FINAL REPORT



STATE OF ALASKA Department of Revenue Alaska Natural Gas Development Authority

Feasibility of Gas Spur Line Public-Private Partnership

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Scott-Balice Strategies

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FEASIBILITY OF GAS SPUR LINE PUBLIC-PRIVATE PARTNERSHIP

EXECUTIVE SUMMARY

The Alaska Natural Gas Development Authority ("ANGDA") has been working on getting North Slope gas to Alaskan communities for several years. On July 7, 2008, Alaska Governor Sarah Palin announced a public-private partnership between ANGDA and Enstar to build an in-state gas spur line. The Administration saw potential coming from a PPP arrangement that would build a spur line from Cook Inlet to Fairbanks.

This report provides information regarding the potential for developing an intra-state natural gas spur line (the "Spur Line") through a public-private partnership (also referred to herein as "PPP"). This study reviews several structures that could be used to proceed with development of the Spur Line through a public-private partnership, discusses the features of public-private partnerships, considers the advantages and disadvantages of PPP arrangements, and identifies certain regulatory, financial and operational parameters for a private sector partner for such a project.

Overview of Public-Private Partnerships

A "public-private partnership" describes a contractual agreement between public and private partners to construct, renovate, operate, maintain and/or manage a facility or system, which provides for a sharing of risk and/or financial responsibility. The role of each partner in a PPP is not formulaic or consistent across projects, but rather is dictated by the circumstances of the particular project, and the strengths and desires of the partners. This flexibility has enabled PPPs to be successful in a number of contexts, covering different types of projects around the world.

There are a number of structures that come under the umbrella of PPP arrangements, falling between the two extremes of fully public and fully private entities. Variations will generally involve the allocation of responsibility (construction, operation, etc.) and financial risk between the public and private sector partners. The following chart illustrates the range of potential structures:





A requirement of virtually all PPPs is an identifiable revenue stream to provide payment of construction and/or operating costs, debt service and return on equity, if applicable. The quality and certainty of the revenue stream will impact the PPP structure appropriate for a particular project. For a project with a reliable revenue stream, the project itself may be sufficiently creditworthy to support the financing for the project. Where projected revenues are highly uncertain or not sufficient to meet projected expenses, the public sector partner may be required to provide financial support through the assumption of certain risks, guarantee of revenues (in early years or longer), or other operational support or financial incentives.

Applicability of PPP Arrangements to the Spur Line

Natural gas transmission lines have traditionally been developed and operated by the private sector in the United States. As a result, the private sector has gained substantial experience and expertise in the development and operation of natural gas pipelines. The public sector has not historically engaged in this business or service. If the Spur Line were to be developed and/or operated by ANGDA, ANGDA would need to develop, hire and/or contract with individuals with the necessary expertise. Alternatively, ANGDA could seek to enter into a PPP with a private partner with strong design/build/operate gas pipeline expertise.

Selection of the proper private sector partner can significantly impact the success of a PPP transaction. The study identifies certain financial, regulatory and operational parameters for a private sector partner should a PPP arrangement be pursued for the development of the Spur Line. It also addresses the evaluation of benefits, challenges, private sector motivations and considerations to ensure the public interest is protected when engaging in a PPP.

Potential Benefit of Public-Private Partnership. The use of a PPP arrangement should be evaluated against alternative structures, including a solely private model and a solely public model. Some of the factors to be considered by ANGDA as it evaluates whether a PPP arrangement for the development of the Spur Line would be appropriate and in the public interest are discussed below.

Expertise and Experience. A PPP arrangement can benefit from the expertise that each of the parties brings to the transaction. The appropriate private sector partner may be in a better position to manage the construction of the pipeline, incorporating technological advancements that have been used elsewhere in the world, and to adapt such technologies to the requirements of the Spur Line. In addition, a private sector partner with experience in the operations of a high-pressure pipeline should be able to realize efficiencies in the operation of the Spur Line, as well as assume the risk, totally or in large part, of operations and maintenance. In such an arrangement, ANGDA would have an important oversight responsibility on behalf of the State to ensure that the Spur Line is developed for the public benefit and the State's resources are protected.

Allocation of Project Risk. A PPP can allocate risk to the party best able to manage that risk. A qualified partner with experience in high pressure natural gas pipeline construction and/or



operations will likely be better able to evaluate and/or bear some or all of the risks relating to the construction and/or operation the Spur Line. With particularly large or complex projects, specifically in cases where projected revenues are uncertain, the private sector may not be willing to accept all of the project risk, or may seek additional compensation to do so. In regard to the Spur Line, a private sector partner may not be willing to undertake the development of the Spur Line if there is uncertainty as to the availability of an adequate supply of natural gas and/or adequate demand for natural gas to ensure profitable operations of the Spur Line. A private sector participant may look to ANGDA or the State to share in the construction and/or operating risk.

Private Financing. Private financing can provide significant benefits to the public sector partner by providing access to alternative financing sources. In the current market, however, private debt and equity investors are more selective in the projects in which they invest, seeking greater returns and/or reduced risk. Nonetheless, efficiencies obtained through a PPP arrangement may offset any increased cost of private financing.

Efficiencies; Cost and Time Savings. In a design-build PPP, the working relationship between the designers, the engineers and the contractors can provide greater opportunity to incorporate innovations into the project design than is traditionally available in the typical public procurement process. This approach can improve the quality of the project, as well as reduce the cost and time for delivery of the project. In a PPP in which the private sector partner has operating responsibility, the experience and expertise of the private sector partner may provide enhanced asset management that yields efficiencies in operations and life-cycle management that reduces overall project costs over the life of the project.

Challenges of Public-Private Partnerships. A PPP arrangement also imposes unique challenges upon the development of a project. In the context of the development of the Spur Line, the following factors should be considered.

Profit Motive. A private sector partner will be driven by the profit motive, and the desire to obtain an adequate return on the investment. This motive may be contrary to the desire to provide natural gas at reasonable rates to customers.

Retention of Risk; Potential Loss of Control. By engaging in a PPP, the public sector transfers some degree of responsibility, risk and control to the private sector. The control and influence that can be exerted by the public sector will be limited by the contractual provisions of the PPP arrangement. Although the private sector partner will seek ultimate Spur Line control, to the extent that the public sector retains risk or other operational or financial responsibility, the public sector should retain a level of management control.

Private Sector Perspective. The success of a PPP arrangement depends upon on the private partner's expectation of a reasonable return on its investment, and an appropriate return for the risk it is assuming. In the context of the Spur Line, a private sector partner would evaluate the following factors.



Financial Risk. A private sector partner will perform an evaluation of the Spur Line to identify and quantify the risks inherent in the Spur Line, as well as those created by the PPP arrangement, and to develop projections of revenues, expenses and return on capital. The cash flow projections must demonstrate that the Spur Line will be able to generate sufficient revenues to repay debt and provide a return on capital. To the extent that the long-term supply or demand for natural gas is not identified, the Spur Line may not be projected to generate sufficient revenues. To compensate for any such risks and/or uncertainties, the private sector may seek support from the public sector.

External Factors. Conditions in the financial markets are challenging and have made access to private capital difficult. Nonetheless, there exists private capital to invest in deserving projects. In order to attract private investors, the Spur Line will need to demonstrate that it can provide a competitive rate of return, with or without public sector support (as necessary or appropriate).

Environmental Risk. Because of the substantial risk of obtaining, or the timing in obtaining, environmental permits, environmental risk increases the difficulty in obtaining financing and/or the cost of such financing. As a result, private investors are becoming less willing to accept environmental and permitting risk and are waiting to invest until after environmental permits have been received. In the case of the Spur Line, ANGDA has already begun the EIS process.

Public Sector Leadership. Private sector entities are more likely to engage in a PPP arrangement if there is political support for the transaction. If the Governor, the Legislators and the consumers recognize the importance of this project to the economy of Alaska, there should be sufficient political support for the development of the Spur Line.

Protection of the Public Interest. A key feature in the analysis of a public entity's participation in a PPP arrangement is the determination that the expected benefits of the public-private partnership outweigh the costs. Establishing standards for protecting the public interest in a public-private partnership can provide a framework for the cost-benefit analysis. Some of the public interest criteria applicable to the Spur Line are identified below.

Asset Performance. If ANGDA were to engage in a PPP arrangement, it would necessarily lose control over certain aspects of the Spur Line. Nonetheless, ANGDA could protect the public interest in the project through the inclusion of rigorous performance standards in the contract.

Financial Mechanisms. In appropriate situations, public entities have protected the public interest by placing restrictions on allowable increases in rates and tariffs charged by a private operator of the project. In addition, under certain circumstances, ANGDA or the State may deem it appropriate to provide government subsidies to maintain rates and tariffs at levels appropriate in the public interest.

Oversight and Monitoring. In order to protect the public interest, ANGDA can implement mechanisms for oversight and monitoring of the private sector partner.





Accountability and Transparency. The public should be kept informed throughout the implementation of a PPP arrangement, particularly as to the public and private sector obligations and the potential public sector benefits. The public should also have the opportunity to contribute to the process during the planning stages.

Quantitative Analysis. Quantitative analysis can be used to evaluate each possible PPP arrangement and compare it to other potential structures, including a solely public model and a solely private model. Quantitative analysis should be undertaken to determine if a particular PPP arrangement is appropriate for the Spur Line.

Evaluation of Potential Private Sector Partners

Selection of the proper private sector partner can significantly impact the success of a PPP transaction for the development of the Spur Line. The report identifies certain regulatory, financial and operational parameters to be used in the evaluation of a potential private sector partner.

Regulatory Parameters. In evaluating the development of a pipeline in the context of a PPP arrangement, the Regulatory Commission of Alaska ("RCA") would need to determine whether the applicant for the certificate of convenience and necessity ("CCN") is "fit, willing and able" to provide the services set forth in the applicant's request. In general terms, this requires:

- capability and experience of the personnel constructing the pipeline;
- o capability, experience and ability of the personnel to operate the pipeline; and
- willingness to accept regulated rates for the service it will provide and ability to raise the necessary capital to construct the pipeline.

In that regard, the RCA could consider the private sector partner's ability to provide capital to the project and/or its ability to finance the project.

Operating Parameters. In selecting a private sector partner for the development and/or operation of the Spur Line, ANGDA would seek a partner with the capability and capacity to perform the defined responsibilities on time and within budget in a manner in which 'reasonable' long-term value is created. In a design-build scenario, the private sector partner must contribute engineering design and construction experience. As pipeline operator, the private sector partner should have personnel to support the operations of the Spur Line, including, among others, safety and regulatory officers and field operating and maintenance technicians. The private sector partner should also demonstrate its ability to comply with the various regulatory and permitting agencies that have jurisdiction over the natural gas pipeline.

Financing Parameters. The financial parameters for a private sector partner will necessarily depend upon the role of the private sector partner in the PPP arrangement and the viability of the project as a whole. The private sector partner must be able to demonstrate that it is capable of complying with its commitments in the PPP transaction. The greater the responsibility/risk imposed upon the private sector partner, the more the public sector needs to evaluate the private



sector partner's financial capabilities. Some of the parameters used in considering the financial capability of a prospective private sector partner are discussed below.

Performance Assurance: In PPP transactions where the private sector partner will provide design, build and/or operating services, the private sector partner must be able to demonstrate the financial and operational ability to perform under the contract, and to withstand downturns and market upheavals. The history of the contractor of completing similar projects and performing similar services on-time and on-budget can be quite informative, as can the financial success or profitability of the contractor.

Financing Commitment: In a PPP transaction in which the private sector partner will provide financing (equity and/or debt), either individually or together with one or more other investors, the private sector partner must show the liquidity and/or commitments from creditworthy partners to provide the necessary capital. The ability to obtain such commitments will depend, in large part, on the viability of the project, the credibility of the private sector partner and the commitment of the public entity to the project.

Conclusion

PPPs have been shown to provide significant benefits to the public sector by providing efficient, cost-effective development and/or operation of projects and/or access to financial resources. However, there can be no generalizations about the appropriateness of the use of PPPs. The decision whether or not to use a PPP arrangement for the Spur Line should only be made after a comprehensive qualitative and quantitative assessment of the alternatives available for the development of the Spur Line: wholly public, wholly private and appropriate PPP structures in between. Only by undertaking this thorough analysis can ANGDA ensure that a proposed structure for the Spur Line is in the public interest.



FEASIBILITY OF GAS SPUR LINE PUBLIC-PRIVATE PARTNERSHIP

1. Introduction

The Alaska Natural Gas Development Authority ("ANGDA") has been working on getting North Slope gas to Alaskan communities for several years. The spur line (the "Spur Line") was initially envisioned as a small diameter gas line that would connect Southcentral Alaska to the proposed main gas line (the "Main Line"), which would run from the North Slope to Alberta, Canada, and on down to the Lower 48.

Thinking around the gas line has expanded to consider a gas line that could also bring Cook Inlet gas to Southcentral Alaska and up to Fairbanks in advance of the completion and operation of the Main Line from the North Slope. ANGDA has engaged URS Alaska to work with the Army Corps of Engineers in preparing an Environmental Impact Statement for the Beluga to Fairbanks Natural Gas Pipeline.

This report provides information regarding the potential for developing an intra-state natural gas Spur Line through a public-private partnership (also referred to herein as "PPP"). This report:

- reviews several structures that could be used to proceed with development of the Spur Line through a public-private partnership,
- discusses the features, advantages and disadvantages of PPP arrangements, and
- identifies certain regulatory, financial and operational parameters for a private sector partner for such a project.

The result is a framework for evaluating potential projects and ANGDA project partners to determine if a PPP structure allows for the development of the Spur Line in a more efficient and timely manner that is in the best interest of Alaskans.



2. Overview of Spur Line

Initially, the concept of a spur line had been developed as a means to bring North Slope natural gas to Southcentral Alaska. However, with the delays in the construction of the Main Line, proposals for development of the Spur Line have expanded to consider a gas line that could also bring Cook Inlet gas to Southcentral Alaska and up to Fairbanks in advance of the completion and operation of the Main Line from the North Slope. In addition, if sufficient quantities of recoverable natural gas were developed in the foothills of the Brooks Range, the Spur Line could be extended so as to transport natural gas from there to Fairbanks and south to Southcentral Alaska.

