

## DEFENSE INDUSTRIAL INITIATIVES CURRENT ISSUES

**No. 7: Case Study—The Drivers of a Successful COTS Acquisition**

The efforts of the U.S. Department of Defense to match equipment acquisitions strategy with policy choices and effectively manage ongoing programs have repeatedly made news as the Obama administration attempts to define its priorities and identify programs that provide value to the warfighter *and* the taxpayer. Buying commercial off-the-shelf (COTS) products has been identified as one method to reduce cost and risk. A February 2009 report by the Defense Science Board (DSB), *Buying Commercial: Gaining the Cost/Schedule Benefits for Defense Systems*, addresses this issue.<sup>1</sup>

While presenting three “unsuccessful” COTS-based programs, the study also highlights an additional three characterized by minimal cost overruns that were, or will be, delivered on time and on schedule—the P-8A Poseidon aircraft, the FSF-1 Sea Fighter littoral combat ship, and the Acoustic Rapid COTS Insertion (ARC-I)—and draws lessons for future COTS based acquisitions.

Borrowing DSB’s case study methodology, the Defense Industrial Initiatives Group examined the Light Utility Helicopter (LUH) program, which John J. Young, under secretary of defense for acquisitions, technology, and logistics, recently referred to as having been “executed reasonably well.”<sup>2</sup>

**The UH-72A Lakota Light Utility Helicopter**  
Based on Eurocopter’s twin-engine EC-145, EADS North America offered what later became known as the UH-72A Lakota for the U.S. Army’s 2004 LUH RFP. The bidders were expected to meet five technical requirements in addition to an existing FAA airworthiness certification.<sup>3</sup> The new model will replace aging H-1s and H-58s and supplement more

capable H-60s in domestic use, thus freeing them for deployment overseas.

Vying against Bell Helicopter Textron, AgustaWestland, and MD Helicopters, Inc., EADS NA won a contract for 322 (later 345) units worth an estimated \$2 billion in June 2006.<sup>4</sup> The first unit was delivered on December 11, 2006, six months after the contract award; deliveries will continue through 2016. EADS NA manufactures the UH-72A in a 220,000 square foot facility employing more than 300 personnel in Columbus, Mississippi.<sup>5</sup>



UH-72A Lakota Light Utility Helicopter  
Source: U.S. Army

As the EC-145 already serves in air ambulance, corporate transport, and emergency response roles with civilian agencies and private industry—in the United States and more than 10 other countries—the UH-72A variant required minimal modifications. To facilitate inclusion of military communications and sensors suites, EADS NA partnered with a number of domestic contractors for systems integration, components, and logistics support.<sup>6</sup>

**Program Specifics**

Fielding of the UH-72A initially experienced setbacks due to additional onboard systems that were required by the Army. These included ventilation systems, medical evacuation kits, secure radios, and engine inlet filters. As a result, as of April 2008, total costs had increased by

<sup>1</sup> Defense Science Board [DSB] Task Force on Integrating Commercial Systems into the DOD, Effectively and Efficiently, *Buying Commercial: Gaining the Cost/Schedule Benefits for Defense Systems* (Washington, D.C.: Department of Defense, February 2009), p. 11.

<sup>2</sup> John J. Young, “AT&L Weekly Note,” January 30, 2009.

<sup>3</sup> “UH-72A Lakota Light Utility Helicopter (LUH),” *GlobalSecurity.org*, August 6, 2007.

<sup>4</sup> “LUH Program Win Lands Eurocopter in U.S. Market,” *Defense Industry Daily*, January 21, 2009.

<sup>5</sup> Marcel van Leeuwen, “EADS North America to Provide the U.S. Navy with Eurocopter UH-72 Lakota Light Utility Helicopters,” *Aviation News*, October 7, 2008.

<sup>6</sup> *Global Security.org*.

