Stand Alone Gas Pipeline Project

Alternative Schedule*

DRAFT

SCHEDULE	2009				2010				2011				2012				2013				2014				2015				2016				2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Engineering Support																																				
Design Basis	=>																																			
Corridor Selection	=>																																			
Conceptual Design	=>		=====		==========				==																											
Alternatives Analysis			==																																	
Project Description (filing)	=>		===																																	
Final Project Description					========																															
Cost Estimate & Logistics	=>				========																															
Project Documentation Package					==========				====																											
Permitting																																				
COE 404			=	==========					====																											
Federal and State ROW			=	==========					====																											
Draft EIS						X																														
Final EIS										X																										
Additional Permits and NTP's					========				==========				==========				==========				==========				==========				==========							
Project Review & Sanction																																				
Company Due Diligence										=====																										
Transfer of Permits													==																							
Project Sanction																	X																			
Detailed Engineering Design																																				
Pipeline													========				==========				==: = = = =				= = = = =				= = = = =							
Facilities													========				==========				==: = = = =				= = = = =				= = = = =							
Cost Estimate & Logistics																	==: ========				==: = = = =				=											
GCP Construction																																				
Order Equipment																	X																			
Fabricate Modules																					=====				==========				=====							
Pre-construction Preparation																																				
Module sea-lift																														==						
Install & Testing																															==	=====				
Compressor Stations																																				
Order Equipment																	X																			
Fabricate Skids																					=====				==========	==										
Pre-construction Preparation																									========	==										
Construction & Testing																													========	=====						
Pipeline																																				
Order Pipe and Valves																	X																			
Pre-construction Preparation																					========	=======														
Construction & Testing																									========	==========			=====							
NGL Plant & Storage																																				
Order Equipment																	X																			
Fabricate Skids																					=====				==========	==										
Pre-construction Preparation																									========	==										
Construction & Testing																													========	=====						
Start-up																																				
Start-up & Operations																																			==: ==X	

* Assumes timely availability of fabrication facilities, equipment and craftsman for GCP

ASRC Energy Services
a subsidiary of Arctic Slope Regional Corporation

Memorandum

Date: February 25, 2010
To: Bob Swenson, Executive Director
Alaska In-State Gas Pipeline Project
From: Mike Sotak, Senior Project Manager
Subject: Rough Order of Magnitude Cost Estimate for In-State Gas Pipeline Environmental and Permitting Tasks

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ASRC Energy Services (AES), contractor to the Alaska Department of Natural Resources (ADNR) for the In-State Gas Pipeline Project, has prepared the following rough order of magnitude (ROM) cost estimate for completing the necessary environmental and permitting tasks so that construction of the pipeline can begin eighteen (18) months from now. The ROM breaks down costs by task below:

Task Name	ROM Cost Estimate	
	Pipeline (includes Compressor Stations)	Gas Treatment Plant
• State of Alaska Right-of-Way Lease and Bureau of Land management Right-of-Way Grant Applications • U.S. Army Corps of Engineers Section 404 permit (wetlands)	$1M	$500K
• Pre-Construction Permits (priority) o ADNR Permits to appropriate water, temporary water use o EPA NPDES o USCG Section 9 Bridge Permit o USACE Section 10 Navigable Waters o ADFG Fish Habitat Protection Permits o Section 106 National Historic Preservation Act o Local Land Use Permits and Authorizations o Essential Fish Habitat Consultation o Alaska Coastal Management Plan Consistency Determination (NSB, MSB)	$2.5M	$400K
• Notice to Proceed Permits and Plans o Plans of Operation o Solid Waste, wastewater disposal management o Encroachment authorizations and easements o Reclamation plans o Hazardous waste management o Oil discharge prevention plans o Letter of Authorization (polar bear)	$2.5M	$500K
• Environmental Impact Statement (expedited)	$1M	$1M
• Environmental Field Programs to support EIS and Permits	$10M	$2.5M
• Stakeholder Engagement and Environmental Justice	$1.8M	$200K
• Monitoring and Mitigation	$2.5M	$500K
• Air Quality permits to operate	$1M	$1.5M
• BLM reimbursable	$1.25M	$250K
Total Estimate	$23.55M	$7.35M

