



PROJECT ON  
GOVERNMENT OVERSIGHT

Exposing Corruption. Exploring Solutions.

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April 23, 2012

Honorable Carl Levin, Chairman  
Senate Armed Services Committee  
228 Russell Senate Office Building  
Washington, DC 20510

Honorable John McCain, Ranking Member  
Senate Armed Services Committee  
228 Russell Senate Office Building  
Washington, DC 20510

Honorable Buck McKeon, Chairman  
House Armed Services Committee  
2120 Rayburn House Office Building  
Washington, DC 20515

Honorable Adam Smith, Ranking Member  
House Armed Services Committee  
2120 Rayburn House Office Building  
Washington, DC 20515

Via Email

Dear Chairmen and Ranking Members:

Your Committees have repeatedly questioned the utility and effectiveness of the Littoral Combat Ship (LCS) program—which is expected to cost taxpayers more than \$120 billion over the life of the program<sup>1</sup> and constitute as much as half of the Navy's surface fleet.<sup>2</sup> Your Committees have repeatedly been assured by the Navy as well as by the ships' manufacturers that the program is delivering quality ships. Unfortunately, the Project On Government Oversight (POGO), a nonpartisan independent watchdog that has championed responsible weapons procurement for more than three decades, has learned that these assurances about one of the variants are inaccurate, at best.

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<sup>1</sup> Total operation and support costs are projected to be \$87 billion, and total acquisition costs are \$37 billion. Defense Acquisition Management Information Retrieval, *Selected Acquisition Report (SAR): LCS*, Department of Defense, December 31, 2010, pp. 1-37. <http://www.fas.org/man/eprint/LCS-SAR.pdf> (Downloaded April 19, 2012)

<sup>2</sup> Philip Ewing, "SNA: The Navy's Next LCS Dilemma," *DoD Buzz*, January 10, 2012. <http://www.dodbuzz.com/2012/01/10/sna-the-navys-next-lcs-dilemma/> (Downloaded April 19, 2012)

There are two variants of the LCS: one built by a team led by General Dynamics, which will cost \$345.8 million per ship; and the other built by a team led by Lockheed Martin, which will cost \$357.5 million per ship.<sup>3</sup> Senior Navy officials have publicly praised the LCS program.<sup>4</sup> However, the Navy has been reluctant to share documents related to LCS vulnerabilities with entities such as the Pentagon's Office of the Director of Operational Test and Evaluation (DOT&E).<sup>5</sup> But POGO has obtained a number of documents showing that Lockheed Martin's USS *Freedom* (LCS-1, the first LCS ship) has been plagued by flawed designs and failed equipment since being commissioned, has at least 17 known cracks, and has repeatedly been beset by engine-related failures.<sup>6</sup>

These problems merit explanation from the Navy. We hope questions related to the issues we raise in this letter are incorporated into your annual oversight of the Navy's budget request and programs.

### Faulty Quality Assurance

From the time the Navy accepted LCS-1 from Lockheed Martin on September 18, 2008, until the ship went into dry dock in the summer of 2011—not even 1,000 days later—there were 640 chargeable equipment failures on the ship.<sup>7</sup> On average then, something on the ship failed on two out of every three days.

Yet the Navy continued to tell Congress that all was well on LCS-1. Secretary of the Navy Raymond Mabus told the Senate Armed Services Committee in December 2010 that both variants of the LCS were performing well, and that “LCS-1, the *Freedom*, demonstrated some of the things we can expect during her maiden deployment earlier this year.”<sup>8</sup> Then-Chief of Naval Operations Admiral Gary Roughead echoed this praise for the LCS-1, stating “I deployed LCS earlier than any other ship class to assure we were on the right path operationally. It is clear to me that we are.”<sup>9</sup>

Mabus and Roughead failed to mention that during the approximately two-month deployment when the ship traveled from Mayport, Florida, to its home port in San Diego, California, there were more

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<sup>3</sup> The contract with General Dynamics specifies that \$691,599,014 was added for the construction of two ships, \$345.8 million per ship, and the contract with Lockheed Martin specifies that \$715,000,351 was added for the construction of two ships, \$357.5 million per ship. The Naval Sea Systems Command, “Navy Funds FY 12 Littoral Combat Ships,” *Military.com*, March 19, 2012. <http://www.military.com/news/article/navy-news/navy-funds-fy12-littoral-combat-ships.html> (Downloaded April 20, 2012)

