

## Salix, Inc. Summary Response to Alaska Industrial Development Export Authority “AIDEA” Request for Proposal #15142, September 3, 2015

### Proposal Summary

Salix, Inc. (Salix) is responding to AIDEA’s request for proposal (RFP) “primary option” for liquefied natural gas (LNG) capacity only and is excluding natural gas supply to the LNG plant and transportation of LNG from the plant to the Interior Alaska storage facility. Salix is proposing to construct an LNG liquefaction plant in the Cook Inlet region with an initial phase capacity of 200,000 gallons per day, with expansion capability up to 400,000 gallons per day. Salix has identified and selected a team of professionals with the necessary experience and qualifications with regard to LNG technology and the infrastructure in Alaska. Salix and its project team have the resources and capability needed to complete this project in a timely, efficient and cost-effective manner consistent with the goals of the Interior Energy Project (IEP).

The proposal includes a balance of equity investment, AIDEA SETS financing and AIDEA capital appropriation designed to meet the goals of the IEP and lower the costs of energy to the residents and businesses of Interior Alaska.

Salix has estimated a liquefaction cost of \$2.87 per MCF for the initial phase. Combining liquefaction with estimates of the other elements of the natural gas supply chain presents the opportunity to meet the IEP’s goal of \$15 per MCF and provides substantial cost savings to Interior Alaska customers.

### Background and Experience

#### Salix

Salix is an unregulated subsidiary of Avista Corporation (Avista), an electric and natural gas utility company that has been in business for more than 125 years. Salix was launched in 2014 to explore markets that could be served with LNG, primarily in western North America. This includes local distribution, power generation, marine bunkering and transportation fuels.

Salix will work with its team of experienced professionals to find the best options for bringing lower cost, safe and cleaner LNG to Fairbanks/Interior Alaska, replacing higher-cost fuels. Salix’s emphasis is on building strong relationships to find the best solutions, logistics and costs that provide the optimal value proposition to serve Fairbanks’ energy needs.

Salix’s efforts are focused on bringing natural gas to Fairbanks and helping residents and businesses access the benefits of clean, safe, reliable natural gas. Salix has the experience (through its parent, Avista) and its team of experienced professionals to manage and complete a complex LNG infrastructure project.

Avista has been working with the communities and customers it serves to provide electric service since 1889 and natural gas service since 1958. Avista’s corporate headquarters are in Spokane, the second-largest city in Washington. The city serves as the business, transportation, medical, industrial and cultural hub of the Inland Northwest region (eastern Washington and northern Idaho). Avista provides

energy services to 385,000 electric customers and 330,000 natural gas customers in eastern Washington, northern Idaho, parts of southern and eastern Oregon, and in Juneau, Alaska.

In 2014, Avista acquired Alaska Energy and Resources Company (AERC), whose primary subsidiary is Alaska Electric Light and Power Company (AEL&P). AEL&P has served Juneau for over 120 years and currently provides electric service to over 16,000 customers. With a presence in Southeast Alaska through AEL&P, Avista is exploring strategic opportunities to bring natural gas to the region.

Avista has extensive knowledge of the U.S. Pacific Northwest energy markets and broad expertise in energy infrastructure development.

Avista has long-standing relationships with local, state and federal governmental agencies, legislative bodies, Native American Tribes, Non-Governmental Organizations, customers and other stakeholders. Avista has a long history of developing durable stakeholder relationships, with an emphasis on collaboration, and forging innovative solutions in permitting complex energy projects. Avista has brought this approach to hydroelectric project relicensing efforts, siting and construction of natural gas-fired electric generation facilities and a multitude of major energy-related construction projects.

As a publicly traded energy company with market capitalization of approximately \$2 billion and an investment-grade credit rating, Avista has existing financial resources and financial relationships that provide access to a mix of debt and equity transactions sufficient to meet funding requirements for the proposed project.

Over 125 years of energy experience has also taught Avista the value of strong relationships. It is customary for Avista to engage the best-fit consultant and contractor expertise to ensure the success of major projects. Following are introductions to Salix's team of experienced professionals.

### Black & Veatch

EPC Contractor: Black & Veatch has developed a standard LNG plant for smaller scale operations providing an excellent fit for this project. Black & Veatch has combined its LNG technology expertise with its extensive EPC (Engineering, Procurement and Construction) contracting experience to develop a unique one-stop-shop LNG solution for the North American market: Small Scale PRICO® (SSP) 200.

