The Secretary of Defense Performance Based Logistics Awards Program

For

Excellence in Performance Based Logistics

In

Life Cycle Product Support

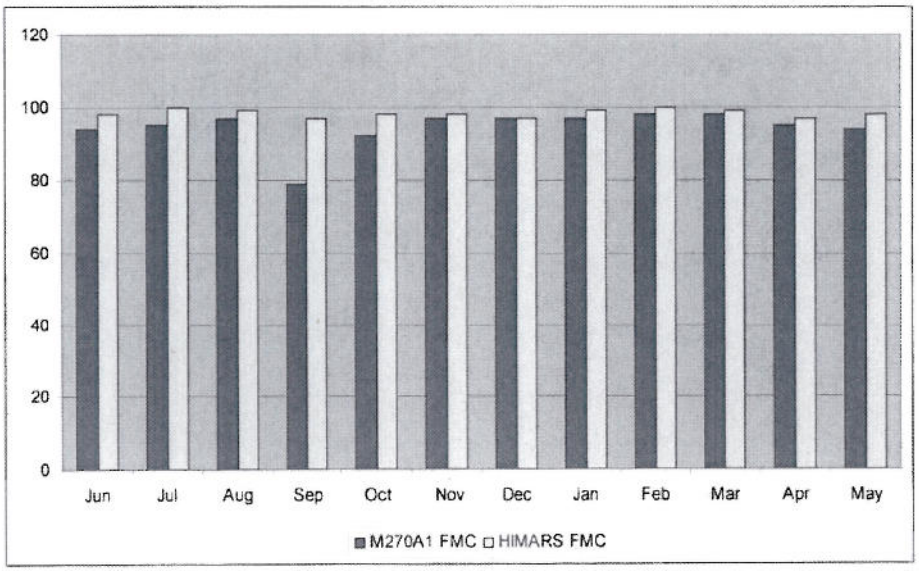
Section 2

Summary of Criteria Accomplishments

WARFIGHTER-BASED CAPABILITIES AND OUTCOMES:

MISSION SUCCESS:

US Army readiness has been maintained at a > 90% rate during the reporting period.



US Army and US Marine Corp (USMC) combined Life Cycle Contract Support (LCCS) contract metrics are shown below. All metrics have met the required goals.

Combined Metrics (US Army and USMC) Logistics Response Time - Customer Wait Time			CY 08				CY 09
Issue Priority Designator	Maximum Allowable CONUS Requirment (Hours)	Percentage Required	1st QTR	2nd QTR	3rd QTR	4th QTR	1st QTR
02 - 03 - 07	48	Greater than 92%	MET	MET	MET	MET	MET
05 - 06 - 09	72	Greater than 91%	MET	MET	MET	MET	MET
12 - 13 - 14	96	Greater than 90%	MET	MET	MET	MET	MET
Issue Priority Designator	Maximum Allowable OCONUS Requirement (Hours)	Percentage Required					
02 - 03 - 07	96	Greater than 92%	MET	MET	MET	MET	MET
05 - 06 - 09	120	Greater than 91%	MET	MET	MET	MET	MET
12 - 13 - 14	144	Greater than 90%	MET	MET	MET	MET	MET
Combined Metrics (US Army and USMC) Logistics Response Time - Turnaround Time							
Bands	Repair TAT in Days	Requirement Percentage of Total Repairs					
Band 1	1-7 Days	Equal to or greater than 18%	56.30%	57.90%	50.00%	40.51%	50.70%
Band 2	8-35 Days	Equal to or greater than 47%	33.30%	25.30%	29.51%	29.11%	30.99%
Band 3	36-80 Days	Equal to or less than 27%	10.40%	15.80%	16.39%	27.85%	9.86%
Band 4	81-90 Days	Equal to or less than 8%	0.00%	0.00%	0.00%	N/A	1.41%
Band 5	> 91 Days	- 1% per occurrence	0.00%	1.10%	4.10%	2.53%	7.04%
			100.00%	100.00%	100.0%	100.0%	100.00%
USMC Stand Alone Metrics Logistics Footprint - Maintenance Ratio							
Maintenance Ratio Requirements							
Equal to or less than 0.115		Requirement Exceeded	0.08	0.04	0.04	0.05	0.07
0.1151 to 0.125		Requiremnt Met					
Greater than 0.1251		Requirement Not Met					