<sup>4</sup> Senate Committee on Armed Services, *Hearing to Receive Testimony on Littoral Combat Ship Acquisition in Review of the Defense Authorization Request for Fiscal Year 2011 and the Future Years Defense Program*, December 14, 2010, pp. 1-35. <http://armed-services.senate.gov/Transcripts/2010/12%20December/10-77%20-%202012-14-10.pdf> (Downloaded April 19, 2012) (Hereinafter *Hearing to Receive Testimony on Littoral Combat Ship Acquisition*)

<sup>5</sup> Director, Operational Test and Evaluation, *FY 2011 Annual Report*, Department of Defense, p. 159. <https://www.documentcloud.org/documents/283910-2011-dote-annual-report.html#document/p159/a44056> (Downloaded April 19, 2012) (Hereinafter DOT&E's *FY 2011 Annual Report*)

<sup>6</sup> Structure and Composite Division, Naval Warfare Center – Carderock, *Crack Monitoring Survey During Rough Water Trials Period #2*, Department of Defense, February 14, 2011, pp. 1-19. <http://www.pogo.org/resources/national-security/20110214-crack-monitoring-survey-littoral-combat-ship.html> (Hereinafter *Crack Monitoring Survey*); Memorandum from J.S. Riedel, Program Manager Littoral Combat Ship, regarding SEA 05 LCS 1 Near-Term Operational Guidance based on Hull Crack Investigation, May 3, 2011, pp. 1-20. <http://www.pogo.org/resources/national-security/navy-littoral-combat-ship-hull-crack-investigation-20110503.html> (Hereinafter Near-Term Operational Guidance memo); “LCS-1 Data Collection, Analysis, and Corrective Action System (DCACAS),” Lockheed Martin. (Hereinafter “LCS-1 DCACAS”)

<sup>7</sup> “LCS-1 DCACAS”

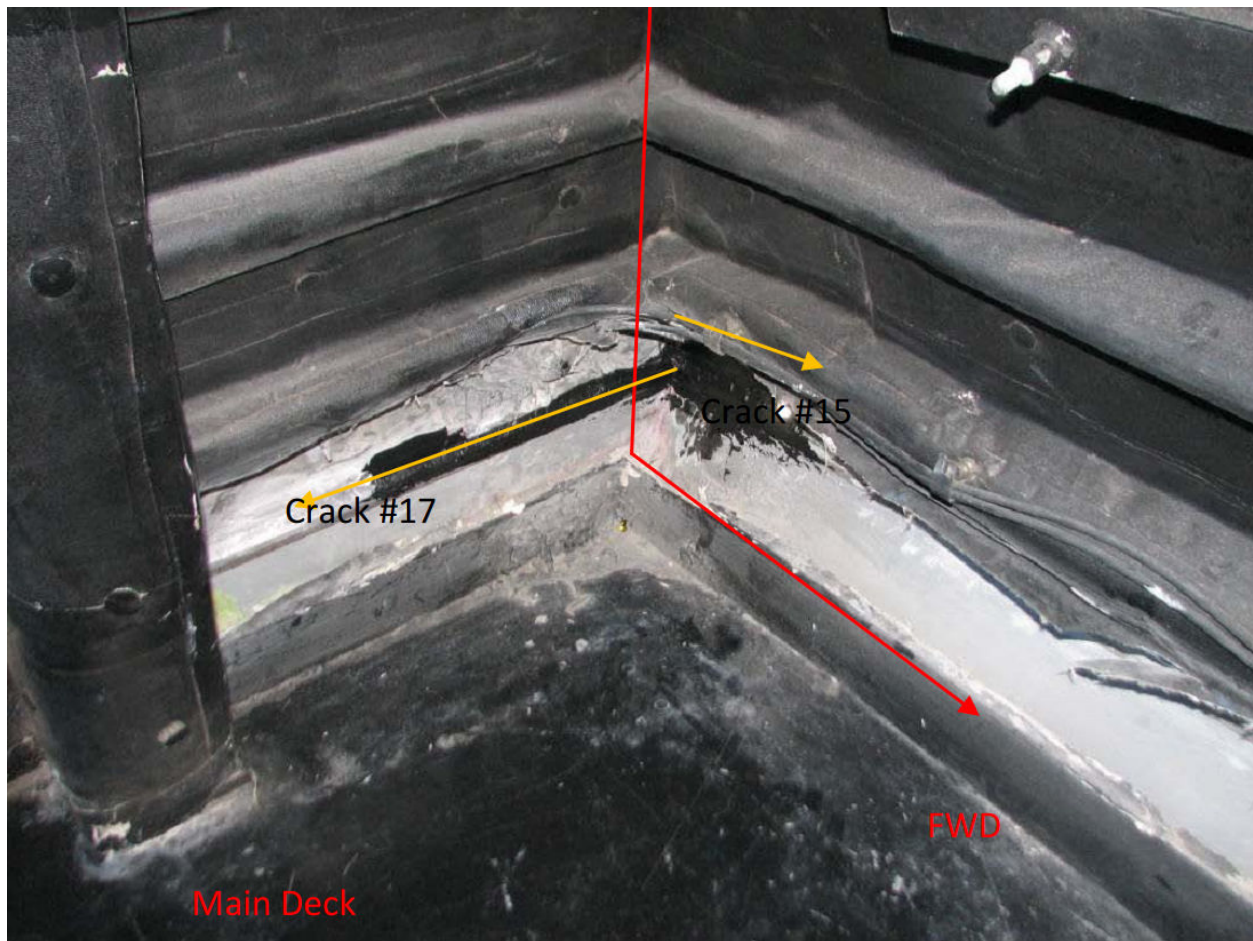
<sup>8</sup> *Hearing to Receive Testimony on Littoral Combat Ship Acquisition*, p. 7.

