

June 29, 2009

To: Jon Alberts, Annette DeSilva and Dave Hebert

From: Mike Prince

cc: Bill Byam, Tim Deering, Matt Hawkins

Re: Draft Debrief Questions for the R/V *Hugh R. Sharp*

1. The purpose of FIC debriefs of Chief Scientists and others using the R/V *Hugh R. Sharp* is to determine the benefits and drawbacks associated with key design features that are unique to this relatively new vessel.
2. Key design features include:
 - a. Smaller size and designed to remain below regulatory thresholds for Inspected Research Vessels and SOLAS Requirements (300GRT and 500 GT respectively)
 - b. CTD/Starboard side handling system that is hands free to the water-line and motion compensated.
 - c. Retractable centerboard with some of the acoustic systems mounted.
 - d. Acoustically quiet in terms of underwater and airborne radiated noise, meeting u/w noise thresholds comparable to the ISES standards at speeds below the ISES requirement.
 - e. Designed to fit two vans on the after-deck that mate to the superstructure allowing cruise to cruise flexibility regarding the amount of deck space versus lab space.
 - f. Dynamic Positioning on a relatively smaller research vessel.
 - g. Variable science party capacity ranging from 14 to 20 with the use of the conference room to add 2 and a van to add four more.
 - h. ADA design features.
 - i. Others??
3. Questions should identify the design feature and then ask how it has benefited or was detrimental to their cruise objectives. They would answer "n/a" if they were not aware of the feature or it had not impact one way or another.

DRAFT

R/V *Hugh R. Sharp* Debrief Questions – UNOLS Fleet Improvement Committee

The purpose of these questions is to help determine how key design and outfitting features of the *Sharp* have either benefited or hindered your cruise objectives.

1. Size: In order to maintain operational flexibility and reduce overall life-cycle costs the *Sharp* was designed to stay below key regulatory size thresholds. The *Sharp* is less than 300 GRT and 500 GT, which requires the overall internal volume to be no more than it currently has. This vessel is essentially as large as can be designed and stay within these limits. Has the overall size of the vessel been a significant negative or positive impact on your cruises.
2. Over-the-Side Handling System: The *Sharp* has been outfitted with a system that allows “hands free” launch and recovery of CTD and other systems on the starboard side using a docking head and motion controlled winch systems. Has this system had a positive impact on your work and if so how? Are there any negative impacts associated with this system?
3. Retractable Centerboard with mounted acoustic transducers: The *Sharp* is fitted with a retractable centerboard that can be lowered up to 2 meters below the keel and on which there are three 24” x 24” transducer bays for ship and science use. Transducers are changeable alongside. Has this arrangement had any significant positive or negative impacts on your work?
4. Acoustically Quiet: The *Sharp* was designed, engineered and built to be below ICES 209 limits at 8.0 knots. Radiated airborne noise within the ship is also designed to be at low levels. Have you noticed any difference with other vessels and has this had any positive or negative impacts on your work?
5. Vans and deck space: The set up of the *Sharp* for any particular cruise is “modular” in that there is a choice between more deck space or more enclosed lab, berthing or storage space. The design of the *Sharp* incorporates the ability to fit two vans on the back deck for berthing, lab space or other uses. These vans are essentially integrated into the superstructure when installed. If you have used the vans, how well did they accommodate your internal space requirements? Does this arrangement have a positive or negative impact on your cruises?
6. Variable Berthing Capacity: The *Sharp* can accommodate science parties ranging from 14 to 20. By using the conference room as a two-person stateroom 16 can be carried. By using a 4-person berthing van the total can be 18 or 20. Have you used the additional berthing capacity for your cruises and if so, what are the benefits and drawbacks to the approach used on *Sharp*?
7. Dynamic Positioning: The *Sharp* was designed and outfitted with dynamic positioning (DP) capabilities. This is accomplished by using twin rotatable Z-Drives, a tunnel bow thruster and a commercially available computer controlled dynamic positioning system. All of these components add cost, maintenance requirements and complexity to the operation of the vessel. How important has the DP system been to your work? How well has this system worked for your cruises?
8. Other Features: Are there any other design, outfitting or operational features that have had significant positive or negative impacts on your work?