COMMISSION
AGENDA MEMORANDUM **Item No.** 7a

BRIEFING ITEM **Date of Meeting** March 28, 2017

DATE: February 1, 2017

TO: Dave Soike, Interim Chief Executive Officer

FROM: Elizabeth Leavitt, Senior Director, Environment and Sustainability
Stephanie Meyn, Climate Protection Program Manager

SUBJECT: Aviation Biofuels Infrastructure Feasibility Study Results

EXECUTIVE SUMMARY

Historically the Port of Seattle has been a leader in supporting research and development of aviation biofuels. We are now shifting towards a market development role, and exploring what the Port can do to support aviation biofuel infrastructure development and/or financing.

At present, aviation biofuel is not produced in Washington state and must be imported by truck, rail, or barge. It must then be blended with regular petroleum-based jet fuel (as required by fuel standards/law) before it is considered a "drop-in" fuel that can be used in aircraft and regular fueling infrastructure.

Aviation biofuel infrastructure integration will make Sea-Tac Airport an attractive option for airlines committing to biofuel use, and will assist in attracting biofuel producers to the region as part of a longer-term market development strategy.

As leaders in aviation biofuels, the Port, together with the Boeing Company and Alaska Air Group, signed a memorandum of understanding in December 2015 to conduct an Aviation Biofuels Infrastructure Feasibility Study to identify the best approach to deliver blended biofuel to Seattle-Tacoma International Airport.

The report was completed by a consultant team led by WSP Parsons Brinckerhoff on November 30, 2016. The report evaluated many locations along the Olympic Pipeline where biofuels could be blended and injected into the delivery system. It also evaluated the infrastructure needed for small and large biofuel delivery volumes.

The report concluded that the best locations to build infrastructure were dependent on the annual biofuel delivery volume. For example, a small receiving and blending facility at the Sea-Tac Fuel Farm is cost-effective and serves an existing fuel security need by creating more truck offloading facilities, whereas a train- or marine-offloading facility should only be built when a long-term supply agreement is in place. These large volume facilities could be built at existing petroleum handling facilities in Renton or Skagit or Whatcom Counties.

KEY FINDINGS OF STUDY

The key findings of the study are as follows:

- A small biofuel receiving and blending facility at the Sea-Tac Airport Fuel Farm is the most cost effective solution in the short term and would also fulfill an existing critical need for additional local fuel receipt and storage capacity that is not dependent on the Olympic Pipeline.

- Any of the three refineries that currently produce Jet-A fuel (used by all commercial jets) in Whatcom and Skagit Counties are viable options. These refineries are the most cost-effective options for receipt and blending of large volumes of aviation biofuel over the long term. Tesoro Anacortes was used as a proxy in the study to develop infrastructure and cost estimates.

- The Phillips 66/Olympic Pipeline Company site in Renton also showed potential to accommodate receipt and blending facilities for moderate-to-large biofuel volumes over the long term.

- Focus should be given to short-term investments at smaller scale facilities that are flexible and could support other aviation fuel supply uses due to the lack of long-term supply source for aviation biofuels. Identifying a biofuel supply source was not a part of this study.

- Facilities that rely on offloading fuel via rail and marine modes are only cost-effective for large volumes of biofuel over the long term due to high infrastructure costs.

- The Olympic Pipeline Company and the petroleum refineries and distributors have showed strong interest in upgrading their facilities to handle aviation biofuel and moving the blended product in their pipelines.

- As the biofuel supply expands, the Port of Seattle, its partners, and the fuel supply and transport organizations could work cooperatively toward the ultimate goal of integrating aviation biofuel into the fuel hydrant delivery system at Sea-Tac Airport.

ATTACHMENTS TO THIS BRIEFING

(1) Presentation slides – Aviation Biofuels Infrastructure Briefing PowerPoint
(2) Aviation Biofuel Infrastructure Report Condensed PDF

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

December 8, 2015 – The Commission authorized the Chief Executive Officer to execute a memorandum of understanding between the Port, Alaska Airlines, and Boeing to conduct an Aviation Biofuels Infrastructure Feasibility Study.