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Simon Stephenson
Office of Polar Programs
National Science Foundation
4201 Wilson Blvd
Arlington, VA 22230

LCDR Tom Wojahn
USCG Headquarters
2100 2nd St. SW
Washington, DC 20593

Re: Technical support of underway data collection on USCG Healy

Dear Simon and Tom,

The Healy is the only US research vessel designed and built to support the academic research community operating (primarily) in the Arctic. As such, the research community is best served by collecting high quality data at all times, including continuous collection of underway data (generally addressed in a letter submitted by the AICC to NSF on 10 January, 2003, and supported by NSF in a reply letter to AICC on 5 May, 2003). However, before a successful program can be implemented, there needs to be agreement on how to provide the breadth and depth of technical expertise required to 1) efficiently and effectively support academic research scientists using this national facility and 2) provide for the continuous collection of underway data. Underway data is considered to include: all sources of navigation, vessel attitude, sonars, weather, flow-through water properties, expendable probes, etc. and supporting metadata. (Essentially, any science data that can be routinely collected while underway.) The success of such data acquisition covers the entire scope of the effort ranging from sensor specification, installation and integration through delivering archival quality data to the national archives and making the data available to the public.

In order to achieve consistent, long term, high quality logging of underway data on the USCG Icebreakers, we recommend that USCG delegate responsibility for underway data and metadata to a UNOLS (University National Oceanographic Laboratory System) research vessel operating institution. The goal of the AICC has always been to have Healy provide a UNOLS experience to the maximum extent possible, as the research community often makes comparisons to the support provided on the vessels of the US academic research fleet.

The successful operator would work in close collaboration with USCG to provide personnel, expertise, hardware, software and documentation to keep the scientific data acquisition and display system on the Healy on par with the best available systems in the UNOLS fleet.

In order to achieve this level of support it is likely that during normal operations, two people would be onboard to provide 24/7 coverage and that additional shore-side support would also be provided. During some periods at least one more person would be aboard in either a trainer or trainee role or to provide additional support on a cruise-specific basis. During transits a larger team may be aboard for any number of reasons such as planning, evaluation, integration, testing of new hardware or software, updating documentation, training, etc.

Support from USCG would include a space in or near the lab areas for a small electronics workshop and storage space. USCG would continue to be responsible for the maintenance and operation of the

mechanical aspects of systems including but not limited to: winches, wires, sheaves, terminations, power, HVAC, deck operations, pumps and plumbing for the science seawater systems, freezers, etc.

The delegated "electronics" operator would be responsible for:

- Providing technical input to cover the full scope of planning activities extending from day to day operations through major refits,
- Operational support including science cruises, transits, trials and shakedowns,
- Training,
- Spares,
- Calibrations,
- Repairs,
- Upgrades, and
- Configuration management.

For this level of integration to be successful a long-term commitment from all parties must exist and a stable arrangement for communications, evaluation, and feedback must be developed.

The specifics of this letter are based on the discussion of an ad hoc working group convened to discuss options for enhanced science support on Healy on November 14, 2003. Dale Chayes was tasked with drafting a summary of the discussion.

Participants of the working group included:

Name	Affiliation	Position	Email
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Sincerely,

Margo Edwards, AICC Chair