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Governor Sean Parnell
STATE OF ALASKA

August 21, 2009

Members of the Alaska State Legislature
Alaska State Capitol
Juneau, AK 99801-1182

Dear Legislators:

It has been a busy summer month for the team as we work to determine the costs and feasibility of a stand-alone Alaska natural gas pipeline project. Work continues on the route analysis for the gas pipeline from the North Slope, along with engineering work on a possible route for a pipeline extension toward Western Alaska and site selection for a natural gas liquids extraction plant. The engineering work that is currently being done will allow for cost estimates to be derived for any potential pipeline option potentially serving the railbelt area. This would include gas from the Foothills area of the North Slope, the Nenana basin, or Cook Inlet.

I expect to have the first summary report of the alternative route analysis completed by early September, and will promptly send a copy to legislators. The Baker engineering team continues to analyze the capital cost differences, environmental issues, and a number of potential customers for the two routes: from the North Slope to Fairbanks and down the Parks Highway to Southcentral Alaska versus the route to Fairbanks and then along the Richardson Highway over to Delta and down to Glennallen and along the Glenn Highway to Southcentral.

The summary report of the route analysis will not propose a decision but rather will set out the facts for policymakers to use in a future determination of the preferred route.

The current plan is to submit a right-of-way application for both routes in October. The right-of-way applications will go to the Alaska Department of Natural Resources, United States Bureau of Land Management, and the United States Army Corps of Engineers, with the Army Corps expected to serve as the lead federal agency in charge of the environmental impact statement process.

As part of the right-of-way preparations, we held field trips last month with state and federal agency personnel to familiarize everyone with some of the issues that will come up in the right-of-way and environmental impact statement process.

Our work this past month also included more detailed review of a potential pipeline route around Denali National Park to avoid the obvious problems with national park lands. We believe we have identified a possible route outside the park boundary, just east of the Parks Highway. It appears to offer an economic option to running the pipe through the park and the special permission that would be required for such an undertaking. Of course, the route could run along the highway in the park if the National Park Service were to prefer having the pipe closer to its main facilities. This

work is part of the route analysis between the two alternatives for a gas line from the North Slope to connect with the existing Southcentral pipeline system, as there are locational issues specific to each route.

Engineering work is also continuing on a possible extension toward Western Alaska to serve the proposed Donlin Creek mine, just north of the Middle Kuskokwim River village of Crooked Creek, about 280 miles northwest of Anchorage. One possible pipeline route would run from the west side of Cook Inlet to Donlin Creek, and another route under review would connect to the stand-alone pipe just south of Nenana and extend west from there.

The team just started work in July on site review for a possible natural gas liquids plant to extract the heavier gas liquids from the gas stream. The team is looking at sites in Cook Inlet.

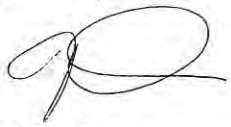
I have enclosed a copy of the stand-alone gas line project action plan, which the team put together in a meeting with engineers, North Slope producers, Southcentral utilities, potential natural gas customers, and others. It provides additional details on our scope of work, our objectives, infrastructure issues, and timelines for the project team's work assignments.

Our expense report is as follows:

> The project spent $321,040 during the month of July and has spent a total of $470,943 year to date.

Thank you for your support in this work. Please call on me if I can provide any additional information, and I will have another update for you in about 30 days.

Sincerely,



Harry Noah
Project Manager
In-state Gas Program

Enclosure

Action Plan for a Feasibility Analysis

of the

STAND-ALONE GAS PROJECT

State of Alaska

Baker

ORION*FPI

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

INTRODUCTION

The attached Action Plan was developed by representatives of the State of Alaska, with active participation of representatives of ExxonMobil, BP, ConocoPhillips, Anadarko, Enstar, Fairbanks Gas, Golden Valley Electric, Chugach Electric, Agrium, and Barrick Gold, and with technical support from representatives of Michael Baker Engineering, during a two-day VIP (Value-added Interactive Planning) Session held in the Opportunity Salon of the Embassy Suites in Anchorage on Thursday and Friday, June 18th and 19th, 2009.

The planning session was facilitated and documented by ORION Facilitated Planning Inc.

NAME OF PROJECT

The project is evolving, and a generic working name was selected for the early phases of the project: it will be known on an interim basis as the ***Stand-Alone Gas Project.***

OWNER

For purposes of this workshop, the Owner of the project was identified as the ***State of Alaska***.

OBJECTIVE OF PROJECT

The Owner's objective of the project was established as a desire " - - - for the development of a commercially-viable in-state natural gas system with these embedded characteristics:

- Producers to make a net profit equal to, or greater than, by exporting gas;
- Industrial users to be served at a cost that enables them to be competitive in a world market; and
- To turn the project over to a private developer who will recoup costs and make a profit on the operation of the pipeline."

It was noted that the State considers that it has the authority to be the Developer, if necessary.

OBJECTIVE OF VIP SESSION

The objective of the VIP Session was defined as a need " - - - to develop an action plan for a Prefeasibility Study of the Stand-Alone Gas Project."

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

PLANNING TEAM

The Action Plan defined in this document was developed by the planning session participants identified below. The full planning team functioned on an interactive, participative basis, with an Owner-oriented focus. These same participants also wrote the scope descriptions in Section 2 of this document; there, their initials identify the authors of each work package. The corporate affiliation of each participant is indicated by a superscript following his or her name.

Planners		***Areas of Relevant Experience***
Ken Pohle [AK DNR]	KRP	*Mine Eng; Mine Ops Mgt & Admin; Proj Mgt*
Dan Clark [ConocoPhillips]	DMC	*Mech Eng; Nat Gas Processing; O&G Production Mgt*
Kate Lamal [GVEA]	KKL	*Geologist; Economics; Au Mines; Energy Mgt*
Vin Robinson [ENSTAR]	VLR	*Civil Eng; PL Studies & Design PL Projs TAPS*
Robert Wall [ExxonMobil]	RAW	*Mech Eng; Gas Processing & Treatment; Design; Risk Mgt*
Steve Wendt [Agrium]	SMW	*Nitrogen Fertilizer Operations; Proj Mgt*
Mike Metz [Baker Eng]	MCM	*Eng Geol; R&D; Cold Regions O&G Projects*
Keith Meyer [Baker Eng]	KJM	*Pipeline Eng; Nat Gas Transmission; Production Ops*
Ward Whitmore [Baker Eng]	WAW	*Chem Eng; O&G Operations; North Slope; Nat Gas Issues*
Terry Lee [ORION*FPI]	TDL	*Facilitator*

Sponsors		***Areas of Relevant Experience***
Harry Noah [AK DNR]	HAN	*Enviro; Mine Permitting*
John Lau [ENSTAR]	JJL	*Elec Eng; Conoco Eng & Field Mgt; Enstar; Pipeline Projects*
Marty Massey [ExxonMobil]	MWM	*Petroleum Eng; Commercial; Gas Project Marketing*
John Reeves [AK DOT]	JMR	*Business; Valdez Port; Gas Pipelines*
Brad Evans [CHUGACH]	BWE	*Elec Eng; Pipeline Projects; Heavy Const; Utilities Ops & Mtce*
Colleen Starring [ENSTAR]	MCS	*Nat Gas; User Management*
Dan Simpson [Baker Eng]	DGS	*Civil Eng; North Slope Projs; Heavy Civil Projs; Proj Mgt*

Supporters		***Areas of Relevant Experience***
Dave Anderson [Anadarko]	DBA	*Business; Gas Processing & Commercial; AK Gas Markets*
John Denis [BP]	JRD	*Geol; Resource Mgt; Tech Mgt*
Hiten Mehta [BP]	HM	*Chem Eng; MBA; Contract Negotiations; Commercial*
Eduardo Naranjo [ExxonMobil]	EJN	*Bus Admin; Gas Commercial; O&G Operations*
Stan Foo [Barrick]	STF	*Geology; Gold Mine Ops, NV & AK; Donlin Admin*
Dan Britton [Fairbanks Gas]	DWB	*Nat Gas Utilities; Gas & LNG Distribution*
Jerry Gallagher [AK DNR]	JLG	*Geol; Mines; Expl; Govt-Community Relations; Legislative Dir*
Larry Persily [AK]	LP	*O&G Tax Fiscal Issues; AK O&G Policy Issues*

SUMMARY

METHODOLOGY

The VIP process is an interactive, Owner-oriented, high-level planning process that focuses on development of a plan by a designated team to achieve the Owner's objectives for his project or program. The process is guided by an experienced Facilitator who records the aggregate input of the planning team, but does not influence the content, direction or technical viability of the plan.

