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THE ALASKA NATURAL GAS PROJECT: WHAT THE FUTURE HOLDS

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SLIDE 1: COVER PAGE

Thank you for the kind introduction and for the invitation to be here with you in Denver. I'll begin this afternoon by telling you that this natural gas pipeline being planned for construction from Alaska through Western Canada to the US Midwest is a complex undertaking encompassing every aspect of my organization's mission and multiple federal, state and private sector stakeholders.

From the federal perspective, and as an Alaskan, I always chuckle at the characterization that Alaska doesn't want to have much to do with anyone or anything "outside" the state. Some would have you believe that Alaska is a resource-rich developing country – which is true – with weak institutions, woeful oversight – not true – and a bad habit of referring to every other place on earth with a single word: "Outside."

OK, so in fact, Alaskans do use that term but I can assure you that with regard to this project Alaska is all about going 'outside' its borders to get it done. Through the Office of the Federal Coordinator, Alaska is involved with more than 20 federal agencies, with the Canadians, and many other stakeholders. **CLICK**

SLIDE 2: GAS PIPELINE ROUTE

So, I'm happy to report to you that we are moving forward. In recent months there has been much progress and even I would say a game changing partnership when ExxonMobil joined the TransCanada Alaska team. **CLICK**

SLIDE 3: FEDERAL FAMILY IN ALASKA

I was in Alaska last month with eight administration and federal agency officials who are part of the federal family of those 20 plus agencies – all of which have an important role in bringing this project online. Although we had only 8 with us, it was the first time most of them had seen the scope of what it will take to bring arctic gas to North American markets. They gained an important sense of geography and the complexity of the pipeline project as well as its potential importance to U.S. energy security, the domestic economy and the environment. **CLICK**



SLIDE 4: FEDERAL FAMILY IN ALASKA

We had a very successful outcome in getting them in country, giving them the best briefings by knowledgeable experts and establishing important relationships for the future.

We discussed the challenges and opportunities associated with the natural gas pipeline, and fresh from that trip, I want to review with you where we are today. **CLICK**

SLIDE 5: U.S. CAPITOL

First of all, in the coming months as the Congress debates climate change, energy security and the need for sources of clean energy, Americans will begin to hear more about the fact that Alaska holds one of the largest known reserves of natural gas in the North America. **CLICK**

SLIDE 6: MAP OF PIPELINE ROUTES

The 35 trillion cubic feet of proven natural gas reserves will make a significant long-term contribution to the United States' energy security, and getting a natural gas pipeline built is a priority of the Obama Administration. **CLICK**

SLIDE 7: JOBS AND OIL FIELD WORKERS

But the pipeline means more than just providing clean energy. It is at least a \$26 billion dollar, privately funded stimulus plan. And if we want to generate long-term economic growth, we need the type of private sector created jobs that this project will create. Over the lifecycle of the project, it will provide tens of thousands of jobs to American workers – not just in building the pipeline but indirectly to places like the steel mills where the rolls of steel will be created and in the transportation, security, food and even the banking industries, all of which will be critical in supporting this project. **CLICK**

SLIDE 8: INTERACTING WITH CANADA

The project also creates a new means to interact with our Canadian neighbors and all stakeholders. And it will help give America the energy security that it needs to help wean the United States off overseas dependence. **CLICK**

SLIDE 9: TAPS PIPELINE

Today there is a renewed national interest in the Alaska gas pipeline. When the Trans Alaska Pipeline System was being constructed, plans were initiated to build a large diameter pipeline to deliver natural gas to the lower 48. **CLICK**

SLIDE 10: PRESIDENT JIMMY CARTER

Congress enacted the Alaska Natural Gas Transportation Act and President Carter designated the route, design and project sponsors a transportation system. **CLICK**



SLIDE 11: ANGTA MAP

The ANGTA designated right of way for the natural gas pipeline would have run from Prudhoe Bay to Delta Junction then east into Canada, across the Yukon Territory and finally south to the lower 48 states. In the 1980's a portion of the pipeline was built from Alberta Canada south to San Francisco, California and Chicago, Illinois. In effect, we are now working to complete the Northern part of the route.