MATERIEL AVAILABILITY (MA):

There is no stated HIMARS Operational Requirements Document requirement regarding materiel availability for the HIMARS/M270A1 Fire Control System (FCS). Precision Fires Rockets and Missile Systems Program Managers Office (PFRMS PMO) established a baseline goal in March 09 of 90% and began reporting in March. The validated MA percents are as follows. **US ARMY:** Mar 09 = 97%; Apr 09 = 95%; May 09 = 95%.

MATERIEL RELIABILITY (MR):

US Army are outlined in the data for this section. For both services, the MR requirements baseline for HIMARS is Mean Time Between System Aborts (MTBSA) and Mean Time Between Essential Function Failure (MTBEFF) in the ORD. The baseline requirement for MTBSA is 72.7 hours for the launcher module and the FCS combined. The baseline requirement for MTBEFF is 42.7 hours for the launcher module and the FCS combined. Carrier information is not captured by TACOM.

MTBSA – US Army: Jul 08 = 427 hrs; Aug = 414 hrs; Sep 08 = 416 hrs; Oct 08 = 400 hrs; Nov 08 = 410 hrs; Dec 08 = 376 hrs; Jan 09 = 351hrs; Feb 09 = 356 hrs; Mar 09 = 356 hrs; Apr 09 = 351 hrs; May 09 = 370 hrs.

MTBEFF – US Army: Jul 08 = 201 hrs; Aug = 203 hrs; Sep 08 = 208 hrs; Oct 08 = 205 hrs; Nov 08 = 210 hrs; Dec 08 = 202 hrs; Jan 09 = 195 hrs; Feb 09 = 199 hrs; Mar 09 = 203 hrs; Apr 09 = 206 hrs; May 09 = 220 hrs.

The US Army MR requirements baseline for M270A1 FCS is Mean Time Between Operational Mission Failure (MTBOMF) in the MIS-PRF-35520A. The baseline requirement is 293 hours for the FCS. Carrier information is not captured by TACOM.

MTBOMF – US Army: Jul 08 = 707 hrs; Aug = 705 hrs; Sep 08 = 700 hrs; Oct 08 = 685 hrs; Nov 08 = 691 hrs; Dec 08 = 726 hrs; Jan 09 = 744 hrs; Feb 09 = 849 hrs; Mar 09 = 873 hrs; Apr 09 = 873 hrs; May 09 = 879 hrs.

OWNERSHIP COST REDUCTION:

Cost Avoidances/Savings Comparing the Life Cycle Contractor Support (LCCS) I Contract to the LCCS II Fixed Price Contract

The Ownership Cost Reductions are cost avoidance/savings that were realized from changes the LCCS Team made to the follow on PBL contract referred to by the LCCS Team as LCCS II. The original contract is referred to as LCCS I. Data collection and lessons learned during the LCCS I contract enabled the team to be able to implement smart and innovative changes to the LCCS II contract. Changes were incorporated into LCCS II to accommodate the fluctuations in operating hours (OPTEMPO) between the Army National Guard (ARNG) and the Active Army units which also gave us the opportunity to support the Leave Behind Equipment (LBE) at the lower OPTEMPO rate for deployments into the AOR-I/A when most of the launchers were left stateside

LCCS I OPTEMPO and LCCS II OPTEMPO Cost Avoidance/Savings

Major change in OPTEMPO which directly affects and determines spares usage, repairs and system month cost per launcher. In the following sections a comparison of the original OPTEMPO hours and new OPTEMPO hours will be presented. The decrease in OPTEMPO hours between the two contracts will be identified by weapon system and the system support cost per launcher/fleet will be shown. The final chart will reflect the cost avoidance savings that have been attained through the change in the OPTEMPO hours from the LCCS I contract when compared to the LCCS II contract which is in place today. The below graphic depicts the old versus new OPTEMPO hours:

