

Memorandum

Date: 11 February 2015

Subject: Columbia River Anticipated Vessel Traffic

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Route to:

INTRODUCTION

The purpose of this memorandum is to document publicly available information regarding marine terminal projects along the Columbia River which are anticipated to generate future additional vessel traffic.

PROJECTS WITH ADDITIONAL VESSEL CALLS

The following facilities have either announced their intent to build or expand, are in permitting or construction, or have completed construction. A short description of each project is provided below and is summarized in Table 1.

Canpotex

Canpotex is a potash export facility located at Terminal 5 at the Port of Portland. Canpotex's long-term lease with the Port was expanded and extended in October 2014 (Port of Portland 2014b). The facility expansion is currently in permitting and includes a new storage building, shiploader, and improvements to its conveyer system. Canpotex expects to increase its tonnage incrementally within the coming years (Port of Portland 2014c). Canpotex currently has six storage bays with a capacity of 135,000 metric tons of potash (Wall Street Journal 2014) and exports more than two million tons to overseas markets (Port of Portland 2014c).

EGT, LLC

EGT operates a grain export facility located at the Port of Longview. The facility opened in 2012 and is expected to handle as many as 200 ships per year with an annual capacity of eight million metric tons (EGT 2012).

Global Partners

Global Partners operates a crude oil and ethanol export facility located at Port Westward in Clatskanie, Oregon. Global Partners is currently permitting an expansion of the existing facility

to increase handling capacity. The maximum crude oil and ethanol throughput for the facility will be 1.839 billion gallons per year (ODEQ 2014). Crude oil and ethanol is loaded onto oceangoing vessels for export overseas. Assuming Panamax vessels with a capacity of 331,000 barrels are used for transport, approximately 132 one-way trips would be required annually at full buildout. Construction is anticipated to begin in 2015 (Port of St. Helens 2014).

Haven Energy

Haven Energy is proposing to construct a new propane/butane export facility at the Port of Longview. The facility would receive the product by rail and exported on vessels to Hawaii, Mexico, and Asia. Export will be on very large gas carriers (VLGCs), and 30 vessel trips are estimated annually (Port of Longview 2014). The project is currently in lease negotiations with the Port.

Kalama Export Company

Kalama Export operates a grain export facility located at the Port of Kalama. In 2011 Kalama Export expanded their existing facility, including an additional 21,000 metric tons of storage and greater vessel-loading capacity (Gavilon 2010). The improvements were expected to increase the facility's annual throughput by 25 percent (Port of Kalama 2011). Kalama Export had a total of 122 vessel calls in 2013 (Port of Kalama 2013) and a 25 percent increase could result in an additional 31 vessel trips along the Columbia River.

Kinder Morgan

Kinder Morgan operates a soda ash export facility located at Terminal 4 at the Port of Portland. Kinder Morgan negotiated a 10-year lease with the Port of Portland in 2013 and improvements included a new shiploader to increase efficiency and "set the stage for growth," (Port of Portland 2013).

Millennium Bulk Terminals

Millennium Bulk Terminals is a proposed coal export facility to be located at the Port of Longview. The proposed facility will import coal by rail and export it overseas. The facility will be capable of handling 44 million metric tons of coal per year and will average 730 Panamax vessel trips annually along the Columbia River (Cowlitz County and Washington State Department of Ecology 2014). The project is currently in the permitting stage.

Morrow Pacific

Ambre Energy's Morrow Pacific project is a proposed coal export facility to be located at the Port of Morrow in Boardman, Oregon, and at Port Westward in Clatskanie, Oregon. The proposed facility will transport coal from the Port of Morrow to Port Westward via barge, where it will be loaded onto oceangoing vessels. Initial volumes exported will be approximately 3.5 million metric tons per year; at full capacity, volumes will be 8 million metric tons per year (Ambre Energy 2012). Vessel traffic will be 5.5 loaded barge tows and 1 Panamax vessel each week initially, and 12 loaded barge tows and 3 Panamax vessels each week at full buildout (U.S.