For this project, the State's Sponsor (identified on the previous page) clearly identified the strategic objective of the project, and then identified the objective of the VIP Session. These objectives, coupled with other basic project information that was developed interactively during the Kickoff Portion of the workshop with the participation and endorsement of the Sponsors, are included in Section 1 of this Action Plan; they provided solid parameters for development of the plan.

The participants then developed their plan to achieve the stated project objectives. First, they developed a logic network that established the work packages and their logic-driven interactions. This part of the process largely ignored the durations of individual activities, and maintained an objective focus on the work process. As a wrap-up step, the participants made a thorough review of the logic network they had created -- they adjusted interactions if necessary and added durations to each of the work packages, remaining consciously objective through this vital phase of the planning process.

The result of the VIP Session was a plan that was developed by the team that, to large extent, will be involved with the execution of the program. This document records their plan to execute a Prefeasibility Study for the Stand-Alone Gas Project.

"COST OF SERVICE"

It was recognized that the phrase "cost of service" is potentially very misleading, that there are three significant and distinctly different components to the cost of gas, and that "cost" is not the same as "price". The participants resolved that the cost of the three components, as used in this study, should be referred to as follows:

- Production Cost
- Treatment & Pipeline Cost
- Distribution (incl Storage) Cost
- Total Cost = the Sum of these three cost elements

ACTION PLAN for a **PREFEASIBILITY STUDY**
of the
STAND-ALONE GAS PROJECT
State of Alaska

SUMMARY

ASSUMPTIONS

Two clarifying assumptions were discussed briefly during the planning session; they are included in this document to provide clarification to the context of this Action Plan:
Assumption #1: the major working assumption was that a stand-alone gas pipeline project would only be constructed if the 48-inch pipeline to the lower 48 states is either delayed from the planned 2019 start-up date, or will not be constructed at all.
Assumption #2: this action plan is focused on defining a cost of service for a stand-alone gas pipeline project. There are other aspects of the In-State gas project work that are not included in this document.

PROJECT DRIVERS

During a focused discussion, each of three groups identified the "drivers" for the project from their unique perspectives:

State of Alaska – wants the pipeline system

- to provide an energy supply to support economic growth;
- to provide a financial opportunity to the State; and
- to provide affordable natural gas service to home-owners.

Producers – want to

- sell all gas at highest possible net-back; and
- sell largest volume of gas possible.

Users – wants vary, depending on the User organization, as follows:

- Agrium: Could re-start its Kenai operations and operate at full capacity, if long-term gas service was available.
- Western Alaska: Residents of western Alaska could be served by a pipeline; the Donlin Creek mining project is one example of a major potential user.
- Utilities: Requires long-term, secure, reliable supply for existing and growing customer base; there is a sense of urgency for secure supply, and the pipeline option appears to be superior to current options.

SUMMARY

POTENTIAL OPPORTUNITIES

Two potentially-significant opportunities to improve the success potential for the project were identified by the participants:

- Develop opportunities to confirm and increase gas volume requirements; and
- Adopt a proactive approach to permitting by the State, to avoid project schedule delays.

POTENTIAL THREATS, RISKS & ISSUES

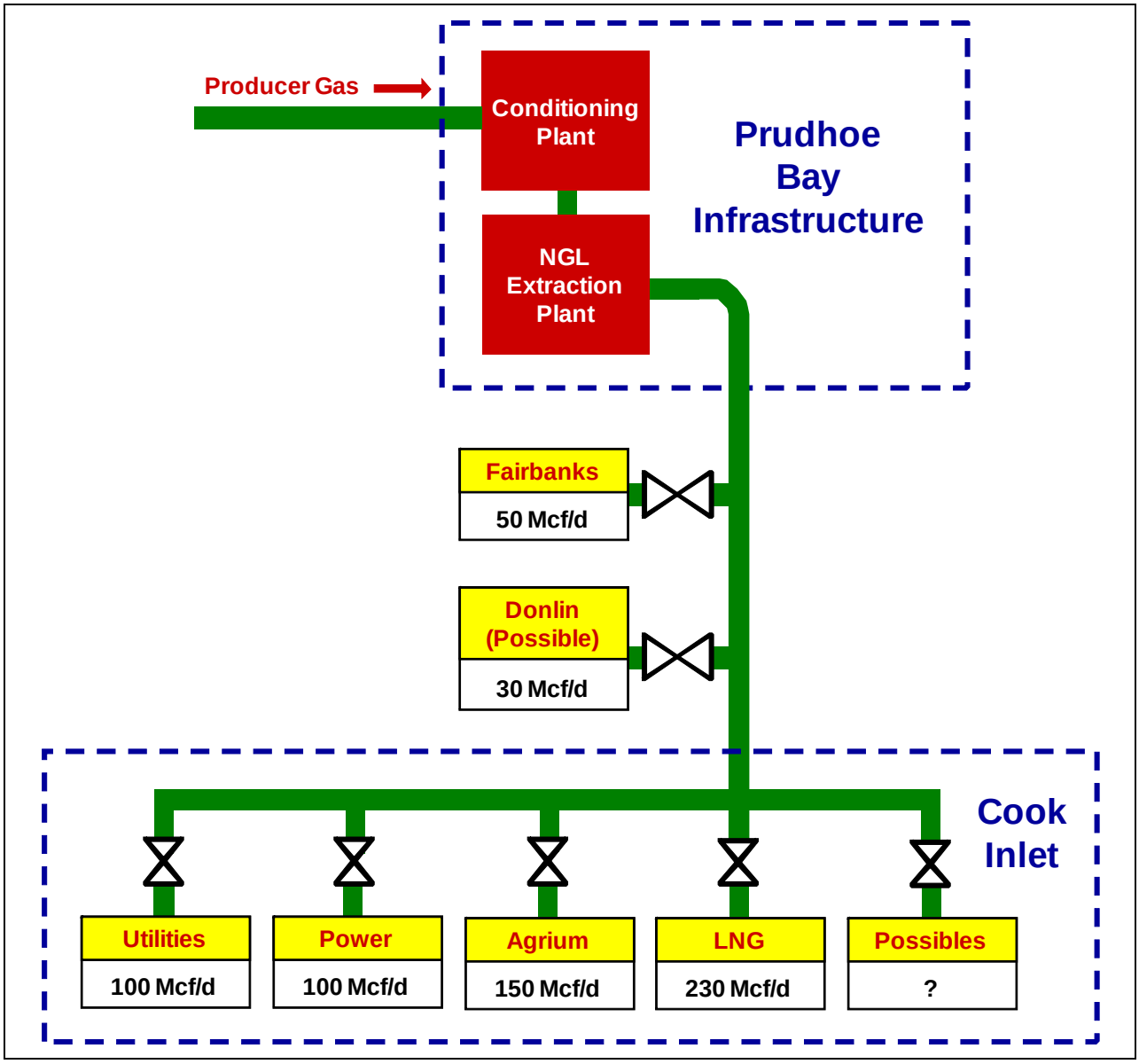
Six potentially-significant threats, risks or issues were identified and discussed briefly:

- Ramp-up may be slow, impacting the economics of the project;
- Industrial users (e.g., Agrium) may not commit if schedule is deferred;
- Possible users (e.g., Barrick) may not materialize;
- If the “big line” proceeds, this project would not be viable in the current configuration;
- If a major discovery is made in Cook Inlet, this line would not be necessary; and
- High pricing would threaten the economics of the project.