LCCS I OPTEMPO Hours	Hours per Year per System	LCCS II OPTEMPO Hours	Hours per Year per System
Total M270A1 LCCS I Hrs	700	Total Avg M270A1 LCCS II Hrs	286
Total Avg HIMARS LCCS I Hrs	802	Total Avg HIMARS LCCS II Hrs	290

LCCS I to LCCS II OPTEMPO DECREASES

Analysis of the data from LCCS I determined that the usage hours are significantly different between the Active Army units and the National Guard units. The PFRMS PMO also wanted the ability to move launchers with a low usage rate into the lower OPTEMPO category. When the LBE concept was implemented by HQDA, the lower OPTEMPO category was utilized for the launchers left stateside. For computation purposes, the operating hours are based on OPTEMPO from the CY 07 LCCS I contract and the OPTEMPO from the LCCS II contract, 1 Jul 08-30 Jun 09, using the same number of launchers. The decrease in OPTEMPO hours between the two contracts are identified by weapon system and are shown below:

Total Decrease in Operating Hours	Total Operating Hours
M2701A1 Active	75,600
M270A1 ARNG	1,142,640
HIMARS Active	449,856
HIMARS ARNG	445,343

System Support Month Costs:

System support monthly costs per launcher for the LCCS I and LCCS II contract are compared in this section. Due to the decrease in OPTEMPO, the number of repairs and spares was greatly reduced. The system month costs and performance adjustments are an average between ARNG and Active units. The chart below reflects the change in the system month costs from the LCCS I contract when compared to the LCCS II contract:

LCCS I and LCCS II System Months Costs

	LCCS I			LCCS II	
	CY 05	CY 06	CY 07	CY 08	CY 09
M270A1 System Months	$1,223.69	$1,058.60	$1,040.46	$731.49	$742.11
HIMARS System Months	$6,304.05	$5,080.20	$4,427.37	$1,580.35	$1,483.09
M270A1 Performance Adjustment	$93.44	$85.39	$84.51	$36.99	$37.58
HIMARS Performance Adjustment	$358.56	$292.16	$258.63	$80.05	$75.10

Using the same number of system months from 1 July 2008 – 30 June 2009 and comparing to the same costs under the LCCS I contract in CY 07, the final year of LCCS I, cost avoidance savings were computed. The chart shown below reflects cost avoidance savings that have been attained through the change in the OPTEMPO hours between the two contracts for the required timeframe.

Weapon System	Total Cost CY 07	Total Cost 09	Cost Avoidance
M270A1	$2,176,642	$1,200,697	$975,946
HIMARS	$10,253,789	$2,597,434	$7,656,355
TOTAL			**$8,632,301**

Total Cost Avoidance for reporting timeframe: $8.6M which is 24.45% of contract value.

Note: No inflation factors have been applied. Also, additional savings have been attained through changes from LCCS I to the LCCS II contract. However, they are not within the reporting timeframe and are not reflected. Additional back up for various computations in this document and the avoidance savings attained but not included in this submission can be provided upon request.

SUSTAINMENT STRATEGY EFFECTIVENESS:

PUBLIC-PRIVATE PARTNERING:

Partnering is used as a business tool to help PFRMS PMO and Lockheed Martin (LM) work together specifically in the management of the LCCS contract. It is used to deal with complex issues associated with the execution of the contract. Partnering allows us to share in the benefits of success and the poor outcomes associated with failure in teaming. It allows us to be team centric in that we must resolve adversarial situations and be firm yet fair in resolution of issues as well as encourages innovation, flexibility and synergy in our processes. We find the partnering allows us a best value approach to our day to day activities in that it helps in the approach to problem resolution/mitigation and focus the team on timelines.

Our first approach to partnering was the modified alpha contracting effort in the development of the statement of work and culminated in the award of the LCCS contract on 1 Jan 2008. We continue to use this process with the Depot Facilitization which is in process and planned for completion in Sep 09.

Our second approach to partnering is with each fielded unit through a Memorandum of Agreement which is tied to the PBL contract for LCCS. These agreements are called Performance Based Agreements (PBAs). We have fourteen active PBA's with the following Field Artillery (FA) units: 1/14, 1/158, 1/38, 1/47, 2/4, 2/20, 6/37, APS 4, 2/300, 407 AFSB (3/13, 2/18), 5/3, 1/142, 1/181, and 2/131.