There have been multiple proposals to produce North Slope gas and move it south since the late 1970's. The current began with Congress passing the Alaska Natural Gas Pipeline Act, known as ANGPA in 2004. That statute created the Office of the Federal Coordinator for Alaska Natural Gas Transportation Projects, and I was sworn in as the Federal Coordinator in 2006. **CLICK**

SLIDE 12: AGIA LEGISLATION

In 2007 and 2008, the State of Alaska moved forward with the Alaska Gasline Inducement Act (AGIA), creating a \$500 million financial partnership with TransCanada Alaska. It is important to note that the AGIA license does not grant an exclusive right to land use and right-of-way permits.

As I mentioned a bit earlier, TransCanada Alaska recently announced a partnership with ExxonMobil and has entered the FERC Pre-file Process. **CLICK**

SLIDE 13: DENALI LOGO

Last year, Denali, a joint venture of ConocoPhillips and BP, developed a competing project outside of AGIA and was granted the right to proceed in the Pre-File Process with the U.S. Federal Energy Regulatory Commission, FERC. Both proposals follow the same route as contemplated by President Carter in 1977. **CLICK**

SLIDE 14: OFC LOGO

For those of you who are unfamiliar with our role in the process, let me step back and give you a very brief overview. **CLICK**

SLIDE 15: OFC DESCRIPTION

The Office of Federal Coordinator for Alaska Natural Gas Transportation Projects (OFC) has a congressional mandate to expedite the federal pipeline's permitting, construction and operation.

More than 20 federal agencies will participate in the planning and approval process for this pipeline project, and it will be our job to identify and develop strategies to overcome potential regulatory bottlenecks and otherwise expedite regulatory approvals.

Federal law prohibits federal agencies from including any term or condition 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 law gives my office the responsibility for developing a Surveillance and Monitoring Agreement with the State of Alaska. We are currently working on an

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Agreement that will layout the process for working together from the permitting phase of the project through construction.

Lastly, my staff and I meet regularly with Canadian officials working on this project to identify and resolve any cross-border issues as early as possible. We also are in close contact with the Governor and State of Alaska officials. And, we work hard on being transparent through all of our communications efforts. We want you to know what we know, and we're committed to providing all stakeholder groups and the public with the most comprehensive and accurate project information possible. **CLICK**

SLIDE 16: CHALLENGES

So, other than trying to manage some 20 plus federal agencies, work with the State of Alaska and the government of Canada, along with keeping the interests of the indigenous people at the forefront of our consideration, what are the major challenges?

I love a good challenge, and we have identified a couple of categories that definitely fit the description.

The most straightforward but hardly simplest of the issues are the technical ones. They are solvable but will require collaboration between hydrologists, biologists, archaeologists, geologists, metallurgists, ecologists, climatologists, seismologists and engineers of all classes to name a few.

There are also economic issues: A few minutes ago, I mentioned the jobs that will be created in the steel industry. That's because the project will utilize approximately 2.5 million tons of steel and a 2004 estimate had the project creating 54 million hours of work. At the same time the cost of the project will need to be financeable by the middle of the next decade and the tariffs have to be low enough to attract customers. **CLICK**

SLIDE 17: Technical Issues

Let's start with the technical challenges: **CLICK**

SLIDE 18: Permafrost Construction

Much of the land along the pipeline route in Alaska contains permafrost. Permafrost is defined as ground that does not thaw for two or more years and can reach thickness of more than 1,000 feet. Permafrost extends through as much as 50 percent of Canada and 80 percent of Alaska (Clark, 1988). It is continuous in the North, discontinuous in the mid-sections and leads to areas near the 60th parallel that are subjected to only seasonal freezing. But even that freezing and thawing can cause the land to shift dramatically placing major stress on a buried, chilled pipeline. **CLICK**

SLIDE 19 TO 34: Permafrost Map Slide Show

Permafrost trends must be incorporated into the design by project engineers for this 30-plus-year pipeline. 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 change that is occurring. On the screen is a model that demonstrates the range of permafrost in Alaska from 1950 to today and how it is forecast to shift by 2100. The areas in red are permafrost free and as you look further

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north the colors shift to light blue and dark blue areas – the darker the blue, the colder the ground temperature. Watch what is forecast to happen. **CLICK**
(PAUSE while slide show runs)

SLIDES 35 TO 45: Permafrost Map Slide Show One More Time – 2000-2050

I am going to play the map one more time showing you the map from 2000 to 2050. This time, we look at the forecast change every 5 years. **CLICK**
(PAUSE while slide show runs)

CLICK

SLIDE 46: ARCTIC CONSTRUCTION AND ENGINEERING

Frost heave and buckling of pipelines are known major causes of natural gas pipeline failures in the Arctic.