SUMMARY

REFERENCE CASE

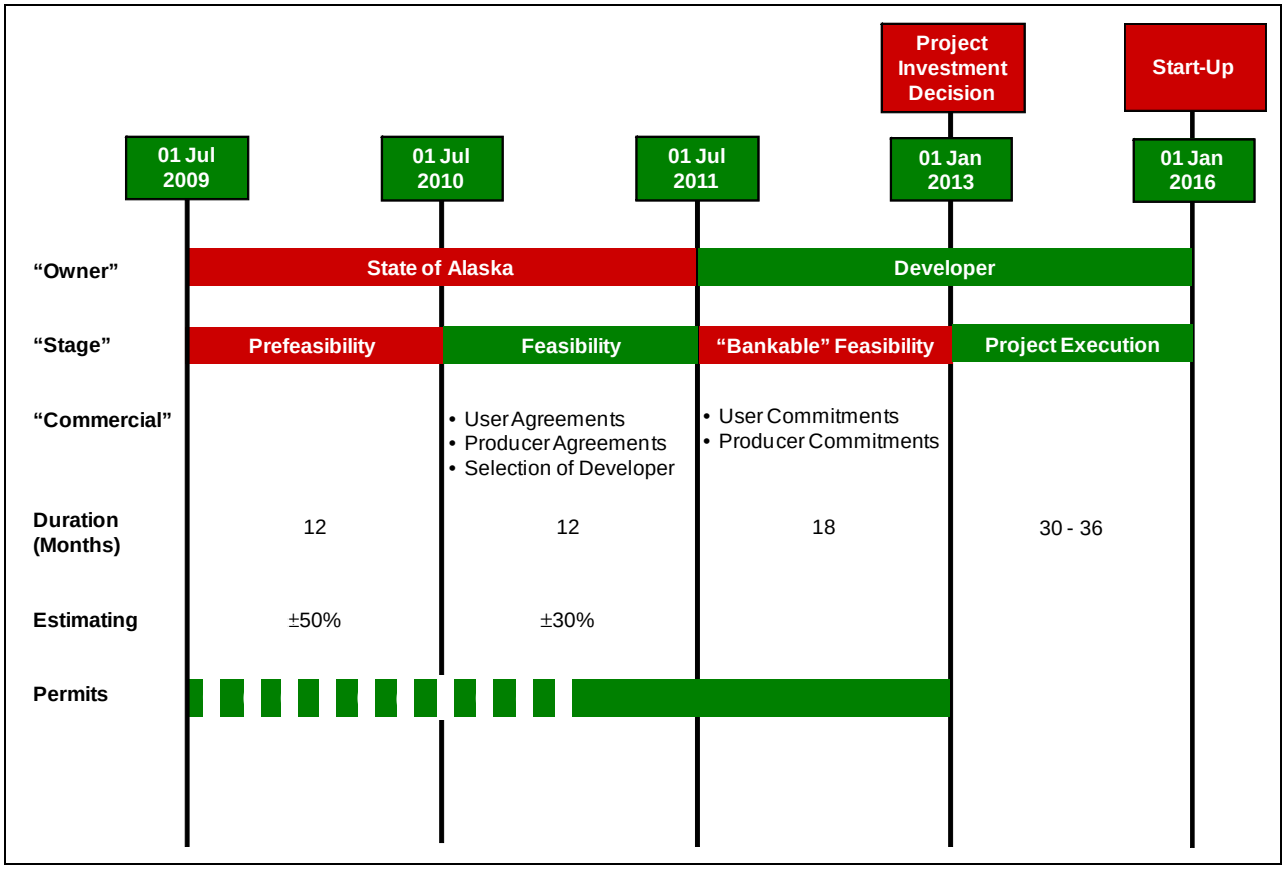
Prior to development of their plan, the participants established a "reference case" to describe the scope of the project in simple graphic format:



SUMMARY

PROJECT OVERVIEW SCHEDULE

Prior to commencement of planning, the participants developed and reviewed a simple overview schedule of the project, to understand the State's perspective of a possible advancement program for the Stand-Alone Gas Project. The numbers under the bars identify the number of months each activity could require. It is emphasized that this conceptual sketch does not represent a committed program – it was developed simply to provide a vehicle for discussion.



SUMMARY

WORK BREAKDOWN STRUCTURE (WBS)

The Stand-Alone Gas Project has numerous asset or administrative themes. These themes, or Work Areas, were defined by the planning team at the start of the active planning session; they form the primary structure of this action plan:

A	Program Administration
B	Conditioning Plant
C	NGL Plant
D	North Slope Infrastructure
E	Pipeline & Compressors
F	Fairbanks
G	Cook Inlet – Utilities
H	Cook Inlet – Industrial
J	Possible Users
K	Permitting
L	Alternatives

SUMMARY

SCHEDULE CALENDAR

The schedules in this document were prepared using the Primavera software package. They were based on the precedence [logic] network developed during the planning session, and used a start date of June 22nd, 2009

The schedules use one-day time units, with five days per calendar week. No allowances were provided for statutory holidays or vacation periods, apart from a nominal two-week lost time allowance over the Christmas period.

SCHEDULE RESULTS

The as-developed schedule indicated that the Prefeasibility Report would not be finalized and issued until August 18th, 2010 – about two months beyond the milestone date of June 30th, 2010.

The development of a logic network using the VIP process tends to create a schedule that can be reduced by some amount while staying faithful to the content of the workshop and the intent of the participants. In this case, ORION*FPI's Facilitator subsequently made a total of five carefully-considered adjustments to the schedule to enable the Prefeasibility Report to be issued on June 9th. This post-workshop pattern is a normal follow-up to an VIP Session. Only one duration was changed; the balance of the improvement was achieved by creating or extending the "overlaps" between adjacent work packages.

The schedule included in this action plan incorporates these five adjustments:

ITEM	WP – or – RELATIONSHIP	ADJUSTMENT	
		From	To
1	A-08 / A-09	FF15	FF10
2	A-16 / A-17	FF10	FF5
3	E-03 / E-04	FS	SS10
4	E-04	90	70
5	E-04 / A-07	FF10	FF5

SUMMARY

SCHEDULE FORMATS

The ***Prefeasibility Master Schedule*** for the ***Stand-Alone Gas Project*** is presented in this report in three different formats:

- A 2-page tabulation of the work packages which describes the early start and finish dates, the late start and finish dates, the duration, and the total float for each activity; it is included on Pages 3-02 to 3-03 of this report.

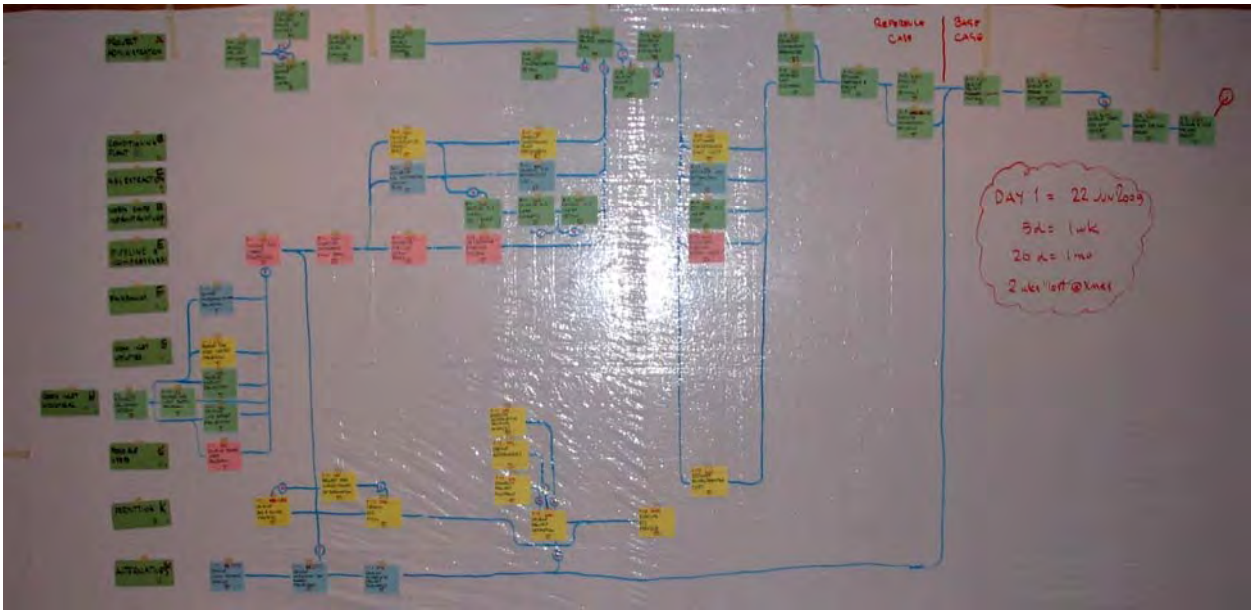
- A 4-page detailed bar chart, in color, of all work packages sorted by program areas. It is a simple and clear presentation of all of the work packages, sorted in the usual early-start, early-finish fashion; it can be found following Page 3-03.

- A large Time-Scaled Logic Diagram of all work packages, grouped by Work Areas. This format is similar to the bar charts above, but it is a large, fold-out version. It is included in a plastic pocket in the back of certain Action Plan reports, flagged by an asterisk (*) behind the names on the Letter of Transmittal.

SUMMARY

PHOTOGRAPH

The following photograph shows the logic network, as developed at the VIP Session – although not legible in this format, it will serve as a visual reminder of shape of the plan.



SCOPE DESCRIPTION

The scope description of each work package on the following pages is brief, but it highlights the essential content and context of the work for each activity. The key persons who attended the planning session also wrote the scope descriptions for the individual work packages. For convenience, the initials of each Planner have been placed adjacent to the scope descriptions which he or she prepared; note that the initials are not intended to imply a responsibility for execution of the work package. The write-ups have been edited by the Facilitator to achieve similarity of format and presentation, and to stay within the context of the VIP Session; in cases where the edits have been significant, the Facilitator's initials have been inserted following those of the primary author.

* * * * *

A PROJECT ADMINISTRATION

A-01 **Develop Project OrChart** (KRP)

An organization chart will be produced to show the relationship of the private and public entities participating in the project.