<sup>9</sup> *Hearing to Receive Testimony on Littoral Combat Ship Acquisition*, p. 9.

than 80 equipment failures on the ship.<sup>10</sup> These failures were not trivial, and placed the crew of the ship in undue danger. For example, on March 6, 2010, while the ship was in the midst of counter-drug trafficking operations and reportedly “conducted four drug seizures, netting more than five tons of cocaine, detained nine suspected drug smugglers, and disabled two ‘go-fast’ drug vessels,”<sup>11</sup> there was a darken ship event (the electricity on the entire ship went out), temporarily leaving the ship adrift at sea.<sup>12</sup>

### Cracking Relegates LCS-1 to Frigate Speeds

These failures during deployment were not the last time LCS-1 would face significant operational challenges. Before and during the ship’s second set of rough water trials in February 2011, 17 cracks were found on the ship, according to the Navy’s *Crack Monitoring Survey During Rough Water Trials Period #2* (enclosed).<sup>13</sup> For example, a crack over 18 inches long was found at the corner of the deckhouse near a bi-metallic strip that binds the ships aluminum deckhouse and steel hull together.



<sup>10</sup> “LCS-1 DCACAS”

<sup>11</sup> U.S. Navy, “Fact File: Littoral Combat Ship Class – LCS,”

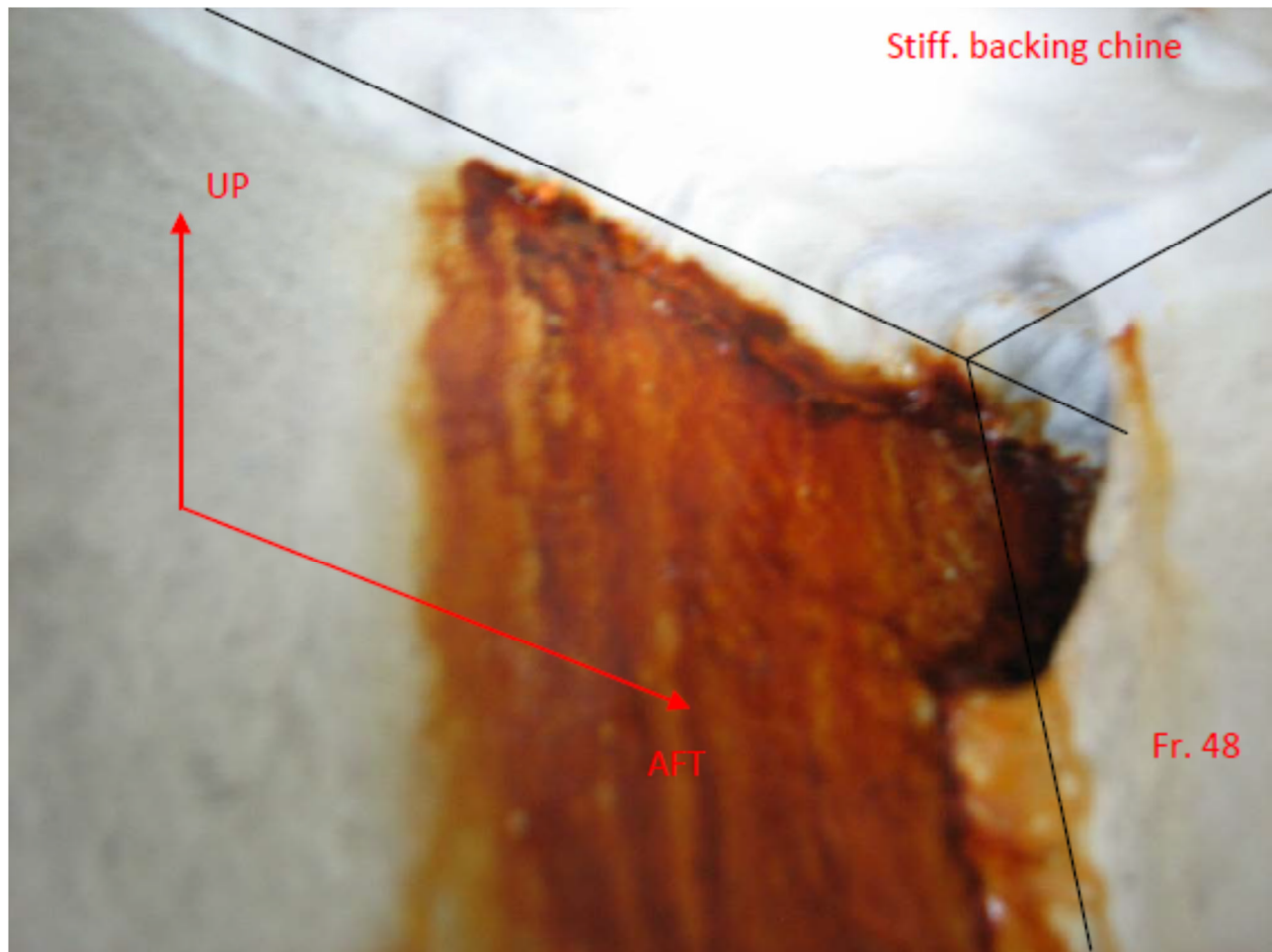
[http://www.navy.mil/navydata/fact\\_display.asp?cid=4200&tid=1650&ct=4](http://www.navy.mil/navydata/fact_display.asp?cid=4200&tid=1650&ct=4) (Downloaded April 19, 2012) (Hereinafter “Fact File: Littoral Combat Ship Class – LCS”)

<sup>12</sup> “LCS-1 DCACAS”

<sup>13</sup> *Crack Monitoring Survey*, p. 2.

*Crack #17 is an 18.62-inch crack that travels along the upper weld of a bi-metallic strip, which bonds the steel hull to the ship's aluminum deckhouse. Crack #15 is an 8.5-inch crack that also travels along the upper weld of the bi-metallic strip.*

Another crack was discovered “below the waterline and is currently allowing water in....When discovered there was rust washing onto the painted surface. It is thought this is rust from the exposed crack surface. It is unknown how long this crack existed prior to being discovered.”<sup>14</sup>



*A 4-inch crack in the hull was allowing water in and led to significant rusting. The Navy's Crack Monitoring team did not know how long the crack existed before being discovered.*

