska workers.

Pursuant to ANGPA, Section 113, the Secretary of Labor shall make grants to the Alaska Workforce Investment Board for purposes such as the recruitment and training of adult and dislocated workers including Alaska natives, in the skills required to construct and operate an Alaska gas pipeline system. The DOL may grant funding up to \$20 million. Although authorized, the funds have yet to be appropriated by Congress. In order to be appropriated, the Governor of the State of Alaska has to first certify to the Secretary of Labor that there is a reasonable expectation that the construction will commence by a date that is 2-years after the date of certification.

### **U.S. Department of Agriculture, Forest Service**

The Forest Service (FS) is responsible for managing National Forest System lands. Most natural gas pipelines crossing National Forest System lands are permitted by

a BLM ROW grant issued under Section 28 of the Mineral Leasing Act of 1920, as amended.

Although the currently envisioned route for the pipeline is close to the Chugach and Tongass National Forests, it does not intersect the boundaries of either. However, the applicant may need to ship equipment and materials from Alaska ports to various staging areas for pipeline construction. To the extent that these areas are proposed at Haynes, Skagway, or Valdez, roads across National Forest System lands could require upgrading. Such upgrades could require realignment, structural reinforcement, or other improvements. Additional ROW widths may also need to be granted, land use plans may need to be amended, and appropriate NEPA documentation may be necessary. The FS intends to remain current with Alaska gas pipeline project activities and progress to ensure that it meets its responsibilities for timely project authorization.

As of May 2009, the FS had not identified any issues pertinent to the Alaska gas pipeline project.

### **Transportation Security Administration**

The role of the Pipeline Security Division within the Transportation Security Administration (TSA) is to enhance the security preparedness of the nation's hazardous liquid and natural gas pipeline systems. The Division conducts analyses to maintain pipeline industry domain awareness, develops security programs, identifies industry best practices and lessons learned, and seeks to maintain effective communications with pipeline industry and government stakeholders.

After review of all relevant material to date in regard to the Denali pipeline proposal, TSA's Pipeline Security Division has determined it has no active role in the current implementation phase of the project (FERC pre-filing).

When appropriate, the TSA Pipeline Security Division will ensure all necessary agency attention is provided to the project in order to prevent any delay to the project and will coordinate with the Office of the Federal Coordinator to discuss any security matters or concerns in relation to the pipeline.

### **U.S. State Department**

The Department of State has the lead role in issuing Presidential permits for cross-border facilities, including oil and liquids pipelines; this authority was updated in April 2004 by Executive Order 13337 to conform to the National Energy Policy. However, FERC continues to be the NEPA lead and issuing authority for the Presidential permits for cross-border facilities involving natural gas pipelines. State is also one of the departments that approves FERC permits for cross-border natural gas pipelines. In addition, State will address, in coordination with other relevant agencies, the foreign policy aspects of any agreements with the Government of Canada concerning Alaska natural gas transportation projects, including the manner in which the Federal Coordinator (including the exercise of such authority by the Secretary of Energy) will

engage with Canada on that subject. The United States has certain existing international agreements with Canada that need to be considered and possibly modified in connection with an Alaska natural gas transportation project.

### **Additional Matters**

*Agency Outlines:* FERC developed a preliminary outline to generate discussion at in interagency meeting held in Anchorage, Alaska in October of 2008. This preliminary outline is not to be considered an EIS “Table of Contents” or any other type of final work product for items that will be analyzed in the EIS process. Some agencies provided comments on the *Preliminary Outline of EIS Subject Matter* during the first round of comments. Those comments have been forwarded to FERC for consideration. FERC intends to address the comments and seek further input throughout the Pre-file Process. For additional information on FERC’s process see the [Guidance Manual for Environmental Report Preparation](#).

