

APPENDIX III

UNOLS Statement on Hawaii SWATH

June 7, 1996

Dear Colleague

Enclosed is a statement from the UNOLS Chair, developed after consultation with the UNOLS Council, on the proposed University of Hawaii SWATH vessel. The statement recognizes the need for a research vessel operating in the central Pacific. It also recognizes that a research vessel services a broad spectrum of the community and it must be capable of meeting the needs of a diverse group of ocean scientists. The oceanographic community must be widely involved in the design process. In this light, the proposal to replace the MOANA WAVE with a SWATH vessel is a high risk choice. There has not been a careful assessment of community requirements. Most of the ongoing programs in the central Pacific involve servicing deep-sea moorings. This requires a vessel with a large payload, a characteristic inherently absent from the SWATH design.

Although the Navy will give up ownership of the MOANA WAVE in 1997, there are no explicit barriers to transfer of ownership to the University of Hawaii and its continued operation for the next decade. There is no imperative to rush into a new vessel design. UNOLS therefore proposes that the following courses of action be undertaken. The community should immediately begin an assessment of the Science Mission Requirements for a central Pacific research vessel. Planning for replacement of the KNORR and MELVILLE should also begin as these ships may have only about ten years of effective operational life remaining. Simultaneous planning with the central Pacific effort may result in a commonality of design that could serve the community well in the future.

In addition, UNOLS should encourage the transfer of the MOANA WAVE ownership to the University of Hawaii. This should be done to serve central Pacific science. It will maintain a UNOLS presence in Hawaii and it will assist the University of Hawaii in retaining the operational base at Sand Island, which plays an important role in supporting other UNOLS vessels in transit. Continued operation of the MOANA WAVE will demonstrate whether there is sufficient science need in the future to justify a ship in the central Pacific, particularly in light of the changes at NOAA.

We should not rush to accept a SWATH design for our next generation of research vessels. Their inherent limitations may not be of general service to the oceanographic community.

Sincerely yours,

Kenneth S. Johnson

UNOLS Chair

UNOLS Statement on the Proposed University of Hawaii SWATH Vessel

One of the strengths of UNOLS is the ability to coordinate existing assets and to ensure that they are available to the entire oceanographic community. In this regard, UNOLS is obliged to ensure that new vessels are able to meet the great spectrum of community needs. In the past decade, UNOLS has seen several attempts to develop large research vessels that have failed because the community was not widely involved in the process. Substantial investments of private and Federal funds in these vessels have been lost, which represents a significant blow to the oceanographic community. The UNOLS Council is, therefore, committed to following an orderly planning procedure for introduction of new ships into the

Fleet.

The UNOLS Council recognizes that there is a strong scientific rationale for a UNOLS vessel to operate in the central Pacific region in support of programs such as the Hawaii ocean Time Series, the NOAA TAO array work, and research cruises to the central and western Pacific. The MOANA WAVE, which is currently supporting oceanographic science in the central Pacific, is now only 22 years old and should be able to operate efficiently for eight to ten years. Although, the US Navy will remove the vessel from their fleet of five Navy-owned, University-operated research vessels, they are also willing to transfer it to private ownership. They have done so with other Navy-owned, University-operated vessels. There is no explicit barrier to the MOANA WAVE continuing to operate in the central Pacific in support of academic and Federal oceanographic research during the next decade.

The University of Hawaii now proposes to replace the MOANA WAVE with a large SWATH vessel. However, there has been no community planning for this vessel. The science programs that now exist in the central Pacific might not be well served by a ship of this design. In particular, the NOAA TAO work will use one year of research vessel time in the equatorial Pacific on a continuing basis. This work requires a vessel that can carry large payloads, a role not well suited to the SWATH design. There have been no studies which suggest that ongoing science programs exist in the region which require the special, but limited, capabilities of a SWATH vessel. Thus, construction of a SWATH could be a very high risk operation.

Furthermore, there has been a real shortfall in funds for Fleet operations, with Class II and Class III vessels bearing the brunt of this loss. The funding for science has also been down. As a result, there have not been sufficient requests to operate the MOANA WAVE at more than about 50% of a full schedule. In light of these problems, UNOLS has been very cautious about advocating the addition of new ships and even the replacement of existing ships with more capable, but more expensive, vessels. Finally, the MOANA WAVE has a sufficiently long lifetime remaining that it would be imprudent to rush a design forward in light of the funding crisis facing the UNOLS Fleet.

It is possible that the funding situation will improve in the future. In particular, as NOAA and, perhaps, the US Naval Oceanographic office use more UNOLS time for their sea going work, Fleet schedules should improve. These changes may improve the schedule for the MOANA WAVE and the remainder of the Fleet. However, the projected Fleet funding deficit in the year 2000 is equivalent to more than three large ship years. This projection is based on assumptions that do not have the MOANA WAVE or a replacement vessel operating after 1997. The projected usage of UNOLS vessels by NOAA and NAVO is only about one half this level. Addition of a new vessel to the Fleet, or retention of an existing vessel, without a corresponding retirement will only exacerbate an already bad situation.

One factor that could mitigate the replacement of the MOANA WAVE is even greater usage of UNOLS time by NOAA than they now foresee. NOAA uses about one year of ship time to service their TAO equatorial mooring array. R/V DISCOVERER, which now does the TAO work, is scheduled to retire in October. NOAA proposes to use the converted TAGOS vessel KA'IMIMOANA (KA) to conduct this work. However, the KA suffers a number of severe shortcomings for this long-transit work. It is capable of only a ten knot maximum speed, which will add about six days of transit time to each 30 day cruise. This will cost NOAA nearly \$1M for each KA operating year above the cost of using a vessel with the transit speed of the typical UNOLS Class II/III. In addition, the KA can only carry 12 scientists and, because of a lack of winches, laboratory space and insufficient stability to carry vans, it has no capability for general purpose work. It is likely that NOAA scientists will rapidly realize these shortcomings and move this work to more effective UNOLS vessels. If so, the TAO array work could represent a significant enhancement for the base schedule of a UNOLS vessel in the Hawaii region. If a large portion of the TAO work were done from UNOLS vessels, it would represent a new source of work and it could serve as justification to retain the MOANA WAVE.

UNOLS, therefore, supports the following courses of action:

- 1) The Navy is willing to turn the MOANA WAVE over to the University of Hawaii to operate in the general UNOLS Fleet. This should be done to serve central Pacific science. It will maintain a UNOLS

presence in Hawaii and it will assist the University of Hawaii in retaining the operational base at Sand Island, which plays an important role in supporting other UNOLS vessels in transit. Continued operation of the MOANA WAVE will demonstrate whether there is sufficient science need in the future to justify a ship in the central Pacific, particularly in light of the changes at NOAA.

2) The UNOLS community, including the University of Hawaii, should begin assessing the Science Mission Requirements for a modern, general purpose vessel that could serve the needs of ocean science programs that are focused on the central and western Pacific regions. To ensure community support, the design of the vessel should reflect input from the spectrum of potential science users. The effort to assess the Science Mission Requirements for a central Pacific vessel should begin immediately.

Finally, this statement underscores the need to begin planning for replacement of the KNORR and MELVILLE, as well as the MOANA WAVE. These ships may have only about ten years of effective operational life remaining. Now is the time to begin to assess effective designs and funding mechanisms for their replacement. Simultaneous planning with the central Pacific effort may result in a commonality of design that could serve the community well in the future.