In other instances, cracks on one side of the ship were mirrored by cracks in nearly identical locations on the opposite side of the ship. For example, according to the Crack Monitoring Survey, a crack in the deck edge on the port side was mirrored by a crack in the deck edge on the starboard side. Similarly, cracks in the deck plating and center walkway on the port side were mirrored by corresponding cracks on the starboard side.<sup>15</sup> Experts, including a source within the Navy, have informed POGO that the cracks in nearly identical locations on opposite sides of the ship may be indicative of systematic design issues.

<sup>14</sup> *Crack Monitoring Survey*, p. 15.

<sup>15</sup> *Crack Monitoring Survey*, pp. 9-12.



These cracks are not without their consequences. In addition to allowing water to leak into the ship, the cracks severely limit the ship's top speed, which was previously touted as exceeding 40 knots.<sup>16</sup> Last May, the LCS program manager issued near term operating guidance for LCS-1, which placed significant constraints on the ship's safe operating envelope (SOE).<sup>17</sup> According to the Near-Term Operational Guidance memo (enclosed), "there is risk associated with operating LCS 1 at the extreme edges of its SOE while transiting or deployed at significant distances from/to port (open ocean transit). It is therefore, prudent to plan ahead for possible mitigating situations where LCS 1 might be required to deviate from planned underway mission."<sup>18</sup> Specifically, the new guidance states that in rough water (sea state 7; 19.5- to 29.5-foot waves) with following seas, the ship cannot travel at speeds greater than 20 knots, and cannot travel into head seas at any speed. Even in calmer seas (sea state 5; 8.2- to 13.1-foot waves) the ship's peak speed into head seas is capped at 15 knots,<sup>19</sup> relegating the Navy's "cheetah of the seas" to freighter speeds.<sup>20</sup>

### **"Not expected to be survivable in a hostile combat environment."**

These cracking issues and the limitations to the SOE are indicative of a larger problem with the ship. A darken ship event during counter-drug trafficking operations is a dangerous failure, but had this occurred while the LCS was pursuing any of its other missions, such as anti-submarine warfare or surface warfare, this failure could have been fatal.