*Engineering Based Reviews:* For the purposes of this first phase consolidated implementation plan, it is too early to include specific review requirements on *engineering based matters*. However, Denali has hired Fluor WorleyParsons Arctic Solutions for the performance of engineering work related to its proposed gas treatment plant. This facility will be designed to remove carbon dioxide, water, hydrogen sulfide, and other impurities from the gas before it is shipped in the pipeline. The GTP will also provide initial gas chilling and compression. In addition, Denali has entered into a contract with Bechtel for engineering services. This contract covers the services required during the preliminary engineering design phase of the mainline. Major contract elements include pipeline engineering, compressor station engineering, design basis development, cost estimating, scheduling, and procurement planning as well as infrastructure and logistics assessments.

*Workforce Development and Labor Related Activities:* As indicated above, workforce development including the need for a properly trained labor pool is extremely important. The federal government, state of Alaska, Denali and Alaska Native groups must continue to address labor related matters. Denali is actively involved in training initiatives with the Alaska Department of Labor and its workforce development task force. The initiatives include an archeological technician program and a surveyor apprenticeship program.

Denali has partnered with University of Alaska Fairbanks (UAF) on a program for training archeological technicians. The program includes *circumpolar archaeology* and an *archaeology field school* that prepare students to work as entry-level archaeology technicians. Denali is providing funds to support the two courses. The funding covers field school necessities such as food, a generator, camp equipment, safety supplies, and remote communications. It also allows UAF to waive course fees for students in the field school.

Denali has also partnered with Tanana Chiefs Conference (TCC), the U.S. Department of Labor, the Alaska Department of Labor (ADOL) and private employers to create a Surveyor Assistant Apprenticeship Program. This program is designed to recruit students from pipeline corridor communities and to provide them with a combination of classroom and on-the-job training for a career in the surveying field. Denali is providing funding for the classroom portion of the training including the instructor, classroom, equipment, and supplies for the students.

*Continuous Review:* The EIS process will involve a continuous review of all regulatory matters. The OFC expects to draft additional implementation plan phases throughout the EIS process.

### **Conflict and Dispute Resolution**

The OFC shall make itself available to discuss and settle any disputes that may arise and facilitate dispute resolution using the procedures agreed to and memorialized in the June 2006 MOU. The OFC understands that FERC is the lead federal agency. In addition, the Council on Environmental Quality (CEQ) acts as a referee when agencies have disagreements. The CEQ could also be called in to help facilitate the resolution of problems that might arise during the NEPA or environmental permitting process. Such facilitation would be coordinated with the OFC, unless it is a dispute between the OFC and another agency.

### **Conclusion**

This First Phase Consolidated Implementation Plan may be supplemented with content as Denali proceeds through the pre-file process. In addition, this is the first of many phases in the implementation plan process. For instance, once FERC deems Denali's application complete, the OFC will draft a Second Phase Consolidated Implementation Plan for the EIS process.

[Below is the Table of Select On-line Guidance and Manuals]

### **Table of Select On-line Guidance and Manuals**

1. Federal Energy Regulatory Commission

- a. [FERC's General Pre-filing Environmental Review Process](#)
  - b. [Resource Reports for Natural Gas Pipeline Applications](#)
  - c. [Citizen's Guides \(An Interstate Natural Gas Facility on My Land?\)](#)
2. National Environmental Policy Act (NEPA), 1969
    - a. [NEPA Statute](#)
    - b. [CEQ Regulations Implementing NEPA](#)
  3. Wetlands
    - a. [EPA Summary of Clean Water Act](#)
    - b. Protection of Wetlands, [Executive Order No. 11990](#)
    - c. U.S. Army Corps – EPA [Joint Compensatory Mitigation Guidance](#)
    - d. U.S. Army Corps – EPA Rapanos v. United States & Carabell v. United States, [Joint Guidance](#), December 2, 2008
    - e. EPA Clean Water Act Definition “[Waters of the United States](#)”
    - f. U.S. Army Corps of Engineers, [Wetlands Delineation Manual](#), 1987
    - g. [U.S. Army Corps of Engineers, Regional Supplement](#), Alaska Region, 2007
  4. Historic Properties
    - a. [National Historic Preservation Act](#)
    - b. [Section 106 Regulations](#)
    - c. [Section 106 Regs Users Guide](#)
    - d. [Section 106 Archaeology Guidance](#)
    - e. [ACHP Case Digest](#)
  5. Endangered Species
    - a. U.S. Fish and Wildlife Service & National Marine Fisheries  
Endangered Species [Consultation Handbook](#)
  6. Essential Fish Habitat
    - a. National Marine Fisheries Service, [EFH Consultation Guidance](#)
  7. Coastal Zones
    - a. Coastal Zone Management Act, [CZMA Statute](#)
    - b. [Federal Consistency Regulations](#)
    - c. NOAA CZMA, [Federal Consistency Overview](#)
  8. Clean Air
    - a. EPA, [CAA Overview](#)
    - b. Non Attainment Areas, EPA's [Green Book](#)
  9. Coast Guard Bridge Administration
    - a. Bridge Administration Program [Permit Application Handbook](#)