A-02 **Develop Points of Contact** (KRP)

An individual will be identified within each organization to handle inquiries and determine subordinate participation in the gas project.

A-03 **Develop RASCI Matrix** (KRP)

A grid system (responsibility matrix) will be established assigning roles and responsibilities within the team, bringing structure and clarity to the system, and ensuring everything the team will need to do will be taken care of. The matrix will establish interacting responsibilities regarding deliverables, processes and procedures.

A-04 **Develop Level 2 Schedules** (KJM/TDL)

This action plan includes a Level 1 (or "Master") schedule, and provides an overview of the Prefeasibility program. Level 2 schedules, including significantly more detail, will be developed with continuing reference to the Level 1 schedule, and expected inconsistencies will be rationalized. The product will be a tier of schedules, from the overview-level master schedule to the detailed Level 2 and 3 schedules that will be used to manage the program effectively.

SCOPE DESCRIPTION

A-05 **Develop Project Execution Strategy** (DGS/TDL)

An owner-oriented project execution strategy will be developed to establish the parameters within which the capital project will be implemented. To ensure the project's success, a clear vision of the purpose and objectives will be developed so that the general work activities can be identified. A project organization chart will be developed to manage the resources.

A-06 **Execute Contructability Review** (DGS)

A detailed field review of the route and conceptual plans will be performed by experienced pipeline construction personnel to identify significant factors for consideration such as routing, terrain and geotechnical issues, appropriate construction techniques and materials, logistical constraints, and cost saving measures. The proposed construction schedule will be analyzed for feasibility and significant risk factors will be identified. A similar process will address the construction of the conditioning plant and the NGL extraction plant at the north end of the pipeline, and the gas compressor stations. The results of the reviews will be fed forward into the design process.

A-07 **Develop Project Execution Plan** (DGS/TDL)

A number of detailed project execution plan components will be developed to define the execution phase of the project. Level 2 EPCM schedules will be prepared for the capital program. Critical assumptions and constraints will be identified. Quality assurance and quality control procedures will be documented. A Safety Plan will identify proper field conduct and procedures. These elements will support the development of the Basis of Estimates.

A-08 **Develop Logistics Plan** (DGS)

A Logistics Plan will be developed for the project. It will provide a time and spatial reference addressing the major elements of material and personnel transportation for the project. In conjunction with the construction schedule, likely material sources will be identified and matched with transportation modes such as air, shipping, railroads, and trucking – and perhaps sea-lifts for the facilities on the north slope. Camp and material storage locations and capacities will be identified. Water and fuel requirements will be estimated. Other material preparation or handling sites such as pipe coating and double jointing yards will be located. This plan will form the basis of transportation costs for the construction cost estimate.

SCOPE DESCRIPTION

A-09 **Establish Basis of Estimates** (DGS)

All relevant information for the pipeline, compressor stations and the conditioning plant/NGL extraction plant will be assembled and the unit costs required for the project construction cost estimate will be documented. Prevailing union labor rates and equipment rental rates will be collected. An estimating system will be set up for manpower by craft, equipment by units, fuel consumption, consumables and supplies. A crew-up type estimating system will be assembled to factor union labor rates and fringes, equipment rental rates, equipment operation and maintenance costs, cost of supplies/consumables, small tools mark-up system, applicable payroll taxes, and insurance and personnel per diem cost. Collectively, these elements will establish the basis for estimating the direct and indirect costs of the project by work area.

A-10 **Assemble Cost Estimates** (DGS)

Using the prefeasibility-level project description, unit quantities will have been determined and construction cost estimates will be prepared for the Gas Treatment Plant, the NGL Extraction Facility, and the pipeline system. Ideally, two estimates for each facility will have been prepared for comparison purposes. Conflicts will be reconciled and GTP and NGL costs will be compiled with pipeline costs into one package. The estimates that were developed by work area will be assembled and reviewed to avoid gaps and overlaps.

A-11 **Establish Commercial Parameters** (EJN)

A listing of pipeline commercial parameters will be developed including return on investment, debt-equity ratio, depreciation methodology, financing costs, pipeline access terms, and methods for allocation of cost overruns. To develop these parameters, a comparison to other pipelines will be established for relevant benchmarks. The overall return of the pipeline investment will be assessed to ensure the pipeline investment can be financed.

A-12 **Estimate Reference Project Cost** (DGS)

The “reference project” has been defined as a no-frills baseline (see sketch on Page 1-06). The project cost will be calculated from the sum of the component costs (design costs, owner-supplied long-lead time items, infrastructure development, project management, quality assurance, contingency, construction, environmental restoration and as-built costs).

SCOPE DESCRIPTION

A-13 **Execute Reference Project Cost Reviews** (KJM)

An interactive workshop will be prepared for review of the capital costs developed for the reference case. The workshop participants will have a background in developing detailed greenfield pipeline and related facility cost estimates. The workshop will have the unit cost basis of estimate, the work breakdown, crew development, as well as related production factors. As appropriate, the information will be compared and calibrated against other project cost estimates and/or relevant cost estimate items. A similar review will be conducted for evaluation of the operational costs.

A-14 **Execute Reference Project Commercial Reviews** (EJN)

An expert review of commercial terms will be performed to assess if the commercial parameters selected are appropriate. An estimation of the gas treatment and pipeline costs will be presented at this review.

A-15 **Develop Project Scenario Matrix** (KJM)

Using developed information from prior work tasks, the relevant project data and completed costs will be assembled into a scenario matrix that will succinctly describe the base elements of the project, especially as they relate to the cost of service of the project. A narrative description of significant items in the completed matrix will be developed with reference to reports that further explain these differences, especially as these items may affect the cost of service.

A-16 **Develop Alternate Scenario Cost Estimates** (KJM)

Using the same format as for the reference case, the completed information for the studied alternatives will be assembled into an analogous matrix. Along with this, a narrative description of significant differences in the completed matrix will be developed with reference to reports that will further explain these differences.

A-17 **Develop Draft Prefeasibility Report** (KJM)

The information from work tasks will be compiled into a draft prefeasibility report on an evolutionary basis throughout the study period. The report will reference completed prior reports as appropriate and summarize the findings. It will explain the matrix for comparison of the reference and alternate scenarios and will outline the significant conclusions.

A-18 **Review Draft Prefeasibility Report** (KJM)

A review of the draft prefeasibility report will be completed by the entire Working Group as well as interested personnel in the Client Group. The comments and edits will be assembled in a spreadsheet with resolution of each item noted.

SCOPE DESCRIPTION

A-19 **Finalize & Issue Prefeasibility Report** (KJM)

As appropriate, the developed actions from the review of the draft report will be incorporated into the final document. The report will be attributed with appropriate project description as a contract deliverable and prepared for further distribution as a paper report and an electronic version.

SCOPE DESCRIPTION

B CONDITIONING PLANT

B-01 Develop Conditioning Design Basis (WAW)

A design basis will be developed to describe major components of a Gas Conditioning Plant to remove carbon dioxide, hydrogen sulfide and water from source gas and deliver it to the inlet of the NGL Extraction Plant on the North Slope per the reference case scenario. Flow rates and compositions of all GCP sources, products and by-products will be identified. Applicable codes and standards will be identified. Facilities and supporting infrastructure will be described to a level only as required to support project permitting and cost estimation.

B-02 Develop Conditioning Plant Specifications (WAW)

Specifications for major components of the Gas Conditioning Plant will be developed from information in the GCP design basis. Specifications will be developed in conjunction with cost estimation and project permitting only to the detail required to support these activities. Specifications will include a block flow diagram and process flow diagram with overall material balance including fuel. A preliminary site plan showing connections to existing infrastructure will be developed. A preliminary design will not be done, but a. preliminary module layout will be developed.

B-03 Estimate Conditioning Plant Costs (WAW)

A +/- 50% capital cost estimate, with a corresponding non-fuel operating cost estimate, will be developed for the Gas Conditioning Plant based upon GCP specifications. Capital costs will be based on use of modules typical of North Slope construction and will include module transport to the site.

SCOPE DESCRIPTION

C NGL EXTRACTION

C-01 Establish NGL Extraction Design Basis (WAW)

A design basis will be developed to describe major components of the NGL Extraction Plant to be located immediately downstream of the Gas Conditioning Plant on the North Slope per the reference case. The design basis will include all facilities necessary to deliver compressed and chilled utility grade natural gas to the pipeline inlet. Flow rates and compositions of all feed, product, and by-product streams will be identified. Applicable codes and standards will be identified. Facilities and supporting infrastructure will be described to a level only as required to support project permitting and cost estimation.

