

Bow Thruster Induced Noise and Vibration

Author: Raymond Fischer, Noise Control Engineering, Inc.

Abstract

Bow thrusters can induce high noise and vibrations onboard a vessel as well as high underwater-radiated noise. If these units are only used intermittently for docking or maneuvering, their operation may not prove annoying to the crew or passengers. However, most research vessels or offshore support vessels have extensive dynamic positioning requirements. In this case, thruster operations can cause significant acoustic problems. This paper addresses noise goals, methods to assess the acoustic characteristics of thrusters and potential noise and vibration abatement methods. Design guidance is provided to improve the acoustic environment onboard all vessels. Measured habitability and radiated noise and vibration data are provided for several case histories.

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