[Below is Appendix 1, Summary of Current Natural Gas Market Trends]

**Summary of Studies on  
Current Natural Gas Market Trends  
Appendix 1**

40



When discussing the supply of natural gas for consumption in the United States, generally the focal points include pipeline imports from Canada; imports from overseas in the form of liquefied natural gas (LNG); and domestic production of non-conventional (supplemental sources of supply) natural gas.<sup>25</sup> Alaska has 35 trillion cubic feet (tcf) of identified gas reserves, with average estimates of another 227 tcf of technically recoverable undiscovered gas. Based on recent historical analysis and future projections, the Alaska natural gas pipeline would be completed in 2020 and the economics continue to be favorable.<sup>26</sup> Once the pipeline is in service, Alaska's total natural gas production would be 2.0 trillion cubic feet in 2021 and remains at that level through 2030. Gas flow from the Alaskan North Slope is expected to be 4.5 Bcf per day.

As a preliminary note, 2008 was a unique year for most commodities. Specifically, natural gas prices spiked to unprecedented levels in the summer and then finished the year more than 58% off its peak. Henry Hub prices topped-out at \$13.31/MMBtu in July. By the end of 2008, it was priced at \$5.71/MMBtu. As of May 26, 2009 the price was hovering around \$3.40.

With respect to Canada, declining production and new long distance pipelines constructed in the U.S. are expected to reduce the amount of natural gas delivered to the United States.<sup>27</sup> Canada is experiencing a decline in production from the Western Canadian Sedimentary Basin.<sup>28</sup> Decreased availability of natural gas for the U.S. remains true even if Canada's Mackenzie Gasline is constructed. It is unlikely that the U.S. will receive any natural gas from the Mackenzie Delta because that gas will be utilized for development of Canada's Athabasca oil sands in Alberta.<sup>29</sup> Further, in 2008, the new Rockies Express Pipeline System (REX) delivered gas from the Rocky Mountains to the Midwest which replaced the higher priced Canadian gas. In 2008, Canadian natural gas imports were down approximately 12.5% compared to 2007.<sup>30</sup>

Regarding the reliance on overseas importation of LNG, the Department of Energy has significantly reduced the short and long term prospects of supply.<sup>31</sup> Currently, the United States' reliance on LNG is dictated by price. In 2007, the United States imported the largest amount of LNG ever at 771 Bcf. However, LNG imports significantly slowed in the latter part of 2007 due to increased demand in Europe and

---

<sup>25</sup> See Energy Information Administration, *Annual Energy Outlook*, reports from 2005-2009.

<sup>26</sup> *Annual Energy Outlook Early Release Overview* for 2009, Energy Information Administration, published December 2008.

<sup>27</sup> *Id.*

<sup>28</sup> See, Energy Information Administration's special report on recent trends in the U.S. international natural gas trade titled *U.S. Natural Gas Imports and Exports: 2007*, published January 2009.

<sup>29</sup> See, *Canada's Oil Sands, Opportunities and Challenges to 2015: An Update*, National Energy Board (NEB) (June 2006).

<sup>30</sup> See, FERC Staff Presentation, [State of the Markets 2008](#), presented April 16, 2009.

<sup>31</sup> *Annual Energy Outlook Early Release Overview* for 2009, Energy Information Administration, published December 2008.