C-02 Develop NGL Extraction Specifications (WAW)

Specifications for major components of the NGL Extraction Plant will be developed from information in the NGL plant design basis. Specifications will be developed in conjunction with cost estimation and project permitting only to the detail required to support these activities. Specifications will include a block flow diagram and process flow diagram with overall material balance including fuel. A rough site plan showing module layout and connections to existing infrastructure will be developed. A preliminary design will not be done.

C-03 Estimate NGL Extraction Costs (WAW)

A ±50% capital cost estimate with corresponding non-fuel operating cost estimate will be developed for the NGL Extraction Plant based upon NGL Plant specifications. Capital costs will be based on use of modules typical of North Slope construction and will include module transport to the site.

SCOPE DESCRIPTION

D NORTH SLOPE INFRASTRUCTURE

D-01 **Develop North Slope Infrastructure Design Basis** (DGS)

A design basis will be developed for the north slope infrastructure that will be associated with the conditioning plant and the NGL extraction plant. It will follow standard practice for BP operations near the existing gas handling facilities. A review of these design standards will be performed in consultation with BP.

D-02 **Develop North Slope Infrastructure Concepts** (DGS)

Infrastructure design will support the main GTP and NGL Extraction Facility complex and will be dependent on the layout of those facilities. Features that will drive the design include main and injection pipeline routing, access to the road system and power grid, proximity to existing facilities, and permitting issues. Photogrammetric level mapping will be required for the layouts. The conceptual design process will be iterative and may require several cycles and several concepts to settle the design. A basic cost estimate will be developed to aid in decision making, but the main facility cost will overshadow infrastructure cost.

D-03 **Develop North Slope Infrastructure Design** (DGS)

Prefeasibility-level design efforts will involve a modest improvement of the conceptual level design. Some local, up-to-date as-builts may be required to determine tie-in points of existing facilities. Plans will be developed to the level necessary to determine quantity takeoffs.

D-04 **Estimate North Slope Infrastructure Costs** (DGS)

For the associated pipelines, pads, roads, injection wells, power generation, and other necessary infrastructure facilities, relevant unit quantities will be determined and tabulated. Capital and operating costs will be calculated on a unit cost basis from historical cost databases for the North Slope.

SCOPE DESCRIPTION

E PIPELINE & COMPRESSORS

E-01 Develop Gas Market Projection (JJL)

A gas-needs market projection will be prepared for use in sizing the Alaska Stand-Alone Gas Pipeline. Information from this summary will be used to determine the throughput and ramp-up requirements of the system. In general, the pipeline throughput will be the difference between the estimated market projections (Fairbanks/Interior AK, Cook Inlet Utilities, LNG-Nikiski, Agrium-Nikiski, and other potential prospects) and existing gas contracts for Cook Inlet area gas, projected annually over the life of the pipeline. One key assumption is that annual usage will be normalized across each year through storage adequate to address peak usage and backup supply needs.

E-02 Establish Reference Flow Rate (WAW)

A schedule of annual pipeline flow rates for the reference case will be developed for use in pipeline hydraulic simulations and specification of attendant gas handling facilities. Annual pipeline flow will be estimated as the difference between projected Cook Inlet demand and supply, both of which will be developed via other items in the Action Plan. Annual flows will be expressed in volumetric and thermal (BTU) rates to allow adjustment based on pipeline gas heating value. Reference case flow will include gas to Fairbanks.

E-03 Establish Pipeline Design Basis (MCM)

A pipeline design basis will be established for a reference case from Prudhoe Bay to Cook Inlet. The basis for design will address the basic criteria and general guidelines under which the gas pipeline will be designed and constructed. The document will include average daily gas flow rate, pipe diameter, operating pressure, grade of steel, compressor and metering facilities, routing criteria, environmental data, hydrologic data, geotechnical data, construction and operational philosophy, construction scheduling and seasonal constraints. Additionally, the design basis will include a listing of applicable regulations, codes, and standards.

SCOPE DESCRIPTION

E-04 **Design Pipeline System** (MCM)

The pipeline conceptual design will utilize the pipeline design basis to complete a mile-by-mile conceptual design for input to a +/- 30% defensible cost estimate. The pipeline design will be based on terrain unit/landform mapping, permafrost mapping, digital elevation model, longitudinal slopes, cross slopes, and other derived data. The mile-by-mile design will be summarized to include compressor station locations, recommended construction season, anticipated soil and thermal conditions, pressure profile, temperature profile, ditch type, erosion control, civil grading requirements and quantities, material sites, temporary facilities sites, river crossings, road crossings, facility crossings, and an assessment of geohazards. The format of the final document will be coordinated with the pipeline cost estimate team, but will include alignment sheets and design segment summary.

E-05 **Estimate Pipeline System Costs** (MCM)

A prefeasibility level cost estimate will be developed using the mile-by-mile pipeline design. The pipeline design will be provided as alignment sheets and in a spreadsheet format to facilitate the development of a defensible cost estimate. The cost estimate format will be itemized and as a crewed-up estimate.

SCOPE DESCRIPTION

F FAIRBANKS

F-01 Develop Fairbanks & Interior Projection (JJL)

A summary of the expected gas use for Fairbanks and interior Alaska will be assembled to be used for input to the overall gas needs for the Alaska Stand-Alone Gas Pipeline. Estimation of loads for the Fairbanks area will be based on quantities provided directly from the Fairbanks area utilities (Fairbanks Natural Gas, Golden Valley Electric Association, University of Alaska Fairbanks, and the local military bases), a study of the potential gas customers along each potential pipeline corridor (Parks Highway and Richardson/Glenn Highway), and work that has been compiled by Northern Economics. Information from this projection will feed into the overall market projection for the project.

SCOPE DESCRIPTION

G COOK INLET - UTILITIES

G-01 Develop Cook Inlet Utilities Projection (JJL)

A summary of the expected gas use in the Cook Inlet area will be prepared for use in estimating the overall gas needs for the Alaska Stand-Alone Gas Pipeline. This summary will include demand projections that have been assembled from ENSTAR and the local power utilities (Matanuska Electric Association, Chugach Electric Association, Municipal Light and Power, and Homer Electric Association). Information from this projection will feed into the overall market projection for the project.

SCOPE DESCRIPTION

H COOK INLET - INDUSTRIAL

H-01 Establish Projection Criteria (JJL)

Criteria will be established to use as a guideline when projecting the gas requirements for areas where gas service will be provided from the proposed Alaska Stand-Alone Gas Pipeline. The criteria will establish the assumed user growth rates as well as a build-out schedule. Assumptions are that the gas storage necessary to allow utility loads to be consistent throughout the year will be in place.

H-02 Develop Agrium Projection (SMW)

A preliminary plan will be developed that will establishe baseline projections for gas usage at the Agrium's Kenai Nitrogen Operations facility. The plan will include daily as well as annual projections and corresponding delivery schedules.

H-03 Develop LNG Export Projection (DMC)

The potential capacity of the LNG Plant that could be available beginning in the 2016 timeframe will be determined. It will be assumed that the LNG Plant could take supplies from either the pipeline from the North Slope or Cook Inlet area fields. The described capacity will reflect what could be achieved assuming that necessary investments are made and customer support through appropriate commercial arrangements.

H-04 Develop Cook Inlet Supply Projection (JJL)

A summary of Cook Inlet gas reserves will be assembled for use in the determination of gas needs for south-central and interior Alaska. Data will be first compiled from current reserve information sources. Second, future supply/reserve projections will be developed by assigning a probability to geotechnical estimates. This information will be used to help determine the gas flow ramp-up for the Alaska Stand-Alone Gas Pipeline.

SCOPE DESCRIPTION

J POSSIBLE USERS

J-01 **Develop Possible Users Projection** (KRP)

Possible major natural gas users not already active in the Stand-Alone Gas Project will be identified. The associated gas specifications and projected annual consumption will be determined. Possible delivery methods and infrastructure needed to deliver the gas will be identified. It is anticipated this data will be used for inclusion in a ramp-up schedule for the pipeline under the future possibility category.

SCOPE DESCRIPTION

K PERMITTING

K-01 **Execute Alternative Routing Analysis** (HAN)

There are two major pipeline route alternatives south of Fairbanks, following either the Richardson Highway or the Parks Highway. An alternative routing analysis will compare the capital costs, people served, and potential environmental impacts of each route and a report will be produced.

K-02 **Define Alternatives** (HAN)

A specific report along with drawings will be produced to identify localized routing options. Those areas include the Minto Flats area, Denaili Park area and Sheep Mountain. The best route option will be determined.

K-03 **Establish Reference Project Footprint** (HAN)

A pipeline corridor will be established from Prudhoe Bay to the Cook Inlet. This corridor will be 2500 ft wide and will include both major pipeline route alternatives. Support facilities such as compressor stations, construction camps, and lay-down areas will be described but not specifically sited.