The base case used by ANGDA for development of a Spur Line is a 20-inch pipeline running from Delta Junction to Beluga, at an estimated cost of \$1.25 billion. The timelines prepared by ANGDA show a development period (including licensing and permitting, as well as design and construction) until first gas of approximately five years.



On July 7, 2008, Alaska Governor Sarah Palin announced a public-private partnership (PPP) between ANGDA and Enstar to build an in-state gas spur line. The Administration saw potential coming from a PPP arrangement that would build a spur line from Cook Inlet to Fairbanks, or, under certain conditions, to the Brooks Range foothills. The proposed benefit of this initiative would be to take advantage of existing private sector expertise, yet provide lower financing costs via the State of Alaska bonding capabilities. If such a PPP arrangement could be developed, it is thought that the Spur Line might encourage additional Cook Inlet gas development at a time of declining natural gas supply in that area. This increased gas supply could serve not only Southcentral Alaska, but also the Fairbanks market. Conversely, if increased Cook Inlet natural gas development did not occur, the line could travel further north to link into a gas source in the foothills of the Brooks Range or on the North Slope.¹

At this point, Enstar and ANGDA have not entered into a formal dialogue to pursue this PPP initiative. Enstar is continuing on its work plan to build and operate a bullet line from the Gubik gas field to its existing pipeline grid in the greater Anchorage area.² Similarly, ANGDA has made significant progress on its work plan for building a natural gas spur line that would tap into the larger, Main Line at Delta Junction, to bring North Slope gas to the Cook Inlet area. Enstar and ANGDA have been pursuing their respective initiatives independently. With Governor Palin's request to link Cook Inlet and Fairbanks with a natural gas spur line, ANGDA has also begun evaluation of the Beluga to Fairbanks natural gas pipeline.

¹ Press release No. 08-110, Governor Sarah Palin, Gov. Announces Public/Private Gasline, July 7, 2009.

² Enstar Natural Gas Company, Presentation to Anchorage Chamber of Commerce, February 9, 2009.



3. Public-Private Partnerships

3.1. Overview of Public-Private Partnerships

A "public-private partnership" describes any government service or private business venture that is funded and operated through a partnership of government and one or more private sector entities. In between the extremes of "public" projects and "private" enterprises are those moved forward by public-private partnerships. In general terms, the PPP is a contractual agreement between public and private partners to construct, renovate, operate, maintain, manage and/or finance a facility or system.

A public-private partnership, although not a "partnership" in the legal sense, provides for a framework for the sharing of the resources of the public and private sectors, as well as the sharing of risks and rewards. PPPs can provide greater flexibility to achieve program objectives by altering the traditional roles of the public and private sectors in order to benefit from the skills and resources of the parties. As a result, PPPs have taken various forms to take advantage of the relative strengths that the parties bring to a particular project.

Recently, the term "public private partnership" has been used to refer to transactions in which traditionally public projects, such as transportation, are pursued by a public entity in partnership with one or more private sector partners. The private partner's participation is more than the traditional role as a contractor to design and/or construct a facility. As compared to a public procurement, the private sector partner in a PPP may assume more risk and responsibility in the planning, designing and construction of the facility. In some cases, the private sector will assume responsibility for the operation and maintenance of the facility over a specified period of time. Or, the private sector partner may take financial risk in the financing of a project from which such partner will receive revenues from operations. In that regard, a PPP can be an effective mechanism for raising money, for managing facilities and/or services, and for fulfilling public mandates embodied in both policy and law.

Public-private partnerships have also been used for projects that have been traditionally undertaken by the private sector. Tax relief has long been used by the public sector to promote economic development. Public entities have also provided incentives, such as grants, low interest rate loans and loan guarantees, to the private sector to encourage the new technologies and/or applications. However, public entities have also become active participants in certain projects, by "partnering" with the private sector. Such arrangements typically involve the public sector assuming certain risks and/or making a financial investment. In that way, government can facilitate the development of infrastructure and/or services traditionally undertaken by the private sector, where the risks of the project or the projected returns of the project may not otherwise attract private investment or where governmental involvement can accelerate such development.

In countries around the world, PPPs have evolved further than in the U.S. to include full private ownership and operation of public service facilities and public participation in traditionally private activities in order to promote and facilitate the development of needed infrastructure.



The U.S. has a more deliberate approach to comprehensive public-private partnerships. The PPP analysis can be further complicated in the U.S. by the ability of the public sector to use tax-exempt financing for certain projects, providing public entities with an historically lower cost of debt capital.³ The U.S.'s progress, though slower than elsewhere, had been accelerating in the last few years due to the potential to enhance service, share risk, stabilize costs and permit public resources to be redeployed to essential government purposes. However, PPPs, as with other participants in the capital markets, have faced new challenges in the economic turmoil that began in 2008 and the development of new PPP projects has slowed.

In deciding to enter into a PPP arrangement, the public entity must evaluate the PPP arrangement based upon what it contributes to the public interest – in both the short-term and the long-term. A decision to engage in a PPP for a particular project must consider the costs and benefits of the PPP as compared to a wholly public project or a wholly private project. Some of the key questions to be considered in deciding whether or not to use a PPP arrangement and/or in defining the appropriate structure for a PPP include:

- Is there a policy reason for the public sector to own the asset or provide the service?
- Is the public or private sector better able to provide service, based upon quality and cost of service?
- Is the public or private sector better able to manage, and/or assume, the various risks?
- Does the project require significant capital investment?
- Is funding and financing obtained in a more timely manner and/or at a lower overall cost by the public or private sector?
- Does the PPP offer better expertise and experience to the project, than the private partner or public partner on its own, thereby reducing construction costs and/or risk, operating costs and/or risks and/or rates?
- Can the public sector or private sector develop the project more efficiently, in a timely manner?

In PPPs where the private sector is involved in a traditionally public sector project, the role of the private sector partner goes beyond merely providing engineering and consulting services. In successful PPPs, the private sector partner will provide unique expertise, design and/or operations innovations and/or financial resources. The examples below illustrate how PPPs have been used for public projects.

³ It should be noted that the advantage that tax-exempt financing provides to public entities in the United States is not generally available outside the U.S.



Anton Anderson A local PPP example is the Anton Anderson Memorial Tunnel into Whittier, Alaska					
Tunnel:	PF contracted out this \$80.0 million project to Kiewit Construction Company, and then				
	outsourced its operations to a private highway asset management and operations company,				
	VMS. Inc. VMS operates the Whittier-Portage tunnel as a toll road and is responsible for its				
	operation and maintenance. ⁴				
Port of Miami	The \$914.0 million Port of Miami Tunnel was pursued as a partnership between four state and				
Tunnal.	Lungly Local government entities and a consertium headed by the French construction firm Roux				
Tunnet. The provide a state of the state of					
Travaux Publics and the global investment bankers Babcock & Brown. The					
pursued in order to transfer the substantial risk for construction overruns and the long					
	of operations and maintenance to the private sector. In addition, the PPP structure provided				
	additional financing opportunities. Critical was the fact that boring technology needed for the				
tunnel is not in the US, and international builders prefer PPP structures. The key finan					
were financing costs, delay in tunnel operations, cost overruns and other completion risk					
	the quality/availability of the tunnel once complete. The PPP contract would have provided for				
	desim/huild/onerate/finance Compensation to the concessionaire was to be based upon				
	availability perment from the Eloreting Donortment of Transportation during the term of the				
	availability payments non the Fronda Department of Transportation during the term of the				
	contract, based on tunnel availability and quality of service, rather than tolls. On December 12,				
	2008, the FDOT announced that it would not complete the public-private partnership, because				
	the primary private equity partner could no longer confirm that it had the financial ability to				
	close the deal. ⁵				

Conversely, the public sector may become involved in traditionally private enterprises for political reasons, such as expediency or risk reduction. Such arrangements typically involve the public sector assuming certain risks and/or providing financial incentives.

FutureGen:	FutureGen is a public-private partnership formed to design, build, and operate the world's first
	coal-fueled, near-zero emissions power plant. The partnership is between the U.S. Department
	of Energy (DOE) and the FutureGen Industrial Alliance, Inc, a non-profit consortium of leading
	international energy companies. The Alliance is responsible for design, construction, and
	operation. DOE is responsible for independent oversight and coordinating participation of
	international governments. Alliance member companies are dedicating nearly \$400 million
	toward the project's cost and bring valuable technical expertise and power plant engineering
	and construction experience to the effort. As restructured in 2008, the FutureGen project aims
	to demonstrate cutting-edge carbon capture and storage (CCS) technology at multiple
	commercial-scale Integrated Gasification Combined Cycle (IGCC) clean coal power plants.
	Under this strategy, the U.S. Department of Energy (DOE) will join the industry in its efforts to
	build IGCC plants by providing funding for the addition of CCS technology to multiple plants,
	to be operational by 2015. This restructured approach allows DOE to maximize the role of
	private sector innovation, provide a ceiling on federal contributions, and accelerate the goal of
	increasing the use of clean energy technologies to help meet the steadily growing demand for
	energy while also mitigating greenhouse gas emissions. ⁶

⁴ Anton Anderson Memorial Tunnel, Federal Highway Administration PPP Case Studies, www.fhwa.dot.gov/ppp/whittier.htm.

⁵ Lebowitz, Larry, "Port of Miami tunnel moves closer to go-ahead," *Florida Department of Transportation*. (February 1991); www.portofmiamitunnel.com

⁶ DOE January 30, 2008 Announcement on FutureGen Restructuring; www.futuregenalliance.org.



3.2. PPPs for Natural Gas Pipelines

In the lower 48 states of the United States, natural gas pipelines have traditionally been developed by the private sector. The large United States gas transmission lines, of which there are approximately 278,000 miles of pipe in the ground in the Lower 48, generally are owned and operated by private pipeline operators. Additions to the existing natural gas transmission network also are undertaken by private sector companies. Current expansion in the natural gas pipeline network is driven in part by the increased domestic natural gas production. In addition, the construction of import terminals for liquefied natural gas ("LNG") has resulted in pipeline expansions.⁷

However, governments have supported the development of natural gas pipelines as described below. At the state level, the State of Wyoming has provided support for the development of pipelines to encourage gas production in Wyoming and to provide market access. Also, the U.S. government and other nations have become involved in oil and gas pipeline PPP arrangements as a foreign policy priority.

Wyoming Pipeline To spur the development of a pipeline to access natural gas production in Wyoming					
Authority Wyoming Pipeline Authority (formerly, the Wyoming Natural Gas Pipeline De					
(formerly, Authority) provided support for the development of the Rockies Express Natural C					
Wyoming Natural To help assure that the natural gas commitments needed for the construction					
Gas Development	project would be obtained, the authority provided a conditional commitment for 200 million				
Authority)	cf/day of capacity on the pipeline. Wyoming was receiving significant revenue generation				
	from taxes on mineral resources, primarily natural gas. In order for production and associa				
	tax revenue to continue growing, it was in the public interest for Wyoming to provide a				
to markets for its natural gas through the pipeline. The Authority also considere					
up to \$1 billion of financing to support the development of the pipeline, but s					
was not ultimately required. ⁸					
Baku-Tbillsi-Ceyan BTC is a 1,099 mile long oil pipeline connecting Baku, Azerbaijan, Tbilisi, Georgia, a					
(BTC) Pipeline and	Ceyhan, Turkey. The \$3.9 billion project was 70% funded by the European Bank for				
South Caucusus	Reconstruction & Development, the World Bank, export credit agencies of seven countries,				
Gas Pipeline	and a syndicate of 15 commercial banks. Beginning in 1998, the U.S. Trade and Development				
(SCGP):	Agency (USTDA) provided grants to fund legal, financial and environmental advisers in				
	connection with the pipeline's development. Construction began in earnest in 2003, with first				
	flow of oil in 2005. ⁹ The pipeline is owned by a consortium of 11 private and state-owned oil				
	companies and operated by BP. Azerbaijan benefits from oil exports, and Georgia and				
	Turkey receive significant transit fees.				
	The 340 mile SCGP runs parallel to the BTC from Azerbaijan into Georgia. BP, the technical				
	operator, and Statoil, the commercial operator, lead a seven member international consortium.				
	Although the initial purpose is to supply gas to Turkey and Georgia, the longer-term goal is to				
	supply Europe with Caspian natural gas via the proposed Nabucco, Turkey-Greece, and				
	Greece-Italy pipelines.				

⁷ Department of Energy, Energy Information Administration, Office of Oil and Gas, July 2008, Additions to Capacity on the U.S. Natural Gas Pipeline Network: 2007; www.pipeline101.com

⁸ Wyoming Pipeline Authority website, www.wyopipeline.com.

⁹ "Public-Private Partnerships", U.S. Trade and Development Agency, www.ustda.gov.



Nabucco:	Currently, the Nabucco project is a consortium project, not a PPP. However, recent disruptions in European gas supplies due to the Russian-Ukrainian dispute have caused discussion regarding whether or not EU participation should include financial contributions including additional loans and capital financing. ¹⁰ Although the view is not unanimous, some EU members view the project as not just a commercial enterprise, but an issue of national security in which the EU should assume financial risks the private companies are not willing to take. One of the risks and uncertainties in the development of the Nabucco pipeline is securing enough gas supplies. ¹¹		
Blocks B and 52	Vietnam's state-owned oil company (PVN), Unocal and the US Trade and Development		
Agency (USTDA) are co-sponsoring assessment of the infancial reasonity of a prop			
Project, Vietnam:	<i>ect, Vietnam:</i> pipeline in the Gulf of Thailand. USTDA is helping to mitigate project risk, provide for		
	structure to a complicated PPP arrangement and conduct independent investment analysis.		

3.3. PPP Structures

In the context of large infrastructure projects, the term "public-private partnership" covers a broad range of partnership arrangements or structures involving increasing participation of the private sector partner. PPP arrangements vary considerably to take advantage of the relative strengths that the parties bring to a particular project. The PPP structures range from a relatively simple contractual relationship where the private sector assumes the risk of delay through financial incentives and penalties, to a complicated development agreement where the private sector is responsible for, and assumes risks relating to, building, owning and operating a facility or project. Frequently, the private sector will form a consortium of private entities to provide the various services – e.g., contractor, operator and investor. In order to isolate the obligations and liabilities of the project from its other operations, the private sector partner will usually form a special purpose entity ("SPE") to engage in the PPP arrangement. If the public sector partner invests in the project, it may be allotted an equity share in the SPE.