Japan. First, European nations will consistently outbid the U.S. in the LNG market.<sup>32</sup> Second, Japan is the world's largest volume LNG importer and they will outbid both the United States and Europe on any given day.<sup>33</sup>

To illustrate these points, in 2008 the United States imported less than half of LNG that it imported in 2007.<sup>34</sup> The reason for less imports is pegged to Europe and Pacific Rim countries (including Japan) outbidding the United States and also due to the natural gas produced via domestic shale production.<sup>35</sup> It is also worth noting that Europe is expanding its LNG receiving capabilities<sup>36</sup> as a result of recent conflicts Russia has had with Georgia<sup>37</sup> and Ukraine. In the Russo-Ukrainian dispute, Russia cut-off or reduced natural gas pipeline supplies to fourteen (14) countries in Europe in January of 2009.<sup>38</sup>

In July 2007, Japan was shaken by a large magnitude earthquake and the government shut-down a major portion of its nuclear production in order to inspect its facilities.<sup>39</sup> The loss of nuclear power generating capacity forced the utility providers to step up purchases of LNG in order to produce the electricity that the fission reactors would have supplied to customers. The fuel required to replace the nuclear production is 1.3 Bcf/d, assuming that they operate at an 85% capacity factor. That represents about a 15% step increase in LNG demand from Japan, which already was responsible for about 40% of the world LNG demand. As of May 5, 2009, Japan's Kashiwazaki-Kariwa Nuclear Power Plant was still not producing power but it had been restarted.<sup>40</sup> Once this

---

<sup>32</sup> See, *Short-Term Energy Outlook Supplement: U.S. LNG Imports – The Next Wave*, Energy Information Administration, published January 2007 (Europe's largest-volume LNG importer is Spain, which relies heavily on LNG deliveries for its natural gas supplies and has outbid U.S. buyers in order to meet core demand, including the demand for growing power generation needs. The biggest percentage change in LNG imports in 2006 in the Atlantic Basin occurred in the United Kingdom. The Isle of Grain import facility in the U.K. reopened in 2005 and took in over 115 Bcf in 2006 during its first full year of operation.)

<sup>33</sup> See Platts, *High Asian prices Lure LNG Away from Europe*, published January 2008 and linked at <http://www.platts.com/weblog/europower/2008/01/31/post.html>.

<sup>34</sup> According to the EIA the importation of LNG over the past five years is as follows: 2008 was 351.7 Bcf; 2007 was 771 Bcf (record setting year); 2006 was 580 Bcf; 2005 was 631 Bcf; 2004 was 652 Bcf

<sup>35</sup> See Platts, *U.S. LNG Imports Seen Running at 400-500 Bcf*, published February 2009 and linked at <http://www.petroleumworld.com/story09020513.htm>.

<sup>36</sup> See the European Voice internet publication, *EU Weighs LNG's Pros and Cons*, published January 21, 2009, and linked at <http://www.europeanvoice.com/article/imported/eu-weighs-lng%E2%80%99s-pros-and-cons/63787.aspx>.

<sup>37</sup> See ABC News Report, *Russia's Georgia Invasion May Be About Oil*, published April 16, 2008, and linked at <http://abcnews.go.com/Business/Story?id=5595811&page=1>.

<sup>38</sup> See Stratfor Global Intelligence, *Europe: Feeling the Cold Blast of Another Russo-Ukrainian Dispute*, published January 6, 2009; See also, CNN Money, *Ukraine, Russia Cut-off Gas to Europe*, and linked at [http://money.cnn.com/2009/01/07/news/international/russia\\_ukraine/index.htm](http://money.cnn.com/2009/01/07/news/international/russia_ukraine/index.htm).

<sup>39</sup> See, Japan News Review article, *Powerful Earthquake Strikes Niigata, Causes Leak at Nuclear Power Plant*, published July 16, 2007.

<sup>40</sup> See, Hurriyet Daily News, *World's Largest Nuke Plant to Open in Quake Hit Town*, <http://www.hurriyet.com.tr/english/finance/11466642.asp?scr=1>, published April 20, 2009; The Mainichi Daily News, *Reactor at Nuclear Power Plant Resumes Operation 22 Months After Quake*, published May

nuclear facility is producing again, surplus international LNG will be available in the market thereby putting downward pressure on price.

