

# United States Marine Corps Logistics Requirements Funding Summary (LRFS) Cost Estimating Tool (CET)

## A Quick Cost Estimator for Logisticians Part II



SCEA Conference – Orlando, FL  
June 2012



# Agenda

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  - What is an LRFS?
  - Booz Allen Task Specifics
  - Challenges in Developing an LRFS
  - Why do you need the USMC LRFS CET?
  - Requirements and Constrains
- ▶ LRFS CET Overview
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  - Application of Result Uncertainty Calculation
  - Example Outputs
- ▶ Future Areas of Interests
- ▶ Recognitions
- ▶ Summary
  - USMC LRFS CET Benefits



# Background

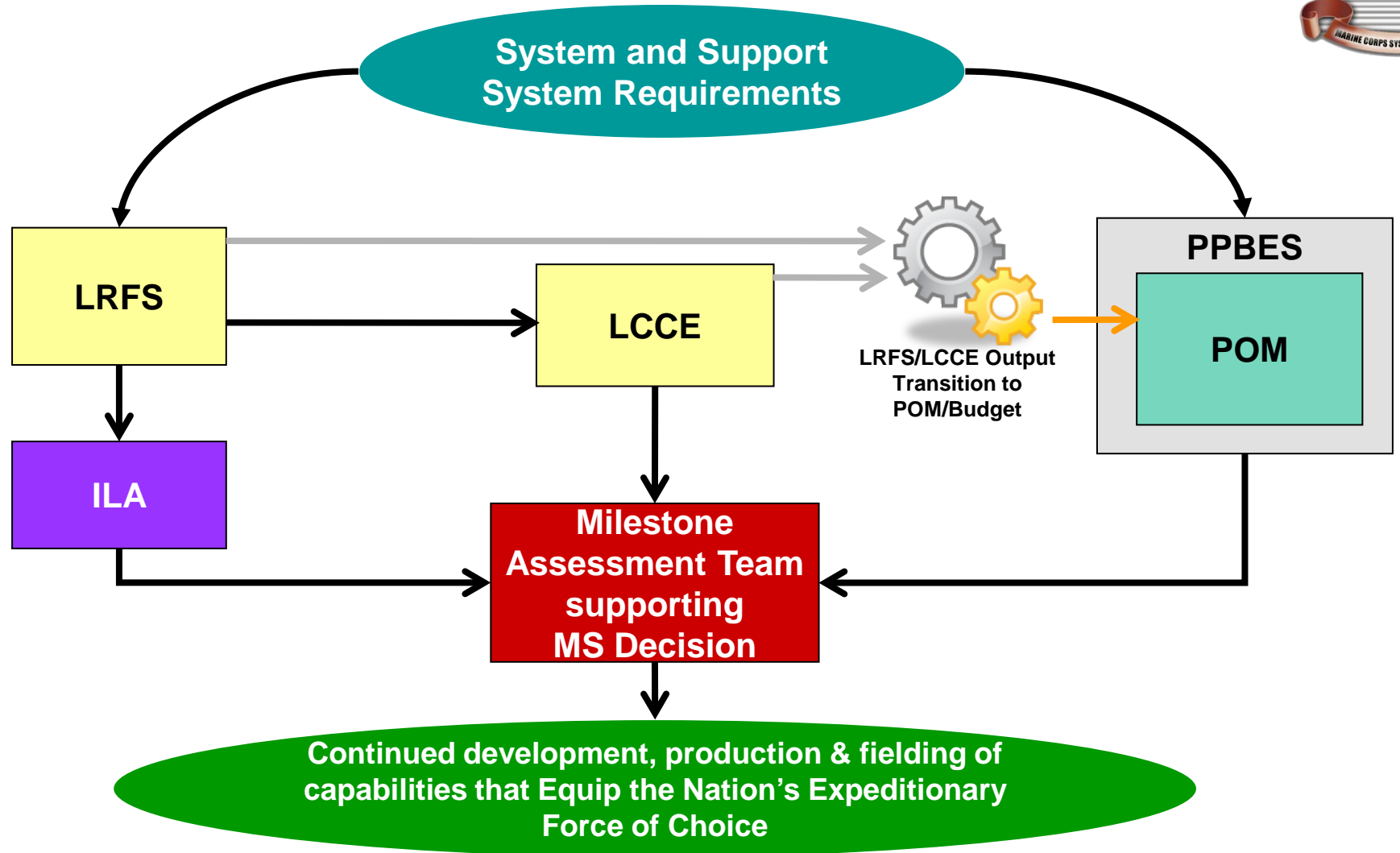


# Background – What is an LRFS?

- ▶ Definition: The Logistics Requirements Funding Summary (LRFS) is a breakdown of product support functions and sub-functions to establish a required level of product support. It identifies product support requirements and the funds available to meet those requirements. (source: Defense Acquisition University)
  - LRFS displays requirements versus funding for all IPS elements and related disciplines, by fiscal year and appropriation, and is traceable to logistics support plans.
  - LRFS supports Independent Logistics Assessment (ILA) review process to ensure support funding requirements for each IPS element are appropriately identified, funding is available, and shortfalls identified.



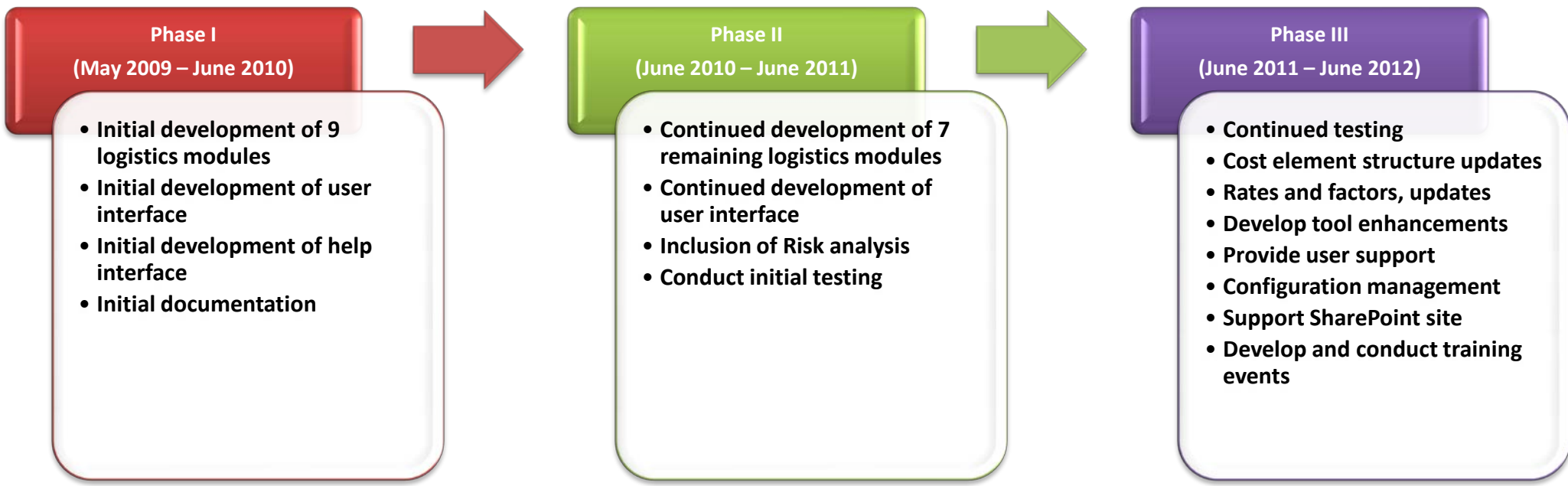
# Background – LRFS Relationship to LCCE/POM





