

Survey: Propulsion Motor and Motor Drive

1 Synopsis

This survey is issued as part of a Request for Information (RFI) by the United States Coast Guard (USCG) as a means of market research for gaining knowledge of capabilities pertaining to Propulsion Motors and Motor Drives that may meet Polar Ice Breaker's specific design and operational requirements.

2 Purpose

The purpose of this survey is to perform market research to identify the capability of currently manufactured Motors and Motor Drives that may meet Polar Ice Breaker's specific design and operational requirements as define herein.

3 Requirements

The following design and operational requirements for Motors and Motor Drives are sought:

- 1) Suitable for Marine Propulsion use
- 2) Reversible
- 3) Continuous, variable speed control throughout its range of operation
- 4) Capable of maximum continuous output between 8,000 BkW and 25,000 BkW

4 Response Instructions

Please complete Tables 1 and 2 and the questions in Attachments (1) and (2) for each Motor and associated Motor Drive that meets the design and operational requirements listed above. If the Motor or associated drive does not meet an individual requirement stated above, please indicate the maximum capability for that requirement.

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Questions:

1. Describe the continuous and transient torque limitations of the Motor over its entire operating range from 0 rpm to maximum rpm.
2. Can a technical project/product guide be provided which includes details including, but not limited to, the following: performance characteristics (power, torque, rpm), support system descriptions, operating fluid requirements, noise and vibration, automation and control, engine room layout, maintenance, etc.
3. What auxiliary services and magnitudes (e.g. cooling volume or rate) are required for operation of the Motors?
4. What are the braking and regenerative power capabilities of the Motors?

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Questions:

1. What type (and magnitude) of power quality issues are commonly experienced in typical operation of the Motor drives?
2. What are the power quality filter capabilities (frequency, voltage, THD, etc) for the Motor Drives?
3. What is the interface for remote control of the Motor drives?
4. How are drives settings (PID parameters, etc) configured and/or commissioned? Are they adjustable by the end user or is a support contract required?
5. What auxiliary services and magnitudes are required for operation of the Motor drives?
6. What are the braking and regenerative power capabilities of the motor drive?