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U.S. Navy Officials Suppressed Bad LCS-1 Test Results

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Source: AWIN First



August 16, 2012

U.S. Navy emails and other documents suggest that officials muzzled bad test results for the first Littoral Combat Ship (LCS-1) variant, the USS Freedom, at a crucial time in the program's development, when the service was considering which seaframe to pick for the \$30 billion-plus fleet.

Top program officers for the ship and at Naval Sea Systems Command (Navsea) told subordinates to avoid certain language in the test-result reports because of concerns over the downselect decision, the documents show. One naval officer said in an email he would delete the offensive wording of the report.

The Navy acknowledges it clamped down on "widespread" discussion of "preliminary" test results, but says it did so to prevent an "unfair comparison" between LCS-1 and the competing LCS-2, the USS Independence, because the second ship had yet to go through the same trials.

The service also says the problems cited in the reports were fixed and the test results did not factor into the Navy's final LCS procurement proposal.

"I am disturbed by the Navy's selective disclosure about what is going on in this program," U.S. Rep. Jackie Speier (D-Calif.), a member of the House Oversight and Government Reform Committee, said after Aviation Week shared text of the emails with her staff. "If these had been good results, they would've hurried to the Hill to ring out the good news. Congress has the responsibility and obligation to be as knowledgeable as possible about the ships we purchase for our military forces. Most importantly, we must know whether these multibillion dollar programs will meet the operational needs and safety requirements for our troops."

LCS-1 was built by a team led by Lockheed Martin, while LCS-2 was built by a team led by General Dynamics and Austal USA. The two teams were vying through the latter half of the previous decade for the Navy contract for the LCS fleet, but the program stalled after costs rose and Congress set ship-contract price ceilings. In November 2010 the Navy proposed purchasing both ship versions in a multi-year block buy, saying the deal would save the nation money.

The Senate Armed Services Committee reviewed the proposed dual-award strategy at a Dec. 14, 2010, hearing, during which Navy officials touted the plan and the performance of the vessels up to that point.

But the documents recently obtained by Aviation Week call into question not only the LCS-1 performance in key tests, but also the Navy's assurances of the ship program's success thus far.

The same Freedom documents also were obtained by the Project on Government Oversight.

Lockheed Martin referred all queries on the documents to the Navy.

The documents show Navy officials planning to excise information that reflected badly on the ship, chastising subordinates for using certain negative language and cautioning them against using particular phrases that put the ship in a bad light.

For example, a fall 2010 report on the ship's calm-water trials stated the "ship is inherently directionally unstable." The report raised concerns that efforts to fix the instability could hamper overall maneuverability. In a Dec. 15, 2010 email about those calm-water trials Cmdr. James Garner, the Freedom's commanding officer, told Cmdr. Matt Weber, the ship's executive officer: "Good brief. Thanks for putting this together. I had a healthy conversation with Dan Brintzinghoffer today and he asked that we not use terms directional instability or the like in any briefings or discussions. The bottom line is concern with respect to the down select, but the definition of the term is also in question. I removed that in the brief but kept the bullets that discuss what we observed."

Garner also said he included the brief in the ship's turnover files.

Brintzinghoffer is Capt. Daniel M. Brintzinghoffer, program manager for Fleet Introduction and Sustainment, PMS 505. The email trail for the report distribution, according to the documentation, includes the office of the hydrodynamic trial director at Naval Surface Warfare Center, Carderock Division.

Ship emails and other documentation show officers and Navsea officials associated with the LCS-1 program kept the report under wraps just before and after Congress' dual-buy decision and may have been motivated by concerns over the unfavorable results.

In response to Aviation Week's questions, U.S. Navy spokeswoman Lt. Courtney Hillson said, "As has been stated repeatedly by Navy leadership, both ship designs meet performance requirements as approved by the Joint Requirements Oversight Council, and specified in the fiscal 2010 solicitation. That includes the directional stability and maneuverability performance of the LCS, which is to the satisfaction of the Navy.

"Based on the ship design, the directional instability observed in USS Freedom's calm water trials was normal and has no impact on the operator's ability to maintain ship's heading," Hillson says. "At no point during or after these trials have there been any concerns that USS Freedom is unsafe to operate or has undue difficulty in maneuvering or maintaining heading."

Directional stability is one of several characteristics evaluated during calm-water trials, she says, along with fuel usage, acceleration and deceleration, as well as other maneuvering characteristics.

A ship's directional stability is its ability to regain, without operator intervention, its original heading after experiencing an external disturbance such as a wave or gust of wind, Hillson notes. "Although seemingly counterintuitive, all ships actually need some amount of directional instability inherent to the hull in order to maneuver tactically through the water."

The intent of the trials, she says, is to "define the inherent directional instability and resulting maneuvering characteristics for the operators' awareness."

As far as the Navy is concerned, Hillson says, LCS-1 has completed its calm-water tests successfully. LCS-2 is scheduled for those tests in fiscal 2013.

In early 2010, she says, "USS Freedom's commanding officer reported concerns with the ability to maintain steady course at high speed. This was investigated and resolved shortly after it was reported. It was not related to directional instability, but rather was determined to be a nozzle angle indicator issue that fed an incorrect angle to the autopilot, and was then corrected. During the remainder of the calm water trials, the issue did not repeat and the operators did not report any further concerns."

In late 2010, when the service was pushing for the dual-block buy, one Navsea official noted in an email that a tight leash was being kept on the trial test results from the fall, saying, "The bottom line is that they didn't like what the results said." In other emails, Navy officials said they were told not to brief the test results, including one warning that Navy officials were apparently concerned about possible shipbuilder lawsuits.