# Background- USMC LRFS CET Task Specifics

- ▶ Reviewed current DoD, Navy/USMC policies and guidance
- ▶ Conducted a market survey of existing tools relating to LRFS development
- ▶ Conducted data collection and cost estimating methodology development including compiling rates and factors from various sources
- ▶ Conduct regular IPT meetings that helped define tool's CES, key capabilities, testing and training requirements
- ▶ Deployed full version 1.0 - **June 2011**
- ▶ Provide post tool deployment support – **June 2011 to June 2012:** (training, maintenance & enhancement)





# Background – Challenges Developing an LRFS

**Logisticians are traditionally responsible for completing an LRFS. However, cost estimating skills often fall outside the logisticians' domain of expertise.**

- ▶ Lack of cost estimating knowledge in developing LRFSs
- ▶ Lack of familiarity of financial management standards by the logistician
- ▶ Lack of standardization in Cost Element Structure (CES) and lack of sufficient supporting details
- ▶ Lack of sufficient data in conducting estimate (i.e., actuals, cost estimating factors, CERs, etc.)
- ▶ Inconsistent allocation of costs to their appropriate cost element (recurring/nonrecurring or functional elements)
- ▶ Inaccurate use of phasing, escalation factors, and appropriations
- ▶ Inconsistent review process



# Background – Why do you need the LRFS CET?

The USMC LRFS Cost Estimating Tool (CET) is an Excel-based user-friendly tool designed to allow program managers and logisticians to quickly generate LRFSs for all types of Marine Corps programs. The LRFS CET includes a library of cost models for all the IPS elements and related disciplines and incorporate statutory and regulatory requirements. The USMC LRFS CET enables users to:

- Provide a more efficient, effective and accurate means of developing LRFSs
- Provide visibility of logistics support requirements
- Inform resource and assessment sponsors of logistics support requirements
- Serve as the format for presentation of support and associated funding requirements throughout program development at all acquisition milestone decision forums
- Can be tailored to meet the program’s support objectives
- Support LCCE, POM submission, and budgetary decisions
- Assist in evaluating a weapon system's (or information system's) logistics costs associated with different proposals in a source selection





# Background – Requirements and Constraints

## ▶ Tool Must Be Excel 2007-based

- Users are familiar with Excel applications
- Tool needs to run on existing USMC computers and software
- Excel is powerful and integrates with VBA well

## ▶ Tool Must Be User-Friendly

- Visual Basic user interface will guide users through the LRFS development process
- User interface supports “Turbo Tax™” approach for quick cost estimating
- Tool will collect the information needed that is readily available to users

## ▶ Tool Must Be Designed for Non-Cost Estimators

- Logisticians using the tool will have little or no cost estimating experience
- Tool must have existing repository of cost models to develop estimate
- Tool must provide documentation for cost models to allow users to defend estimates
- Tool must provide a standard process for estimation within USMC

## ▶ Tool Must Incorporate New Cost Element Structures (CES) for each USMC LRFS CET Module

- Previous CES does not include all logistic cost elements for a program
- Previous CES is not standardized or defensible
- CES must reflect the requirements included in the ILA Checklist
- CES must be approved by SMEs and IPT members. Extensive SME/IPT participation is required



# USMC LRFS CET Overview

# USMC LRFS CET Overview – What is the USMC LRFS CET?



**System Level Inputs**

LRFS CET: Uncertainty Adjusted Output Form

**Programmatic Inputs**

LRFS Program Name: LRFS CET - Program Name

MIL-STD 881 Category: 11.Surface Vehicle Systems

Acquisition Category: III

Commodity: Combat Vehicle

**Commodity Description**

The Combat Vehicle commodity includes programs that manage ground vehicles designed to survive combat situations when engaging enemy forces. This includes tracked or wheeled ground vehicles that are heavily armored with integrated armament such as Main Battle Tanks (MBTs), Armored Personnel Carriers (APCs) and Self Propelled Howitzers (SPHs).

**Program Schedule Inputs**

Select the required dates and enter the 4-digit fiscal year (yyyy) for each

MDD	Milestone A	Milestone B	Milestone C	FRPD
2011	2013	2016	2017	2019

**Logistics Requirements Funding Summary Schedule Inputs**

Auto Calculate Estimate Base Year: 2011 LRFS Start Date: 2011 LRFS End Date: 2018

What type of Support Strategy does the program use? Predominantly Organic

Is the United States Marine Corps the Lead Service? Yes - Single Service

Please indicate the lead Service: Army

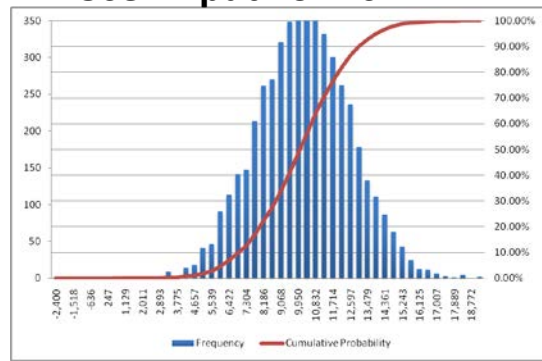
Generate Output

Next



**Standardized Cost Element Structure**

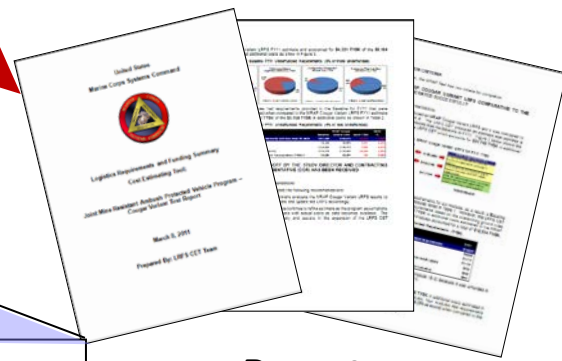
## User Input Forms



**Uncertainty Analysis**

Current CES	Model ID	Model
06.07.04	11901	SMC develops Sustainment Plan Cost = FTEs/Yr * FTE Rate * Number of Years
06.07.04	11902	SMC develops Sustainment Plan Cost = FTEs/Yr * FTE Rate * Number of Years
06.07.05	11903	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11904	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11905	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11906	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11907	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11908	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11909	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11910	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11911	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11912	POL Annual Cost = OPTEMPO (Hours) * Gallons Per Hour * \$/Gal * Vehicles Fielded
06.07.05	11913	POL Annual Cost = OPTEMPO (Miles) * \$/Mile * Vehicles Fielded
06.07.05	11914	POL Annual Cost = OPTEMPO (Miles) * \$/Mile * Vehicles Fielded
06.07.05		
06.07.06.01	06.07.06.01	Current CES Model ID Model
06.07.06.01	06.07.06.01	11915 POL Annual Cost = OPTEMPO (Miles) * \$/Mile * Vehicles Fielded
06.07.06.01	06.07.06.01	11916 Consumables Annual Cost = CPM * OPTEMPO * Vehicles Fielded *.3