Our third approach to partnering is with the execution of the LCCS contract. We are strict in following the rules, regulatory guidance and public law in the structure and execution of the contract. We are respectful and adhere to the roles and responsibilities for the personnel tasked in the US Government ensuring checks and balances are maintained and that no lines are blurred by the partnering approach. We feel it is important to keep the roles in black and white perspective versus allowing them to gray

which would cause a loss in the momentum of Team Centricity. This aspect of our partnering is controlled through clearly defined roles and responsibilities for each person supporting the contract at LM and the Logistics Directorate of the PFRMS PMO. There is no competition among the personnel in their job assignments. In addition the entire team realizes each person must be allowed to execute their job and are supportive of the Chain of Command (CoC). This allows us to quickly and effectively resolve unforeseen problems which arise and ensures we all have a clear understanding of the objectives we are working to achieve.

We believe our partnering has helped us achieve an optimum mix in the value for our money against this contract. We have a strong level of trust as well as a firm understanding of the difference in how the US Government views a situation and how a profit focused private entity needs to view a situation. In these situations, a potential solution is proposed between both parties and staffed through the CoC at AMCOM (Acquisition Center) and PFRMS PMO for an end solution. The entire process has been very successful given the situation with Leave Behind Equipment, unplanned split deployments into the combat zone and the fluidity in Department of Defense's business decisions.

SYSTEMS ENGINEERING (SE) APPROACH:

The HIMARS Program utilizes integrated product and process development principles to guide technical planning and control. This approach is achieved through integrating planned technical improvements and software blocking updated into the main program at specific points in the overall production process. Program IPTs manage and make decisions on a specific product, process, and resource. The responsibility for planning, integrating, and controlling engineering activities will be assigned to the appropriate elements of the organization. Each engineering activity will be defined in terms of technical objective, organization responsibility, span time, planned resources, discrete work packages, and technical performance standards. Each technical improvement and software update activity has milestones, reviews and tests associated with the development process. Additionally there are specific milestones associated with the transitions between productions activities. These program events correspond to program and technical reviews, which are mandated by the Army through the contract. The technical reviews in this section are contractually required and are essential to oversight and SE process optimization. All reviews will be structured with specific direction and discipline consistent with the guidelines of the Defense Acquisition Guidebook. Design Reviews will be chaired by PM Field Artillery Launchers or his designee. In general, review participants will include both project personnel as well as outside independent reviewers including but not limited to PEO Missiles and Space and other required organizations. Composition of the review team will be designed to cover all areas pertinent for that review.

FOOTPRINT REDUCTION:

During this reporting period, the use of Block Mods, geographical planning in the application of the mods to the weapon system has had a positive impact on the footprint reduction. In addition, the continued high reliability and strong readiness which is a direct result from the SE and Reliability, Availability and Maintainability process in conjunction with obsolescence management has allowed us to reduce our maintenance actions on the HIMARS/M270A1 FCS. This leads us to a focus on ensuring the spares/repair pipeline has available supply based on demand. We focus on this supply pipeline through our Logistics Response Time sub metrics – Customer Wait Time, Turnaround Time and Maintenance Ratio. Ensuring this pipeline is monitored allows procurement of a lower number of spares to support the fleet.

OBSOLESCENCE MANAGEMENT:

PFRMS PMO is proactive in their means to identify and assess the short and long term impacts of potential obsolescence. We leverage our available resources to include Diminishing Manufacturing Sources of Materiel Shortages tools within Department of Defense and industry while focusing on collaborative efforts to ensure our efforts are sound and not redundant. Our system configuration and component availability information is integrated with programmatic information such as system reliability, spares availability, and potential product improvements to form the baseline for data and analysis. As various weapon system changes and upgrades are defined, proposed configuration changes and new component availability information will be incorporated. Correlation of this information helps us identify potential system sustainment impacts due to obsolescence, and risk mitigation is planned accordingly. We currently have ten items procured under life of type buys and when upgrades are applied to the weapon system, if the older configuration being upgraded is still in use in the inventory, the assets are removed, tested and repacked for reinsertion into the LCCS supply system as spares. This mitigates the requirement to procure for long term support based on the number of spares that are useable. Utilizing this effort 23 of 25 is reusable.