Army Corps of Engineers 2012). The project has been denied a permit by the Oregon Department of State Lands; however, appeals have been filed against the decision and the project has not been formally cancelled (Morrow Pacific 2014).

NW Innovation Works

NW Innovation Works is proposing to construct two methanol facilities; one at the Port of Kalama and one at Port Westward in Clatskanie, Oregon. Each facility will produce methanol from natural gas received via pipeline and export it to China. The Port Westward facility has been announced, and the Kalama facility is currently in permitting. At full capacity the Kalama facility is anticipated to produce 3.6 million metric tons of methanol annually. The Kalama facility anticipates between three and six ships per month, depending on vessel size (Port of Kalama 2014). Assuming the facilities will be similar in size and production, there could be a potential increase of 72 to 144 ships annually along the Columbia River.

Oregon LNG

Oregon LNG is a proposed liquefied natural gas (LNG) facility in Warrenton, Oregon. The facility will liquefy up to 9 million metric tons of LNG annually at full capacity and export overseas on liquefied natural gas carriers (LNGCs). It is estimated there will be 125 annual vessel trips consisting of 50 trips on LNGCs of 148,000 cubic meter capacity and 75 trips on LNGCs of 173,000 cubic meter capacity (CH2M Hill 2013). The project is currently in permitting, construction is estimated to begin in 2015, and the first shipment will be in 2019 (Oregon LNG 2015).

Pembina Pipeline Corporation

Pembina Pipeline Corporation is proposing to construct a new propane facility at Terminal 6 at the Port of Portland. At full build-out, the facility will receive approximately 37,000 barrels of propane per day and export it to overseas markets (Port of Portland 2014a). Export overseas will be on VLGCs, and it is estimated there will be two to three vessel trips per month (City of Portland 2015). The project is currently in permitting.

TEMCO

TEMCO operates a grain export facility located at the Port of Kalama. TEMCO is renovating its existing facility to add new docks, shipping system, and rail and barge unloading machinery (Pittman 2014). The updated facility will have the capacity to handle up to 200 million bushels of grain per year, doubling the facility's previous capacity (Luck 2014). At full operating capacity, an additional 48 vessel trips along the Columbia River could be generated, assuming 2.1 million bushels per Panamax vessel. The renovations are expected to be complete in early 2015.

Table 1. Vessel Traffic Summary

Project Name and Location	Product	Vessel Class and Frequency	Status
Canpotex Portland, OR	Potash	Panamax 50 calls annually	Announced expansion
Export Grain Longview, WA	Grain	Panamax 200 annually	Complete in 2012
Global Partners Clatskanie, OR	Crude Oil and Ethanol	132 annually	Expansion construction to begin in 2015
Haven Energy Longview, WA	Propane and Butane	VLGC 30 annually	Announced
Kalama Export Kalama, WA	Grain	Panamax 31 additional annually	Expansion complete in 2011
Kinder Morgan Portland, OR	Soda Ash	Handymax/Panamax	Improvements complete
Millennium Bulk Terminals Longview, WA	Coal	Panamax 730 trips annually	In permitting
Morrow Pacific Boardman & Clatskanie, OR	Coal	Initial: 5.5 barge tows & 1 Panamax per week Complete: 12 barge tows & 3 Panamax per week	In permitting
NW Innovation Works Kalama, WA	Methanol	Tanker 36 to 72 trips annually	In permitting
NW Innovation Works Clatskanie, OR	Methanol	Tanker 36 to 72 trips annually	Announced
Oregon LNG Warrenton, OR	LNG	LNGC 125 trips annually	In permitting
Pembina Portland, OR	Propane	VLGC 24 to 36 trips annually	In permitting
Temco Kalama, WA	Grain	Panamax 48 additional annually	Expansion construction through 2015

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ATTACHMENT V