The following chart shows the parties involved in a typical PPP transaction:



Figure 1: Parties to a PPP Transaction

The role of each partner in a PPP is not formulaic or consistent across projects, but rather is dictated by the circumstances of the particular project, and the strengths and desires of the partners. The partnership between a public entity and a private sector entity must be tailored to address the particular needs of the parties and the project. This flexibility has enabled PPPs to

¹⁰ "Hungary Pushes for new gas pipeline," Aljazeera.net, 1/27/2009;

http://en.wikipedia.org/wiki/South_Caucusus_Pipeline, http://en.wikipedia.org/wiki/Baku-Tbilisi-Ceyhan_pipeline ¹¹ "EU Supports Central Asian Gas Pipelines", 1/28/09;

http://kknowledge.allianz.com/en/news/viewdetail/eu_centralasia_pipeline



be successful in a number of contexts, covering different types of projects around the world.

The potential PPP structures present different roles for the public and private sector partners. Variations will generally involve the allocation of responsibility (construction, operation, etc.) and risk (e.g., environmental permitting, cost escalation, time delays, financial, etc.) between the public and private sector partners. In addition, certain structures are applicable to new facilities (greenfield), while others are applicable to existing facilities (brownfield). As noted above, the private sector partner in a PPP arrangement may be comprised of a consortium of parties, which may include *financial investors* (where investors are focused on a financial return), *strategic investors* (where investors will leverage know-how or synergies with other businesses to enhance the investment's performance) and *operating entities* (companies looking for returns primarily through profitable operations).

The following chart illustrates a number of the structures that come under the umbrella of PPP arrangements, falling between the two extremes of fully public and fully private entities.



Figure 2: Structures for Public Private Partnerships

Below are more detailed descriptions of the key PPP arrangements, or structures, utilized in major infrastructure development. In practice, it is unlikely that any project will fit nicely within any of the structures. Rather, the structure will need to be revised and refined to meet the needs of the particular project and the desires and circumstances of the parties.

Design-Build: In the design-build structure, the parties enter into a single contract providing for the private sector partner to provide architectural/engineering services and construction for a fixed fee. In that respect, the design-build structure is similar to a "turnkey" contract. The public sector participant will own the project, and will be responsible for operations and maintenance, and will assume the related risks. The private sector participant assumes



responsibility for the project design and construction, along with the associated risks, for a fixed fee. In this structure, the private partner assumes the risk of project design, construction timeline and cost escalation. The public entity owns the project, and is responsible for funding and/or financing the project costs and the ongoing maintenance and operations of the project. The public entity receives the revenues from operation.

Design-Build-Operate: In this structure, the private sector partner undertakes the design and construction responsibilities discussed above, as well as the ongoing operations and maintenance of the project for a stated term. The public sector partner will continue to own the facility and will be responsible for the financing of the project. The public entity's ability to control the development of the project and its operations are limited to those negotiated upfront in the contractual arrangements between the partners. The public sector partner may have limited ongoing input with respect to the project. Revenues from the project would generally be applied to pay the debt service on the financing and to provide for the operations and maintenance of the project, with the remainder going to the private partner. However, depending upon the circumstances, the PPP arrangement may provide for a portion of the excess revenues (or profits) from the project to be shared with the public entity. In effect, the private sector partner is granted a concession for the development and operation of the project for a fixed term, after which the project reverts to direct public control.

Design-Build-Finance-Operate: Under the Design-Build-Finance-Operate structure, the role, and control, of the private sector partner is substantial. Although the public entity may retain ownership of the project, the private partner is fully responsible for the design and construction of the project, as well as the operation and maintenance of the project for a stated term. In addition, the private party provides the financing for the project – directly through the investment of equity and/or through the arranging of debt financing. The public entity's role in the project. The rights of the public entity in this regard will be prescribed by the provisions of the contract among the parties. The private partner would generally bear the risk of the success of the project, and be entitled to the revenues from the project for the term of the contract, to pay its costs, pay debt service, and to provide a return on capital. Depending upon the nature of the project, the private entity may seek to allocate a portion of the risk to the public entity and the public entity may seek to participate in some of the profits or excess revenues generated by the project.

Operations and Maintenance (O&M): Under this arrangement, the public sector participant owns, and is responsible for the design and construction of, the project. The private sector is responsible for the operations, maintenance and management of the project. The private sector can be compensated on a fixed fee basis or an incentive basis, where premiums are paid if specified performance targets are met or where profits are shared. This arrangement provides a structure to take advantage of private sector experience and efficiencies in operations.

The chart below (Figure 3) identifies some of the key features of the most common PPP structures.





Figure 3: Features of PPP Structures

	Operations	Design-Build	Design-Build-Operate	Design-Build-Finance-
	& Maintenance			Operate
Ownership of Assets	Public Entity	Public entity	Public entity	Public entity or mixed
Capital Financing (Fixed	Public Entity	Public Entity	Public Entity	Private entity
Assets)				
Current Financing	Private entity, generally	Public Entity	Private entity, generally	Private entity
(Working Capital)				
Capital Improvements	Private entity for	Public Entity	Private entity for	Private entity, generally
	specific items		specific items	
Operations	Private entity	Public entity	Private entity	Private entity
Management Authority	Mixed, subject to	Public entity, at least	Private entity, subject to	Private entity
	contract provisions	during operations	contract provisions	
Bearer of Construction	Public entity	Private entity, subject	Private entity, subject to	Private entity, subject to
Risk	_	to contract provisions	contract provisions	contract provisions
Bearer of Commercial	Mixed, subject to	Public entity	Private entity, subject to	Private entity, subject to
Risk	contract provisions		contract provisions	contract provisions
Compensation to Private	Fixed Fee, w/ or w/o	Fixed Fee	Fixed Fee, and all or	Based upon results; may
Party	incentive payments		portion of excess	have some sharing with
			revenues	public entity
Duration of Arrangement	Generally, 3 – 5 years	Through construction	5-50 years	10-75 years (or more)
		and testing		



A common feature of the different structures of PPPs is an identifiable revenue stream, as there must be a method of paying the private partner for its services over the duration of the partnership. The projected level of revenue, as well as its quality and certainty, will influence the decision on what PPP structure is appropriate for a particular project. In the case of partnerships limited to design-build, the life of the partnership is relatively short and the funds to pay the private sector partner will be provided by the public entity from appropriations (pay-as-you-go) or from its own financing. However, in situations where the private sector assumes responsibility for financing and/or operations, there needs to be an ongoing revenue stream to pay debt service (if applicable), operational costs and provide a return on investment over the extended term of the contract, typically 25 - 50 years or more

Where projected revenues are highly uncertain or not sufficient to meet projected expenses, the public sector partner may be required to provide financial support. The role of the public sector partner could include the assumption of certain risks, guarantee of revenues (in early years or longer), or other operational support or financial incentives.

Initial Observations and Considerations for the Spur Line.

Traditionally, natural gas transmission lines have been developed and operated by the private sector in the U.S. The public sector has not historically been involved in this business or service. Because of the unique characteristics of the Spur Line, however, there is considerable public interest in the development of the Spur Line. Access to natural gas in Southcentral Alaska is an important economic issue for the State.

Some of the issues that need to be considered in analyzing potential PPP structures for the Spur Line are as follows:

<u>Design-Build-Operate</u>: Because natural gas transmission lines have traditionally been developed and operated by the private sector in the United States, the private sector has gained substantial experience and expertise in the development and operation of natural gas pipelines. The public sector has not historically engaged in this business or service. If the Spur Line were to be developed and/or operated by ANGDA, ANGDA would need to develop, hire and/or contract with individuals with the necessary expertise. Alternatively, ANGDA could enter into a PPP with a private partner with strong design/build gas pipeline expertise. Factors to be considered by ANGDA in evaluating a potential PPP opportunity include:

- How can ANGDA best utilize the expertise and experience of the private sector?
- What expertise would ANGDA want to, or need to, develop in-house?
- What resources are available to ANGDA for the development of the Spur Line?
- What benefits would ANGDA realize in developing the project within the framework of a PPP?



• What risks could ANGDA transfer to the private sector partner in such a PPP?

<u>Finance:</u> The magnitude and reliability of the revenues projected to be generated by the Spur Line would be an important factor in determining the extent to which the Spur Line would be attractive to a potential private investor, or if it would support the repayment of debt and return on capital used to pay for the project. However, because of the importance of the Spur Line to the economy of Alaska, State subsidies and/or support may be appropriate if such support were needed to make development of the Spur Line economic, or to maintain gas prices to the consumers in Southcentral Alaska at levels deemed to be reasonable. Factors to be considered when evaluating the financing options for the Spur Line include:

- What is the expected stream of revenues?
- How certain will the revenue stream be at the time of the construction of the project, when the funding is required?
- Will there be firm commitments from shippers?
- Will the source(s) of natural gas be identified, and how reliable will the source(s) be?
- What other sources of natural gas and/or other fuels are, or will be, available, serving as competition to the Spur Line?
- What cost efficiencies would be gained with direct State support for all or a portion of the project?

3.4. Key Value Drivers for PPP

Both the public and private sectors enter into PPP arrangements because of the perceived benefits that each expects to receive. Each of the partners in the PPP have different risk profiles, potential rewards and cost structures. It is this difference in perspective that allows a PPP arrangement to be a "win-win" transaction for both the private sector partner and the public sector partner. Set forth below is a chart that identifies potential sources of value for the PPP.



Figure 4: Key Value Drivers for PPP



3.5. Potential Public Benefits of PPP

The reasons for a public entity to consider using a PPP arrangement for a project are the benefits that the public entity can realize from the participation of the private sector partner. Of course, the potential benefits of any PPP must be weighed against the costs and risks, as well as the cost/benefit trade-offs of other alternatives. In addition, not all benefits will be able to be realized in a PPP arrangement for a particular transaction. A PPP will need to be specifically structured to address the opportunities and challenges of the particular project, as well as the strengths, needs and desires of the parties.

Some of the potential benefits of a PPP arrangement are discussed below.

Expertise and Experience: A private sector partner may bring expertise and experience to the project in building, operating and maintaining the asset. The private sector may provide greater expertise from its experience with multiple projects in geographically diverse locations, throughout the U. S. and worldwide. In addition, the broader experience can offer opportunities for efficiencies and innovations that can benefit a project, in terms of quality, as well as cost and schedule.

Allocation of project risk: A PPP can allocate risk to the party best able to manage that risk. Often, the private sector is better able to evaluate and/or bear some or all of the risks relating to the construction and/or operations of the asset. In appropriate situations, the public entity can transfer construction cost and schedule risk to the private sector through a design-build PPP. In such cases, the cost and schedule overruns are borne by the private sector partner. This risk





transfer can be important for projects where cost and schedule overruns can be controlled in the construction process.¹²

Operational risk can also be transferred to the private sector. Warranties contained in a designbuild contract provide assurance that the project will perform to specified standards. If the project fails to meet these performance standards, the contractor is required to repair or replace the product. Such warranties, however, may result in higher initial costs, as the contractors demand additional compensation for the additional obligations over the warranty period. In addition, in a PPP arrangement where the private sector partner is responsible for operations and maintenance, the private sector partner may assume revenue risk and any resulting operational losses. The public entity can be sheltered from this operational risk.

In other circumstances, where government wants to provide incentives for the development of a new and/or risky technology or project, the government may assume risk that would typically be borne by the private developer. For example, in the U. S., a federal statute has provided an incentive for the private development of nuclear power by providing a partial indemnity to the nuclear industry against liability claims arising from nuclear incidents while ensuring compensation coverage for the general public.

Cost and Time Savings: The design-build PPP allows for the contractor to identify cost or time saving techniques that can be used in the development of the project. A closer working relationship between the designers, engineers and contractors can provide cost and time savings by incorporating more economical design features and construction efficiencies. Also, the participation of the contractor in the design process can often reduce the number of change orders, and the resulting costs and delays. In addition, incentives and/or disincentives can be used to encourage a contractor to complete a project on time, or sooner.

Improved design through innovation: In a design-build PPP, the working relationship between the designers, the engineers and the contractors can provide greater opportunity to incorporate innovations into the project design. In a typical public procurement, the request for proposal will often identify pre-determined design specifications that can be satisfied by a number of contractors. As a result, certain innovative techniques that could be beneficially used in the construction process may be unknown or dismissed. The design-build approach can improve the quality of the project, as well as reduce the cost and time for delivery of the project.

Increased operational efficiencies: The public-private partnership may provide improved asset management that yields efficiencies in operations and life-cycle management which can reduce overall project costs over the life of the project. In a PPP arrangement, especially a design-build-operate arrangement or a design-build-finance-operate arrangement, the private sector partner will look at the long-term return on the investment in the project. As compared to the traditional least cost procurement process, a private sector partner may elect to incur increased costs upfront

¹² The CityLink highway project in Melbourne, Australia, faced project delay and increased costs as a result of several challenges during construction, including difficult geological conditions and a tunnel failure. All cost and schedule overruns were at the expense of the private sector partner, and no additional costs were borne by the public sector.

Scott•Balice Strategies



that are intended to provide greater operational efficiencies, reduced maintenance costs and/or increased returns over the life of the project.¹³

Operational expertise of the private sector may provide opportunities to increase profits through operational efficiencies. In addition, a private sector partner may be in a better position (and less affected by public or political pressures) to increase rates.

Private Financing: Private financing can provide significant benefits to the public sector partner by providing access to additional financing sources. In a design-build-finance-operate arrangement, the private sector is responsible for obtaining and structuring the financing for the project, including both debt and equity. Furthermore, the private sector is responsible for operating the project in a manner that will generate sufficient revenues to pay debt service on the debt and to provide a return on equity. In some circumstances where tax-exempt financing may be available to the public sector partner, the cost of private financing may be higher.¹⁴ Nonetheless, if operational efficiencies are realized and/or risks are allocated to the private sector partner, the public may benefit from a PPP arrangement

Reduced Burden on Public Sector: To the extent that a private partner assumes responsibility and/or risk in connection with a project, it will reduce the demands on resources (financial, management, personnel, etc.) of the public entity. In a time of constrained governmental resources, the private sector may have greater capacity to undertake a project and move it along expeditiously.