RELIABILITY, MAINTAINABILITY AND SUPPORTABILITY IMPROVEMENTS:

PFRMS PMO Programs complies with 21 Jul 08 OSD Policy and 04 Sep ASA(ALT) Memo regarding RAM Improvement Initiatives. We continue to meet or exceed their stated RAM requirements. The following RAM improvements have been applied/are in process:

M270A1 SUPPORTING DATA

The M270A1 Fire Control System Reliability has improved over the past two years and has achieved reliability levels greater than 200% of the specified reliability.

M270A1 CUMMULATIVE SUSTAINED/IMPROVED RELIABILITY

	FCS Requirement MTBOMF	January 2007 FCS MTBOMF	March 2009 FCS MTBOMF	% Change to Requirement 2007 thru 2009
M270A1 FCS	293	650	873	200% - 300%

The following improvements have been applied:

1. GDU mod - improved the MTBF from 4,000 hrs to 6,000 hrs for a 34% increase in MTBF
2. Improve the Battalion's maintenance training programs. This resulted in a 29% reduction in the number of maintenance actions over the past 3 quarters for FA unit 6-37.

ARMY HIMARS

The performance of the Army HIMARS Fire Control System and Loader Launcher Module Systems has maintained reliability levels five times the requirement.

HIMARS CUMULATIVE SUSTAINED RELIABILITY

	HIMARS Requirement Combined SA & EFF	January 2007 Combined SA & EFF	March 2009 Combined SA & EFF	% Change to Requirement 2007 thru 2009
HIMARS	27	126	129	500%

The following is a list of improvements which have been applied:

1. Hydraulic Swivel had issues with leaking - improved Swivel reliability from 725 hrs to 12,111 hrs.
2. Travel Lock redesign - improved TLA reliability from 1,088 hrs to 4,037 hrs.
3. W537 Cable - has improved cable reliability 2,175 hrs to 6,056 hrs.
4. The Mid Section Brake Assembly -has improved Brake reliability from 3,443 hrs to 6,070 hrs.

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Section 3

Nomination Endorsements

Approved Endorsements

for Ralph Johnson 19 Jun 09

COL David Rice, Precision Fires Rockets and Missiles Project Office Date

Barry Beavers 22 Jun 09

Barry Beavers, APEO Logistics, PEO Missiles and Space Date

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Section 4

Achievements

The M142 High Mobility Artillery Rocket System (HIMARS) and the M270A1 Fire Control System (FCS) is a combat proven all-weather, 24/7 Precision Strike weapons system, assigned to Fires Brigades supporting Brigade Combat Teams (BCT). HIMARS supports a more deployable, lethal, survivable, affordable and tactically mobile force. It will launch all Multiple Launch Rocket System Family of Munitions (MFOM) rockets and missiles. It is designed to support Joint Early and Forced Entry Expeditionary Operations with high-volume Destructive, Suppressive, and Counter-battery fires. To date, both HIMARS and M270A1 FCS are supporting the Global War on Terrorism and have provided support to both Operation Iraqi Freedom and Operation Enduring Freedom. The performance is above Army Standards and the launchers are returning in excellent condition requiring only routine and minimal maintenance. HIMARS has current Readiness Rate of 98% and M270A1 has a current Readiness Rate of 94%. When firing GMLRS-Unitary precision rockets, HIMARS can support forces to range of 70 km with low-collateral damage, enabling danger-close fires (within 200m) in support of friendly Troops in Contact) as well as engaging high valued point targets in open, urban and

complex environments. There have been over 1,286 GMLRS Unitary Rockets fired as of 26 May 09 with a 93% Reliability utilizing the HIMARS and M270A1 platforms. When employing ATACMS Unitary, HIMARS can extend low-collateral lethal precision attack to 300 km. There have been 511 ATACMS missiles fired as of 30 May 09 with a 93% reliability at the system level utilizing the HIMARS and M270A1 platform.