In-State Stand Alone Pipeline - FY11 Budget Narrative

1. Completion of environmental and permitting for USACE and State and Federal right-of-way approvals.

Total Estimated Expenditures **$ 2,000,000**

- Project Management - AES will continue to support the State of Alaska's project team and be involved with State of Alaska and the U.S. Army Corps of Engineers (USACE) in supporting the third-party EIS consultant with the NEPA review.
- Permitting - AES continue with the development and coordination with the USACE, BLM and State Pipeline Coordinator on the three major permits filed in 2009 and will begin working on ten other key permits for submission in late 2010 so that processing and the negotiations for permit approvals and mitigation measures may be completed in time for sale of the In-State pipeline asset to a future pipeline company.
- Stakeholder Engagement - Prepare and implement a stakeholder engagement program to support project development. Includes stakeholder contact database, and issues information. Engagement with the local boroughs, their communities and residents, tribal governments, the USACE, USFWS, BLM, State of Alaska, Native Corporations are critical.
- Wetlands - Conduct wetlands field program in the northern and southern sections of the proposed In-State Pipeline Project corridor to complete verification of wetlands pre-mapped to prepare for submission of the Preliminary Jurisdictional Determination to the USACE for their approval of the Section 404 Jurisdictional Determination; complete vegetation and habitat analysis. Provide assistance to the EIS contractor as required.
- Stream Crossings - compile the fish and wildlife resource data necessary for permit applications and assessing potential project impacts under the NEPA process. All data collection needs will be adjusted as necessary in accordance with the outcome of the draft EIS and provide information for engineering design and routing.
- Cultural - Phase one cultural resource studies will examine a potential corridor sufficiently large so that a right-of-way can be refined to the best possible alignment to avoid or minimize impacts to cultural resources.
- Lake Studies – Lake studies and surveys will be conducted primarily on the North Slope to assess the potential for water availability for use during winter construction.
- Wildlife and Bird Surveys – As needed to support the EIS process, wildlife and bird (raptor) studies will be conducted during the 2010 field season.
- Air and Noise Analysis – Evaluate compressor station locations for air emission issues and determine the need for air monitoring and weather stations to develop information for ADEC permitting.

- Pre-mapping - Prepare the wetlands pre-mapping information for route changes or alignments that have not been assessed such as the Gubik route, the Denali reroute, some of Minto Flats rerouted alignment, and so forth.

2. Engineering data acquisition for detailed engineering design of the project.

Total Estimated Expenditures: **$3,500,000**

- Gather detailed geotechnical data on major river crossings. The preferred river crossing method is assumed to be HDD (Horizontal Directional Drill). The assessment of the applicability of crossing rivers with HDD requires site specific geotechnical information. Additional field information on river approaches and total crossing length needs to be collected to verify use of HDD. This activity includes mapping and the drilling of geotechnical site investigation boreholes.

- Gather engineering field data. Pinch points such as Atigun Pass, Yukon River, and Denali Park require additional field verification of soils, available construction space and detailed routing to avoid conflicts with other facilities and to develop and verify conceptual design. Engineering field data is required to investigate and verify route geotechnical conditions and includes information on seasonal ground temperatures, geohazards and foundation conditions at project facilities (Gas Conditioning, Compressor Stations and NGL separation and storage). This information will be used to verify locations and develop conceptual designs to be included in final project documentation. This activity includes field mapping and the drilling of geotechnical site investigation boreholes with installation and monitoring of ground temperatures. Results will be analyzed and will be reported in a engineering report.

- Refine pipeline routing. The current pipeline routing is within a 2000 foot wide corridor. The actual centerline of the corridor has not been vetted and verified as the optimum route. Final route identification will be optimized for pipeline constructability, avoidance of environmentally sensitive areas, minimized TAPS, Highway and Railroad crossings, facilities location and optimized river crossings locations. These route adjustments will be made, if possible, within the 2000 foot wide corridor currently identified. Results of the engineering evaluation will be used to update the project GIS (Geographical Information System) and will be reported in a engineering report.