Most partnerships will not benefit from all of these factors, but generally the successful PPP will benefit from one or more.

Applicability to the Spur Line

Prior to entering into a PPP arrangement for the development and/or operation of the Spur Line, ANGDA would need to undertake a comprehensive cost/benefit analysis. Some of the factors to be considered are discussed below:

Expertise and Experience. The public sector has not historically been involved in the development and operation of pipelines. If the Spur Line were to be developed and/or operated by ANGDA, ANGDA would need to build the capability internally by developing, hiring and/or contracting with individuals with the necessary expertise. Alternatively, ANGDA could seek a private partner that has the experienced personnel needed for the project.

¹³ The private sector company, that took over operations of the Chicago Skyway through a long-term concession contract with the City of Chicago, invested in electronic tolling technology. The upfront cost of the improvement was expected to be a good long-term investment because of the increased mobility, higher traffic volumes and reduced toll collection expenses that were expected to be realized. Budgetary constraints may have prohibited the City of Chicago from making such an investment from public funds. Report to Congressional Requesters, Highway Public-Private Partnerships – More Rigorous Up-front Analysis Could Better Secure Potential Benefits and Protect the Public Interest, Unites States Government Accountability Office, February 2008, Page 24.

¹⁴ The lower interest cost of tax-exempt financing available to the public sector partner may be partially offset by the private sector partner's tax deductions and/or credits for, among other things, interest, depreciation and amortization.



It could be expected that the private sector is in a better position to manage the construction of the pipeline, incorporating technological advancements that have been used elsewhere in the world, and to adapt such technologies to the requirements of the Spur Line.

In addition, a private sector partner with experience in the operations of a high-pressure pipeline should be able to realize efficiencies in the operation of the Spur Line, as well as assume the risk, totally or in large part, of operations and maintenance.

Nonetheless, ANGDA would have an important oversight responsibility on behalf of the State. To the extent that any of the State's resources are at risk, ANGDA would need to ensure that these resources are protected and that the Spur Line is constructed and operated to meet specifications and requirements. As noted below, such specifications and requirements would need to be incorporated into the contracts forming the PPP arrangement, which ANGDA would need to meet to monitor and verify to ensure compliance by the private sector partner.

Efficiency; Cost and Time Savings. In the United States, the experience and expertise in the development and operation of natural gas pipelines lies with the private sector. As a result, a private sector partner can bring to the PPP arrangement innovations in project design and construction processes that can improve the quality of the project, and/or reduce the cost and time for delivery of the project. Similarly, the private sector's operational expertise may provide opportunities for operational efficiencies

Allocation of Project Risk. In pipeline development by the private sector in the Lower 48, the private sector routinely assumes *construction risk* and *operating risk*. The private sector is able to evaluate and manage the risks and is willing to assume such risks. The Spur Line, however, may provide unique challenges for pipeline development, due to matters such as available gas supplies and a firm market. If that is the case, private investors may look to ANGDA or the State to share in the risk. In the event that ANGDA or the State assume any risk in connection with the construction and operation of the Spur Line, the risk to be assumed by the public entity should be carefully defined to cover only certain types of risks that are specific to the Spur Line.

Private Financing. In the current market, private investors are more selective in the projects in which to invest. Generally, private investors are seeking greater returns and/or reduced risk. In addition, certain of the investors have encountered financial trouble of their own, and reduced access to capital. As noted above in **Section 3.1**, the Port of Miami Tunnel announced in December 2008 that the proposed PPP would not close because the primary private equity partner could not confirm that it had the financial ability to close the deal. Similarly, the PPP for Midway Airport has stalled as the winning bidder, led by a division of Citigroup, has encountered difficulty in getting the required financing.¹⁵ Thus, the Spur Line would need to be able to demonstrate strong cash flows, with uncertainties as to demand and supply of natural gas minimized to acceptable levels, in order to be able to attract a financial investor in the current market.

¹⁵ "Debt Threatens Takeover of Midway Airport", Wall Street Journal, April 2, 2009.



On the other hand, a strategic investor may see benefits from investment in the Spur Line, in addition to the purely financial return. For example, a strategic investor may have an existing business which could independently benefit from access to natural gas that the Spur Line would provide. In such a situation, the strategic investor may be willing to assume certain risks in the development of the Spur Line in order to benefit an existing investment.

3.6. Challenges of Public-Private Partnerships

Not all projects benefit from the use of a public-private partnership. In addition to weighing the potential benefits and costs, the increased complexity of a public-private partnership can impose unique challenges. Some of the challenges to be considered are identified below.

Private Sector Profits: The private sector has a profit motive. The private sector will seek PPP arrangements that are expected to produce an adequate rate of return on its investment. Some projects may not be projected to generate sufficient revenues to attract a private investor. In such situations, the project can be undertaken by the public sector, or the public sector can provide incentives and/or subsidies to attract private investment. In addition, if sufficient efficiencies or economies of scale are not realized, the rates or tariffs charged may be higher in a PPP arrangement, as compared to a solely public project, in order to generate sufficient revenues to provide a return on the private partner's investment.

Potential Loss of Control: Along with the transfer of responsibility and risk, the PPP structure transfers certain elements of control to the private sector. The amount of control ceded depends upon the specific PPP structure, but in each case the result is to limit the control and influence that can be exerted by the public sector. The contractual arrangement between the public sector partner and the private sector partner sets forth performance standards for the private sector partner, places constraints on the conduct of the private sector partner and defines the extent to which the public sector partner has input through consent or approval rights. As such, the right of the public sector partner to control the private sector partner's performance is generally limited to matters identified upfront in the contract. This may limit the ability of the public sector partner to modify the project and/or to implement plans to accommodate changes over time. In addition, the contractual provisions of a PPP arrangement may include restrictions on the actions of the public sector partner to compete with the project to be undertaken under the PPP arrangement. For example, in the toll road context, the PPP arrangement may prohibit the public sector from constructing roads that are parallel to the toll road or otherwise could divert substantial traffic off the toll road. Non-compete provisions can be important features in a PPP arrangement in certain circumstances, and of relatively little importance in others..

Management Time: Although PPP arrangements shift responsibilities to the private sector, the management of a PPP arrangement can require significant amounts of time of the public sector partner to manage and regulate the process. The public sector partner will need to ensure that the performance of the private sector partner meets the requirements of the contractual provisions. The public sector will need to oversee the development of a project in a design-build





arrangement, and will need to provide for oversight and verification of a private operator over the term of the contract.

Retention of Risk: Not all risks can, or should, be allocated to the private sector. As a result, the public sector partner may be required to assume or retain certain risks, and/or provide incentives or subsidies to the private sector. To the extent that the public sector retains financial responsibility, the public sector should also retain a level of management and regulatory control.

Project Insolvency: If the project does not generate sufficient revenues to support the private sector financing, the project could become insolvent. In several cases where this has occurred,¹⁶ the PPP arrangement has been restructured or refinanced. If such restructuring is not possible, the private partner may attempt to reduce costs by providing reduced services. Regardless, if the private sector partner fails to perform in accordance with the requirements of the contractual arrangement, the PPP arrangement can generally be terminated in accordance with the terms of the contract. In such situation, the project may revert back to the public sector partner.

Time and Cost Savings Unrealized: PPP arrangements have not always resulted in the expected cost and time savings. For example, the Florida DOT has experienced cost and time overruns on projects using innovative contracting methods. However, Florida DOT states that the magnitude of the overruns has been significantly reduced from its experience under traditional procurement.¹⁷

Applicability to the Spur Line:

The implementation of a PPP structure presents new challenges to the public sector's management of its assets. The PPP arrangement could restrict the freedom and flexibility of ANGDA and the State in the development and operation of the Spur Line.

Profit Motive. If there is uncertainty as to the levels of the supply of or the demand for natural gas at the commencement of operations of the Spur Line, the Spur Line may not be projected to provide an adequate return on the private investor's investment. In such event, ANGDA or the State may need to provide an incentive or subsidy to attract private investment in the Spur Line or to maintain reasonable rates on the Spur Line. A subsidy could take the form of an outright grant to or an investment in the Spur Line. Alternatively, a subsidy could take the form of an availability payment (i.e., compensation consisting of periodic payments predicated upon availability, level of service and/or other factors)¹⁸ or a firm commitment transportation contract.¹⁹

¹⁸ See discussion of Port of Miami Tunnel above in **Section 3.1**.

¹⁶ As a result of revenues lower than expected, the Dulles Greenway project ran into financial troubles and the private sector partner defaulted on its loan agreements. The private sector partner was, however, able to refinance its debt and Virginia taxpayers incurred no additional financial obligation.

¹⁷ Florida cost overruns with non-traditional contracts was 3.6%, as compared to 12.4% with traditional low-bid contracting. Time overruns were 7.1% with non-traditional contracts, compared to 30.7% with traditional contracts. U.S. Department of Transportation, "Report to Congress on Public-Private Partnerships, December 2004.

¹⁹ See discussion of Rockies Express Natural Gas Pipeline above in **Section 3.1**.





Retention of Risk; Potential Loss of Control. ANGDA may retain certain risks relating to the Spur Line, including some of the construction risk and financing risk. To the extent risk is retained, ANGDA should seek to retain appropriate control over the factors that impact that risk. This, of course, will be contrary to the desires of the private investor, which will seek ultimate control of the Spur Line in order to enhance opportunities for profit over the term of the PPP arrangement. The resolution of this conflict is of utmost importance to both the public and private sector partners in protecting their respective interests and in promoting the success of the project.

Non-compete Provisions. In the case of the Spur Line, non-compete provisions would probably be a minor issue for each of the parties. Although the private sector partner would want assurance that a competing pipeline would not be constructed, such a possibility is highly unlikely. The private sector partner, however, may also seek assurances regarding the State's activities in promoting competing sources of natural gas and/or other fuels.

Project Insolvency; Delay or Cost Overruns. To the extent that the revenues of the Spur Line do not materialize as anticipated, the project is delayed or costs grow beyond the capacity of the PPP parties to absorb, ANGDA and/or the State may be left with an incomplete project or one that is not operating as anticipated. Public pressure to complete or perpetuate operations of the Spur Line could then fall to the public sector, with all the risks, costs, challenges and opportunities associated with the Spur Line.

3.7. Private Sector Perspective

One of the major impediments to private sector investment in a project is uncertainty. From the perspective of the private sector, certain projects may benefit from, or require, participation of the public sector. In a PPP arrangement, the private sector may look to the public sector to assume certain of the risks and/or responsibilities. In certain circumstances, a public entity may be in a better position to evaluate certain risks (such as permitting) and/or be able to assume certain risks (such as risks relating to unusually complex or one-of-a-kind projects). Also, the public entity may have certain powers, such as eminent domain, that can assist in moving a project forward. Finally, the public entity may be able to provide certain incentives and/or subsidies to support the project and encourage the private sector to participate in the PPP arrangement.

Several of the key factors considered by the private sector in evaluating a potential PPP arrangement are discussed below.

Financial Risk: The private sector faces two significant financial risks – the ability to obtain financing for its participation in the project upfront and throughout the life of the project and the ability to generate sufficient revenues to repay debt and provide a return on capital. The private sector will seek to identify and quantify the risks inherent in the project and those created by the PPP arrangement and to develop projections of revenues, expenses and return on capital. Unless the projected return is at or above the private partner's target rate, the private partner will not



participate in the PPP arrangement. An additional barrier to private sector participation can be the ability to obtain financing for the project. To the extent that a proposed project contains risks that are difficult to quantify, obtaining financing for the development of a project can be challenging. Market conditions since 2008 have exacerbated this concern.

Certain projects may not be able to be funded totally by the private sector. Some projects may require additional support or subsidy from the public sector – with the public sector assuming certain risks associated with the project and/or making a financial investment.²⁰ In some cases, the projected revenues may not be reliable because of the uncertainty of such revenues due to projected volatility in operations or lack of creditworthiness of the parties. In such case, the public sector could provide credit support through the guarantee of all or a portion of the revenue stream.

External Factors: Factors unrelated to the project or the PPP arrangement can impact the viability of a PPP arrangement for a project. Economic factors, and changes in those economic factors, can affect the potential revenues and profits to be realized from a project. For example, revenues of a toll road can be impacted by increasing fuel prices that reduce usage. Competition can impact the financial viability of a project. Uncertainty about tax treatment of depreciation or unfavorable tax laws can impact the attractiveness of a PPP arrangement to the private sector. While many of these risks can be managed through hedging and other private sector risk mitigation techniques, uncertainty about some of these and other factors can serve to discourage private investment in a project.

Environmental Risk: Because of the substantial risk of obtaining, or the timing in obtaining, environmental permits, environmental risk can significantly affect the costs of the project and the potential return. As a result, environmental risk increases the difficulty in obtaining financing and/or the cost of such financing. To alleviate this uncertainty, the public sector can assume responsibility for obtaining any required environmental permits. The cost of the environmental permitting process can be incurred by the public entity or the public entity can be reimbursed by the private sector upon receipt of the applicable permits.

Public Sector Leadership: Private sector entities are more likely to engage in a PPP arrangement if there is political support for the transaction. Public sector leadership and/or public opinion can be important factors. Infrastructure equity investors routinely cite political risk as a central concern in entering into PPP contracts. Such risk occurs both at the time the partnership is created as well as throughout the life of the project. Legislators are generally required to consent to a PPP structure although the long and complicated negotiation process to develop a PPP structure is difficult to condense into legislative briefings. In a few landmark PPP projects, legislators have rejected years of work by PPP participants.²¹ That political risk can chill

²⁰ Inter-County Connector project in Maryland will require tax support, because construction costs will not be able to be recovered from tolls. In addition, it was recently determined that the proposed Capital Beltway in Washington D.C. metropolitan area will require tax support. U.S. Department of Transportation, "Report to Congress on Public-Private Partnerships, December 2004.

²¹ Governor Rendell of Pennsylvania hired a financing and legal team to develop a PPP framework and bidding process to enhance the value of the Pennsylvania Turnpike. After 18 months of work, the Pennsylvania legislature rejected a \$12.8 billion bid from private investors to enter into a long-term concession for the operation of the toll road.





infrastructure investors' appetite to participate in PPP's without some way to mitigate the upfront political risk. Investors also look to the political risk of PPP projects over the life of the contract. Legislation can be introduced and passed that could significantly alter the project economics compared with the projections at the time the PPP was constructed.