With respect to unconventional domestic production of natural gas, shale formations have emerged as a leading source of supply. Domestic natural gas production saw an upward swing beginning in 2006 that generated 3% growth between first-quarter 2006 and first-quarter 2007, followed by an exceptionally large 9% increase between first-quarter 2007 and first-quarter 2008.<sup>41</sup> More than half of the increase in natural gas production between the first quarter of 2007 and the first quarter of 2008 came from Texas, where supplies grew by 15%.<sup>42</sup>

The increased domestic natural gas production can be directly related to advances in technology that have allowed more drilling of horizontal wells.<sup>43</sup> In the Barnett Shale, the wells go down about a mile and a half, make a turn and go horizontally about a mile, running through the rocks that hold natural gas. The most commonly referred to sources of shale gas production include the Barnett Shale in Texas; the Fayetteville Shale in Arkansas; and the Haynesville Shale in Louisiana. There another shale basin that is in its infancy stage of development known as the Marcellus Shale that spans parts of New York, Pennsylvania, Ohio, West Virginia and Kentucky.<sup>44</sup> It is estimated that the Marcellus Shale basin may contain 500 trillion cubic feet (tcf) of natural gas of which somewhere between 50 tcf and 363 tcf may be recoverable.<sup>45</sup> The primary technological advancement utilized in this region is hydraulic fracturing or “hydrofracing.”<sup>46</sup>

There are many hurdles that must be overcome in order to effectively produce shale gas. For instance, to produce one well in the Marcellus shale region requires between one and five million-gallons of fresh water—water that is used for drinking.<sup>47</sup>

---

7, 2009 at <http://mdn.mainichi.jp/mdnnews/news/20090509p2a00m0na018000c.html>; see also, Platts, *Japan Expects to Buy 50% Less Oil in 2009*, published March 10, 2009; and Tokyo Electric Power Company, *Status of the Inspection and Restoration Works Performed after the Niigata-Chuetsu-Oki Earthquake (as of February 26, 2009)* at <http://www.tepco.co.jp/en/press/corp-com/release/09022601-e.html>.

<sup>41</sup> See Energy Information Administration, *Is Natural Gas Production Increasing?* Published June 11, 2008 at [http://tonto.eia.doe.gov/energy\\_in\\_brief/natural\\_gas\\_production.cfm](http://tonto.eia.doe.gov/energy_in_brief/natural_gas_production.cfm).

<sup>42</sup> Id.

<sup>43</sup> Id. (In the late 1990s, about 40 drilling rigs, or 6%, were drilling horizontally. In May 2008, the number of rigs that were drilling horizontal wells had grown to 519 rigs, or 28% of the total. Horizontal wells don't simply go straight down, but also have one or more horizontal sections.)

<sup>44</sup> Geology.Com, *Marcellus Shale - Appalachian Basin Natural Gas Play* at <http://geology.com/articles/marcellus-shale.shtml>.

<sup>45</sup> See Associated Press Article, *Estimated Gas Yield from Marcellus Goes Up*, <http://www.observer-reporter.com/OR/Story/11-05-NEW-MARCELLUS-SHALE-ESTIMATE>, published November 4, 2008.

<sup>46</sup> See Geology.Com, *Increase in the Number of Fractures*, <http://geology.com/articles/marcellus-shale.shtml>.

<sup>47</sup> See, Reuters, *Gas Drillers Battle Pennsylvania Pollution Concerns*, at <http://uk.reuters.com/article/environmentNews/idUKTRE5422TG20090503>, published May 4, 2009; See also, NY Times, *Proposed Gas Drilling Upstate Raises Concerns About Water Supply*, <http://www.nytimes.com/2008/12/19/nyregion/19drill.html>, published December 19, 2008.