3. Refinement of Cost of Service estimates and Tariff modeling

Total Estimated Expenditures: **$750,000**

- Peer review engineering cost assessment of railbelt natural gas alternatives, and commercial assessment of options . There are a number of different project alternatives that have been proposed to alleviate the need for augmented for railbelt energy supply. They include two bullet line alternatives, two spur line alternatives, provision of propane from Prudhoe Bay to Fairbanks and other interior communities, LNG manufacturing on the North Slope to provide gas supply to Fairbanks and possibly other railbelt communities, and facilities to import LNG. Most of the analyses developed do not compare alternatives using similar assumptions for

input costs (e.g. steel prices, labor rates). Just as importantly, they do not make similar or consistent commercial assumptions. Peer review will assure that assumptions made by the various project proposals are consistent.

- Analyze the cost of Capital for in-state gas supply options, and Cost of Service Modeling. The commercial viability of all in-state gasline options depends on the cost of transportation. Because the contemplated scope of these projects would entail expenditures of several billion dollars, the transportation cost will be determined by the cost of capital – both the relative mix of debt and equity, and the cost of each. Assessment, for planning purposes, of the cost of capital for these small diameter pipelines is problematic and will be reviewed

- The cost-of-capital inputs need to be developed through scenario analysis. With the requested funds we will hire a financial advisor to help develop several realistic financing scenarios. Potential risks to the state's credit-rating, were the state to be called upon to take a major position in the project, will also be assessed. Some of the funds will be used for pipeline commercial expertise to develop realistic transportation contract scenarios and tariff modeling.

4. Prepare complete project documentation of In-State pipeline asset for consideration by private pipeline developer

Total Estimated Expenditures: **Budget Estimate; $250,000**

- Coordinate project team to include all, cost and design data, environmental, stakeholder, and permitting information for a 'data room' for prospective purchasers to review and evaluate. Be available to participate in presentations to the prospective purchasers and respond to technical questions that may be raised with regard to specific issues.

Alaska In-State Gas Pipeline Project.
February 24, 2010 - House Finance hearing on gas line funding requests
Robert Swenson, Project Manager

1. **What agencies have done with the money they spent in FY2010?**

Work that is completed to date:

- Route Alternative Analysis – Parks and Richardson Highway routes: Associated comparative pipeline cost estimates; Environmental Surveys
- Initial Project Description (for permitting)
- Commercial Group Scoping
- Initial Review of ENSTAR Capital Cost Estimate – Pipeline
- Major permits applied for: U.S. Army Corps of Engineers Section 404/10, State of Alaska Title 38 Right-of-Way, Bureau of Land Management Right-of-Way

Work currently underway:

- Updating pipeline cost estimates
- Developing cost of facilities
- Cost of transport analysis
- Preparing detailed project description
- Continued engineering support for EIS and ROW process
- Developing data package for economic analysis
- Facilities scenarios identified
- Commercial group market analysis
- Cost of transport analysis

2. **How much additional they have encumbered and for what?** $3,904,496

	Payroll & Expenditures 1/15/2010	Contract Commitments (Encumbrances)	Estimated Budget Jan-10	Estimated Budget Feb-10	Estimated Budget Mar-10	Estimated Budget Apr-10	Estimated Budget May-10	Estimated Budget Jun-10
Personal Services	170,252		26,825	26,825	26,825	26,825	26,825	26,825
Travel	17,832		3,000	3,000	3,000	3,000	3,000	3,000
Services	2,024,396	3,904,496	330,000.0	330,000.0	330,000.0	330,000.0	330,000.0	329,000.0
Commodities	2,488		2,000	2,000	2,000	2,000	2,000	1,629
Total Expended	2,214,968	3,904,496	361,825	361,825	361,825	361,825	361,825	360,454

3. **How much they need for FY2011? and what they propose doing with the money?** $6,500,000

	Per month FY2011	Total FY2011
Personal Services	26,830	321,960
Travel	3,000	36,000
Services	511,000	6,130,040
Commodities	1,000	12,000
Total expended	541,830	**6,500,000**

- Completion of environmental and permitting for USACE and State and Federal right-of-way approvals.
- Engineering data acquisition for detailed engineering design of the project.
- Refinement of Cost of Service estimates and Tariff modeling
- Prepare complete project documentation of In-State pipeline asset for transfer private pipeline developer