Aviation Week sources familiar with Navy shipboard operations say it is not uncommon for service officers to tailor reports to make ships and shipboard programs appear in the best possible light. There is an understanding that officers up and down the ranks do not want bad reports, which could put a stain on their own careers. But what is uncommon, those sources say, is such a frank and harsh report as this one on the LCS-1. Censored reports are also uncommon, they say, but this is only because such negative reports are rare in the first place.

What has become a common theme, though, is a division within the naval and defense community about how LCS will be operated and its successes and failures thus far.

Regarding the email traffic about the test results, Hillson tells Aviation Week, "The late 2010 and early 2011 email exchanges between the crew, the LCS program office, and NSWC Carderock were opinions expressed in internal, working-level discussions about initial data from the 2010 portion of the calm water trials. Individuals in the LCS program office in late 2010 limited discussion of the initial results of the first portion of the calm water trials because some of these initial results appeared to be invalid."

Furthermore, she says, "Allowing widespread discussion of preliminary trial results for USS Freedom before USS Independence (LCS-2) underwent her trials could potentially impact fiscal 2010 source selection by creating unfair comparisons between the ships. The results of the trials were not a factor in the evaluation of the fiscal 2010 block buy proposals and had no bearing on the Navy's dual-block buy award decision."

In the wake of recent Aviation Week reports about current corrosion, system failures and design or fabrication issues aboard Freedom, Navy and Lockheed officials have touted the rigorous rounds of testing and operations the ship has undergone thus far.

But the email on Dec. 15, 2010, from Garner to Weber — shortly after Navy officials proposed the dual-buy plan — suggested the smooth-water

testing was not as successful as had apparently been believed or reported to higher-ups. After the smooth-water trials, the ship's rough-water trials were suspended in February 2011 because of hull and deckhouse cracking and rough seas. It has yet to pass those tests.

In May of this year the ship passed a special trial — a test developed exclusively for the Freedom, Navy officials said, to show Congress the vessel is shipshape. But sources familiar with Navy shipbuilding and LCS-1 operations said the tests were far easier than other trials required for other ships. Navy officials say the tests were enough to show the Freedom was operationally shipshape. But the service brass still found a series of issues that needed to be fixed in those trials and associated inspections.

One of the problems that the Navy brass still has with the Freedom is its stern door — there is a gap, reported by Aviation Week after an exclusive guided tour of the ship — running 25 ft. between the closed doors and the deck flooring, at or below the waterline, through which a flattened hand can fit through.

In an Aug. 23, 2010, email to program officials, Garner had written about the stern-door ramp: "If full of water, the ramp will add 17 tons of weight to the ship. LM [Lockheed Martin] is looking into how to remove the water and repair. 17 tons is more weight than the transom tanks that are installed."

He wrote, "Between the steerable waterjet problems identified last week by the divers, and potentially having 17 tons of weight in the ramp, it is possible that we have some of the explanation behind Freedom's inability to get above 40 knots with consistency."

But just four days later, in an email to the program office, Garner downplays the problem. "Stern ramp alignment and repairs to blocks completed. The ramp now fully closes and the only visible gap is a small one in the center where the doors mate. Getting the water out of the ramp and making it watertight is another repair effort that is in planning for next week."

That large gap running the entire length of the stern doors was photographed [during Aviation Week's tour of the ship in its San Diego dry dock earlier this year](#), and acknowledged as an issue by the Navy in May.

"USS Freedom and USS Independence are first-of-class vessels and were research and development ships that spent most of their first two years here doing extensive testing, both on the sea frame and the mission packages," Hillson says. "We learned an enormous amount from these vessels over their last four years of operation, as evidenced by the significant design and production improvements on the follow-on ships."

Defense analysts familiar with the LCS program say that although the ships were built with research and development (R&D) funding, they were not — until spring of this year — referred to as R&D ships.

Ultimately, Hillson says, "the competitive pressure of the dual block buy award strategy afforded the Navy an opportunity to award up to 20 ships between [fiscal] 2010 - 2015 with fixed-price type contracts. The award resulted in a procurement savings of approximately \$2.9 billion."

The dual-block buy award strategy was judged to have several additional benefits, she says. "The strategy allowed the Navy to increase ship procurement rate to support urgent operational requirements, and promoted efficiency in the industrial base - from the vendors to systems providers to the shipyards - while sustaining competition. The fixed-price type contract limits the government's liability and incentivizes both the government and the shipbuilder to aggressively pursue further efficiencies, and control cost."

But the cost to the Navy, Rep. Speier says, has been one of credibility, given the timing of the emails apparently meant to bury negative reports about LCS-1. "These emails seem to indicate test results were manipulated to hide the true level of risk in the LCS program," she says. "This raises disturbing questions about the integrity of the information Congress received, and whether we are being given the information we need to be good custodians of taxpayer dollars. Congress must stop relying upon the Navy and Navsea to reassure us that these problems are being adequately addressed and should instead get an independent assessment of this program and its management."

Others have questioned the timing of the Navy proposal. "Did the timing of the Navy's proposal provide Congress with enough time to adequately assess the relative merits of the downselect strategy and the dual-award strategy?" the Congressional Research Service (CRS) asks.

CRS notes that contractors submitted their bids by mid-September of that year and also asks if the Navy could have notified Congress of the proposed dual-award strategy sooner than November 2010, giving Congress more time to seek information on and evaluate the proposal.

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