

***EPA SAB Panel for Ballast Water Advisory Activities:
Charge Questions to the Panel from EPA's Office of Water***

July 29, 2010

Charge question 1:

Performance of shipboard systems with available effluent testing data

1. a. For the shipboard systems with available test data, which have been evaluated with sufficient rigor to permit a credible assessment of performance capabilities in terms of effluent concentrations achieved (living organisms/unit of ballast water discharged or other metric)?
1. b. For those systems identified in (1a), what are the discharge standards that the available data credibly demonstrate can be reliably achieved (e.g., any or all of the standards shown in Table 1 of the White Paper*? Furthermore, do data indicate that certain systems (as tested) will not be able to reliably reach any or all of the discharge standards shown in that table?
1. c. For those systems identified in (1a), if any of the system tests detected “no living organisms” in any or all of their replicates, is it reasonable to assume the systems are able to reliably meet or closely approach a “no living organism” standard or other standards identified in Table 1 of the White Paper, based on their engineering design and treatment processes?

Charge question 2:

Potential performance of shipboard systems without reliable testing data

2. Based on engineering design and treatment processes used, and shipboard conditions/constraints, what types of ballast water treatment systems (which may include any or all the systems listed in Table 4 of the White Paper) can reasonably be expected to reliably achieve any of the standards shown in Table 1 of the White Paper, and if so, by what dates? Based on engineering design and treatment processes used, are there systems which conceptually would have difficulty meeting any or all of the discharge standards in Table 1 of the White Paper?

Charge question 3:

System development

3 a. For those systems identified in questions 1 a and 2, are there reasonable changes or additions to their treatment processes which can be made to the systems to improve performance?

3 b. What are the principal technological constraints or other impediments to the development of ballast water treatment technologies for use onboard vessels to reliably meet any or all of the

discharge standards presented in Table 1 of the White Paper and what recommendations does the SAB have for addressing these impediments/constraints? Are these impediments more significant for certain size classes or types of organisms (e.g., zooplankton versus viruses)? Can currently available treatment processes reliably achieve sterilization (no living organisms or viable viruses) of ballast water onboard vessels or, at a minimum, achieve zero or near zero discharge for certain organism size classes or types?

Charge question 4:

Development of reliable information

4. What are the principal limitations of the available studies and reports on the status of ballast water treatment technologies and system performance and how can these limitations be overcome or corrected in future assessments of the availability of technology for treating ballast water onboard vessels?

*The “white paper” refers to the “*Availability and Efficacy of Ballast Water Treatment Technology: Background and Issue Paper*,” June 2010, prepared by EPA’s Office of Water and others. This document is available on the SAB webs-site, listed as Agency provided material for the July 29-30, 2010 meeting.