The geologic instability of routes through permafrost put challenging demands on those who design and construct pipelines in cold regions. **CLICK**

SLIDE 47: BURIED PIPE

Arctic construction and engineering is another significant challenge. Construction in Alaska will take place primarily in winter seasons, where temperatures can reach 60 below zero. Lack of sun and the darkness increase the potential for accidents, unsafe conditions, and worker fatigue. Machinery tends to not function in the same capacity in extreme wind and cold. People are working in the Arctic every day, so these are very manageable issues.

This will be the largest high-pressure gas pipeline ever built in the Arctic. The U.S. Pipeline and Hazardous Materials Safety Administration and the Canadian National Energy Board will harmonize requirements on both sides of the border to withstand the extreme Arctic conditions. They have already begun this work. **CLICK**

SLIDE 48: SEISMIC

On average, Alaska records 50 to 100 earthquakes per day; one magnitude-7 event every year; and a magnitude-8 or larger event every 13 years. As a result of its seismicity, regions of Alaska do in fact pose significant challenges to the construction of a natural gas pipeline. Most Alaskans felt the Denali Fault Line magnitude-7.9 earthquake that occurred on November 3, 2002. That fault slipped approximately 18 feet laterally and more than 3 feet vertically beneath the Trans Alaska Pipeline System. Not one drop of oil spilled from the pipeline. Why? Because the seismic activity in south central Alaska was understood by the engineers and geologists who played a role in the design, placement, and location of Trans Alaska Pipeline System line some thirty years earlier. **CLICK**

SLIDE 49: DELTA JUNCTION

Innovative geological and geophysical engineering will be needed where the gas pipeline crosses active faults to design a pipeline that will be “fail safe.” For example, where the gas line follows the Alaska Highway from Delta Junction into Canada it will



cross some northeast-trending faults. This part of the pipeline route was considered to be a region of low seismic activity. But the latest work by the State of Alaska Department of Geological and Geophysical Surveys indicates substantial recent activity in the region. New design standards will be required in this area. **CLICK**

SLIDE 50: CONGRESSIONAL ACTION

As Congress debates climate change and energy policy in this legislative session, I continue to remind lawmakers about the benefits of this project vis-a-vis their desire to see a climate change bill passed this session.

Natural gas can serve as an efficient and cost effective bridge fuel as the nation moves toward establishing new sources of energy – wind, solar and geothermal to name a few -- and natural gas can deliver immediate reductions in greenhouse gases. **CLICK**

SLIDE 51: ARCTIC WARMING

Congressional action aside, it is very important that policy makers understand permafrost changes and other effects climate change may have on the pipeline after its construction. In October 2008, Canada and the U.S. held the first Northern Oil and Gas Research Forum. The forum provided an opportunity for the two countries to bring together scientists, resource managers and industry to discuss what research is being conducted and to identify gaps. While not limited to climate change, the goal of the forum was to initiate a cooperative effort in which the research that is being done is the research that policy makers need to make the decisions of the day. **CLICK**

SLIDE 52: RIGHT-OF-WAY

One such decision they need to make that will be of particular interest to you pertains to the pipeline rights-of-way.

In Alaska, this pipeline will traverse 750 miles along federal, state, private and Native allotment lands.

On the Canadian side, the route is nearly 1,000 miles long. TransCanada, through its Canadian subsidiary Foothills Pipeline Company, claims that it already has most of the access rights and certificates that it needs to build the pipeline in Canada by virtue of its approvals under the 1978 Northern Pipeline Act.

The other applicant, Denali, also plans to apply for a right-of-way along the Alaska Highway corridor through Canada.

