

TESTIMONY OF
MATTHEW TAYLOR, PARTNER LIBERTY ENERGY TRUST
IN SUPPORT OF PGW'S PETITION FILED SEPTEMBER 20, 2018
REGARDING AN LNG P3 PROJECT AT PASSYUNK PLANT

BEFORE THE PHILADELPHIA GAS COMMISSION
PUBLIC HEARING - OCTOBER 29, 2018, 10:00 AM

Good morning Executive Director McClendon, Hearing Examiners Lai and Wushinske, and all others in attendance. I am a Partner at Liberty Energy Trust and am here today to speak in support of the proposed PGW P3 LNG Project between Philadelphia Gas Works and Passyunk Energy Center, LLC. Liberty Energy Trust brings expertise in the energy industry together with local capital from our partner, Permit Capital Advisors, to invest and oversee the Passyunk Energy Center. Liberty Energy Trust owns Passyunk Energy Center. Permit Capital manages assets for a small number of local families and foundations, and has assets under management of about \$1 billion, which are invested across a wide range of public, private and alternative assets, including energy infrastructure investments. I oversee all direct energy investment programs with Liberty and Permit and appreciate the chance to share our excitement about the opportunity that this project represents. Passyunk Energy Center is our largest local investment to date and one that supports a number of important programs in Philadelphia.

As members of the local community, Liberty Energy Trust and Permit Capital are particularly focused on the community impact and opportunities that this Public Private Partnership should create. We are especially proud of the fact that this project will support a number of the impact initiatives that we invest in as a firm, including our core focus of:

- 1) Expanding economic opportunities in Philadelphia;
- 2) Improving the energy costs and efficiency for businesses in the region; and
- 3) Improving the environmental sustainability of Philadelphia's energy infrastructure.

Working with PGW on the P3 liquefied natural gas (LNG) Project allows us to address all three core focus areas in a single project. Philadelphia Gas Works is an important driver of economic opportunity in the City and we believe this project will strengthen its ability to serve all the customers and owners in Philadelphia. Permit Capital has made investments throughout the region that address parts of these problems, including expanding affordable housing, solar energy projects, and alternative energy projects. This project is a large-scale investment in a cleaner energy future by Liberty Energy Trust and Permit Capital.

Expanding Economic Opportunities in Philadelphia

Permit Capital is committed to expanding economic opportunity in the City of Philadelphia. Through the expansion of diverse business opportunities in the City, we can address issues of equity, poverty, and workforce education and development. The spillover benefits of expanding economic opportunities help address the challenges this City faces with deep poverty and barriers to economic mobility both indirectly and directly.

To help with us on this project we are working with the Urban Affairs Coalition (UAC). The Urban Affairs Coalition brings together a broad coalition of businesses, government, neighborhoods, non-profits and individuals to build wealth and address emerging issues in Philadelphia. They have rich, deep relationships with diverse businesses in the community and have a long history of supporting investors to expand opportunity to bring new businesses, like the P3 LNG project. We believe that by working with UAC, we will maximize our ability to address the diverse marketplace and by doing so, meet or exceed diverse participation in our developments in Philadelphia. We are proud to work with the UAC and the Office of Economic Opportunity to ensure that this project achieves its maximum potential in engaging diverse suppliers, employees and contractors. They have been providing advice on how to expand the pool of potential firms that may not have traditionally looked at projects in the energy or liquefied natural gas industry. The economic opportunity that this project will generate will represent millions of dollars and the development of a broader, more diverse pool of contractors in the sector. Working with the Office of Economic Opportunity and the Urban Affairs Coalition, we have identified a contract goal of 35-45% of our construction budget be completed by MWDSBE firms. The value of the project eligible at this point is estimated at \$20 million, of which 35-45% would be the opportunity contracting goal. We are looking forward to completing the work associated with this Economic Opportunity Plan and having a successful partnership with the UAC, OEO and PGW as this project is completed.

Improving Energy Price and Service to the Region

While PGW will provide testimony regarding the specific strategic, operational, and financial impacts of this project, we would like to emphasize our view that the P3 LNG Project will strengthen PGW's ability to serve the region with efficient, reliable, and resilient energy for now and into the future. Weather volatility has increased in recent decades, and this puts pressure on the ability of old infrastructure to reliably serve the needs of customers. The expansion at Passyunk will provide residents of Philadelphia with additional energy security in the event of a "polar vortex" reducing pipeline supply to our region. As PGW expands use of its infrastructure, we believe the marginal economic returns for PGW should be high, benefiting the utility not just

through the direct revenue of this project, but also through additional operating leverage on existing assets within PGW. Energy costs are an important consideration for many businesses looking to invest or expand in Philadelphia, and any steps that can be taken to reduce these costs should benefit additional investment in the City.