The cracking, and many of the equipment failures on the ship, endanger the lives of all personnel who board it. According to the DoD's DOT&E *FY 2011 Annual Report*, the LCS is "not expected to be survivable in a hostile combat environment."<sup>21</sup>

Sources close to LCS-1 have now told POGO that after more than six months in port, the ship has been back to sea just twice. The sources also informed us about critical problems that surfaced on the ship during those two outings: several vital components on the ship failed including, at some point in both trips, each of the four engines. In addition, there were shaft seal failures during the last trip,<sup>22</sup> which led to flooding.

Additional new material brought to our attention by *Aviation Week* shows that the ship appears to have even more serious problems with critical ship-wide systems, including rampant corrosion and flooding.

### **Navy's Pattern of Obfuscation**

The Navy has not been forthcoming with information about all of these problems. The DOT&E's *FY 2011 Annual Report* states that "[t]he program offices have not released any formal

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<sup>16</sup> "Fact File: Littoral Combat Ship Class – LCS"

<sup>17</sup> Near-Term Operational Guidance memo, p. 1.

<sup>18</sup> Near-Term Operational Guidance memo, p. 2.

<sup>19</sup> Near-Term Operational Guidance memo, pp. 11 and 13.

<sup>20</sup> Mike Fabey, "Analysts Call for LCS-1 Redesign," *Aviation Week*, January 30, 2012.  
<http://www.military.com/features/0,15240,241055,00.html> (Downloaded April 19, 2012)

<sup>21</sup> DOT&E's *FY 2011 Annual Report*, p. 159.

<sup>22</sup> Christopher P. Cavalas, "LCS Freedom Back in Dry Dock," *Defense News*, March 1, 2012.  
<http://www.defensenews.com/article/20120301/DEFREG02/303010014/LCS-Freedom-Back-Dry-Dock> (Downloaded April 19, 2012)

developmental T&E reports.”<sup>23</sup> The report goes on to state that “the Navy should continue to report vulnerabilities discovered during live fire tests and analyses. Doing so will inform acquisition decisions as soon as possible in the procurement of the LCS class.”<sup>24</sup>

The Navy’s lack of cooperation with the Pentagon’s test office is not the only way the Navy has hampered oversight of the program. The Navy has also repeatedly made significant changes to the program while giving Congress little time to evaluate these changes. As the Congressional Research Service’s Specialist in Naval Affairs, Ronald O’Rourke, said in his December 2010 testimony to the Senate Armed Services Committee, “The Navy’s proposed dual-award strategy is the third time in the history of the LCS program that the Navy has presented Congress with an important choice about the future of the LCS program late in the Congressional budget review cycle.”<sup>25</sup>

Based on the ship’s history of design and equipment failure, the LCS is simply not ready to be deployed to Singapore, as has been planned, or to any other destination. POGO’s position has long been that only one of the LCS variants is necessary, and that the current dual-development is a corporate subsidy we can’t afford. As a result, we have recommended eliminating one variant to save taxpayer dollars. Now, based on the new evidence we have uncovered, we recommend that the more expensive and severely flawed Lockheed variant be eliminated. As Congress prepares to act on the National Defense Authorization Act for FY 2013, we encourage Members to either eliminate the Lockheed variant outright, or, at least, mandate that the Navy choose in a timely manner the variant that provides the best value.

Sincerely,



Danielle Brian  
Executive Director

Enclosures: [Crack Monitoring Survey During Rough Water Trials Period #2;](#)  
[Memorandum from J.S. Riedel, Program Manager Littoral Combat Ship, Regarding](#)  
[SEA 05 LCS 1 Near-Term Operational Guidance based on Hull Crack Investigation](#)

cc: Senate Armed Services Committee Members  
House Armed Services Committee Members

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<sup>23</sup> DOT&E’s *FY 2011 Annual Report*, p. 159.

<sup>24</sup> DOT&E’s *FY 2011 Annual Report*, p. 159.

<sup>25</sup> *Hearing to Receive Testimony on Littoral Combat Ship Acquisition*, p. 13.