Canada's Major Projects Management Office will oversee Denali's application process. **CLICK**

SLIDE 53: ECONOMIC CHALLENGES

With all of the invigorating challenges presented by the technical and legal issues, I'd like to turn my comments to the economic issues, which are equally as grand. Depending on how you look at it, there are five major economic challenges or benefits for this project. **CLICK**



SLIDE 54: ECONOMIC CHALLENGES

First, this is a \$26 billion dollar enterprise, according to the latest estimate. Who will finance the largest and most innovative natural gas transportation system ever constructed? The private sector will finance this project. It is true that Congress also authorized a loan guarantee of up to 18 billion dollars in 2004 dollars that will be adjusted for inflation and is considering increasing it to \$30 billion. The loan guarantee is likely to be an essential piece of the financial puzzle; however the private sector will take on the responsibility for financing the projects debt.

Second, in order to construct a pipeline, it is imperative to have the necessary infrastructure in place to stage all the manpower and materials for construction.

In both the U.S. and Canada, the companies are talking to the appropriate entities about what new bridges, highways, airports, material sites and maintenance camps will be needed to support tens of thousands of workers, the heavy equipment and the 2.5 million tons of steel to construct the pipeline. The companies will be responsible for these infrastructure needs.

It will take 4-6 years to complete the major infrastructure projects. They must be done before pipeline construction can begin. Every day, week, month, year that we wait to build the infrastructure adds major costs to the project. **CLICK**

SLIDE 55: STEEL NEEDS

Third, the project calls for all that steel. In ANSPA, Congress expressed the preference that such steel should come from North America. North American steel producers and plants need to be prepared to deliver 2.5 million tons of high strength steel pipe in the next decade. **CLICK**

SLIDE 56: QUALIFIED LABOR

The fourth economic challenge is finding, training and retaining the labor pool needed on both sides of the border. Labor for Trans Alaska Pipeline System peaked during construction at 28,000 workers ranging from welders to truck drivers to cooks.

This pipeline will require tens of thousands of skilled workers at the peak. A huge skilled labor force must be trained, be ready to be hired, and then retained throughout the preconstruction and construction.

The U.S. Dept. of Labor gave to the State of Alaska a grant it is using to conduct a study as well as to begin finding and training that labor pool. **CLICK**

SLIDE 57: PIPELINE APPLICANTS

Finally, I want to note that Denali and TransCanada Alaska are engaged in the regulatory process for the gas line construction. Both interests are following the same highway corridor, but they have a different means to getting the project done. Both are earnest in their desire to be the company that builds the pipeline.

Of course Trans Canada holds the state of Alaska's license and, as I mentioned, three months ago, TransCanada Alaska announced ExxonMobil as its new partner. Both Denali and TransCanada Alaska have been in the field for the past two seasons conducting environmental and other studies, and both are moving toward "open



season” next year wherein North Slope producers will have an opportunity to commit natural gas to the pipeline for transport to lower 48 markets.

It is a fully engaged process with many components, and I am sure you would agree that expediting this confluence of interests and the permitting and technical issues may seem daunting. **CLICK**

SLIDE 58: WINSTON CHURCHILL

But when the process seems slow, I’m reminded of Winston Churchill who advised to never, never, never give up.

You might know that it was Churchill who, as a member of the War Council of Great Britain, acquired a majority interest in the Anglo-Persian Oil Company in 1914, bringing the company under British government control to secure its access to Persian oil. That company later became British Petroleum.

When I look at the complexity of this project and all of the competing and complementary interests, I’m reminded of Churchill’s foresight in bringing energy security to Great Britain and of his words, which I leave you with today... **CLICK**

SLIDE 59: CHURCHILL SAID

He said: “Success is not final, failure is not fatal; it is the courage to continue that counts.”

As President Obama works toward presenting Congress with a national energy plan that includes an emphasis on clean natural gas and renewable energy sources, this project makes economic sense, and we need the courage to complete this project and bring arctic natural gas to North American markets within the next 10 years.

Our nation will benefit plenty if we do. **CLICK**

SLIDE 60: OFC CONTACT INFO

Thank you and I look forward to taking your questions.