

**Puget Sound Clean Air Agency  
1904 Third Avenue, Suite 105  
Seattle, Washington 98101  
Subject: "Comment on SEIS for PSE LNG Facility"**

**October 16, 2018**

To the Puget Sound Clean Air Agency:

I am writing regarding the draft SEIS you recently released regarding the LNG facility at the Port of Tacoma and its use as a maritime fuel. I am writing as the Chief Operating Officer of SEA\LNG and this letter is being on behalf of the organization.

To begin, I would like to provide you with a brief introduction of SEA\LNG. SEA\LNG is a not for profit membership association that brings together key players from across the supply chain, including shipping companies, classification societies, ports, financial institutions, major LNG suppliers, downstream companies, infrastructure providers and OEMs (original equipment manufacturers) to address the need for cleaner shipping through the expanded use of LNG as a marine fuel.

I would like to provide some insights to the national and international importance of shipping, the maritime Industry's effort to reduce its environmental impact and the role Liquefied Natural Gas (LNG) plays in helping to clean the air we all breathe. Many do not realize that roughly 90 percent of global trade is transported by ships nor that ships provide the most cost and energy efficient means of transport. Due to the scale of their carriage capacity, there is no better transport solution from an efficiency or an environmental standpoint. The maritime industry's efforts to further reduce the environmental impact of their operations has been led by the International Maritime Organization, an arm of the United Nations, and supported for years by the United States and the vast majority of countries around the world.

LNG offers the shipping industry a credible, safe, competitive and environmentally beneficial fuel. Compared to existing alternatives and other unproven technologies, LNG provides the only currently available means to address key environmental issues today. LNG far outperforms conventional marine fuels in terms of minimizing harmful local air pollution and can reduce GHG emissions. LNG emits zero Sulphur oxides (SOx) and virtually zero particulate matter (PM) and black carbon. Compared to existing heavy marine fuel oils, LNG emits 90 percent less nitrogen oxides (NOx). LNG provides major air quality benefits which are highly relevant and especially important for port communities such as Seattle and Tacoma.

Further, LNG's greenhouse gas (GHG) performance represents a step forward when compared with traditional marine fuels. Utilizing best practices and appropriate technologies can result in realistic reductions of GHG of about 20 percent with even greater potential as technologies mature and future use of renewable natural gas. As the SEIS notes, the use of LNG will "result in an overall decrease in GHG emissions in the Puget Sound Region" and "the greater the replacement with petroleum-based fuels with LNG, the greater the overall reductions in GHG emissions". Combined with the superior air quality benefits LNG is known to deliver, the proposed action is a highly beneficial step forward for the Puget Sound region.

The environmental benefits of LNG as a marine fuel are increasingly being recognized by the shipping industry, ports and port communities world-wide. Of the world's top ten bunkering ports, nine either already offer LNG bunkering or have firm plans to do so by 2020. For example, Singapore, which accounts for the biggest volume of marine fuel bunkers, is piloting LNG bunkering and has a goal of being fully LNG bunker-ready by 2020. In Rotterdam, the world's second biggest bunker port, LNG ship to ship bunkering is already available with 10 LNG bunker vessels expected to be operating there in the coming years. This progressive Port and others are also working to explore the use of renewable natural gas as part of its LNG bunkering service offering and strategy.

In the U.S., the Port of Jacksonville has pioneered LNG bunkering in support of the world's first dual-fueled container vessels which entered service in late 2015 in the trade between the U.S. and Puerto Rico. To date, these innovative and environmentally superior vessels have completed hundreds of safe bunkering operations. Other operators have made significant investments and are on track to deploy additional LNG fueled vessels and bunkering in Jacksonville in the coming months. Barge to ship, truck to ship and pipeline to ship are all operating in Jacksonville.

Many other U.S. and Canadian ports have well advanced plans to provide LNG bunkering. Vancouver is already offering LNG fueling. In addition to these individual developments, working arrangements have been set up between various international ports such as the Port of Rotterdam, Yokohama Kawasaki International Port, MPA of Singapore, Port of Vancouver, Port of Ningbo-Zhoushan and many others to collaborate on the development of LNG as a marine fuel in their respective ports.

One of the Port of Seattle's major clients, CMA-CGM of France recently announced a commitment to 9 new 22,000 TEU LNG powered vessels. The Cruise sector, important to the economy of the Pacific Northwest has firmly embraced LNG as a fuel of the immediate future. The Port of Tacoma is heavily committed to the International automobile market and indications are that future new builds of Roll on Roll off vessels will also embrace LNG as a clean safe, environmentally superior fuel.

Without an LNG fuel source for these maritime vessels, air pollution issues will continue to impact the health of the region's citizens, and important Port business opportunities will be missed to the detriment and loss of high paying and important jobs throughout the community. Seattle and Tacoma have a significant opportunity to be among some of the world's best ports and to offer their key stakeholders the environmental benefits that LNG can bring today.

Thank you for your time and energy to review this important matter.

Sincerely,

Stephen Cadden  
Chief Operating Officer  
SEA\LNG, Ltd.