

APPENDIX IV

DUKE / UNIVERSITY OF NORTH CAROLINA
OCEANOGRAPHIC CONSORTIUM
Duke University Marine Laboratory
135 Duke Marine Lab Road
Beaufort, North Carolina 28516
Phone (919) 504-7583 / Fax (919) 504-7651

Memo to: Unols Fleet Improvement Committee February 2, 1996

From: Quentin Lewis, Marine Superintendent

Subject: R/V CAPE HATTERAS midlife refit

At the present time, conditions look favorable for a stretch of the HATTERAS in 1998, assuming both NSF approval and funding. Tidewater Navel Architects of Norfolk, Virginia, was hired in late 1995 to perform an initial feasibility study of the HATTERAS concerning a midbody extension. Two items were addressed;

- 1) What is the largest midbody that can be added keeping the vessel under 500 Gross tons (the cutoff point for Uninspected Vessels)?
- 2) Could My midbody be added and still allow the vessel to retain its warrant uninspected status?

The answer to #1 is that, based on preliminary tonnage calculations, a 23 foot midbody could be added.

The answer to #2 has not been officially received yet, but all indications from ABS and USCG are that a midbody could be added without a vessel status change.

We are planning to officially propose Phase I (Feasibility study) to NSF this spring. If this is approved and completed in 1996, then Phase II (Contract Design) and Phase III (Detail Design) would be proposed in January, 1997, During 1997, Phase II and III would be completed, and Shipyard Bid Packages sent out by November, 1997. Phase IV (Construction) would be proposed late in 1997. If funded, the actual midlife would be completed during the first half of 1998.

Items to be included in the midlife refit (with stretch) are:

- Addition of 16 - 20 scientific berths
- Renovation of ship's HVAC system (switch from central units to compartment units)
- Addition of bow thruster
- Renovation and reorganization of Main Lab and Wet Lab spaces
- Renovation and addition of space in Cold, Frozen, and Dry Galley Stores
- Addition of Scientific storage space
- Ship's propulsion and electrical systems have been previously determined to be adequate for up to a 24 foot midbody.

Date: 2 February 1996

To: UNOLS

From: Rick Jahnke, Skidaway

SUBJECT: BLUE FIN REPLACEMENT

The Skidaway institute of Oceanography has initiated the process to procure a new research vessel. This vessel will be used for a variety of research and educational activities primarily within the South Atlantic Bight region. It is anticipated that no single type of activity will dominate the vessel use and that the design and outfitting of the vessel will need to be flexible to accommodate a variety of instrumentation and personnel needs.

After reviewing a variety of ship types, it has been decided that a monohull offers the flexibility in payload and operations that best meets our needs. While SWATH vessels clearly offer certain advantages for underway survey work, on station stability and payload appeared unsatisfactory for our purposes (especially in the size of vessel we considered),

We are presently reviewing a conceptual design that has been submitted to SKIO by Intermarine, a local shipyard. This design describes a 87' monohull constructed of fiberglass reinforced plastic. Propulsion is still under discussion but their present recommendation is twin water jets driven by Detroit Diesel engines. Without propellers and rudders, the draft would be slightly less than 6', facilitating work in the shallow estuaries and sounds of the SAB. The boat could be operated by a crew of 2 on short trips and up to 4 on longer trips. Accommodations are currently 18, 4 reserved for crew, 14 for science. Deck outfitting would include a stern A frame, starboard I frame, three winches (trawl, hydro, conducting) with 1000 m of wire each, and a crane with approx. 25' reach mounted on the main deck. Roll would be slowed by a 10 cubic meter stabilizer tank. Cruising speed is 12 knots. The present estimated cost is \$2.2M and we are presently negotiating with the state to get as much of this up front as possible.