K-04 **Develop Project Description** (HAN)

A permitting level project description will be prepared to present an overview of the project including alternatives considered and rejected, pipeline routing, and general description of support facilities needed to operate the pipeline. In addition, this document will describe the general approach to construction and it will include a schedule.

K-05 **Develop Regulatory & Environmental Strategy** (HAN)

A report outlining the Permitting Plan for the project will be produced. The key element will be the role of the FERC. The second major issue will be the level of detail needed for information during the EIS process.

K-06 **Request FERC Jurisdictional Determination** (HAN)

A formal request will be made to the FERC to define their jurisdiction.

K-07 **Obtain EIS Memorandum of Understanding** (HAN)

A MOU will be written between the Federal lead agency and the applicant. The MOU will define how the permit process will be managed, the schedule, and how the other Federal and State agencies will be involved in the process.

SCOPE DESCRIPTION

K-08 **Execute EIS Process** (HAN)

The EIS process will include scoping, preparation of a draft and final EIS, and a record of the decision.

K-09 **Estimate Enviro-Permitting Costs** (KRP)

The scope of major environmental permitting activities will be established according to the outcome of FERC versus RCA determination. Ongoing environmental tasks required for permit maintenance during the operating phase of the pipe line will be identified. The level of project decommissioning for final close-out will be described. Estimates will be prepared for the initial permitting for capital cost purposes, the ongoing environmental costs for operating cost purposes, and the closure costs. The level of precision will be the same as the Stand-Alone Gas Project Report. The estimates will be included in the capital estimates.

SCOPE DESCRIPTION

L ALTERNATIVES

L-01 **Develop Liquid Demand Forecast** (MWM)

A liquid demand forecast will be developed that will describe a most likely 30-year outlook for in-State liquid and export opportunities. The forecast will include high-side and low-side outlooks based on existing demand and the probability of additional demand developing. The liquid forecast will also consider the potential location of each potential demand.

L-02 **Develop Alternate Gas Market Projections** (DMC)

A projection of possible markets in which to place ethane will be determined based on the potential volumes that could be supplied by the Stand-Alone Gas Project. Both domestic and export markets will be considered. Existing methane markets will be investigated as to their ability to take this heavier hydrocarbon component.

L-03 **Develop Alternate Project Scenarios** (WAW)

Alternate project scenarios to the reference case will be developed in conjunction with the Commercial Team with the goal of enhancing project viability. Alternates will address gas markets and potentially new gas supplies in the interior of Alaska as well as transport of North Slope NGL if this becomes available in the future. Overall project material balances will be developed for alternate scenarios. Capital and operating costs for alternate scenarios will be factored from capital costs developed for the reference case. New facility capital and operating costs will be developed if alternatives differ significantly from the reference case.

SCHEDULE

SCHEDULE FORMATS

The ***Prefeasibility Master Schedule*** for the ***Stand-Alone Gas Project*** is presented in this report in three different formats:

- A 2-page tabulation of the work packages which describes the early start and finish dates, the late start and finish dates, the duration, and the total float for each activity; it is included on Pages 3-02 to 3-03 of this report.

- A 4-page detailed bar chart, in color, of all work packages sorted by program areas. It is a simple and clear presentation of all of the work packages, sorted in the usual early-start, early-finish fashion; it can be found following Page 3-03.

- A large Time-Scaled Logic Diagram of all work packages, grouped by Work Areas. This format is similar to the bar charts above, but it is a large, fold-out version. It is included in a plastic pocket in the back of certain Action Plan reports, flagged by an asterisk (*) behind the names on the Letter of Transmittal.

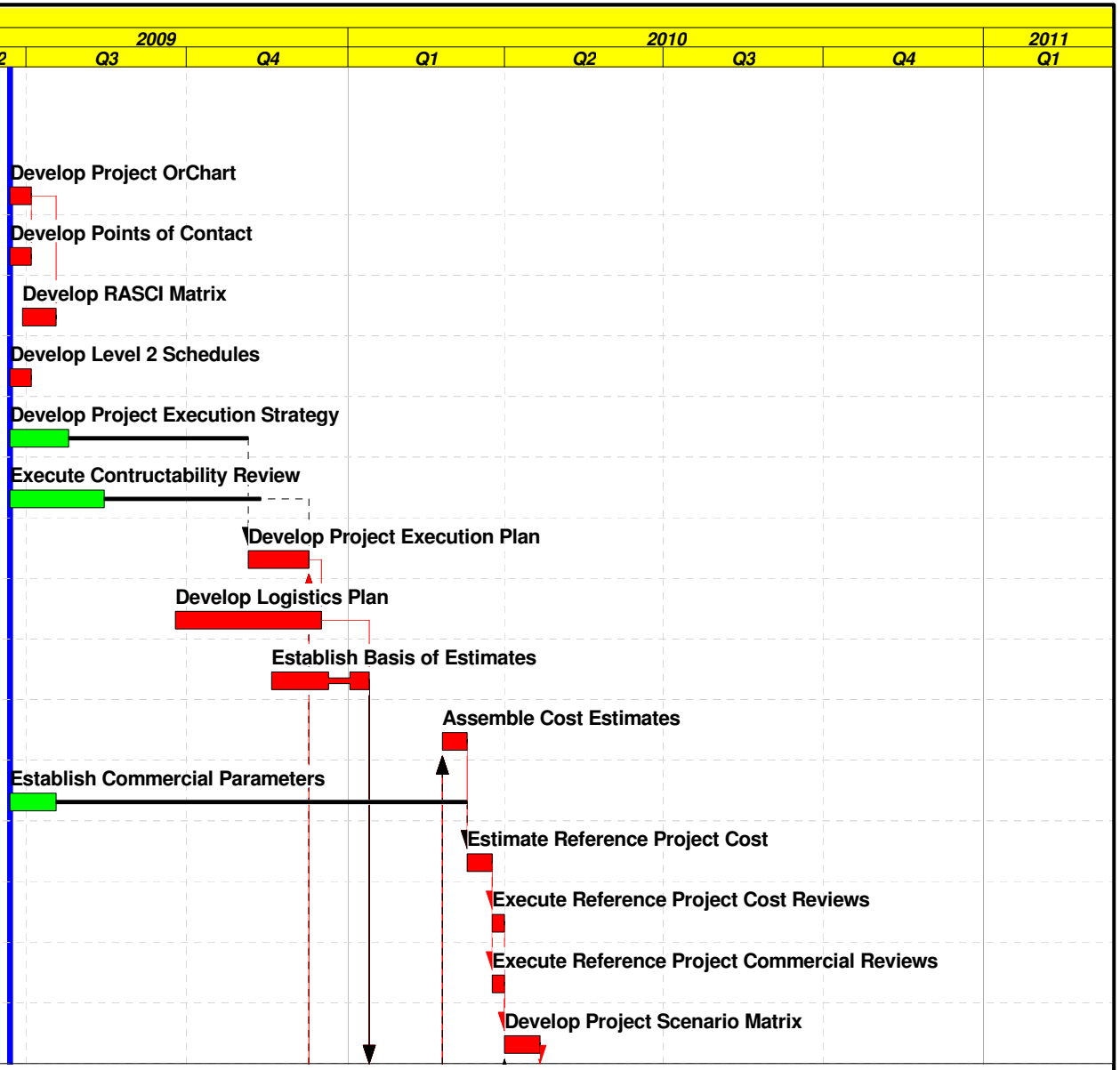
SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Late Start	Late Finish	Original Duration	Total Float
A	**PROJECT ADMINISTRATION**						
A-01	Develop Project OrChart	22-Jun-09	03-Jul-09	22-Jun-09	03-Jul-09	10	0
A-02	Develop Points of Contact	22-Jun-09	03-Jul-09	22-Jun-09	03-Jul-09	10	0
A-03	Develop RASCI Matrix	29-Jun-09	17-Jul-09	29-Jun-09	17-Jul-09	15	0
A-04	Develop Level 2 Schedules	22-Jun-09	03-Jul-09	22-Jun-09	03-Jul-09	10	0
A-05	Develop Project Execution Strategy	22-Jun-09	24-Jul-09	01-Oct-09	04-Nov-09	25	73
A-06	Execute Contructability Review	22-Jun-09	14-Aug-09	17-Sep-09	11-Nov-09	40	63
A-07	Develop Project Execution Plan	05-Nov-09	09-Dec-09	05-Nov-09	09-Dec-09	25	0
A-08	Develop Logistics Plan	24-Sep-09	16-Dec-09	24-Sep-09	16-Dec-09	60	0
A-09	Establish Basis of Estimates	19-Nov-09	13-Jan-10	19-Nov-09	13-Jan-10	30	0
A-10	Assemble Cost Estimates	25-Feb-10	10-Mar-10	25-Feb-10	10-Mar-10	10	0
A-11	Establish Commercial Parameters	22-Jun-09	17-Jul-09	11-Feb-10	10-Mar-10	20	158
A-12	Estimate Reference Project Cost	11-Mar-10	24-Mar-10	11-Mar-10	24-Mar-10	10	0
A-13	Execute Reference Project Cost Reviews	25-Mar-10	31-Mar-10	25-Mar-10	31-Mar-10	5	0
A-14	Execute Reference Project Commercial Reviews	25-Mar-10	31-Mar-10	25-Mar-10	31-Mar-10	5	0
A-15	Develop Project Scenario Matrix	01-Apr-10	21-Apr-10	01-Apr-10	21-Apr-10	15	0
A-16	Develop Alternate Scenario Cost Estimates	22-Apr-10	05-May-10	22-Apr-10	05-May-10	10	0
A-17	Develop Draft Prefeasibility Report	04-Feb-10	12-May-10	04-Feb-10	12-May-10	70	0
A-18	Review Draft Prefeasibility Report	13-May-10	26-May-10	13-May-10	26-May-10	10	0
A-19	Finalize & Issue Prefeasibility Report	27-May-10	09-Jun-10	27-May-10	09-Jun-10	10	0
B	**CONDITIONING PLANT**						
B-01	Develop Conditioning Design Basis	13-Aug-09	26-Aug-09	10-Sep-09	23-Sep-09	10	20
B-02	Develop Conditioning Plant Specifications	27-Aug-09	23-Sep-09	29-Oct-09	25-Nov-09	20	45
B-03	Estimate Conditioning Plant Costs	14-Jan-10	24-Feb-10	14-Jan-10	24-Feb-10	30	0
C	**NGL EXTRACTION**						
C-01	Establish NGL Extraction Design Basis	13-Aug-09	26-Aug-09	10-Sep-09	23-Sep-09	10	20
C-02	Develop NGL Extraction Specifications	27-Aug-09	23-Sep-09	29-Oct-09	25-Nov-09	20	45
C-03	Estimate NGL Extraction Costs	14-Jan-10	24-Feb-10	14-Jan-10	24-Feb-10	30	0
D	**NORTH SLOPE INFRASTRUCTURE**						
D-01	Develop North Slope Infrastructure Design Basis	16-Jul-09	09-Sep-09	13-Aug-09	07-Oct-09	40	20
D-02	Develop North Slope Infrastructure Concepts	10-Sep-09	07-Oct-09	08-Oct-09	04-Nov-09	20	20
D-03	Develop North Slope Infrastructure Design	17-Sep-09	28-Oct-09	15-Oct-09	25-Nov-09	30	20
D-04	Estimate North Slope Infrastructure Costs	14-Jan-10	24-Feb-10	14-Jan-10	24-Feb-10	30	0
E	**PIPELINE & COMPRESSORS**						
E-01	Develop Gas Market Projection	02-Jul-09	15-Jul-09	02-Jul-09	15-Jul-09	10	0
E-02	Establish Reference Flow Rate	16-Jul-09	12-Aug-09	16-Jul-09	12-Aug-09	20	0
E-03	Establish Pipeline Design Basis	13-Aug-09	16-Sep-09	13-Aug-09	16-Sep-09	25	0
E-04	Design Pipeline System	27-Aug-09	02-Dec-09	27-Aug-09	02-Dec-09	70	0
E-05	Estimate Pipeline System Costs	14-Jan-10	10-Feb-10	28-Jan-10	24-Feb-10	20	10