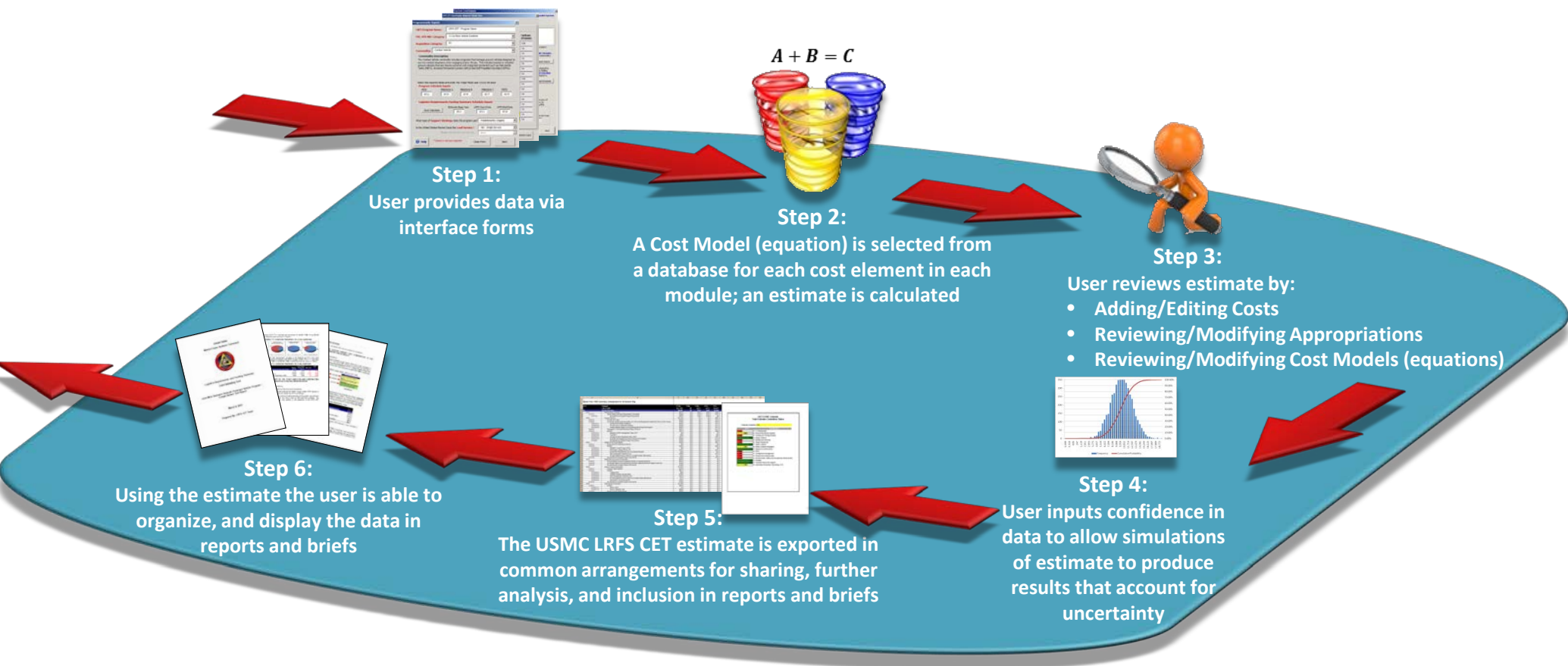
**Cost Model Library**



**Reports**

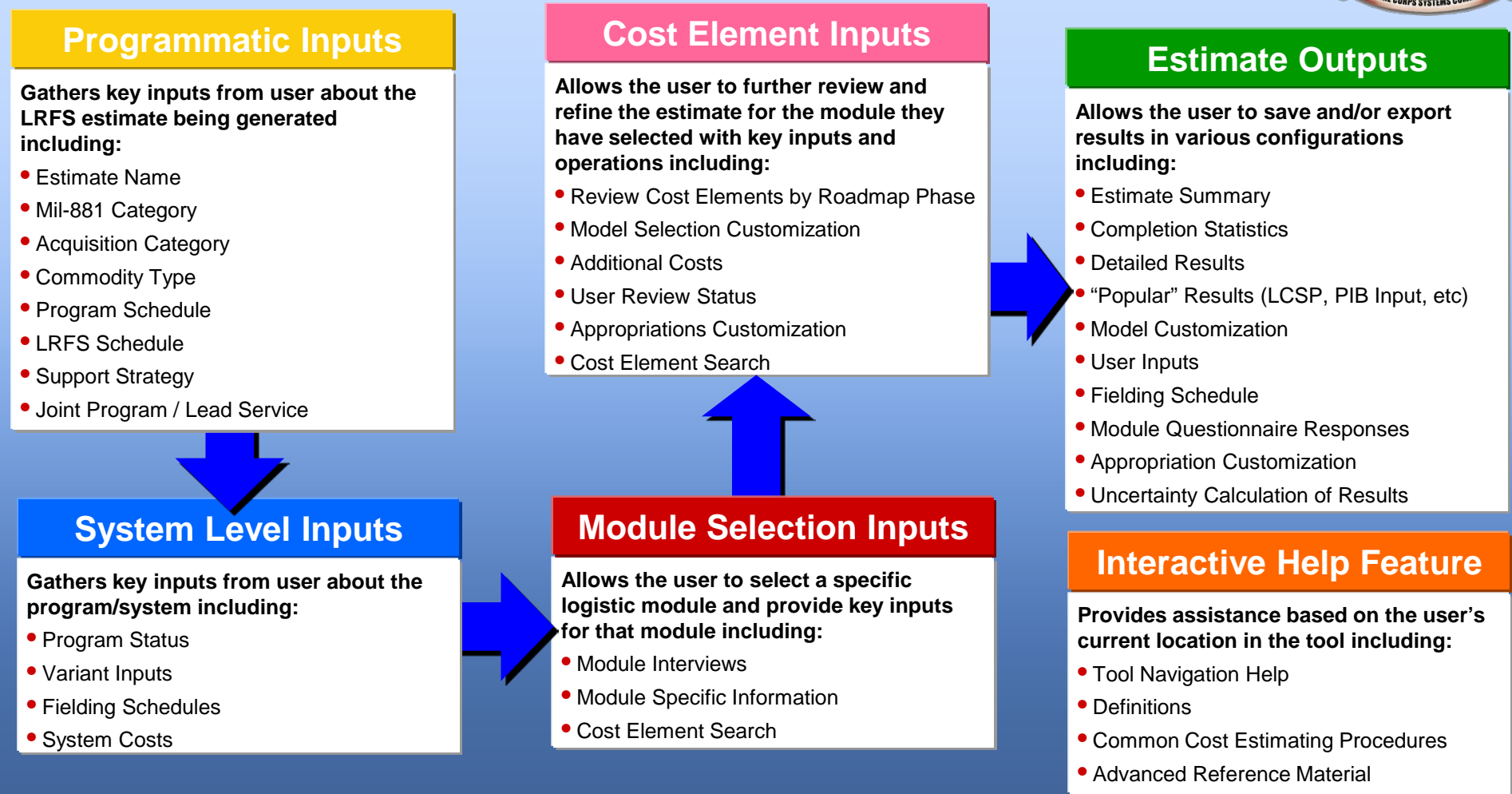


# USMC LRFS CET Overview – How the USMC LRFS CET Functions





# USMC LRFS CET Overview – User Interface



# USMC LRFS CET Overview – Interactive Help Feature



Can be accessed from any form in the tool at any time without interrupting the estimate by clicking "help" button

