

**PORT OF SEATTLE**  
**MEMORANDUM**

**COMMISSION AGENDA**

**Item No.** 9b

**Date of Meeting** October 27, 2009

**DATE:** October 16 2009  
**TO:** Tay Yoshitani, Chief Executive Officer  
**FROM:** Stephanie Jones Stebbins, Senior Manager, Seaport Environmental Programs  
**SUBJECT:** Cruise Vessel Biomass Management Study, Phase 1A

**BACKGROUND**

**Biomass**

This biomass study was conducted in response to a Commission motion made in February 2007, directing staff to work with other stakeholders to look at cruise waste and cruise biomass. In April 2007, the King County Council passed a complementary motion that directed the King County Wastewater Treatment Division to work cooperatively with the Port of Seattle and other affected agencies to study the potential for processing marine cruise industry-generated wastewater through the county's wastewater treatment system. Port staff worked with the County to produce the report titled "**Cruise Ship Wastewater Management Report.**" The focus of the King County study was on cruise vessel wastewater, not on biomass.

Following the completion of that study, Port staff refocused on the issue of cruise ship biomass. This Phase 1 Report summarizes the current state of knowledge through a review of existing reports and data. In addition, treatment vendors and cruise ship operators were surveyed to determine how waste was currently being treated and handled by the vessels. A questionnaire was sent to the Port's cruise line customers to gather specific information about types of treatment systems employed, disposal practices, and vessel information including storage capacity specific to the individual vessels. This report concludes with an initial assessment of the feasibility of onboard and dockside infrastructure and terminal operations to perform biomass offloading. This assessment is based on the professional experience of Port staff, the consultant team hired to conduct the study, and their collective knowledge of cruise facilities at Pier 66 and Pier 91 and the cruise vessel system infrastructure.

A draft report was reviewed by a stakeholder group, including the Northwest Cruise Ship Association (NWCA), individual member Cruise Lines, the Department of Ecology, (DOE) and several environmental interest groups including Friends of the Earth, People for Puget Sound and the Surfrider Alliance.

Based on the data compiled for this report, the following conclusions have been drawn:

- There is currently no single viable option for managing biomass created on board Seattle-based cruise ships.
- Biomass capacity on board cruise vessels ranges from three days to one week, with two ships having a full-week capacity.

## COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

October 16, 2009

Page 2 of 2

- While biomass is pumpable and could be transferred on shore, there are significant shore-side challenges that would have to be overcome to accomplish this.
- On shore transfer would have significant impacts to pier-side operations. The extent of these impacts would vary by vessel, dock facility, volume of biomass to discharge, and method chosen to transfer to shore facilities. Trucking biomass from a vessel to a nearby treatment plant would add an estimated 1500 trucks to the vicinity of Pier 66 and Terminal 91 during each summer cruise season.
- An alternative to the on shore transfer option would be to discharge to a marine barge. The most significant challenge with this option would be synchronization of the off shore transfer of biomass with vessel fueling, which is also done from marine barges, generally through a common break in the vessel hull.

Prior to making the significant investment anticipated for a changed mechanism for managing biomass, the Port of Seattle would have to first invest in an additional study associated with the feasibility and cost of vessel retrofits as well as whether there are environmental benefits to off-loading biomass at the Port of Seattle. Cost of the study to-date is \$38,855 and approximately two hundred hours of staff time.

Staff does not recommend pursuing this issue further at this point. We make this recommendation for these reasons:

- Currently biomass is either incinerated or discharged 12 miles off shore, in international waters, moving at least 6 knots. Ascertaining the net environmental benefit or impact of handling biomass in alternative ways would take significant resources. Offloading this biomass at the Port of Seattle might reduce environmental impact in the North Pacific Ocean; or it also may merely shift the environmental impact. Sorting the impacts and benefits out would take resources and budget money.
- No biomass is being discharged either in Puget Sound or even in Washington State waters. Port environmental staff resources are extremely constrained and there is significant effort needed in Puget Sound. Staff recommends we focus on Puget Sound issues.
- The current practice is in compliance with all international, federal, state and local laws and regulations. Finally, even if we were to determine that handling biomass in alternative ways was beneficial, it is questionable whether we have the authority to require off-loading of biomass.
- Staff believes that this recommendation is consistent with the “Green Port Principles” recommended by the Century Agenda Panel.