





Group No. _____

CISMaRT/Transport Canada Workshop on Ship Noise Mitigation Technologies

November 28-29, 2018

Breakout Session on Ship Noise Mitigation Technologies – General Aspects

This is the first of two breakout sessions. It focuses on general aspects of ship noise surrounding ship noise mitigation technologies. The second breakout session concentrates on specific aspects, namely noise mitigation technologies summarized in a report authored by VARD Marine Ltd. dated October 31, 2018.

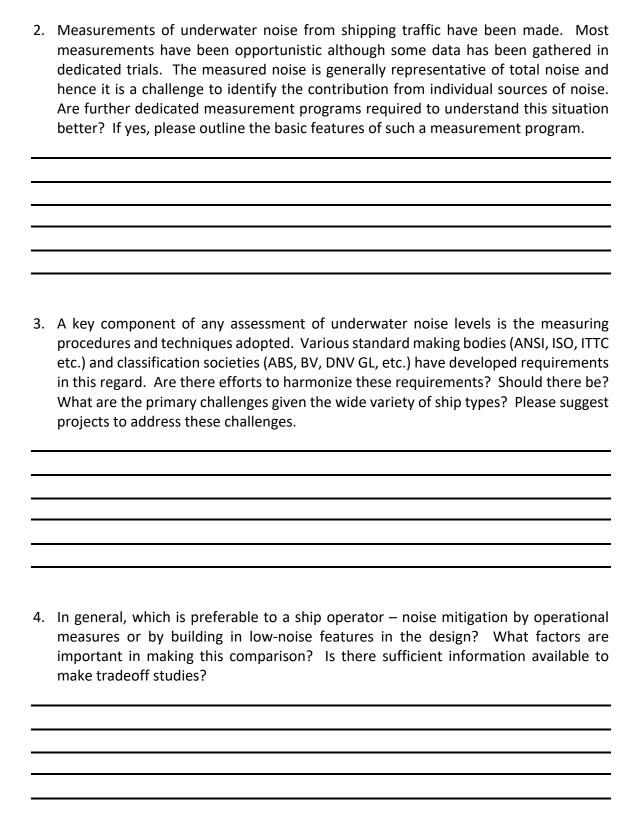
In the present breakout session, general aspects of underwater radiated noise (URN) from ships are considered. All inputs are important, whether directly or indirectly, to implementing noise mitigating technologies and strategies.

This breakout discussion report should be submitted to the workshop facilitator at the end of the brainstorming session. Please write legibly since this report will be used as input to the final workshop report.

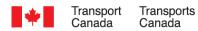
1.	Marine life varies from location to location in the world's oceans. Is it reasonable to suppose that the level of noise mitigation required will similarly vary? Is there sufficient data available to quantify the required level of mitigation? If not, please outline the kind/s of project/s that could address the shortcoming.

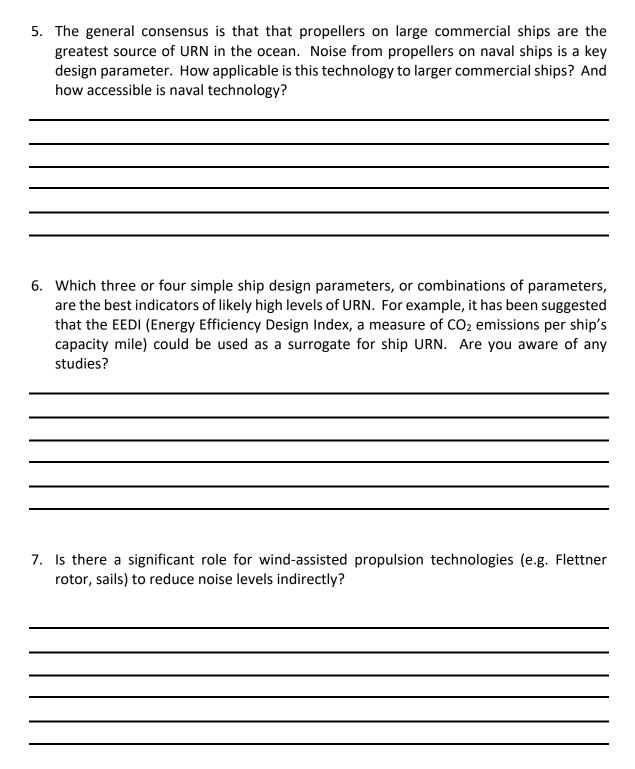
















8.	Examples may include reduced noise and vibration levels onboard ship, and decreased fuel consumption. Has this been systematically studied? If yes, please identify. Please also suggest projects that would investigate this aspect of URN mitigation technology.
9.	What broad long-term trends in commercial shipping are likely to have an impact on URN levels? Examples might include reduced world trade, increase in fuel costs, increase in ship size, transition to LNG as a fuel, etc.
10	In a recent study, 10 priority research questions related to marine vessel acoustic science were identified. In regard to vessel attributes the following two issues were raised: a. What attributes of ships are the most effective indicators of URN? b. What are the tradeoffs in noise exposure between ship high speed/short time exposure and low speed/long time exposure? Answers to the second question could provide valuable input into developing URN
	mitigation strategies. What type of research might be conducted to address the questions raised?