Browse or search capability

Detailed information available down to the cost element level

The screenshot shows a help window titled 'Logistics Requirements Funding Summary Cost Estimating Tool User Help'. It has a navigation bar with 'Hide', 'Back', 'Forward', and 'Print' buttons. Below the navigation bar are tabs for 'Contents', 'Index', and 'Search'. The 'Contents' tab is active, showing a tree view of help topics. The main content area displays the 'Getting started with the Logistics Requirements and Funding Summary Cost Estimating Tool' page, which includes the Marine Corps Systems Command logo and introductory text. At the bottom, there are links for 'How does the LRFS Tool work?', 'The LRFS CET Modules', and 'Glossary'.

Automatically navigates user to appropriate topic based on location in the tool

# USMC LRFS CET Overview – Launch Interface



Interface allows user to create new data file or load existing data file

# USMC LRFS CET Overview – Programmatic Inputs Interface



**Programmatic Inputs**

**LRFS Program Name:** LRFS CET - Program Name

**MIL-STD 881 Category:** 7. Unmanned Aircraft Systems

**Acquisition Category:** II

**Commodity:** Unmanned Systems/Robotic System

**Commodity Description**  
 The Ammunition commodity includes programs that manage the ammunition and ordnances used to support Marine Corps weapon systems. This includes ammunition for small arms, assault rifles and heavy machine guns and ordnances for field artillery systems and guns of major combat vehicles.  
This is a description of the commodity you have selected

Select the required dates and enter the 4-digit fiscal year (yyyy) for each

**Program Schedule Inputs**

MDD	Milestone A	Milestone B	Milestone C	FRPD
2013	2015	2018	2019	2021

**Logistics Requirements Funding Summary Schedule Inputs**

Auto Calculate    Estimate Base Year: 2012    LRFS Start Date: 2012    LRFS End Date: 2018

What type of **Support Strategy** does the program use? Predominantly OEM / 3rd Party

Is the United States Marine Corps the **Lead Service**? Yes - Joint

Please indicate the lead Service: USMC

\* Items in red are required

Help    Notes    Close Form    Next

Interface prompts user to provide basic program information

Throughout the tool, "Tool Tips" provide quick information to the user on each data field

LRFS schedule is automatically generated based on user provided start date and base year

Available throughout the tool, users can provide notes for future user reference in the tool and outputs

User is provided with on-screen explanation of the commodity selected

Tool allows user to provide program schedule dates and can accommodate omitted Milestones

User can specify support specifics including strategy, joint program status, and lead service



# USMC LRFS CET Overview – System Level Inputs Interface



Interface prompts user to provide basic information on the system

Can accommodate costs for multiple program variants within a family of systems

User can specify the status of the program and view an on-screen explanation of the program type selected

Although not required, the user may specify any or all of three types of system unit costs

Can calculate an automatically phased fielding schedule or user may enter a specific schedule manually

**System Level Inputs**

**Step 1-** To identify the System Status, select **New System**, **Modified System**, or **Upgraded System**.

**System Status:** New System

Select "New System" if one or more scenarios apply:

- The system developed has never been fielded to the Marines.
- An LRFS has not been developed for the program regardless of its acquisition phase.
- The system has not completed a full development effort.
- The system is designed to replace the existing system.

\* If the scenarios for Modified and Upgraded systems are not applicable, then select "New System".

**Step 2-** To identify the variant complexity of the system, select **Single System** or **Multiple Variants**. If the system has multiple variants, select **Edit Variant Inputs** to specify variant commonality.

**Variant Complexity:** Multiple Variants Edit Variant Inputs

**Step 3-** A unit cost is not required. If Unit Cost information is known, it can increase the accuracy of your estimate. To enter a cost, select the cost option that best fits your program or for which you have the most reliable information. Then enter a numeric value denoting BY\$.  
\*Unit Cost Information is entered in the **Edit Variant Inputs** form.

**Unit Cost Information**

FY12\$ 159,446

**Step 4-** The program production schedule may either be manually entered or automatically phased by the LRFS CET. If available, select **Use Manually Entered Schedule** to enter the fielding schedule. If automatically phasing the fielding, select **Use Automatically Phased Schedule** and provide the inputs below to automatically phase a total Approved Acquisition Objective.

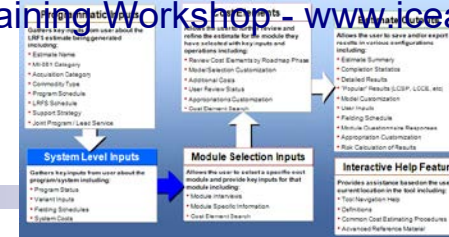
**Fielding Selection:** Use Manually Entered Schedule Edit Manual Schedules

Total number of units to be fielded	<input style="width: 90%;" type="text"/>	First Fiscal Year of Fielding (yyyy)	<input style="width: 90%;" type="text"/>
Operational Service Life (yrs)	<input style="width: 90%;" type="text"/>	Last Fiscal Year of Fielding (yyyy)	<input style="width: 90%;" type="text"/>

\* Items in red are required

? Help
Notes
Close Form
Back
Next

# USMC LRFS CET Overview – System Level Inputs: Variant Input



Interface allows user to provide input on commonality for each variant of the system

Variant Complexity

Enter the following information about the system in the below spreadsheet: Unit Cost Type, Base Unit Cost, Base Units to be Fielded, Variant Unit Cost, and Variant Units to be Fielded.

Variant Unit Cost (FY12\$) and Units to be Fielded

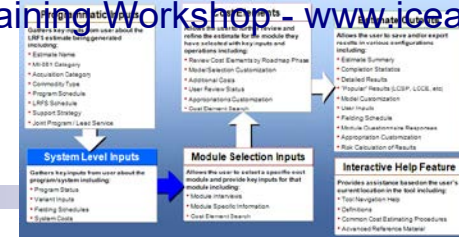
Specify Unit Cost Type:  \*All unit costs entered on this page must reflect the same cost type.

	Base Unit Cost	Units to be Fielded	Name / Description
Base	\$154,077.30	300	General Purpose
Variant Index	Variant Unit Cost	Units to be Fielded	Name / Description
1	\$175,000.00	100	Shelter Carrier
2	\$160,000.00	100	Long Range Recon
3			
4			
5			

Weighted Average Unit Cost FY12\$  Total Units

Individual fielding rates and costs can be accommodated for each variant

# USMC LRFS CET Overview – System Level Inputs: Fielding



Interface allows user to provide various types of fielding information for the system

**Schedule Selection**

**Display Schedule Description**

- 1. Prototype
- 2. Low Rate Initial Product
- 3. Full Rate Production
- 4. Fielding
- 5. MARFORS Fielded
- 6. Formal School Houses Fielded

**Schedule Description**  
The number of models on which a later system/item is formed or based to be procured in a given year.