Land Acquisition: There are situations where a project may rely on the governmental power of eminent domain. If the private sector partner does not have such powers, private acquisition of property for the project may not be able to occur in a timely manner, if at all.

Tort Liability: Tort liability can pose a significant risk for a private sector partner that builds and/or operates a project. Public entities are often afforded sovereign immunity. Thus, liability of the public entity may be limited by state tort claim laws. Private sector partners would not be similarly shielded from tort liability. However, the private sector partner may be able to obtain insurance to cover such liability.

Applicability to the Spur Line

Private sector interest in and participation in a PPP arrangement for the Spur Line will be dependent upon an evaluation of the benefits that the public sector partner brings to the transaction.

Financial Risk. The revenues to be generated by the Spur Line are an important factor in determining the extent to which the Spur Line would be attractive to a potential private investor. Not only the potential magnitude of the projected revenues, but also the reliability of such revenues, must be evaluated. Detailed cash flow projections would need to be developed to provide a financial analysis of the feasibility of the Spur Line on a self-sustaining basis. Any such cash flow analysis would need to identify the supply of, and the demand for, natural gas to be transported through the Spur Line.

The evaluation of the supply of natural gas for the Spur Line must address the amount of the supply, the timing of the deliverability of the natural gas, the location of the source and estimated cost of such natural gas, especially as compared to alternative sources of natural gas and other fuels. From publicly available information, it appears that at this time the supply of natural gas for the Spur Line is uncertain – as to both quantity and source. The supply of natural gas is dependent upon additional development and production in Cook Inlet or in the foothills of the Brooks Range or on the completion of the Main Line.

The evaluation of the demand for such natural gas needs to identify potential users, the creditworthiness of such users (at the time of the analysis as well as prospects for the future), the amount of natural gas required and the price elasticity (i.e., what is the nature of the market and competitive sources of natural gas or other fuels). The press has reported that the identified demand for the natural gas through the Spur Line may not be sufficient to cover the costs of construction and operation of the Spur Line, but rather one or more large industrial users (such as the re-opening of the Agrium fertilizer plant in Nikiski or expansion of the LNG export business) would be required to make the Spur Line self-sustaining.



From a financial perspective, as well as regulatory perspective (see **Section 4.2** below), an adequate supply of natural gas and sufficient demand for natural gas would need to be identified prior to commencement of construction. Even if the supply and demand are adequately identified, however, the projected revenues of the pipeline may not be sufficiently reliable, in order to obtain financing for the pipeline. In such event, given the importance of the Spur Line to the economy of Alaska, the State may consider whether it would be appropriate for the State to provide support for the development of the Spur Line by providing a financial contribution, in the form of an investment, a subsidy or a financial guarantee.

External Factors. General economic factors, including price and the availability of other fuel sources, must be evaluated to determine the feasibility of the Spur Line as a private investment. Analysis of competitive forces can significantly impact the projected cash flows of a project.

Although current conditions in the financial markets are challenging and have made access to private capital more difficult, there exists private capital to invest in deserving projects. The Spur Line will need to demonstrate that it can provide a competitive rate of return, with limited, quantifiable risk for the private investor, with or without public sector support (where necessary or appropriate).

Environmental Risk. As noted above, private investors are becoming less willing to accept environmental and permitting risk. More often, the private investors are waiting to invest until after environmental permits have been received. In the case of the Spur Line, ANGDA has already begun the EIS process.

Public Sector Leadership. The Spur Line has significant political and popular support. The Governor, the Legislators and the consumers recognize the importance of this project to the economy of Alaska, and particularly Southcentral Alaska. Political leaders should be aware that evidence of that support, or lack thereof, will have direct financial implications in structuring a PPP transaction.

Land Acquisition. Although eminent domain is typically used as a last resort after attempts have been made to negotiate the acquisition of the necessary land rights, eminent domain can be an important tool to ensure the success of a project. ANGDA has the power of eminent domain that could be used in the development of the Spur Line. Also, a private entity could obtain such powers in connection with the issuance of a Certificate of Convenience and Necessity by the Regulatory Commission of Alaska (See **Section 4.2** below).

3.8. Protection of the Public Interest

A decision by a public entity to pursue a PPP must be based on public benefit and the protection of the public interest. In deciding whether or not to pursue a PPP, the public entity must first consider whether the benefits of the PPP arrangement outweigh the costs. If so, then careful consideration must be given to the contractual provisions that will protect the public interest.





Although various tools have been used to protect the public interest, no standardized criteria exist. Specific evaluation criteria and procedures are necessarily specific to the project, and the partners. Best practices, however, include the establishment of standards for protecting the public interest early on in order to help evaluate the expected benefits and costs of a project.

The use of public interest standards provides a framework for the public entity to determine if the benefits of the proposed arrangement outweigh the costs. The public entity can then determine if the PPP arrangement is the appropriate structure for proceeding with the project, or if the project is better suited to a solely public model or a solely private model. The use of rigorous costbenefit analysis that factors in both soft and hard factors is one way that policy makers can approach the debate over the use of a PPP structure.

Public entities have also relied upon the contractual provisions and regulatory framework of the PPP arrangement to protect the public interest. Of course, any such contractual provisions would be the subject of negotiations between the PPP parties. It should be noted that some of the contractual requirements imposed upon the private sector may reduce the value of the project to the private sector, for which the private sector will require appropriate compensation. Similarly, the contractual and regulatory framework will balance the desire of the private sector to make a profit against the public's interest, regarding, among other things, the long-term availability of gas, low cost of gas, environmental protection, economic development, jobs, safety, etc.

Some of such provisions that public entities have used to protect the public interest are identified below.

Accountability and Transparency: Accountability and transparency begin with keeping the public informed and providing opportunities for public input. The public should be informed as to the public and private sector obligations and the potential public sector benefits. The public should have the opportunity to contribute to the process during the planning stages. This is best accomplished in the context of strong political support from key government leaders. Consideration must also be given to the local communities and affected interests. This review allows full evaluation of the projected benefits and consideration of the costs of the PPP arrangement.

Procurement Process: The public interest can be protected through the implementation of an auction bidding process. Through a Request for Qualification process, the public entity can request potential private sector partners to provide their qualifications for participation in the project. The public entity evaluates the qualifications presented, and identifies potential bidders which are qualified to perform under the PPP arrangement. The public entity may then use an auction bidding process in which qualified bidders are solicited to bid on the project. The winning bidder can then be selected based upon objective, quantitative measures, such as price.

Flexibility: It may be important to the public entity to maintain flexibility. Typically, a private sector partner will seek to impose restrictive noncompete covenants, so as to protect the revenue generating potential of the project. The public entity may seek to protect the public by retaining the flexibility to develop other projects that may impact the revenues generated by the PPP project. Certain projects may be exempted from the noncompete provisions. In other instances,



the PPP arrangement may require the public sector to compensate the private sector partner if the public sector proceeds with projects that may reduce the revenues of the PPP project. In general, the private sector has not granted reciprocal noncompete agreements.

Adverse Actions: Typically, PPP arrangements prohibit the public sector from taking any actions that could materially impair the PPP project – through changes to the tax structure, increased regulation, or the like. In the event that the governmental entity should take any such "adverse action", the public entity is contractually obligated to pay penalties or damages to the affected private party. From a governmental perspective, this imposes new and different constraints and considerations on the legislative body which typically amends legislation or enacts new legislation without direct financial cost to the governmental entity. This is particularly significant given the length of the term of many PPP arrangements. Thus, any such responsibilities and restrictions must be carefully considered with accountability to the public and a management plan to monitor compliance going forward. In addition, the public partner must contractually provide a reasonable source of repayment for any adverse actions it imposes on its private partner.

Quantitative Analysis: Quantitative analysis can be used to compare the PPP arrangement to other potential structures, including a solely public model and a solely private model. This analysis identifies the initial construction costs, costs of operation and maintenance and additional capital costs under the various scenarios, as well as the differing tax positions of the parties and the differing required rates of return (or costs of capital). The analysis also takes into account the value of the risks assumed by the parties, based upon the estimated cost and the probability of the risk occurring, and the additional benefit to the public sector of transferring risks to the private sector. The analysis is necessarily based upon a number of assumptions and forecasts of future events and conditions. It is important to note that the analysis of PPP structure from the perspective of the private sector interests. To preserve the integrity of the evaluation, it should be conducted by an independent party that is not otherwise engaged in the project and does not have a vested interest in the outcome of the PPP deliberations.

Length of Public-Private Partnership: PPP arrangements can frequently run for a term of 50 years or more. The length of the term of the arrangement magnifies the importance of the contract negotiation, and the need to ensure that the arrangement provides equitable risk sharing, effective performance guarantees and appropriate transparency. Similarly, the compatibility of the public sector partner and the private sector partner, and the ability of the partners to resolve disputes, can impact the long-term success of the PPP arrangement. For a "partnership" that will last a generation or more, flexibility can provide an avenue for responding to unanticipated events and changes in markets.

Asset Performance: Where the public entity has relinquished control over the development and operation of a project, the public entity will seek to protect the public interest in the project through asset performance provisions in the contract. Such provisions can include certain specifications for the project, as well as detailed operating and maintenance standards based upon industry best practices. Such provisions may also address improvements and/or additions to capacity to meet demand. Standards for the asset condition at the end of the PPP arrangement





should also be stipulated. Failure of the private sector partner to satisfy such provisions and standards could result in damages or penalties assessed against the private sector partner, or potentially termination of the PPP arrangement.

Financial Mechanisms: Public entities can protect the public interest by placing restrictions on the rate of increases in rates and tariffs charged by a private operator of the project and directly regulating such rates. One of the primary concerns of the public in privatizing a project is the potential for increased rates. Recognizing this reality, the public entity may seek to restrict the rates and the increases to such rates. In certain circumstances, the public sector may be required to provide government subsidies to maintain rates and tariffs at levels acceptable to both the public entity and the public.

Revenue sharing mechanisms have also been used to protect the public interest. This can be used to ensure that the public sector shares in any returns higher than a projected level, or in increased returns resulting from any restructuring of the PPP arrangement or any refinancing of project debt.²²

Work Force: Protection of the public interest may also extend to the workforce. The PPP contract may contain certain workforce requirements, including requirements to follow nondiscrimination laws and minority and women-owned business requirements. Contract provisions may also require minimum staffing levels and compliance with living wage requirements and/or prevailing wages. Of course, any such provisions could increase the cost of the project, and thus make the project less attractive to the private sector or require additional compensation (through increased tariffs or public sector subsidy) to the private sector.

Regulatory; Oversight and Monitoring: In order to protect the public interest, the public sector partner can implement mechanisms for oversight and monitoring of the private sector partner, which may include monitoring during the construction phase to ensure that work is performed properly and monitoring during operation. The PPP contract may impose penalties if the private sector partner fails to comply with its obligations. If the breach is material, financial penalties may be imposed or the PPP contract may be terminated, with control of the project reverting to the public entity. In additional, a regulatory framework can be implemented to provide oversight and monitoring of the PPP arrangement. Such oversight and monitoring is frequently provided by a separately instituted board or committee, which may include public employees and/or private citizens.

Applicability to the Spur Line

Protection of the public interest is a key feature of every PPP arrangement. With the Spur Line, as with any PPP arrangement, significant time and resources (legal, financial and operational) are required to structure an appropriate PPP arrangement, and to negotiate and document the structure appropriately. The length of the term of the PPP arrangement, which can be 50 years or

²² Project refinancing may also require approval of the public entity. Refinancing could increase project risk and/or reduce the long-term financial incentives of the private investor.



more, magnifies the importance of the contract negotiation, and the need to ensure that the arrangement provides equitable risk sharing, effective performance guarantees and appropriate transparency.

Accountability and Transparency: As discussed above, the public must be kept informed and provided opportunities for input throughout the PPP process. ANGDA has involved the public throughout its process for planning the Spur Line. Such public participation is also appropriate during the PPP process to ensure that the public benefits are understood and the corresponding costs are identified. A robust cost-benefit analysis and quantitative assessment of the PPP structure from the perspective of the public sector is an important factor in achieving accountability.

Procurement Process: If ANGDA considers a PPP arrangement for the development and/or operation of the Spur Line, ANGDA should consider the use of a procurement process to seek the best qualified partner upon competitive terms.

Flexibility; Adverse Actions: The PPP arrangement will constrain the public sector's actions in the future – especially as such actions could impact the operations and profitability of the Spur Line. Contrary to the public sector's desire to maintain ultimate flexibility, the PPP arrangement may restrict the pubic sector's ability to pursue projects or engage in activities that could compete with the Spur Line. Likewise, actions by the legislative bodies that impact the operations or profitability of the Spur Line could result in substantial penalties or damages. Thus, it is important that the political and legislative leaders be kept informed throughout the PPP process and advised as to the extent of any such restrictions and potential damages that the public sector may face. Additionally, a source of payment for such penalties and damages must be identified.

Quantitative Analysis. Quantitative analysis should be undertaken to determine if a particular PPP arrangement is appropriate for the Spur Line. This analysis must look at the specific features and terms of a proposed PPP arrangement, as well as the experience and finances of the proposed private sector participants. Although, as noted above, such analysis will be based upon on a number of assumptions, sensitivity analysis can be used to evaluate the proposed PPP arrangement under various scenarios and assumptions.

Of particular importance, the PPP arrangement should be compared to a solely public project undertaken by ANGDA and a solely private project as proposed by Enstar. Any such analysis must consider the tax status of the potential partners. From the perspective of ANGDA, this would require a determination as to whether revenues received by ANGDA from the Spur Line project, whether pursued on its own or in a PPP arrangement, would be tax-exempt. That is, will ANGDA be exempt from federal income taxation, or will the revenues from the Spur Line be excluded from federal income taxation? ANGDA should consult with tax counsel to determine ANGDA's tax position under various scenarios and to determine if legislative changes to the ANGDA Statute could improve its tax position.

