

Lamont-Doherty Earth Observatory
Marine Operations-Palisades, NY 10964
Phone:845-365-8845 Fax: 845-359-6817
Email: pwl@ldeo.columbia.edu

MARCUS G. LANGSETH CONVERSION
Report to UNOLS Council
12 July 2005

Of late the focus has been on the sale of the MAURICE EWING. The EWING was transferred to Columbia for sale May 18. We had two non-exclusive listings with ship brokers. Interested prospective buyers have come from Norway, UK, Chile, US, and Canada. We have set a closing for best and final offers at close of business 12 July. The original proposal projected a sale of ship and equipment at \$1.5m. Given the level of interest and the price of oil we expect to do better than \$1.5m.

Since the last UNOLS meeting L-DEO was instructed by the NSF to insert a 5-month delay into the project timeline. A revised timeline can be found on the Lamont website at <http://www.ldeo.columbia.edu/res/fac/oma/replacement/index.html>.

The LANGSETH is currently moored at SENESCO Marine in Quonset Point, RI. With a crew of 2-3 on board at any one time jobs related to the conversion have been ongoing. These jobs have included:

- Removal and rerouting of electrical wire ways from the starboard side of the vessel in order to allow the starboard side to be opened up for over the side handling of equipment.
- Removal of hydraulic lines along the starboard side for the same purpose.
- Removals and rip outs of materials in the way of planned shipyard work in areas that would have consumed valuable shipyard funds.
- Installation of a new fire detection system as part of the reflagging.
- Relocation of a section of the bridge control console to permit the installation of a Dynamic Positioning system.

At the same time Senesco Marine has tasked with two projects:

- First is the removal and storage of two excess cable storage winches, one spare sections storage winch, and four gun winches. The NSF has approved all for sale and a buyer has been found.
- The second job is the rerouting and installation of removed hydraulic lines. Welding procedures have been approved ABS and welders certified. Work is ongoing.

The shipyard specification package was submitted to NSF and received by OCE on 13 May 2005. Eight US shipyards and several foreign yards have expressed interest in the project. The Shipyard Specifications have been under review by NSF Contract Specialists. Until the specification package is approved by the NSF Contract Specialists, LDEO may not send the packages to the shipyards for review. Once approval is received we anticipate at least two months will be required for ship checks, bid submission, LDEO review of bids, requests for best and final, NSF review of the bid selection and the issuing of the Purchase Order.

Reflagging effort: The re-flagging effort has largely been on hold while shipyard specifications are pushed forward. The following reflagging issues are being addressed:

(a.) Structural changes. These changes will include the addition of a bulkhead in the ER and seismic lab. Some of the ship's fuel tanks will also have to be sub-divided into smaller, separate tanks.

(b.) Passageway joiner paneling. An issue of concern for the Coast Guard is the ability of construction material to withstand the spread of flames in the event of a fire. As a result paneling that was used inside the accommodations passageways was reviewed for its ability to withstand the spread of a fire. Replacing or sheathing this paneling was a potentially costly issue however the manufacturer was able to provide documentation to the Coast Guard demonstrating that material used in the manufacturing process met the Coast Guard criteria.

(c.) Fire suppression system. The Coast Guard no longer permits the use of Halon for fire suppression. When replacement of the Langseth's Halon was first discussed with the Coast Guard they objected to a CO2 fire suppression system, with the alternative being the use of a fog-mist system in our engine room. Use of fog-mist however is restricted to rooms on board a ship of less than a certain volume set by the Coast Guard. Our engine room space exceeds the maximum volume allowed by the Coast Guard therefore a fog mist system cannot be used. As a result we will go forward with FM200 Clean Agent System

Transfer to ABS. The transfer to ABS is ongoing. The initial submission of drawings was based on list received from ABS. ABS has requested additional drawings all of which are for information only.

DP System purchase proposal. A purchase proposal has been initiated for Green DP, with one bridge wing control, high speed and low speed track following promise to integrate into track following. The unit purchased was a demonstration model. The unit will come with a full factory warranty. Savings resulting from this purchase amounted to ~\$35k.

IT: Status of plan and integration lab effort. Another side of 5 month NSF delay is that Lamont will be able to do good scale mock up of what we will have on the ship of the IT system for the Langseth in the Integration Lab that has been set up. Already the new seismic system is up and running. We plan to start tests and training on QC. We have 3 main computers, storage and network that will be set up to start work on the logging system. Plans include running the gun controller with simulated source. We haven't ordered the gun controller.

POD for the multibeam: LDEO met with Mantech and received further input on the pod design. We seem to be vying with Navy to see who will do final design work of POD first. They have had a delay much as we have. We have received permission to use any work that the Navy has done in design of the POD. The new POD design from the Navy includes complex curves on the leading and trailing edges. We will request the shipyard bid with two different designs for the pod. The one option will use the original French design and the second option will include the Navy's redesign of the science pod. The final determination will be based on cost.

Air gun array: Principal issue was to reach a final decision on type of air guns. The intention is to keep and use our current twenty 1500LL Bolt air guns in the future array. Since the new linear arrays will require smaller-volume guns the question was whether to use G guns or Bolt 1900LLX airguns. Current trends in industry are toward Bolt guns, and for our needs the cost differential should be about \$75,000 in favor of the Bolt guns. There is no real reliability issue when comparing Bolt with a G gun. There are no significant differences in the output signatures. The real issues are simplification, money, and flexibility in chamber size

Science test cruise proposal. Per the revised timeline for Langseth conversion the test cruise was rescheduled for mid April to mid May 2006. LDEO Marine Office is looking into marine mammal issues associated with an April- May science test cruise.