**Instructions:**  
Please enter the number of units associated with each Fiscal Year for applicable schedules. Please also enter the OPTEMPO associated with each of the five cumulative fielding designations. Any units are acceptable for OPTEMPO (e.g.; miles, hours, rounds etc.)

**Manual Schedule and OPTEMPO Input**

Production and Fielding Schedules	TOTAL	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Prototype	6				6			
Low Rate Initial Production	30					30		
Full Rate Production	470						470	
Fielding	500					30	470	
<b>Cumulative Fielded Schedules</b>	<b>OPTEMPO</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>	<b>FY13</b>	<b>FY14</b>	<b>FY15</b>
MARFORS Fielded						30	500	
Formal School Houses Fielded								
MPF/MCPP-N Fielded								
WRMR/MPF/MCPP-N Fielded								
MARFORS Reserves Fielded								
<b>Disposing Schedule</b>	<b>TOTAL</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>	<b>FY13</b>	<b>FY14</b>	<b>FY15</b>
Disposing	0							

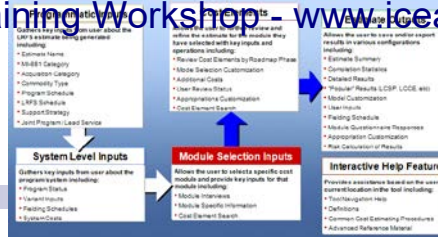
Operational Service Life (yrs)

Total Units

Buttons: Help, Notes, Cancel, Apply Schedule

Precise schedule inputs at the Fiscal Year provide enhanced accuracy

# USMC LRFS CET Overview – Module Selection Interface



**Module Selection**

**Instructions:**  
Step 1 - Select a Module

- 01. ILS Management
- 02. Performance Based Logistics
- 03. Design Interface
- 04. Maintenance Planning
- 05. Support Equipment
- 06. Supply Support
- 07. Human Systems Integration
- 08. Manpower, Personnel & Trainin
- 09. Packaging, Handling, Storage,
- 10. Configuration Management
- 11. Tech Data and Tech Publication
- 12. Environmental, Safety and Occ
- 13. Facilities
- 14. Computer Resources Support
- 15. Automated Information Techno
- 16. Disposal

**Module Description**

The Integrated Logistics Support (ILS) management process facilitates development and integration of the individual logistic support elements to specify, design, develop, acquire, test, field, and sustain systems. All elements of ILS must be developed in coordination with the system engineering effort and with each other. Trade-offs may be required between elements in order to acquire a system that is affordable (lowest life cycle cost), operable, supportable, sustainable, transportable, and environmentally sound within the resources available. The planning for ILS for a system is normally contained in a Life Cycle Sustainment Plan (LCSP). ILS planning activities coincide with development of the system acquisition strategy, and the program will be tailored accordingly.

**Step 2 - Answer Module Interview.** Click on **View Module Interview** to answer module specific questions for this module. These answers are used to customize the estimate for this module and the module specific information requested below.

**Step 3 - Click **Next**** to edit the LRFS CET cost models and factors and specify additional costs, or click **Search CES Descriptions** to perform a key word search of the Cost Element structure.

View Module Interview  
Search CES Descriptions

Close Form    Back    Next

[? Help](#)

Interface allows user to review and refine module level information

User is provided with an on-screen explanation of the cost module selected

User has the opportunity to answer a module specific questionnaire to refine the estimate

Keyword search identifies which modules contain specific cost elements

# USMC LRFS CET Overview – Module Interview Interface



## AC ALPS Tech Manual Estimator

Technical Manual Estimator Data Import

**Data Import:** Please open the Technical Manual estimator to the summary sheet and copy the development and maintenance costs for all requirements (ie find the cells in the TM estimator that correspond to the inputs range below.) Paste the copied cells into the embedded spreadsheet below. Totals are phased according to the user input schedule from the Programmatic Inputs form. To override this phasing use the override button from the bottom of the form.

Requirements	Estimated Cost	Estimated TM Maintenance Cost Per Year
Operator's Technical Manual (Paper/PDF)		
Operators TM Supplement (PAPER/PDF) (If Required?)		
Maintenance TM (ETM)		
Maintenance TM ETM Supplement (ETM) (If Required?)		
SCMIL XML Tagging Cost		
Maintenance IETM		
Dapot Maintenance Instruction IETM (If Required?)		
Associated -TAD Costs for Development		
TAD Cost associated with TM maintenance		
<b>Total Estimate of Program TM Development Cost</b>		
<b>Total Program TM maintenance cost per year</b>		

TM Development Appropriation: ROTEN  
 TM Maintenance Appropriation: OMHC

Buttons: Return to Module Selection, Tech Data Interview

Dynamic Interface displays a separate Module Interview for the cost module selected

In addition to dynamic interview questions, capability of importing data from existing support tools is offered

## AC ALPS Facilities Impact Report Response

Module Specific Questions- ILS Management

**Instructions:**  
 Step 1- Please answer the following additional Module Specific questions below if known. If the required information is not available, select N/A. However, additional information provided here will improve the fidelity of the LRFS for the program. When all questions are completed, click "Return to Module Selection"

	Yes	No	N/A
1. Has the program LCSP been developed?	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
1.1 Are there required updates to the LCSP?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. What is the size of the ILS Team?	<input type="text"/>		
3. How many ILS Team members are government?	<input type="text"/>		
4. How many ILS Team members are contractors?	<input type="text"/>		

Buttons: Return to Module Selection

Facilities Impact Report Response Data

**Step 1-** Please provide a name by which to identify the Facility, and project information provided by the Facilities Impact Report (FIR). Once all parameter fields are populated, select **Add FIR Response**.

Facility Project Name:

Project Type:  MILCON  Locally Funded  Minor Const.  Relocatable  Repair

Estimated Cost FY125:  Unit(s) Supported:

Estimated Start Date: 10/1/2012 Estimated Completion Date: 10/1/2013

Appropriation:

Project Description & Scope:

Buttons: Add FIR Response, Edit FIR Response, Remove FIR Response, Return to Module Selection

# USMC LRFS CET Overview – Cost Element Interface



**01. ILS Management**

**Instructions:**  
Step 1- Select Roadmap Phase for the current module

Show all Phases | **Requirements Analysis** | Support Planning | Design for PEI Supportability | Design/Develop Support Subsystem | Acquire Support Subsystem | Field Support Subsystem | Operations and Support | Disposal

Step 2- Select a child cost element within the module's Cost Element Structure to view the current cost estimate for the cost element. The cost estimate is initially automatically generated by the LRFS CET and can be customized through the Customization Options.

Review Status	Override Status	Element Description
NR		01.01 - Requirements Analysis
NR		01.01.01 - Establish Logistics Integrated Product Team
NR		01.01.02 - Review Requirement Documents
NR		01.01.03 - Conduct Preliminary Analysis of Support Alternatives
NR		01.01.04 - Develop Logistics Support KPPs, Metrics and Requirements
NR		01.01.05 - Provide ILS Input to Programmatic Documentation
NR		01.01.06 - Develop/Review/Update ILS Documents
NR		01.01.06.01 - Develop LCSP
NR		01.01.06.02 - Develop LRFS
NR		01.01.07 - Participate in Program Management IPT/IPR
NR		01.01.08 - Conduct Logistic IPT
NR		01.01.09 - Provide ILS Input to and Update Various Databases

**Element Description**  
This cost represents the labor and travel costs associated with establishing the Logistics Integrated Product Team that is tasked to manage the logistic requirements and events for the program.