Additionally, ANGDA would need to determine whether or not it could finance the Spur Line on a tax-exempt basis. Historically, tax-exempt rates have generally been below the taxable rates



available to the private sector for comparable credits. However, other benefits, such as depreciation and other tax deductions available to private investors under the U.S. tax code may outweigh the benefits of tax-exemption. In any event, ANGDA should consult with bond counsel to determine if ANGDA could issue tax-exempt bonds (i.e., interest on the bonds is exempt from federal income taxation, subject to certain exceptions) or other tax-advantaged bonds to finance the construction cost of the Spur Line. The Internal Revenue Code and the I.R.S. have established a complex regulatory scheme that provides broad authorization for the issuance of governmental bonds for public purposes and restricts the use of tax-exempt bonds to finance commercial projects.

If ANGDA cannot issue its own tax-exempt bonds to build the Spur Line, either on its own or as part of a PPP structure, it might still be possible for the Alaska Railroad Corporation to serve as a conduit issuer for the bonds. The Alaska Railroad Transfer Act and the Internal Revenue Code authorize the Alaska Railroad Corporation to issue bonds without regard to a number of the Internal Revenue Code's limitations – including the private activity bond limitations and prohibitions against federal loan guarantees. However, such authority is unique in the tax code, and has not been used and is untested. Because of the uniqueness of this authority, it is expected that market participants will require that ANGDA and/or the Alaska Railroad obtain confirmation of such authorization in a Private Letter Ruling from the Internal Revenue Service, which can be a timely and costly process. In any event, the potential benefit of accessing the tax exempt market should be considered in the quantitative comparison of alternative structures for the Spur Line.

Revenue Sharing. In connection with the development of the Spur Line, if the State and/or ANGDA assume risk and/or provide subsidies or support to promote the development of the Spur Line, it may be appropriate for ANGDA or the State to share in certain of the revenues of the Spur Line. Of course, any such arrangement must provide an adequate return on capital to the private investor, and can also be weighed against the impact on tariffs to the ultimate consumers. Such support could be structured to mitigate key investors' concerns, including revenue guarantee either in the early years of the project, to cover start-up risk or in out-years to cover the risk of gas sufficiency and ongoing project performance.

Regulatory; Oversight and Monitoring: A primary source of protection of the public interest in a PPP arrangement is in the contractual provisions negotiated by the public sector. In a PPP transaction ANGDA would need to specify provisions applicable to the Spur Line to ensure adequate oversight and monitoring of the private sector partner's performance of its obligations, and to provide for penalties and remedies if the private sector partner fails to comply with its obligations. Additionally, the Spur Line and its operations will be regulated by the Regulatory Commission of Alaska.

3.9. PPP Process

The following discussion sets forth a framework for evaluating PPP opportunities and managing the PPP process. A basic framework for the PPP process includes the following steps.

Evaluation of PPP: In considering the implementation of a public-private partnership, the public entity must establish policies for evaluating the proposed transaction. Items to be addressed in the policy should include:

- Identification of risks that the public entity is not prepared to assume or otherwise seeks to transfer to the private sector partner, or are better understood or managed by the private sector
- Identification of certain risks that the public entity is able to manage and is prepared to assume
- Benefits that the public entity expects to realize from the PPP
- Measures to be taken to protect the public interest throughout the PPP process
- Qualifications of a potential private sector partner that are critical, or important

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- Pricing and control issues
- Specifications and/or performance standards applicable to the project

Economic Analysis: An analysis must be performed of the economics of the proposed PPP arrangement. Qualitative and quantitative analysis needs to be undertaken, weighing the expected benefits of the PPP arrangement against the potential costs and challenges, to determine if the PPP opportunity provides an economic savings and/or preferred policy alternative. Considerations include:

- Resources expertise, personnel and financial both public and private
- Risks the ability to transfer risk and the capabilities to manage such risk
- Quantitative analysis, including cash flow analysis of the total life cycle costs (construction, operation, maintenance, repair & replacement) of a PPP and wholly public structure

Solicitation: Typically, PPPs are established as long-term arrangements between the public sector partner and the private sector partner. This step is often addressed in two phases – first, the issuance of a request for qualification from all interested private parties and subsequently a request for proposals from the most qualified parties, with the public entity then selecting the

Figure 5: The PPP Process
Evaluation of PPP
Economic Analysis
Solicitation
Negotiation
Performance/Oversight



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most qualified at the least cost. In evaluating the qualifications of potential private sector partners, it is of utmost importance that the private sector partner:

- Is qualified (with relevant experience and expertise)
- Has the necessary resources (personnel, financial, etc.)
- Has a collaborative approach to the relationship with the public entity

The public entity will seek information regarding the potential private sector partner as to matters such as financial creditworthiness, historical operating performance, technical competence and management expertise. The private sector partner should be required to provide detailed information about its financial condition, as well as information regarding its plans for the PPP arrangement. Such information should include proposed management and business and financial plans. In addition, the solicitation should be based upon a PPP structure that adequately addresses issues of control, accountability and cost.

Negotiation: Once the private sector partner is selected, the negotiation process will begin. The basic terms of the transaction and the key business terms were probably identified in the solicitation step. But, in the negotiation process, the devil is in the details. The specific documents will depend upon the nature of the PPP arrangement, but the general terms of the arrangement will include:

- Scope of work
- Term of the arrangement
- Specifications
- Performance Standards
- Termination provisions
- Allocation of rights, responsibilities and risk
- Non-compete provision, if any
- Adverse action provisions
- Revenue sharing, if any
- Reporting requirements; access to books and records
- Restrictions on transfer
- Dispute resolution mechanism



The contract provisions will dictate the rights and responsibilities of the public sector partner over the term of the PPP arrangement, with limited opportunity for the public sector to review and revise the provisions. Yet, the contract must provide sufficient flexibility for the public entity to adapt to changing circumstances over time. The public entity must ensure that the provisions of the contract are in conformance with its expectations of the obligations and performance of the private sector partner and the rights of the public sector partner and provides the necessary incentives and remedies to ensure compliance.

Performance/Oversight: Once the PPP arrangement is put in place, the private sector partner is responsible for performing its obligations under the contract, in accordance with the terms of the contract. In that regard, the public sector partner has responsibility to the public to ensure that the private sector partner is meeting its obligations. The public entity must establish procedures for reviewing available information on the performance of the private sector partner and in monitoring compliance by the private sector partner with its obligations and responsibilities under the contract. The oversight process should provide a mechanism to identify any issues as they arise and allow the parties to seek resolution in a timely fashion.



4. Regulatory Review

It should be noted that although this section addresses certain legal and regulatory matters, this study should not be viewed as legal advice. Rather, ANGDA should seek advice from its legal counsel.

ANGDA is established as a public corporation and instrumentality of the State under A.S. 41.41.010, et seq. (the "ANGDA Statute").²³ As such, the powers and authority of ANGDA are derived from the statute. A review of the ANGDA Statute identified several areas requiring careful consideration in the context of proceeding with a PPP arrangement, as discussed below in **Section 4.1**. In addition, it should be noted that the Spur Line would be subject to the jurisdiction of the Regulatory Commission of Alaska ("RCA"). Pipeline regulation by the RCA is discussed below in **Section 4.2**.

4.1. ANGDA Statutory Authority

ANGDA is granted quite broad powers to develop, operate and maintain a pipeline system; however, all such powers appear to derive from the stated corporate purpose of bringing natural gas from the North Slope to market. Such corporate purpose is addressed in the context of the Spur Line connecting to the Main Line to bring North Slope gas to Southcentral Alaska. However, it is less clear how the discussion of a Spur Line, which could bring Cook Inlet natural gas north to Southcentral Alaska and Fairbanks and/or bring natural gas south from the Brooks Range foothills, fits within the statutory corporate purpose. In addition the statutory purposes of ANGDA speak in terms of delivering gas "to market and to Southcentral Alaska". Presumably, the delivery of natural gas to Fairbanks for distribution to consumers in the Fairbanks area could be considered a delivery of gas "to market". These issues are addressed in the proposed amendment to the ANGDA Statute now before the Alaska Legislature.

Assuming that the statutory purpose will coincide with the proposed Spur Line to be undertaken by ANGDA, ANGDA has broad powers relating to the construction, operation and maintenance of the pipeline system. ANGDA's purposes include the design, construction, operation and maintenance of the pipeline system, as well as other facilities necessary for the delivery of gas. ANGDA's purposes further include the "acquisition of natural gas market share sufficient to ensure the long-term feasibility of the pipeline system project."²⁴ In furtherance of such purposes, ANGDA has broad powers to enter into contracts, acquire, lease or convey real and personal property, including the acquisition of a project site, or part thereof, by eminent domain. Such powers also include the acquisition of natural gas supplies, the purchase of insurance and the charging of fees or other remuneration for the use of its properties and facilities. ANGDA also has the power to accept loans, grants and gifts from, and enter into contracts with, federal agencies, State agencies, municipalities, and private parties. Finally, ANGDA has the authority to issue indebtedness in an amount not to exceed the amount of bonds authorized by the Alaska Legislature.²⁵ The ANGDA Statute, however, does not include a "catchall" phrase – such as, "to

²³ For purposes of this discussion, this study looked at the statute available on the ANGDA website.

²⁴ A.S. 41.41.010(a)(5).

²⁵ Thus, any bond issuance to be undertaken by ANGDA would require legislative authorization.





do all acts and things necessary to carry out the powers expressly granted or necessarily implied", as contained in the statute establishing the Knik Arm Bridge and Toll Authority and other similar legislation.

Does the ANGDA Statute grant to ANGDA the statutory authority needed to engage in a PPP arrangement? Typically, PPP structures require a contractual arrangement between the public sector partner and the private sector partner. The public sector partner, here, ANGDA, may be obligated to do one or more of the following: design, construct, operate, build and/or finance the project – all of which seem to be adequately addressed by ANGDA's statutory authority. In addition, ANGDA is authorized to enter into contracts in furtherance of its corporate purposes. Thus, it would appear that ANGDA can enter into contracts with third parties to engineer, design, construct, operate and/or maintain the authorized pipeline system.

A PPP arrangement, however, may place additional obligations, responsibilities and duties on ANGDA in respect of the Spur Line. Depending upon the nature of the PPP arrangement, ANGDA may be required to invest in the project. This could be through an investment in a special purpose entity ("SPE") created by the private sector partner(s) or other financial support, and/or to assume certain risks, and/or to indemnify the private sector partner for certain liabilities, costs and expenses. In addition, as part of the PPP arrangement, ANGDA may enter into a revenue sharing arrangement, and/or be constrained by non-compete provisions or adverse action provisions. It may also be advantageous to ANGDA to pursue a PPP arrangement on a modified procurement procedure, allowing pre-qualification of potential PPP private sector partners. ANGDA should seek advice of legal counsel as to whether such provisions are permissible under the ANGDA Statute and within the purposes and powers granted to ANGDA thereunder, or whether such power would need to be specifically granted in a statutory amendment. Finally, if ANGDA is required to provide any financing, and/or any other form of subsidy or support, such action may require legislative approval.

It is recommended that ANGDA be advised by legal counsel experienced with PPP arrangements from the outset of its consideration of engaging in a public-private partnership. In addition to advice on statutory changes that may be necessary or useful in the PPP process, legal counsel can assist ANGDA in understanding the potential benefits, challenges and risks with alternative PPP arrangements, and in developing mechanisms to mitigate any burdens or risks imposed on ANGDA or the State. It should also be noted that as part of the PPP transaction, ANGDA's counsel will need to provide an opinion stating, among other things, that ANGDA has the power and authority to enter into the PPP arrangement and to perform its obligations thereunder.

4.2. Pipeline Regulation

Regulatory Commission of Alaska. With regard to the proposal to develop and operate an intrastate Spur Line in Alaska, the primary agency having jurisdiction over such a project is the Regulatory Commission of Alaska ("RCA"). Section 42.06.140 of the Alaska Statutes sets forth the general powers and duties of the RCA. Subsection (a) thereof contains the specific powers and duties of the RCA of which paragraph (1) thereof provides that the RCA "shall regulate pipelines and pipeline carriers in the state" and paragraph (8) thereof provides that the RCA "shall require permits for the construction, enlargement in size or operating capacity, extension,





connection and interconnection, operation or abandonment of any oil or gas pipeline facility or facilities, subject to necessary and reasonable terms, condition and limitations."

The primary regulatory requirement for development and operation of a natural gas pipeline within the State of Alaska is that a certificate of convenience and necessity ("CCN") must be obtained from the RCA prior to the initiation of any construction of any pipeline project. In determining whether to issue a CCN to an applicant, the RCA will consider a number of factors. In particular, a CCN will be issued to a public utility or pipeline carrier only if the RCA finds the applicant to be fit, willing, and able to provide the service requested and the pipeline project is otherwise in the public interest. In general terms, this phrase requires:

- Fitness and ability
 - capability and experience of the personnel constructing the pipeline
 - capability, experience and ability of the personnel to operate the pipeline
- Willingness and ability
 - willingness to accept regulated rates for the service it will provide
 - ability to raise the necessary capital to construct the pipeline.

There are a number of specific items related to the design and construction of a high pressure pipeline that must be demonstrated to the RCA in order for the RCA to issue a CCN to an applicant. In this regard, it should be noted that experience with the construction and operation of a gas utility facility differs significantly from experience in the construction and operation of a high pressure gas pipeline. For this reason, there must be a demonstration that the applicant will have personnel who are capable of operating the pipeline when it is completed and placed in service. Obviously, to the extent that an applicant may not have relevant experience itself, personnel having experience with high pressure pipelines can be employed to construct and operate a pipeline in Alaska. The RCA will need to be satisfied that competent personnel will be engaged by the applicant to perform the duties required to construct and operate a high pressure gas pipeline at a prudently incurred cost within or not far in excess of the estimated cost in the application.

The applicant must also demonstrate that it has the ability to finance the construction of the pipeline. The application for CCN will include the proposed capital structure and information regarding the terms of and/or commitments with respect to any proposed financing. In addition, there must be a showing to the RCA that there are adequate gas supplies and sufficient markets to support construction of the proposed pipeline. The RCA must be satisfied that there is sufficient natural gas available to move through the pipeline and that there are firm contracts with potential customers of the pipeline.