As a technology platform, Black & Veatch's energy efficient PRICO® technology is proven in over 25 operating LNG production plants, which have so far produced over 160 million metric tons of LNG. Black & Veatch has developed and built these large and small scale LNG production plants all over the world in roles from engineering joint venture partner and consortium member to full EPC contractor. The SSP-200 builds on Black & Veatch's record of successful project delivery, and it has been designed specifically for small-scale North American applications.

### Braemar Engineering

Owner's Engineer: Braemar Engineering is a global leader in LNG plant and marine consulting, design, design-build, operations and project management for clients worldwide. Braemar Engineering's U.S. LNG Group has 45 years of experience providing technical advisory services and engineering support to clients in the LNG industry including all existing LNG import facilities in the United States, over three quarters of the North American peak shaving facilities and over half of the proposed LNG export facilities in the United States. Braemar Engineering is a member of the Braemar Seascope Group.

## HDR

Engineering Consultant: HDR is an independent multidisciplinary engineering company based in Omaha, Nebraska. HDR has worked on projects in all 50 states and in 60 countries. With over 35 years experience in Alaska, HDR provides a full range of permitting, engineering, infrastructure development and consulting services in support of resource development statewide. HDR has long met the needs and exceeded the expectations of clients operating in Alaska. Recently, HDR acquired the assets of MEI, LLC, a leading LNG consulting firm, bringing nearly 40 years of engineering and consulting experience in the oil and gas industry. HDR is currently working on multiple LNG projects across North America and in the Pacific, seamlessly providing conceptual design and FEED studies, siting and permitting, and detailed design solutions for clients in the transportation, maritime, rail and power sectors. HDR brings unique high-value insights regarding the local opportunities and challenges associated with Salix's development of its LNG project in Alaska.

## Haskell Corporation

Industrial General Contractor: Haskell Corporation is a well-respected regional industrial general contractor and fabricator based in Bellingham, Washington. Having been in continuous operation since 1890, for the past 45 years Haskell has primarily served the energy sector, focusing on projects in the oil and gas, power generation and renewable energy industries. Haskell Corporation has specialized in remote area installations in Alaska since 1949. This work has included such diverse industries as power generation, natural gas, petroleum, pulp and paper, modular construction, pipeline, mining, public schools and military installations. This work has taken Haskell to virtually every corner of the state including the Aleutian Islands. Haskell is well known for its ability to perform on very short notice, to perform effectively in remote and difficult environments, and to efficiently manage projects that require a high level of logistical expertise.

## PROJECT DESCRIPTION AND COSTS

Salix's current project development includes site selection, site plan design and layout, on-site technical fatal flaw analysis, preliminary environmental assessment, preliminary thermal and vapor assessment, technology vendor selection, project team selection (design, engineering, permitting, and construction), stakeholder engagement and financial modeling. Salix's liquefaction solution incorporates multiple favorable advantages of a Cook Inlet liquefaction facility including:

- Simple pretreatment of pipeline natural gas with amine and mol sieve technology
- Energy efficient PRICO® single mixed refrigerant (SMR) liquefaction technology
- EPC solution for the liquefaction and balance of plant, with one overall project construction contract supported by Black & Veatch
- Access to the skilled local labor market
- Favorable materials procurement and delivery logistics
- Proximity to the Mat-Su Borough and Anchorage for efficient and economical project support services

All of these factors contribute to a lower cost, lower risk and faster delivered liquefaction project.

Salix has identified site alternatives of sufficient size for both the initial construction phase and for future expansion, good transportation access, and accessibility to natural gas supply and other nearby utilities.

Salix estimates the total preliminary capital cost for the liquefaction facility to be \$115 million with estimated operating costs, including power costs, of the first phase LNG plant expected to be \$8.6 million annually (real dollars 2015).

## **TIMELINE TO FIRST GAS**

Deliveries of first gas from the LNG plant will need to be coordinated with the start of commercial operation of the Interior utilities' LNG storage and re-gasification facilities. Salix has developed a permit plan and preliminary schedule for development of the LNG plant and anticipates a project schedule from date of contract award to date of plant commissioning of approximately 24 months. This includes a contract award date of January 1, 2016, and front-end engineering and design completed by June 30, 2016. Major equipment procurement would begin on March 1, 2016, and be completed by April 30, 2017. Permitting would begin on January 1, 2016, and is estimated to be completed by April 30, 2017, with site construction commencing on May 1, 2017, and project commercial operation certification planned in early 2018.