**Selected Element Cost Summary (FY12 \$K)**

TOTAL	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$14	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14	\$0	\$0	\$0

Cost Displayed: Total

Customization Options

Edit Model Selection and Default Inputs | Review/Modify Appropriations | Add/Edit Additional Costs

Click: Reviewed/Not Reviewed to specify selected element's status.

Final Step (Required) - Select another phase at the top or click on Continue to Output Options to export the LRFS estimate. Note- Cost elements do not have to be validated before exporting results.

Dynamic Interface displays specific information for cost module selected

User selected organization of cost elements by AC ALPS Roadmap phase allows focus on specific elements at any given time

Cost element list allows user to quickly navigate and identify reviewed and overridden cost elements

Model override feature allows advanced users to control cost models

Confirmation feature allows users to flag reviewed cost elements

User is provided with an on-screen explanation of the cost element selected

Summary row displays phased costs for each cost element

Additional cost feature allows advanced users to add specific costs

Appropriation feature allows users to customize the appropriation for each cost element

# USMC LRFS CET Overview – Additional Costs Interface



**Dynamic Interface allows the input of four types of additional costs without leaving the form**

Add/Edit Additional Cost - 13.01.04 - Develop Facilities Strategy

**Step 1- Select the type of cost you wish to add/edit by clicking on a tab below. Enter all costs in Base-Year (FY12\$)**

Facilities | Labor | Travel | Miscellaneous

**Step 2- Verify Appropriation (default pre-selected); enter all Travel Parameters and the Annual Number of Attendees**

**Travel Parameters**

Appropriation: RDTEN | Trip Duration (days): [ ] | Total Transportation Cost Per Attendee (\$): Airfare [ ] Car Rental [ ]

Travel Location and Season

Destination State	Destination City	Travel Season
Hawaii	Bolingbrook / Rome	01-Oct - 30-Nov
Idaho	Chicago	01-Dec - 30-Apr
Illinois	Elgin / Aurora	01-May - 30-Jun
Indiana	Oak Brook Terrace	01-Jul - 31-Aug
Iowa	O'Fallon / Fairview H	01-Sep - 30-Sep
Kansas	Springfield	
Kentucky		

Per Diem Rates per Attendee (\$)

	Default	Override	User Input Cost
Lodging	\$161.66	<input type="checkbox"/>	[ ]
Meals and Incidental	\$65.90	<input type="checkbox"/>	[ ]

Annual Number of Attendees

TOTAL	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
0										

Optional: Notes [ ] [Update Trip]

To edit or remove previously entered travel costs, select the item in the list box below and click **Edit Trip** or **Remove Trip**.

Existing Additional Travel Costs [ ] [Edit Trip] [Remove Trip]

[Help] [Return to CES Form]

**Embedded databases allow user identify cost factors including Travel location, Per diem rates, Facility location, labor rates, and more**

# USMC LRFS CET Overview – Estimate Output Interface



Interface allows user to select specific results to output for specific cost modules

Completion statistics illustrate percentage of estimate reviewed by user

Selections allow the output of the estimate by appropriation quickly and easily

**Estimate Output Options**

**Step 1-**  
Please select Modules to output:  Select / Deselect All Modules

Module Outputs

<input checked="" type="checkbox"/> 01. ILS Management	<input checked="" type="checkbox"/> 09. Packaging, Handling, Storage, & Transportation (PHS&T)
<input checked="" type="checkbox"/> 02. Performance Based Logistics	<input checked="" type="checkbox"/> 10. Configuration Management
<input checked="" type="checkbox"/> 03. Design Interface	<input checked="" type="checkbox"/> 11. Product and Technical Data
<input checked="" type="checkbox"/> 04. Maintenance Planning	<input checked="" type="checkbox"/> 12. Environmental, Safety, and Occupational Health (ESOH)
<input checked="" type="checkbox"/> 05. Support Equipment	<input checked="" type="checkbox"/> 13. Facilities
<input checked="" type="checkbox"/> 06. Supply Support	<input checked="" type="checkbox"/> 14. Computer Resources Support
<input checked="" type="checkbox"/> 07. Human Systems Integration	<input checked="" type="checkbox"/> 15. Automated Information Technology/ AIT - IUID - RFID
<input checked="" type="checkbox"/> 08. Manpower, Personnel, and Training	<input checked="" type="checkbox"/> 16. Disposal

**Step 2-**  
Select escalation preference: **Base Year Only, Then Year Only** or **Base Year & Then Year** Base Year Only (FY)

\*Including Then Year calculation will increase output run time

**Step 3-**  
Select the outputs desired for the modules selected above:

<p><b>Common Outputs</b></p> <input checked="" type="checkbox"/> Executive Summary (Required) <input type="checkbox"/> Total Estimate Completion Statistics <input type="checkbox"/> Estimate Summary for Each Module Selected <input type="checkbox"/> Completion Statistics for Each Module Selected	<p><b>User Information Outputs</b></p> <input checked="" type="checkbox"/> General User Inputs for Estimate (Required) <input type="checkbox"/> Estimate Fielding Schedules <input type="checkbox"/> Module Interviews & Answers for Each Module Selected <input type="checkbox"/> Model Selection and Override Information for Selected Modules <input type="checkbox"/> Variant Costs and Quantities
<p><b>Appropriation Outputs</b></p> <input type="checkbox"/> Estimate by Appropriation <input type="checkbox"/> Estimate Appropriation Override Table	<p><b>Specialty Outputs</b></p> <input type="checkbox"/> POM Initiative Builder

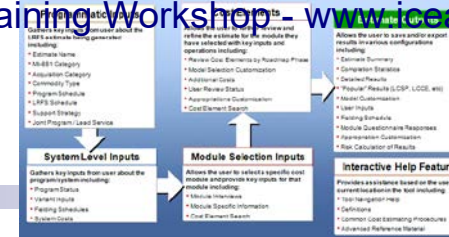
User provided information can be outputted for future reference

Selections allow the output of any model adjustments made

Results can be exported for use in other documents or saved



# USMC LRFS CET Overview – Uncertainty: Confidence Interface



Form is accessed from **Uncertainty Calculation** button located on LRFS CET Outputs Form

LRFS CET: Uncertainty Adjusted Output Form

RDTEN | PMC | OMMC | MPMC |

**RDTEN Uncertainty Specifications**  
Specify level of confidence by selecting **Low**, **Medium** or **High**. Or select **Override** to customize.

