Department of Environmental Conservation (DEC)

Cruise Ship Waste Water Science Advisory Panel
Teleconference

May 23, 2012
8:00 AM – 10:00 AM (AK Time)

Panel members

Mark Buggins*	Municipality of Sitka
Dr. Reinaldo Gonzalez	Burns and McDonnell
Kenneth Fisher	EPA
Juha Kiukas	Ecomarine
Lamberto Sazon	United States Coast Guard
Lincoln Loehr**	Stoel Rives LLP
Thomas Weigend	Meyer Werft
Steve Reifenstuhl***	Southeast Herring Conservation Alliance
Michelle Ridgway****	Oceanus Alaska Environmental Services
Dr. Silke Schiewer	University of Alaska Environmental Engineering
Dr. Simon Veronneau	Quinnipiac University School of Business

* Mark Buggins fills the legislatively mandated coastal community Panel seat.
** Lincoln Loehr fills the legislatively mandated cruise ship industry Panel seat.
*** Steve Reifenstuhl fills the legislatively mandated commercial fishing industry Panel seat.
**** Michelle Ridgway fills the legislatively mandated NGO Panel seat.

Meeting Outcomes

- The Panel will have identified a preferred methodology for evaluating economic feasibility
- A plan will have been developed and persons responsible will have been identified for completing report text data gaps

Agenda

8:00 a.m. - 8:05 a.m. Krista Webb - Facilitator

- Welcome and introductions
- Review, finalize, and approve draft agenda

8:05 a.m. – 9:20 a.m. Economic Feasibility - Panel

This will be a discussion of potential approaches for evaluating economic feasibility of technically effective additional methods. The outline below illustrates a potential approach to making some determination of economic feasibility. During the call, the Panel will identify sources of information and technical expertise to arrive at a practical estimate for each question or bullet. Data gaps and approaches to fill gaps will be identified.

Technical Effectiveness

A) Does method or technology, alone or in combination, cause effluent to *meet **all** water quality standards (WQS)*? (note, must be consistently met)
    a. If yes, is it technically effective to implement and operate on cruise ship?
    b. If answer is still yes, go to economic feasibility questions.

B) If answer to "A" is no, what reasonable improvements can be made in performance?
    a. Add-on polishing systems
    b. Replace with better performing AWTS systems
    c. Improvements in pollution prevention
    d. Installation of control methods
    e. Operational improvements (dedicated trained wastewater engineers, increase replacement of reagents and membranes)
    f. For each of the above,
        i. What are the benefits in effluent quality?
        ii. Is this a significant improvement over existing performance?
            1. By itself?
            2. In conjunction with other methods?
        iii. For methods that would result in significant improvement, go to economic feasibility questions.

Economic Feasibility

A) What is the cost to install and annually operate the system/methods? (range of costs)
    a. New Build (Note – they have to put an AWTS on new builds anyway – delta depends on comparison to current system installations)
    b. Retrofit to existing ships
    c. Add-on polishing system/method

B) Is the effluent quality benefit worth the cost?
C) Is it economically feasible for industry to bear this cost?

Data available to estimate costs

1. Questionnaire to cruise operators
   http://dec.alaska.gov/water/cruise_ships/SciencePanel/documents/Binder/Att%201%20Compiled%20Responses%20to%20request%20to%20CI%20about%20individual%20systems.pdf

2. Vendor responses (distributed by email and on website):
   http://www.dec.alaska.gov/water/cruise_ships/SciencePanel/documents/Abbreviated-Vendor-Responses-ADEC-Science-Advisory-Panel-Sept-2011-Mtg.pdf

3. Anticipated data from the BAT worksheets

   For category: add on, replacement, control, and prevention, the following data were requested:

   - Rating of Technical Feasibility for each technology or method
   - Subjective rating on scale of 10
   - Estimated design capacity (m3/day)
   - Capital Cost (detailed direct and indirect cost estimate)
   - Est. Annual O&M Cost Add-On WWT option, $ per year (detail broken out)
   - Estimated Removal with Add-on System, per cent
   - Subjective Rank Potential Systems 1, 2, 3, 4 (where 1= most likely to implement considering feasibility and cost)

9:20 a.m. – 9:40 a.m. Report Updates – Krista Webb

- Status of Report text
- List assignments and unresolved comments.

9:40 a.m. – 9:50 a.m. Public Comment

9:45 a.m. – 10:00 a.m. Wrap up and Action Items – Krista Webb

- Identify action items and person responsible for action
- Review dates of next conference calls and meetings
- Next conference call scheduled for July 26.