SCHEDULE

Activity ID	Activity Description	Early Start	Early Finish	Late Start	Late Finish	Original Duration	Total Float
F	**FAIRBANKS**						
F-01	Develop Fairbanks & Interior Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
G	**COOK INLET -- UTILITIES**						
G-01	Develop Cook Inlet Utilities Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
H	**COOK INLET -- INDUSTRIAL**						
H-01	Establish Projection Criteria	22-Jun-09	03-Jul-09	22-Jun-09	03-Jul-09	10	0
H-02	Develop Agrium Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
H-03	Develop LNG Export Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
H-04	Develop Cook Inlet Supply Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
J	**POSSIBLE USERS**						
J-01	Develop Possible Users Projection	06-Jul-09	08-Jul-09	06-Jul-09	08-Jul-09	3	0
K	**PERMITTING**						
K-01	Execute Alternative Routing Analysis	22-Jun-09	14-Aug-09	26-Oct-09	18-Dec-09	40	90
K-02	Define Alternatives	22-Jun-09	17-Jul-09	23-Nov-09	18-Dec-09	20	110
K-03	Establish Reference Project Footprint	22-Jun-09	14-Aug-09	26-Oct-09	18-Dec-09	40	90
K-04	Develop Project Description	26-Oct-09	29-Jan-10	26-Oct-09	29-Jan-10	60	0
K-05	Develop Regulatory & Environmental Strategy	22-Jun-09	14-Aug-09	21-Sep-09	13-Nov-09	40	65
K-06	Request FERC Jurisditional Determination	20-Jul-09	09-Oct-09	19-Oct-09	22-Jan-10	60	65
K-07	Obtain EIS Memorandum of Understanding	21-Sep-09	16-Oct-09	04-Jan-10	29-Jan-10	20	65
K-08	Execute EIS Process	01-Feb-10	28-Jan-11	01-Feb-10	28-Jan-11	250	0
K-09	Estimate Enviro-Permitting Costs	14-Jan-10	10-Feb-10	28-Jan-10	24-Feb-10	20	10
L	**ALTERNATIVES**						
L-01	Develop Liquid Demand Forecast	22-Jun-09	11-Sep-09	22-Jun-09	11-Sep-09	60	0
L-02	Develop Alternate Gas Market Projections	14-Sep-09	09-Oct-09	14-Sep-09	09-Oct-09	20	0
L-03	Develop Alternate Project Scenarios	12-Oct-09	18-Dec-09	12-Oct-09	18-Dec-09	50	0

Activity ID	Orig Dur	Early Start	Early Finish	Total Float
STAND-ALONE GAS PROJECT				
A PROJECT ADMINISTRATION				
A-01	10	22JUN09	03JUL09	0
A-02	10	22JUN09	03JUL09	0
A-03	15	29JUN09	17JUL09	0
A-04	10	22JUN09	03JUL09	0
A-05	25	22JUN09	24JUL09	73
A-06	40	22JUN09	14AUG09	63
A-07	25	05NOV09	09DEC09	0
A-08	60	24SEP09	16DEC09	0
A-09	30	19NOV09	13JAN10	0
A-10	10	25FEB10	10MAR10	0
A-11	20	22JUN09	17JUL09	158
A-12	10	11MAR10	24MAR10	0
A-13	5	25MAR10	31MAR10	0
A-14	5	25MAR10	31MAR10	0
A-15	15	01APR10	21APR10	0



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Finish Date 28JAN11
Data Date 22JUN09
Run Date 25JUN09 08:55