	Confidence	Coefficient of Variation
01. ILS Management:	High	0.45
02. Performance Based Logistics:	Low	0.8
03. Design Interface:	Medium	0.6
04. Maintenance Planning:	Medium	0.6
05. Support Equipment:	Medium	0.6
06. Supply Support:	Medium	0.6
07. Human Systems Integration:	Medium	0.6
08. Manpower Personnel and Training:	High	0.45
09. Packaging Handling Storage and Transportation:	Medium	0.6
10. Configuration Management:	Medium	0.6
11. Technical Data and Technical Publications:	Low	0.8
12. Environmental, Safety and Occupational Health:	Medium	0.6
13. Facilities:	Override	.7
14. Computer Resources Support:	Medium	0.6
15. Automated Information Technology (IUID - RFID):	Low	0.6
	Medium	0.6
	High	0.6
16. Disposal:	Override	0.6

Help | Select **Generate Output** to generate Risk Adjusted output, or select **Return to Output Form** to cancel and return to output form. | Return to Output Form | Generate Output

Separate tab for each appropriation

User is provided with inputs for confidence level for each module

Customization for each module available coefficient of variation input

Calculation of 10,000 trials (maximum trails) for all modules estimated to be less than 10 minutes

# USMC LRFS CET Overview – Uncertainty: Outputs



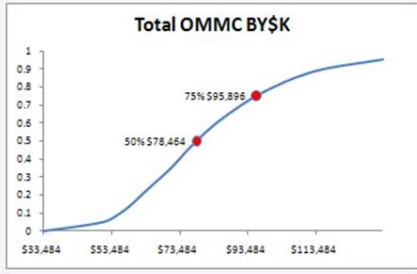
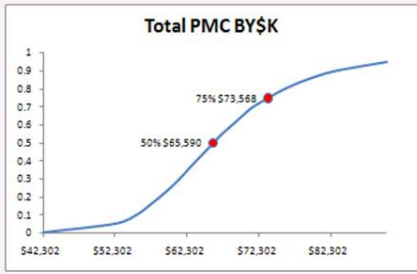
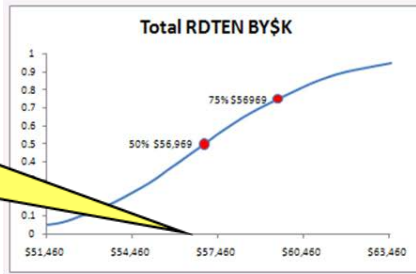
Uncertainty output for each module is replicated for each appropriation

Cost values for all CES elements stored at multiple confidence levels by APPN

Confidence Level Displayed: **Point Estimate**

Element	Point Estimate	TOTAL	FY11	FY12	FY13
<b>LRFS USMC</b>	Mean	<b>\$49,095</b>	<b>\$0</b>	<b>\$4,741</b>	<b>\$1,917</b>
ILS Management	20%	\$7,776	\$0	\$843	\$645
Performance Based Logistics	30%	\$1,741	\$0	\$125	\$0
Design Interface	40%	\$8,875	\$0	\$577	\$577
Maintenance Planning	50%	\$1,602	\$0	\$243	\$158
Support Equipment	60%	\$1,319	\$0	\$437	\$303
Supply Support	70%	\$2,924	\$0	\$0	\$0

Customizable cumulative probability charts generated for each estimate for each appropriation



Summary Statistics BY\$K	RD TEN	PMC	OMMC
Mean	\$57,169	\$67,994	\$83,661
StDev	\$3,675	\$12,199	\$27,008
CV	6%	18%	32%

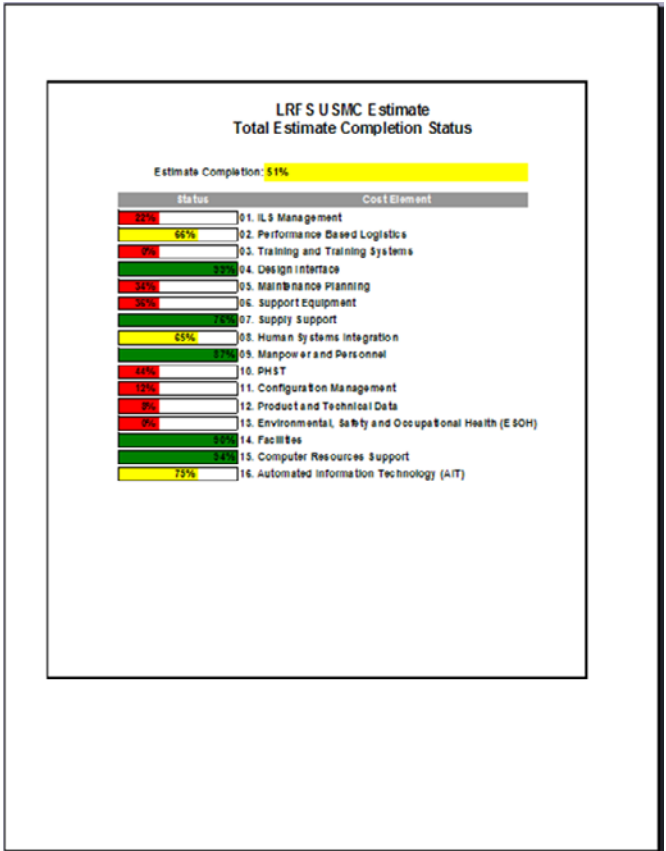
Table of popular data point values provided for each appropriation

# USMC LRFS CET Overview – Estimate Example Outputs



Once the LRFS CET output options have been selected, corresponding data is exported to a separate workbook for use in further calculations, briefs, and documents