Furthermore, there are concerns over the inadequate amount of waste water treatment facilities with which to handle the refuse derived from hydraulic-fracturing.<sup>48</sup> Additionally, noise, heavy truck traffic, air pollution and the chemical solution utilized in hydrofracing have raised environmental concerns.<sup>49</sup> Moreover, New York has slowed down shale production until the state can develop appropriate regulations.<sup>50</sup> In addition, much of the basin is located below private property where lease negotiations are becoming ever more cumbersome.<sup>51</sup>

Nevertheless, shale gas is one of the most rapidly expanding trends in onshore domestic exploration and production today. Recently, the National Energy Technology Laboratory published a report that describes the importance of shale gas in meeting the future energy needs of the U.S. The Primer provides an overview of modern shale gas development, as well as a summary of federal, state, and local regulations applicable to the natural gas production industry, and describes environmental considerations related to shale gas development.<sup>52</sup>

Finally, recessions affect natural gas prices and production. Natural gas prices tumbled 30 percent this year, the worst start since 2006, as sales weakened with the recession. Demand from industrial users, which accounted for 29 percent of U.S. natural gas consumption last year, declined 5 percent in the fourth quarter of 2008 compared with a year earlier. Likewise, the recession has an impact on the gas rig count—as of April 17, 2009 there were 760 rigs in service compared to 1461 rigs in service on April 17, 2008.

To conclude, Alaska's natural gas is domestically produced. If the gas pipeline is built it would create tens of thousands of jobs over its life cycle; act as a transition fuel for renewable energy sources; and help reduce United States dependency on overseas energy sources. Indeed, according to the EIA, if the Alaska pipeline is not built, there

---

<sup>48</sup> See Courier Express, *Marcellus Shale Drilling Issues: Withdrawal, Treatment of Water are Major Concerns in Pennsylvania and Locally* (According to Bryan Swistock, a water resources specialist from Penn State Extension, "Wastewater is a huge issue right now. Up until now, we've relied on dilution to do that. We take it to a treatment (plant) and take out the metals and sediment and then we are left with a salt solution which goes into a stream where it is diluted. You can't keep doing that forever. Another issue is the ability to treat the fluid with non-traditional chemicals. Location of treatment is also an issue because it has all traditionally been in Western Pennsylvania hundreds of miles from production sites in northeastern Pennsylvania. The infrastructure is not in place.), published, February 21, 2009 at [http://www.leader-vindicator.com/site/news.cfm?newsid=20267070&BRD=2758&PAG=461&dept\\_id=572984&rfti=6](http://www.leader-vindicator.com/site/news.cfm?newsid=20267070&BRD=2758&PAG=461&dept_id=572984&rfti=6).

<sup>49</sup> See, Reuters, *U.S. Gas Drilling Boom Stirs Water Worries*, Hickory, Pennsylvania, published February 25, 2009 at <http://uk.reuters.com/article/behindTheScenes/idUKTRE51O3L620090225>.

<sup>50</sup> See, Ithaca Journal, *Marcellus Shale: Gas Drilling Must Proceed with Caution*, published February 24, 2009; See also, Times Union, *'Hydrofracking:' Toxic Gas Drilling Technique*, <http://www.timesunion.com/AspStories/story.asp?storyID=705332>, published July 22, 2008.

<sup>51</sup> See, The Daily Review, *Gas drilling companies might have tough time meeting DEP regulations-Part2*, [http://www.thedailyreview.com/articles/2008/08/26/news/tw\\_review.20080826.a.pg1.tw26dep\\_s1.1903683\\_loc.txt](http://www.thedailyreview.com/articles/2008/08/26/news/tw_review.20080826.a.pg1.tw26dep_s1.1903683_loc.txt), published August 26, 2008.

<sup>52</sup> See, *Modern Shale Gas, Development in the United States: A Primer*, U.S. Department of Energy-Office of Fossil Energy- National Energy Technology Laboratory, published April 2009.

will be higher prices in the lower 48 natural gas markets; increased lower-48 production of oil and natural gas; and more imports of LNG from overseas.<sup>53</sup>

---

<sup>53</sup> See Energy Information Administration / Annual Energy Outlook 2009, [http://www.eia.doe.gov/oiaf/aeo/pdf/trend\\_4.pdf](http://www.eia.doe.gov/oiaf/aeo/pdf/trend_4.pdf).

*Denali  
National  
Park*

*Tetlin NWR*

Beluga Gas Field