Early Bar
Float Bar
Progress Bar
Critical Activity

STA2 Sheet 1 of 4

STAND-ALONE GAS PROJECT

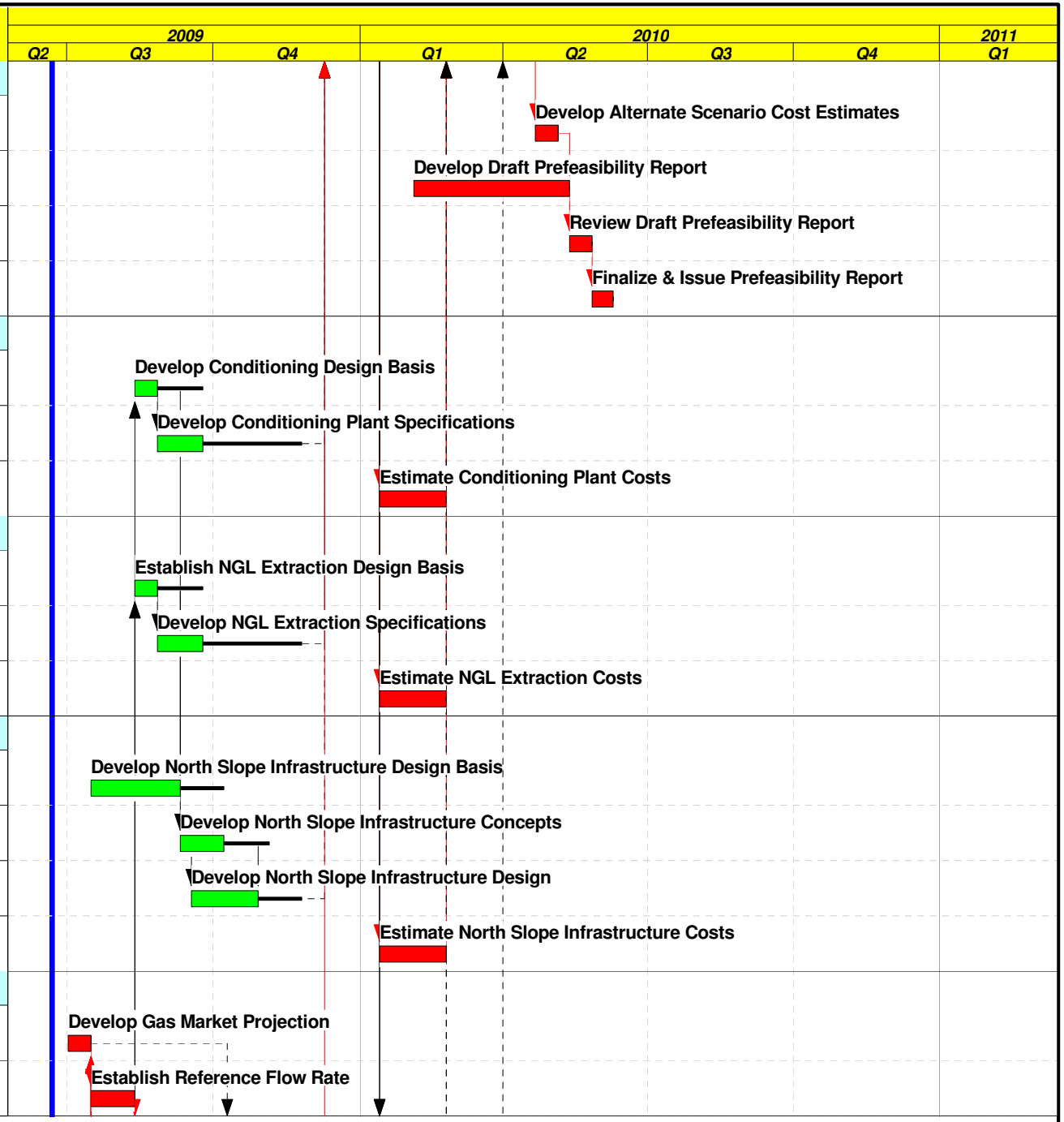
State of Alaska

PREFEASIBILITY MASTER SCHEDULE

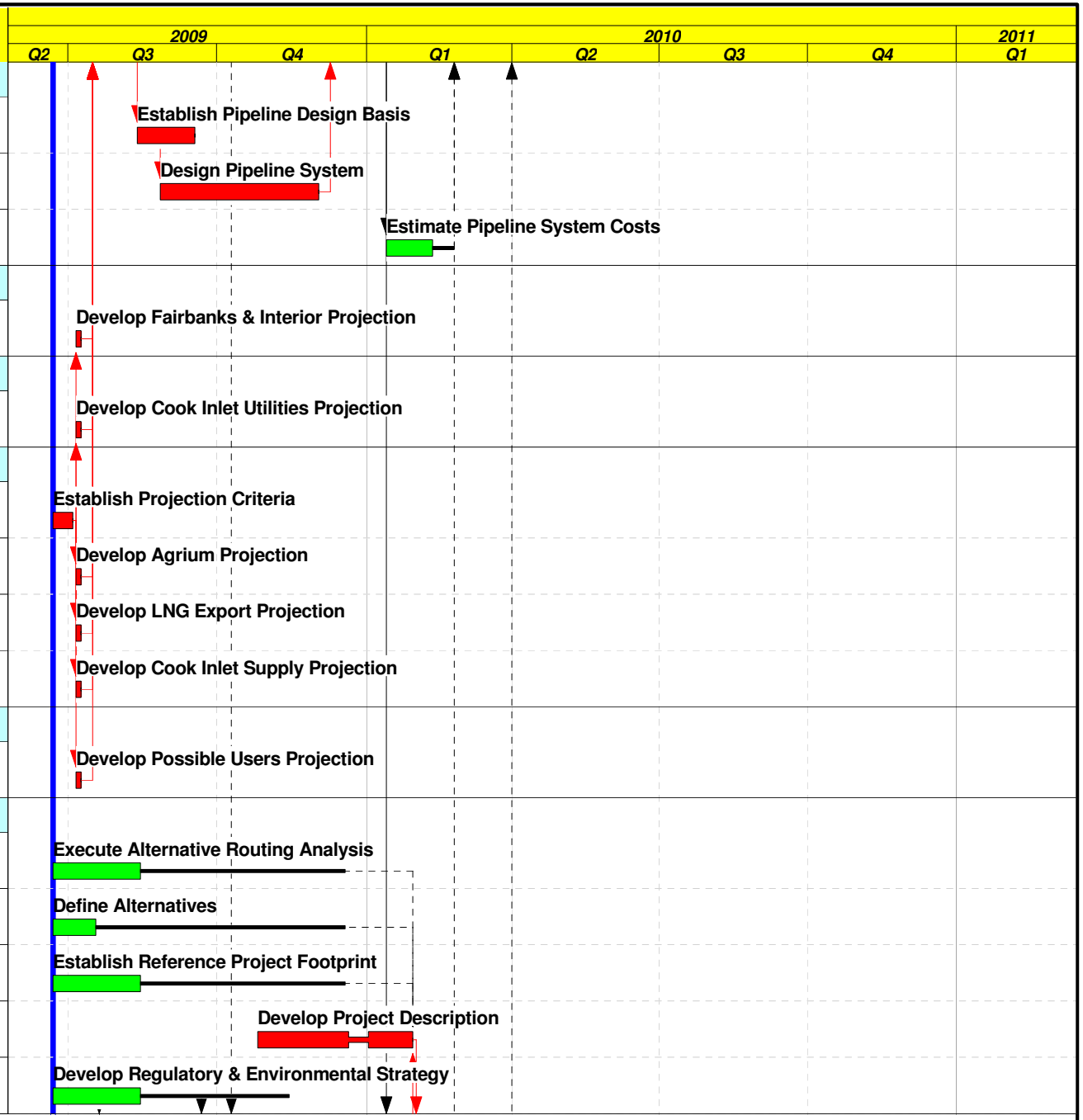
Baker

ORION*FPI

Activity ID	Orig Dur	Early Start	Early Finish	Total Float
A	**PROJECT ADMINISTRATION**			
A-16	10	22APR10	05MAY10	0
A-17	70	04FEB10	12MAY10	0
A-18	10	13MAY10	26MAY10	0
A-19	10	27MAY10	09JUN10	0
B	**CONDITIONING PLANT**			
B-01	10	13AUG09	26AUG09	20
B-02	20	27AUG09	23SEP09	45
B-03	30	14JAN10	24FEB10	0
C	**NGL EXTRACTION**			
C-01	10	13AUG09	26AUG09	20
C-02	20	27AUG09	23SEP09	45
C-03	30	14JAN10	24FEB10	0
D	**NORTH SLOPE INFRASTRUCTURE**			
D-01	40	16JUL09	09SEP09	20
D-02	20	10SEP09	07OCT09	20
D-03	30	17SEP09	28OCT09	20
D-04	30	14JAN10	24FEB10	0
E	**PIPELINE & COMPRESSORS**			
E-01	10	02JUL09	15JUL09	0
E-02	20	16JUL09	12AUG09	0



Activity ID	Orig Dur	Early Start	Early Finish	Total Float
E	**PIPELINE & COMPRESSORS**			
E-03	25	13AUG09	16SEP09	0
E-04	70	27AUG09	02DEC09	0
E-05	20	14JAN10	10FEB10	10
F	**FAIRBANKS**			
F-01	3	06JUL09	08JUL09	0
G	**COOK INLET - UTILITIES**			
G-01	3	06JUL09	08JUL09	0
H	**COOK INLET - INDUSTRIAL**			
H-01	10	22JUN09	03JUL09	0
H-02	3	06JUL09	08JUL09	0
H-03	3	06JUL09	08JUL09	0
H-04	3	06JUL09	08JUL09	0
J	**POSSIBLE USERS**			
J-01	3	06JUL09	08JUL09	0
K	**PERMITTING**			
K-01	40	22JUN09	14AUG09	90
K-02	20	22JUN09	17JUL09	110
K-03	40	22JUN09	14AUG09	90
K-04	60	26OCT09	29JAN10	0
K-05	40	22JUN09	14AUG09	65



Activity ID	Orig Dur	Early Start	Early Finish	Total Float
K PERMITTING				
K-06	60	20JUL09	09OCT09	65
K-07	20	21SEP09	16OCT09	65
K-08	250	01FEB10	28JAN11	0
K-09	20	14JAN10	10FEB10	10
L ALTERNATIVES				
L-01	60	22JUN09	11SEP09	0
L-02	20	14SEP09	09OCT09	0
L-03	50	12OCT09	18DEC09	0