\$209 million—from \$1.9 to \$2.1 billion (an 11 percent cost increase).<sup>7</sup> Nevertheless, the Army decided to increase procurement from 322 to 345 units.<sup>8</sup>

The U.S. Navy recently selected the UH-72A for its Naval Test Pilot School in Patuxent River, Maryland, and plans an evaluative purchase of five units through a fixed price order valued at \$24 million and calling for delivery between October 2009 and January 2010.<sup>9</sup> EADS NA also plans to offer a further modified EC-145 for the re-competed Armed Reconnaissance Helicopter (ARH) program that will likely follow the October 2008 termination of Bell Helicopter Textron's contract.<sup>10</sup>

### The Bigger Picture

The DSB report defines eight levels of COTS acquisition, from Level 1 (“literally bought off the shelf”) to Level 8 (“built from commercial roots for military purposes”). It notes that in many cases, programs that initially began at low COTS levels spun out of control when unforeseen mil-spec requirements forced design changes following the contract award. The ARH and VH-71 Presidential Transport, for example, involved extensive airframe modifications, a desire to include technology still under development, and contract requirement alterations following the award.<sup>11</sup> Delays and Nunn-McMurdy breaches resulted in both instances, with 40 percent and more than 100 percent cost overruns associated with the ARH and VH-71 programs, respectively.<sup>12</sup>

While the UH-72A is a largely unmodified commercial airframe lacking weapons or armor, it is “painted green” and fitted with military communications and sensors suites, thus warranting a “Level 3” COTS classification.<sup>13</sup> As with the “successful” case studies described by DSB, it appears that the readiness of the

airframe to provide “good enough”<sup>14</sup> service without major modifications, the narrowly defined requirements, a realistic schedule and an existing FAA airworthiness certification were the key elements in keeping the program on track.

The UH-72A's success prompted a senior Army official to suggest in an October 2008 letter to Senator Carl Levin (D-MI) that the Army would “benefit from an accelerated procurement strategy [that could result in] an estimated cost avoidance of \$49 million.”<sup>15</sup> The Army has since proposed accelerating the manufacturing rate and increasing the number of LUH units procured to “take advantage of price breaks associated with the firm fixed price contract.”<sup>16</sup>

In addition to costs savings, DoD also benefited from a relatively smooth transition from contract award, through GAO denied protests by AgustaWestland and MD Helicopters, Inc.,<sup>17</sup> to delivery of the first unit. This demonstrates to foreign bidders that despite its many troubled acquisition programs, DoD remains a viable market. Given that in many areas, technological advances are being driven by the commercial market, enabling DoD to entice new companies and thus capture additional innovations, is of critical importance. DoD must continue to refine its COTS-based acquisition process to facilitate easy entry by new players as well as veteran bidders.

The success of new companies, especially non-U.S. ones, in entering the DoD COTS market and efficiently and effectively delivering quality products to the U.S. military is also a way for these companies to develop an understanding of the federal procurement system and potentially display their readiness to move beyond COTS “Level 8” into purely military products. Having additional competent players competing for DoD contracts will be of value to the department as well as the U.S. taxpayer.

—Andrew Jesmain

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<sup>7</sup> “DoD Reports Significant Cost Changes for Army's Lakota and CMWS,” *Inside the Army*, April 14, 2008.

<sup>8</sup> *Ibid.*

<sup>9</sup> Van Leeuwen, “EADS North America to Provide the U.S. Navy with Eurocopter UH-72 Lakota Light Utility Helicopters.”

<sup>10</sup> Michael A. Taverna, “Eurocopter To Bid EC145 For U.S. Army ARH Program,” *Aerospace Daily & Defense Report*, January 21, 2009.

<sup>11</sup> DSB, *Buying Commercial: Gaining the Cost/Schedule Benefits for Defense Systems*, p. 34–35.

<sup>12</sup> Gina Cavallaro, “DoD Cancels Armed Reconnaissance Helicopter,” *Defense News*, October 16, 2008; and Matt Zlatnik, “The VH-71 and the Industrial Base,” *DIIG Current Issues*, no. 6, March 6, 2009.

<sup>13</sup> DSB, *Buying Commercial: Gaining the Cost/Schedule Benefits for Defense Systems*, p.3.

<sup>14</sup> *Ibid.*, p. 13.

<sup>15</sup> “Army Sees Cost Savings in Possible UH-72A Program Acceleration,” *Inside the Army*, December 22, 2008.

<sup>16</sup> *Ibid.*

<sup>17</sup> Government Accountability Office, [Decision on the Matter of: MD Helicopters, Inc. AgustaWestland, Inc.](#), October 23, 2006.