## **MAJOR ASSUMPTIONS/FINANCING CONSIDERATIONS**

In order to meet the goals of the IEP, Salix believes that AIDEA SETS financing and the AIDEA capital appropriation are necessary to lower the costs of energy to the residents and businesses of Interior Alaska. Salix's baseline proposed financing plan anticipates a \$20 million equity investment by Salix, \$45 million of capital appropriation by AIDEA and \$50 million of AIDEA SB 23 SETS financing, which together total \$115 million of anticipated project financing needed for the initial 200,000 gallons per day liquefaction plant. Salix's baseline financing plan maximizes low-cost AIDEA financing to meet the financial objectives of the IEP and does not include higher cost third-party lender financing. However, if the overall supply chain economics and adequate liquefaction sales agreements support third-party financing, Salix will consider substituting third-party financing for AIDEA funding.

Salix would expect to enter into long-term Tolling Service Agreements (TSAs) with the Interior utilities with terms of 20 years. The agreements would be designed to compensate Salix for its fixed costs, variable costs and a negotiated rate of return. The agreements would be structured like a utility cost-of-service model. Under the proposed cost-of-service commercial structure, the Interior utilities would be responsible for the majority of the demand, for which Salix assumed the utility demand profile indicated in the RFP.

Salix is committed to a collaborative commercial structure that balances project risks and rewards among the project stakeholders, including the project owner (Salix), project financier (AIDEA), project preferred customers (Interior utilities), state and local government agencies and regulators. Salix's proposal identifies commercial tools that facilitate good faith negotiations to achieve an agreement satisfactory to all parties.

## **HOW THE PROPOSED PROJECT WILL MEET/FIT INTO IEP GOALS**

Salix's financial model indicates a 20-year average liquefaction price of \$2.87 per MCF (real dollars 2015). This price is based on the assumptions outlined in the preceding sections with respect to capital costs, operating costs, AIDEA financing tools and our investment based on production and demand at approximately 200,000 gallons per day (the proposed initial plant capacity).

Combining liquefaction with natural gas supply, transportation (from the LNG plant to the storage facility in Fairbanks) and distribution costs provides the opportunity to meet the IEP's goal of \$15 per MCF and provide substantial savings to Interior Alaska customers.

Energy costs for communities in Alaska's interior are among the highest in the country. Petroleum products (fuel oil, diesel, gasoline, naphtha) dominate heating and transportation energy supplies and have been the primary fuel source for power generation especially in remote interior communities. Wood-burning appliances are also major energy sources for residential heating. Consequently, air quality in the Fairbanks North Star Borough does not meet regulatory standards, posing health risks and potential penalties for non-attainment. The goals of the IEP are to provide energy cost relief and improve air quality. AIDEA, in support of the IEP goals, seeks to finance and facilitate a project that supplies a clean energy alternative at the lowest possible cost to as many people as quickly as possible. Salix believes its LNG solution will best meet these objectives by providing a safe, reliable, clean and economical energy alternative for Alaska's Interior communities.

## **CONCLUSION**

Salix has assembled a solid team of experienced professionals with extensive LNG expertise, LNG technology leadership and knowledge, complex energy project experience and established relationships with local, regional and state communities. Salix believes it can permit, construct and commission the LNG plant on a schedule to meet the IEP's goal of delivering LNG as quickly as possible.

*Salix, Inc.'s Response to Alaska Industrial Development Export Authority "AIDEA" Request for Proposal #15142 does not constitute a legal offer or otherwise create a binding agreement or obligation to consummate any proposed or contemplated transaction. Any binding obligation or agreement will be created only by the full execution and delivery of definitive agreements, the provisions of which will be subject to obtaining all necessary approvals, including regulatory approvals, and such definitive agreements will supersede this response in its entirety. This response is based on Salix Inc.'s understanding and information available to Salix Inc. as of the date of this response and this response may be modified by Salix Inc. to the extent necessary to reflect any new or changed understanding or information.*