Improving Environmental Sustainability in Philadelphia

Permit Capital and Liberty Energy Trust believe expanding LNG use in our region will displace dirty, expensive, and inefficient fuel oil and diesel in a variety of applications. Oil releases significantly more NO_x, SO_x, and particulate pollutants than natural gas when burned. As Philadelphia has nonattainment status under the National Ambient Air Quality Standards, every step the City can take to reduce the combustion of oil and diesel within City limits is a step to improve the air quality for residents of the City. We see three key areas where an expansion of local LNG supply has the opportunity to displace significant fuel oil and diesel use in the City:

- 1) Oil burning electric generation – Metro Philadelphia is in the top 10 regions for installed oil-burning electric generation assets, as identified by the Brookings Institute. These assets remain as an emergency supply source in the event of pipeline capacity constraints or period of high electricity prices. With the availability of LNG as a storage fuel for natural gas power producers, we believe diesel and fuel oil assets will be retired at a more accelerated pace in the region.
- 2) Emergency generation assets – Currently most major institutions in the City run their emergency back-up power on diesel power generators. This source of fuel, while ubiquitous, is both more expensive to operate and more polluting than cleaner burning natural gas. Diesel fuel can only be stored for a year before it must be burned. LNG can be stored for longer, and the boil-off during the storage time can be used to generate heat and power for the facility, saving money and waste while increasing efficiency.
- 3) Transportation – currently 100% of the freight locomotives operating in Philadelphia are running on diesel fuel. Nationally we burn approximately 4 billion gallons of diesel to move freight on the rail network. We believe, with the critical rail infrastructure in place in Philadelphia, the ability for national Class I rails to adopt dual fuel LNG-diesel locomotives, like those designed in Erie by General Electric Transportation, will be enhanced by this project while the costs and risks of adoption are reduced.

Past Projects and Experience

The team that Liberty Energy Trust has brought together for the P3 LNG Project with PGW has deep, extensive experience in delivering complicated multi-party projects from conception through execution to market, throughout North America.

Beginning with design and construction, Northstar Industries, which is majority owned by Liberty Energy Trust, is one of the leading engineering, procurement and construction (EPC) companies in the LNG industry. Northstar has over 20 years of experience working in the LNG industry. They have worked at a majority of the LNG storage and operation locations in North America and have built many liquefiers of the same design specifications and operating environment as the one proposed at Passyunk. Northstar specializes in turnkey solutions that support the needs of natural gas distribution companies. In New England, which suffers from its location relative to US and Canadian natural gas assets, LNG has long been a peak shaving fuel solution that New England utilities have depended on to address pipeline constraints.

Northstar's depth of client references across the entire natural gas industry is a tremendous resource for reducing the engineering, procurement and construction risks in this project. Having recently built a project in the Mid-Atlantic region with a similar size and complexity, Northstar feels confident in the engineering scope and risk identification done to date.

Liberty Energy Trust will be marketing and structuring the sales of LNG from Passyunk Energy Center. Liberty Energy Trust, led by principals Boris Brevnov and Charlie Ryan, have a long history in both energy markets and financial transactions across energy infrastructure assets. LET believes the capacity produced at Passyunk is most valuable as a storage buffer and virtual pipeline for users of natural gas that cannot depend on the pipeline for 365 day service, especially on cold days when capacity is constrained and gas may not be able to be procured at any price. As the project moves forward, we anticipate announcing the hiring of an experienced sales head to complete the sales and offtake transactions from Passyunk.

Liberty Energy Trust has significant financial assets that it is deploying in the LNG space. Through our ownership of Northstar, we have been extensively preparing the market place for this opportunity. We have had many conversations with local natural gas distribution companies, as well as independent power producers, transportation companies, microgrid designers, and facilities managers throughout the region. By using this time to lay the groundwork for our sales efforts, we will be well positioned when the project comes on line. PEC will be supported by the full resources of Liberty Energy Trust and Permit Capital Advisors

to deliver the best service outcome for the companies who want our product and services. As careful stewards of our investors' capital, we are cautious about hiring and spending too far in advance of the need. We feel confident that all the required resources will be ready, available and trained when needed as this project comes on line. We have signed one of the largest LNG off-take agreements in North America with a New England Investor Owned Utility. This project is almost twice the size of the project at Passyunk, and represents guaranteed sales several times larger than existing PGW liquid sales to date.

We have been impressed with the detailed project work that the City and PGW have put into this project. In fact, we would characterize this Term Sheet as being closer to a Final Agreement than a Term Sheet, and the two years of work with PGW have resulted in extraordinary detail on the level of operational and financial details fleshed out in the proposal. The operational and business excellence that Liberty Energy, Permit and PGW bring to this project makes us confident that the venture will be a success for the City and its residents and I look forward to answering any questions you may have about us and our view of this exciting project.