OMO Update on Long Core Study on R/V Langseth – June 2012

In fall of 2011, NSF approved a supplemental funding request for the preliminary study relating to the potential transitioning of the Long Core system on board the R/V Marcus G. Langseth. On 23 November 2011 a purchase order was issued for a long core preliminary design stability report.

In Dec. 2011 and January 2012, Glosten began its review of Langseth Trim and Stability and Damage Stability and HECSALV model established during refit of the vessel so they could then model the addition of the Long Core System onto the Langseth.

In February 2012, Glosten began asking OMO clarification questions about the original T&S and Damage Stability model calculations. OMO contacted C. R. Cushing & Co., the naval architect for the Langseth refit, for copies of files relating to Trim and Stability and Damage Stability. In order to facilitate work on this issue, OMO requested that Glosten provide a summary of all the issues they had identified regarding their ability to replicate existing damage stability calculation and recognizing the possibility of rulings and exceptions allowed by Coast Guard Marine Safety Center.

A request went to the Coast Guard Marine Safety Center (MSC) in early March 2012 for access to all rulings and exceptions issued to for Langseth Trim and Stability and Damage Stability. In late March, MSC replied and advised us that this documentation was proprietary and we would have to work through C. R. Cushing and Co. for all of this information. In early April 2012, C. R. Cushing began to receive documentation from MSC.

In early May 2012, Cushing requested and obtained copy of the HECSALV model for the R/V Langseth from Herbert Engineering. HECSALV is modeling software used by naval architects. In late May 2012, OMO finalized a scope of work with C. R. Cushing & Co. Inc. in order to efficiently respond and answer questions posed by Glosten regarding Trim and Stability and Damage Stability.

These issues included questions on 4 main areas:

- Trim and Stability Book- Rulings regarding flooding of the propulsion room, condition of full tanks in damaged zones, and free surface corrections.
- HECSALV hydrostatic modeling- Identifies possible errors in model.
- GM Curve 2007 T & S Book- Glosten reported they were unable to duplicate the GM curve.
- Identifies different ship operating conditions for possible review.

The plan is to resolve these questions from Glosten with Cushing as soon as possible so final stability of Long Core evaluation can commence for Langseth. The answers from Cushing will dictate how quickly we can move forward with Glosten on overall stability evaluation. We will update NSF and UNOLS on our progress in July.