In the case of the Spur Line, the RCA would need to make a finding of the fitness, willingness and ability of an applicant requesting a CCN to develop, construct and operate an intrastate pipeline within Alaska to serve Alaskans. If a PPP arrangement is used to develop the Spur Line, a special purpose entity may be formed by the private sector partner for the purpose of the development and operation of the Spur Line. In such case, the SPE would be the applicant to the RCA for the CCN and would need to demonstrate adequate financial capability and





commitments and appropriate personnel and/or other arrangements to provide the necessary expertise. It should also be noted that even if a gas distribution company were to become a partner in a PPP for the development of the Spur Line, the RCA will look at the PPP for the proposed pipeline as a separate entity.

Other Applicable Regulation. In addition to the RCA, other Alaska agencies may also have jurisdiction with respect to certain aspects of the construction and operation of an intrastate natural gas pipeline. Those agencies include the Alaska Department of Environmental Conservation, the Alaska Department of Fish and Game, and the Alaska Department of Natural Resources. In addition, project developers should consider contacting the Division of Coastal and Ocean Management under the Department of Natural Resources for determining when various agencies should be contacted with respect to the construction and operation of an intrastate natural gas pipeline.

Other agencies that may have some part to play with respect to the development and operation of an intrastate natural gas pipeline in Alaska for the purpose of providing gas service to Alaskan users include the U.S. Army Corps of Engineers, the Bureau of Land Management, the Bureau of Reclamation, the U.S. Coast Guard, the U.S. Environmental Protection Agency, the Federal Aviation Administration, applicable historic preservation societies, Department of Transportation, NOAA Fisheries, the National Park Service, the Minerals Management Service, the U.S. Forest Service and the U.S. Fish and Wildlife Service. Although these agencies are federal agencies, they may be involved if, for example, the intrastate pipeline crosses federally owned land or crosses rivers that are under the jurisdiction of such agencies.

4.3. Regulatory Parameters for the Private Sector Partner

There does not appear to be any specific regulatory requirements applicable to a potential PPP structure used to develop and operate the Spur Line. Nonetheless, a CCN must be issued by the RCA prior to commencement of construction of the pipeline. In evaluating the development of a pipeline in the context of a PPP arrangement, the RCA would apply the same criteria in deciding whether an applicant for a CCN is fit, willing and able to provide the services set forth in the applicant's request

Other factors that the RCA would consider include:

- Does the potential partner have the ability to provide capital for the proposed project?
- Is the potential partner fit to raise financing of the proposed project?
- Does the potential partner have sufficient financial knowledge and financial background to assist in obtaining additional capital when needed to finance the construction of the proposed project?
- Does the potential partner have personnel (or have the ability to acquire personnel) experienced in the design, construction and operation of a high pressure gas pipeline?

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- Does the potential partner have experience in dealing with agencies that will be involved in the approval and oversight for the construction and operation of the proposed pipeline?
- Finally, is the potential partner interested in being a partner for the long haul as opposed to simply being a short term partner?

The RCA would have to approve the construction and operation of the pipeline pursuant to the provisions of Section 42.06 and issue a CCN only if it finds that the owner(s) and the personnel who will be involved in designing, constructing and operating the pipeline are fit, willing and able to provide the services requested in the certificate application filed with the RCA and the pipeline is otherwise in the public interest. In considering the fitness, willingness and ability of an applicant to provide the services requested in the pipeline's application, the RCA will review, among other things, the markets to be served by the pipeline, including the markets of any gas distribution company as a customer of the proposed pipeline.



5. Operating Parameters for the Private Sector Partner

5.1. Overview of General Operating Parameters for Private Sector Partner

The range of PPP structures available—from the extremes of the private sector partner engaging in only one element of a Design-Build-Finance-Operate project to the other where the public sector serves solely as a financial partner—all require careful definition of performance requirements and parameters against which to evaluate capacity and capability of the private sector partner.

Evaluation of a private sector party's role as a participant in a PPP arrangement must be considered from two perspectives, as have been previously discussed:

- Whether or not public benefit derived from the involvement of a private sector partner operating in the role of a designer, builder or actual operator exceeds the potential costs, or, conversely, whether or not public participation provides public benefit by advancing the feasibility of a private sector initiative.
- Over a defined contractual time period, on what basis will the private sector partner be held accountable and rewarded for its role as a participant in the PPP transaction.

There are basic operating considerations for any partnership: the partner should have the capability and capacity to perform the defined responsibilities on time and within budget in a manner in which 'reasonable' long-term value is created. This is in the context of operating within a strong governance framework.

As in every business, categories to be assessed include the capability in the typical corporate functions such as general management, finance, treasury, controller, risk management and human resource, as well as expertise in corporate communications, tax and legal. Operating roles vary by industry but range from research & development, procurement, production and distribution, to sales & marketing, and service & support. All functional areas should provide demonstrated expertise needed to meet partnership goals. The functions should have clear roles, responsibilities and procedures not only to ensure expected product and service delivery, but also compliance with laws and ethics guidelines related to operating and personnel matters. Depending upon the size of the partner, some functions could reside in-house or be out-sourced.

In addition to the defined roles and capacity, assessments should be made regarding the partner's ability to allocate and deploy assets, and the conditions and terms around this deployment. There are also key partnership expectations that could affect a partner's perceived performance, which include, but are not limited to, procedures for dealing with ongoing issues relating to capital budgeting and resource allocation; treatment of profit, including reinvestment, and dividend and royalty distributions; and clarification of allowable financial tactics that could be used, such as off-balance sheet items (e.g., leases).



PPP arrangements can provide for a range of responsibilities to be allocated between, or shared by, public and private sector partners. Typically, the private sector partner will assume full responsibility for the provision of a product or service. However, a PPP structure could provide for the public and private sector partners to share operating responsibilities. In the case of shared responsibilities, both the public and private parties will likely supply functional managers and share in management. Joint decision-making can give rise to a new set of challenges, such as a mechanism for dispute resolution, that would need to be addressed in the PPP arrangement.

5.2. Parameters for a Pressurized Gas Line

Specifically related to a gas pipeline PPP, parameters for Design-Build and Operating & Maintenance capabilities are outlined below, as well as parameters for operating compliance.

Design & Build: The private sector partner should be evaluated on its prior experience and expertise designing and building natural gas pipelines. A natural gas pipeline will be comprised of the following general facilities:

Pipeline Transmission Facilities

- Land and Land Rights for Pipelines and Station Sites
- Rights of Way for Pipelines and Station Site
- Structures and Improvements
- Mains Pipe, Valves, Fittings & Equipment
- Compressor Station Equipment
- Measuring & Regulating Station Equipment
- Communications Equipment
- Other Appurtenances and Equipment

General Facilities

- Land and Land Rights for Offices and Buildings
- Structures and Improvements (e.g., office buildings)
- Office Furniture and Equipment
- Vehicles and Equipment
- Stores Equipment
- Tools, Shop and Garage Equipment
- Laboratory Equipment
- Power Operated Equipment
- Communications Equipment

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• Other Miscellaneous Equipment

An experienced private sector partner can be valuable in lending its engineering design and construction experience to a PPP project. Such design and construction experience may be from a combination of company and contract personnel. At the least, the private partner should have senior and middle level personnel experienced with the management of high pressure natural gas pipeline design and construction functions so as to be able to hire, assign and/or contract qualified employees and/or contract services. It is important that the private sector partners have the experience to ensure proper procedures and practices are used to evaluate the design and construction of the Spur Line, including engineering, environmental, construction and inspection contractors. The private sector partner should also have experience with proper types of materials and equipment that will make up the natural gas pipeline system.

Operations & Maintenance: As pipeline operator, the private sector partner should be expected to have the following general personnel in its organizational structure, with the number of personnel dependent upon the size of the company:

- Operating general manager
- Safety compliance officer
- Regulatory compliance officer
- Gas revenue accountant
- Asset accountant
- Gas control, measurement and dispatching technicians
- Operating supervisor
- Maintenance supervisor
- Field operating and maintenance technicians

The private sector partner's accounting function should include knowledge of utility accounting requirements that may be imposed by the RCA that would be supplemental to GAAP accounting rules, primarily National Association of Regulatory Utility Commissioners (NARUC) rules. Also, if the private sector partner will have a gas trading function, then there should be experienced trading professionals and appropriate supervisory personnel for that function, as well as sufficient financial strength to ensure creditworthiness for the trading transactions.

The private sector partner would also be required to maintain a tariff (or statement of operating conditions) setting forth the operating conditions and practices of the proposed Spur Line as a common carrier, as well as including a statement of transportation rates. The private sector partner would also be responsible for periodic financial and transactional reporting.

Compliance History: Specifically relevant to a gas pipeline operator, the private sector partner should have a clean history of compliance with the various regulatory and permitting agencies that have jurisdiction over the natural gas pipeline. For example, the private sector partner should



be in compliance with the U.S. Department of Transportation safety rules, the Environmental Protection Agency laws and regulations and the regulations and rules of the RCA. Of course, there may be instances of accidents and unintended violations that may occur from time to time, but the private sector partner should be able to demonstrate quick resolution of any such events.

In general, the private sector partner should be able to demonstrate experience in the following areas.

- Compliance with applicable state regulatory authority rules, regulations and reporting
- Compliance with applicable state and federal environmental rules, regulations and reporting
- Compliance with D.O.T. safety rules, regulations and reporting
- Facilities designed, operated and maintained in an acceptable manner
- Maintaining acceptable manpower levels
- Maintaining acceptable financial strength and credit ratings
- Acceptable accounting practices and audit reviews
- Creditworthiness (for natural gas trading activities, if any)
- Compliance with AGA gas measurement reports
- Maintaining good community relations and support
- Maintaining company records in good order
- Acceptable operations and maintenance practices
- Proper due diligence in material purchase practices
- Proper due diligence in sub-contracting

An experienced private sector partner can be valuable in lending its engineering design and construction experience to the Spur Line project. A private sector partner could also bring demonstrated experience and expertise to the PPP in operating and maintaining high pressure natural gas pipelines. An experienced pipeline operator will help ensure the integrity, safety and efficiency over the life of the Spur Line. This pipeline operating and maintenance experience is of particular value if it is in the same or similar region as the proposed Spur Line. The Alaskan climate has its own special set of considerations in some regions that are not common to the Lower 48 states. Cold temperature, permafrost and other such conditions may require specific expertise and experience regarding materials and operating and maintenance procedures to be used.



6. Financing Parameters

The financial parameters for a private sector partner will depend upon the nature of the PPP arrangement and what risks that private sector partner is being requested or required to assume. The greater the responsibility/risk imposed upon a private sector partner, the more the public sector needs to analyze the financial wherewithal and technical/operational capabilities of the private sector partner and the capacity of such partner to withstand business downturns and market upheavals. In addition, the greater the responsibility/risk assumed by a private sector partner, the greater the return such partner will be seeking.

6.1. Financial Structure

The financial parameters for a private sector partner will depend upon the role that the private sector partner is taking in the PPP arrangement. The financial parameters will be quite different for a design-build contractor, than it is for a private sector partner in a design-build-finance-operate PPP. Also, even in the context of a design-build contract, the financial parameters will be greater for turnkey contracts, where the private sector participant assumes construction cost and schedule risk and provides performance warranties, than if the public sector has assumed some or all of these risks.

In any event, a potential private sector partner must be able to demonstrate that it has the financial capability to carry out the responsibilities and obligations allocated to it. Such evaluation will consider, in addition to the size and complexity of the project, the private sector partner's profitability, capital structure, ability to source and service existing debt, ability to invest equity and other existing or potential commitment and contingencies.

In the context of a design-build contract, the public sector partner must evaluate whether the private entity has the wherewithal to obtain performance bonds and/or letters of credit to secure its obligations, including any escalation in costs, penalties for delay and/or performance warranties, in the construction of the project. In that regard, the public entity will need to quantify the potential risks assumed by the private entity to ensure that it has the financial resources to bear such risks.

If the private entity will assume responsibility for the operation and maintenance of the project, it is important that in addition to its operational and technical qualifications, the private entity has the resources to perform on its contract. Does the private entity have independent resources to permit it to perform the services? Or, will the private entity rely wholly, or substantially, on the revenues generated by the project to be able to perform its services? And, if so, will the revenues be sufficient to provide such funds? Will the private entity be able to incur maintenance expenses to ensure that the project is performing efficiently and safely? Will the private entity be required to make improvements to the project and, if so, how will those improvements be paid for?

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Finally, if the private entity is responsible for the financing of the project, the private entity will need to demonstrate the financial capacity to make the requisite equity investment and to obtain debt financing.

In this regard, it is important to distinguish between the private sector partner and a private sector sponsor. The private sector partner will typically be an SPE, created specifically and solely for investment in the project. The sponsor, on the other hand, which may be the parent company to the SPE, or may be one of several owners of the SPE, may provide financial resources and operational experience to the SPE, but may not be directly responsible or obligated. The capabilities of the SPE must be reviewed – either direct capabilities and/or resources obtained through contractual commitments from the sponsor and/or others. In any event, the financial condition of the SPE, as well as the projected financial performance of the SPE, must be analyzed. In addition, the historical performance of the sponsor may be instructive as to its past experience with similar projects, the financial resources available for investment in the SPE (whether supporting a contractual commitment or otherwise) and the existence of competing projects or demands on those resources.

6.2. Credit Perspective of Pipeline Industry

The regulatory framework under which pipelines operate is generally viewed as lowering the business risk of pipeline companies. Moody's Investors Service has stated that pipeline companies (which have obtained ratings) maintain an average investment grade rating of Baa2.²⁶ In general, pipeline companies are more highly leveraged than comparable companies in more competitive industries, but pipeline companies tend to have more stable cash flows and relatively low business risk.

Supply and Demand: Some of the key factors to be considered in analyzing the credit of a pipeline company include the supply and demand characteristics of the markets served. On the supply side, a positive factor is the existence of substantial proven reserves with a long reserve life. This is further enhanced by supply diversity, reducing vulnerability to a particular region or producer. In addition, exploration and production by creditworthy producers may provide access to new supplies of natural gas to support the operations of the pipeline.

On the demand side, the pipeline's revenues depend in large part upon the quality of the pipeline's contract portfolio. A diverse and creditworthy shipper base is a positive indication. Long-term firm transportation contracts can provide a reliable revenue stream. In addition, a strong economy and population growth can support the pipeline's capacity and/or growth. Factors which could negatively impact the credit analysis of a pipeline include the potential effect on demand from a cyclical economy or competition from other sources of energy.

Financial Strength: Pipeline companies are highly regulated. As a result, the financial measures used to evaluate the credit of pipeline companies must take into account the levels of

²⁶ "North American Natural Gas Pipelines", Rating Methodology, Moody's Investors Service, December 2006 Moody's Investors Service's ratings definitions provide that a rating of Baa indicates that the obligation is subject to moderate credit risk and is considered medium-grade. Such rating is at the lower end of the investment grade ratings.



capitalization (debt and equity) and rates of return allowed by the regulators. Since the pipeline's rate of return is regulated, it is generally quite modest – with a return on equity of 10 - 11%. However, because of regulation, they are generally viewed as more predictable and therefore more creditworthy than companies in unregulated industries. Capitalization ratios (debt/total capital) typically range from 50 - 60%. Pipelines that are financed on a stand-alone basis on the basis of the cash flows generated by the project, and without the support of their sponsors, have capitalization ratios reaching 70%. Pipelines are quite capital intensive, with relatively low requirements for working capital.

Parent or Sponsor Impact: If the pipeline is a subsidiary company, the parent's credit can have a substantial impact on the rating of the pipeline depending upon the management, operational and financial controls of the parent over the subsidiary. However, if the pipeline operations are distinct with separate corporate governance and financial management, the pipeline's credit can be viewed on a stand-alone basis. A parent can negatively impact the credit of a pipeline if it requires the pipeline to pay dividends and/or incur excessive debt in support of the non-pipeline activities of the parent. Similarly, a parent of a pipeline can negatively impact the pipeline's credit if the owner has little experience in the pipeline industry or there is uncertainty as to the owner's long-term plans for the pipeline or its financial policy for the pipeline.

6.3. Credit Perspective of PPPs

In analyzing the credit profile of a proposed PPP, it is important that the construction risk and operational risk be evaluated separately. If a project's construction risk is significantly higher than the operational risk of the project, there may be ways to structure the PPP either to mitigate the construction risk of the PPP or to segregate the construction risk (e.g., through construction financing) from the operational component of the PPP.

Construction Risk: In a PPP that includes the design-build components, the private sector partner may be obligated to design and build the project for a stated cost and within a specified time frame. In that case, the private sector partner will assume construction risk, both as to cost escalation and as to time delay. This is a risk that private sector partners are accustomed to evaluating and assuming. The magnitude of construction risk in projects can vary significantly, and is generally dependent upon the size and complexity of the project. In appropriate circumstances, grant funding or capital subsidy from the public sector partner can be used to reduce and/or manage the risk assumed by the private sector partner.

Construction risk can be managed with accurate cost estimates, effective cost controls and adequate budgetary contingency reserves. The project, and the PPP, can further take measures to protect against some of the risks associated with contractor defaults and/or cost overruns and time delays. Typical measures that can be used to mitigate construction risk include performance bonds and completion insurance. Performance in the design-build scenario can also be supported by financial supports such as bank letters of credit or escrow deposits. Such arrangements are designed to provide a source of funds to remedy the failure to perform and complete the project.

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Permitting and authorization risk are two risks associated with construction of the project that can be more difficult to quantify, and add uncertainty to the construction schedule and project cost estimates. Private sector partners generally are less willing to assume these risks and, when they do assume these risks, they will require a higher rate of return. In the current risk averse market conditions, permitting and authorization risks could make an otherwise worthy project unattractive to private sector partners and drive up the cost of financing.

Operating Risk: In PPP arrangements where the private sector partner takes responsibility for the operation of the project, the private entity may perform the operating services itself, or it may subcontract with a third party for such services. If the operations are performed by a subcontractor, the private sector partner remains responsible and liable to the public sector partner for performance of the services, and the private sector partner is thus obligated to monitor the performance of the subcontractor and replace the subcontractor if necessary.

The credit rating of the PPP through the operations phase of the PPP arrangement will depend in large part upon the reliability of the revenue stream and the reliability of operating performance. The nature and quality of the revenue stream is a significant credit factor, looking at the extent to which projected revenues derive from contracts with creditworthy parties. The scope and complexity of operations affects the ability of the project and the private sector operator to comply with the performance standards in the PPP contract and thus the likelihood that the PPP arrangement may be terminated for material non-performance by the private sector operator or as a result of force majeure (i.e., intervening events that make delivery of service impossible).

The capital structure of the private sector operator will also affect the creditworthiness of the PPP arrangement. Capital structures of the private sector operator that are more highly leveraged or provide for less liquidity impose greater risks on the PPP. In either case, the PPP arrangement may face greater risk of failing to meet the performance standards of the PPP arrangement, or in paying debt service on its debt in a timely manner, as a result of a disruption in the revenue stream from the project.

In addition, the inter-relationship between the reliability of the revenue stream and the capital structure must be considered. A project with a volatile or unreliable revenue stream will require a stronger capital structure, to allow it to withstand downturns or disruptions in operations. Private sector partners will also require a higher rate of return to compensate for the risk. Conversely, if a project has an identified, reliable revenue stream, the capital structure may not need as much liquidity, and may be more highly leveraged.

As a practical consideration, private sector investors in the PPP marketplace have indicated that their equity investments will be committed according to a perception of risk. As project risk increases, the rate of return demanded by equity investors also increases. Investors in the PPP marketplace have identified an upper limit of approximately 18%,²⁷ with the 10% to 11% range being indicative of a relatively lower risk project. As a result of the regulatory environment and the perceived lower risk of pipelines relative to other businesses, returns on investments in the Spur Line would be expected to be at the lower end of the range.

²⁷ Rates of return above 18% are more indicative of the venture capital sector of the market, and are indicative of risk levels that private sector PPP investors are unwilling to assume.



6.4. Financial Parameters for PPP

The financial parameters provide inputs for a quantitative analysis of the feasibility of the PPP transaction. Cost/benefit analysis must be undertaken to determine if the PPP transaction is in the public interest, but ultimately the quantitative analysis will determine whether a particular PPP transaction is feasible. It should be noted that even if one PPP structure does not appear to "pencil out," there are a myriad of ways to restructure a PPP transaction with respect to allocation of risk, allocation of revenues, introduction of mitigation factors, etc.

When identifying the financial parameters, there are two perspectives to consider: (i) the financial parameters for the project that make it viable for a PPP transaction and (ii) the financial parameters for a prospective partner.

Financial Parameters for a PPP. This section addresses the financial parameters for a PPP transaction. First, there must be a qualitative assessment of the creditworthiness of the project. Although qualitative factors focus on an evaluation of performance, they often affect the financial viability of the project. Some of the measures of financial viability of a project for a PPP transaction include:

Reliability of Cash Flows: This key credit factor incorporates various aspects of the operations and financial performance of the project. Cash flows will reflect construction costs, costs of operations and maintenance, capital structure and requirements for debt service, and the revenues generated by the project. Analysis of the cash flows will be undertaken to evaluate the potential variability in each of the components, the extent to which such variability can be controlled or mitigated and the impact that any such variations will have on cash flows. Sensitivity analysis must be performed to "stress test" the cash flows under various scenarios.

Debt/Capitalization Ratio: Historically, PPP transactions were quite heavily leveraged, with equity as low as 10% of total capitalization. The level of equity would be higher, if the cash flows are less reliable. In the case of a pipeline, a capital intensive industry generally characterized by relatively stable revenues, debt/equity ratios typically range from 50:50 to 70:30. In "normal" market conditions, a PPP for a pipeline would be expected to have debt to total capitalization of around 70%. However, past experience is of little predictive value. In the current market, lenders are not willing to take as much risk and are demanding a higher percentage of equity.

In addition, parameters for replacing both equity and debt are continuing to evolve in the current market. Early PPP transactions often featured buyouts and replacements of equity within the first eighteen months after closing. Now, PPP participants may require a longer commitment to the project. In addition, in earlier PPP transactions, debt positions could be refinanced almost at will and there was little aversion to entering into transactions with aggressive refinancing assumptions. In the current market, industry participants now are more focused on assessing and mitigating refinancing risk and carefully analyzing assumptions made in the valuation models.





Debt Service Coverage Ratio: The ratio of net revenues available for debt service (i.e., net cash flow available for debt service) to debt service would generally range from 1.10x to 1.25x. To the extent that the revenues and expenses are relatively reliable and are not expected to show much volatility, the required debt service may be at the lower end of the range. However, in the current market conditions, the requirement for debt service coverage can be expected to be higher. Of course, for a given project, a reduction of debt level, typically accomplished through increased equity or increased public sector contributions, will result in a higher debt service coverage.

The required debt service coverage for a PPP transaction for the Spur Line will largely depend upon the reliability and stability of the revenue stream. Long-term firm transportation contracts with creditworthy shippers would provide a reliable revenue stream. In such case, debt service coverage requirements at the lower end of the range would be expected. Volatility or unpredictability of revenues will result in higher debt service coverage requirements.

Financial Parameters for Private Sector Partner. In addition to performance standards, there are a number of financial parameters that should be considered in the selection of a private sector partner. The performance criteria reflect the expertise and experience of the private sector entity. From a financial perspective, the private sector partner must be able to demonstrate that it is financially and operationally capable of complying with its commitments in the PPP transaction. Some of the parameters used in considering the financial capability of a prospective private sector partner are discussed below.

Performance Assurance: In PPP transactions in which the private sector partner will provide design, build and/or operating services, the private sector partner must be able to demonstrate the financial and/or operational ability to perform under the contract. The construction contractor may be required to absorb cost of overruns and pay penalties or liquidated damages in the event of time delays. An operator may be required to compensate for any unavailability or reduced capacity of the project, and/or to bear the burden of revenue reductions from reduced operations or shutdowns. The liquidity of the contractor is a factor in considering the contractor's ability to address any unexpected events or downturns. Performance assurance can further be provided with performance bonds, contractor insurance or financial guarantees, such as letters of credit. In addition, the history of the contractor of completing similar projects and performing similar services on-time and on-budget can assist in evaluating a potential partner. In that regard, the financial success or profitability of the contractor can also be quite telling.

In the context of the Spur Line, the first step is to review the experience of the private sector partner in developing and operating high pressure gas pipelines. Such review should include not only the operational aspects of the private entity's performance, but also the financial outcomes. The private sector partner should be able to demonstrate its ability to engage in such transactions profitably. The private sector partner must be able to demonstrate that it has the capital resources and liquidity to perform the contract, as well as be able to withstand a disruption to or shutdown of the project and/or downturn in the business. As noted above, the financial capacity of the private entity can be enhanced with performance assurance provided by a performance guaranty, insurance or bank letter of credit.





Equity Commitment: In a PPP transaction in which the private sector partner will provide financing for the project, the private sector partner will be required to provide an equity contribution, either individually or together with one or more other investors. The private sector partner must show the liquidity and/or commitments from creditworthy partners to provide the necessary capital. Currently, a number of private investors are much more conservative, and/or are no longer active in the PPP market. The prospective private sector partner will identify the proposed equity investors and the amount that each such investor proposes to invest, along with other requirements, such as rate of return, duration of investment and governance. PPP arrangements frequently provide that if the private sector partner is unable to fulfill its commitment and fund the PPP, the private sector partner is required to make a substantial payment to the public sector partner. To ensure liquidity, in appropriate circumstances, an equity commitment can be supported by letters of credit and/or escrow deposits.

The structure of the PPP transaction for the Spur Line, as well as the capital market conditions and regulatory requirements, will dictate the amount of equity that the private sector partner will be required to contribute to the project, either individually or together with other investors. Each prospective investor should provide assurance of its ability to make such investment, either on the basis of its demonstrated liquidity, delivery of a letter of credit or deposit of adequate funds in escrow.

Debt Financing: In a PPP transaction in which the private sector partner will provide financing for the project, the capital structure will typically include a debt component. The public sector partner will require assurance that the private sector partner will be able to obtain the debt financing. Traditionally, the private sector partner could obtain bank commitments to provide financing and/or letters from investment banking firms that they were "highly confident" that such debt financing would be available. In current market conditions, it has become much more difficult to obtain debt financing for PPP transactions. With the flight to quality, the availability of such financing has declined, as the cost of such financing has increased. Even as it has become more difficult to obtain commitments, the terms of such commitments have become more stringent.

The debt component of the capital structure of a PPP for the Spur Line will depend upon the structure of the PPP transaction and the strength of the project's cash flows, as well as the provisions of the CCN issued by the RCA. The private sector partner should provide assurance that the debt financing for the project will be available when needed. As noted above, in current market conditions, obtaining commitments for the debt financing can be difficult, if not impossible, in some situations. The ability to obtain such commitments will depend, in large part, on the credit strength of the project, the credibility of the private sector partner and the commitment of the public entity to the project.



7. Conclusion

Access to natural gas in Southcentral Alaska is an important economic issue for the State. Thus, the development of the Spur Line has engendered considerable public interest. Governor Palin saw potential coming from a PPP arrangement to build the Spur Line. As a result, ANGDA is considering the use of a PPP arrangement for the development of the Spur Line.

As noted in this report, the term "public-private partnership" encompasses a broad array of structures in which a public entity and a private entity "partner" in the development of a project or provision of a service. The features of the PPP arrangement to be used for the development of the Spur Line will need to take into account the particular characteristics of the project, as well as the strengths and desires of the partners.

Before entering into a PPP arrangement, it is imperative that there be a comprehensive qualitative and quantitative assessment of the alternatives available for the development of the Spur Line, ranging from wholly public to wholly private, and various structures in between. Only by undertaking this thorough analysis can ANGDA ensure that the proposed structure for the Spur Line is in the public interest. Such assessment will identify the cost/benefit tradeoffs of each alternative and the risks and challenges of each alternative. Such review will also identify measures that can be used to mitigate risk. Specific evaluation criteria and procedures should be implemented to ensure that any PPP arrangement protects the public interest

In addition, qualifications must be established in the selection of a private sector partner. The exact nature of these qualifications will depend upon the PPP structure and the role of the private sector partner. The private sector partner must demonstrate the financial and operational ability to meet the requirements of the PPP arrangement.

Public-private partnerships have been used successfully throughout the world. PPPs have been shown to provide significant benefits to the public sector by providing efficient, cost-effective development and/or operation of projects and/or financial resources. However, there can be no generalizations about the appropriateness of the use of PPPs for the Spur Line. Rather, the decision to use a PPP arrangement for this project can only be made after a thorough analysis, as discussed in this report.



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