	A	B	E	BG	BH	BI	BJ	BK	BL	BM	BN	BO
1	<b>Base-Year 10SK Summary Unadjusted for Schedule Slip</b>											
2												
3												
4	<b>CES</b>	<b>Element</b>	<b>TOTAL</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>	<b>FY13</b>	<b>FY14</b>	<b>FY15</b>	<b>FY16</b>
5		<b>LRFS USMC</b>	<b>\$27,788</b>	<b>\$0</b>	<b>\$743</b>	<b>\$713</b>	<b>\$5,977</b>	<b>\$3,845</b>	<b>\$7,482</b>	<b>\$3,568</b>	<b>\$2,757</b>	<b>\$1,366</b>
126	04	Design Interface	\$5,460	\$0	\$238	\$238	\$1,646	\$1,018	\$2,327	\$1,479	\$908	\$463
127	04.01	Requirements Analysis	\$577	\$0	\$238	\$238	\$102	\$0	\$0	\$0	\$0	\$0
128	04.01.01	Define Design Interface Requirements Traceability	\$306	\$0	\$102	\$102	\$102	\$0	\$0	\$0	\$0	\$0
129	04.01.02	Develop/Review/Update Program Documents	\$272	\$0	\$136	\$136	\$0	\$0	\$0	\$0	\$0	\$0
130	04.02	Support Planning	\$2,174	\$0	\$0	\$0	\$977	\$639	\$225	\$113	\$0	\$0
131	04.02.01	Provide AOA Input	\$225	\$0	\$0	\$0	\$113	\$113	\$0	\$0	\$0	\$0
132	04.02.02	Coordinate System Engineering Plan and Life Cycle Management Sustainment Plan common issues	\$789	\$0	\$0	\$0	\$338	\$338	\$113	\$0	\$0	\$0
133	04.02.02.01	Develop RAM Design Guidelines	\$225	\$0	\$0	\$0	\$113	\$113	\$0	\$0	\$0	\$0
134	04.02.02.02	Provide input to readiness modeling	\$338	\$0	\$0	\$0	\$113	\$113	\$113	\$0	\$0	\$0
135	04.02.02.03	Assess detailed design environments/system thresholds impacts	\$225	\$0	\$0	\$0	\$113	\$113	\$0	\$0	\$0	\$0
136	04.02.03	Participate in Technical/Production/Design Reviews	\$451	\$0	\$0	\$0	\$113	\$113	\$113	\$113	\$0	\$0
137	04.02.04	DMSMS	\$573	\$0	\$0	\$0	\$288	\$276	\$0	\$0	\$0	\$0
138	04.02.04.01	Establish DMSMS Management Team (DMT)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
139	04.02.04.02	Train DMT	\$22	\$0	\$0	\$0	\$22	\$0	\$0	\$0	\$0	\$0
140	04.02.04.03	Develop DMSMS Management Plan (DMP)	\$315	\$0	\$0	\$0	\$157	\$157	\$0	\$0	\$0	\$0
141	04.02.04.04	Evaluate Technologies and tools to support the program	\$236	\$0	\$0	\$0	\$118	\$118	\$0	\$0	\$0	\$0
142	04.02.05	Develop/Review/Update Program Documents	\$136	\$0	\$0	\$0	\$136	\$0	\$0	\$0	\$0	\$0
143	04.03	Design for RE Supportability	\$726	\$0	\$0	\$0	\$647	\$179	\$0	\$0	\$0	\$0
144	04.03.01	Define Parts and Materials Guidance	\$6	\$0	\$0	\$0	\$6	\$0	\$0	\$0	\$0	\$0
145	04.03.02	DMSMS	\$582	\$0	\$0	\$0	\$403	\$179	\$0	\$0	\$0	\$0
146	04.03.02.01	Establish Formal Program (DMT)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
147	04.03.02.02	Participate in Design Review IPT	\$157	\$0	\$0	\$0	\$157	\$0	\$0	\$0	\$0	\$0
148	04.03.02.03	Incorporate Requirements into Procurement Request	\$45	\$0	\$0	\$0	\$45	\$0	\$0	\$0	\$0	\$0
149	04.03.02.04	Risk Assessment Predictive Tool	\$358	\$0	\$0	\$0	\$179	\$179	\$0	\$0	\$0	\$0
150	04.03.02.05	Provide logistics input to a BCA to Evaluate Design Alternatives	\$21	\$0	\$0	\$0	\$21	\$0	\$0	\$0	\$0	\$0
151	04.03.03	Develop/Review/Update Program Documents	\$136	\$0	\$0	\$0	\$136	\$0	\$0	\$0	\$0	\$0
152	04.04	Design/Develop Support Subsystem	\$587	\$0	\$0	\$0	\$0	\$429	\$157	\$0	\$0	\$0
153	04.04.01	Provide logistics inputs and assess impacts of engineering efforts	\$315	\$0	\$0	\$0	\$0	\$157	\$157	\$0	\$0	\$0
154	04.04.02	Coordinate logistics and engineering interfaces regarding DMSMS mitigation planning	\$136	\$0	\$0	\$0	\$0	\$136	\$0	\$0	\$0	\$0
155	04.04.03	Develop/Review/Update Program Documents	\$136	\$0	\$0	\$0	\$0	\$136	\$0	\$0	\$0	\$0
156	04.05	Acquire Support Subsystem	\$1,579	\$0	\$0	\$0	\$0	\$941	\$319	\$319	\$0	\$0
157	04.05.01	Conduct Test/Analyses	\$472	\$0	\$0	\$0	\$0	\$157	\$157	\$157	\$0	\$0
158	04.05.02	DMSMS	\$971	\$0	\$0	\$0	\$0	\$647	\$162	\$162	\$0	\$0
159	04.05.02.01	Validate BOM	\$99	\$0	\$0	\$0	\$0	\$99	\$0	\$0	\$0	\$0
160	04.05.02.02	Validate Possible Obsolete Items	\$162	\$0	\$0	\$0	\$0	\$162	\$0	\$0	\$0	\$0
161	04.05.02.03	Risk Assessment Predictive Tool	\$215	\$0	\$0	\$0	\$0	\$215	\$0	\$0	\$0	\$0
162	04.05.02.04	Provide logistics inputs to a BCA to evaluate design alternatives	\$11	\$0	\$0	\$0	\$0	\$11	\$0	\$0	\$0	\$0
163	04.05.02.05	Participate in Technical Data IPT	\$485	\$0	\$0	\$0	\$0	\$162	\$162	\$162	\$0	\$0
164	04.05.03	Develop/Review/Update Program Documents	\$136	\$0	\$0	\$0	\$0	\$136	\$0	\$0	\$0	\$0
165	04.06	Field Support Subsystem	\$1,495	\$0	\$0	\$0	\$0	\$304	\$298	\$298	\$298	\$0
166	04.06.01	DMSMS	\$815	\$0	\$0	\$0	\$0	\$168	\$162	\$162	\$162	\$162
167	04.06.01.01	Review BOM	\$7	\$0	\$0	\$0	\$0	\$7	\$0	\$0	\$0	\$0
168	04.06.01.02	Review Reliability Data	\$809	\$0	\$0	\$0	\$0	\$162	\$162	\$162	\$162	\$162
169	04.06.02	Monitor/Update Test/Analyses	\$679	\$0	\$0	\$0	\$0	\$136	\$136	\$136	\$136	\$136





# Future Areas of Interests

# Future Areas of Interests



## USMC LRFS CET Training/Support Sustainment

### Training

- Initial Training (New Hire/First Time User)
- Legacy Training (Current Users)
- Advanced Training (Seasoned Users)

### Support

- Demonstrations
- User Assistance
- SharePoint Site

## USMC LRFS CET Cost Analysis Sustainment

- Rates and factors updates
- What-if Scenario Analysis
- Statute and Policy Alignment Issues
- Increased Sensitivity of Methodology

## USMC LRFS CET Tool Sustainment

- Administration and Visual Basic maintenance
- Platform / Application environment issues
- Outputs
- Module updates

## USMC LRFS CET Enhancements

- Ad hoc enhancements to fit emerging needs
- Additional Risk Features
- Total Ownership Costs
- Average Operations and Support Costs in a "Typical" Mid-Life Year
- Expand the tool to other services
- Upgrade platform (.NET, SharePoint, Etc.)





# Recognition



# USMC LRFS CET: Recognition



**Acquisition Excellence Day  
June 8, 2011**

MCSC Commander's Excellence in Operations  
Research Systems Analysis Award



**Society of Cost Estimating and Analysis  
(SCEA) – Washington Area Chapter  
January 25, 2012**  
2011 Technical Team Achievement Award

**I am very confident this will greatly enhance our ability to plan, justify and defend our future POM efforts.**  
- Logistics Chief PM NV/RSTA, PEO IEW&S

**The tool will reap a lot of goodwill and create efficiencies that Defense Secretary has been looking for in the Acquisition community.**  
- Log Ops Spt Tm Lead, AC ALPS, MCSC

**The LRFS tool has a lot of great benefits and will become a very valuable tool for all logisticians.**  
- PEO Integrated Warfare Systems, IWS, U.S. Navy



# Summary





# USMC LRFS CET – Summary of Benefits



## Generates LRFS Cost Estimates Automatically

The USMC LRFS Cost Estimating Tool produces quick cost estimates and provides results ready for POM input and the ILA process

- Automatically generates a complete estimate based on provided input
- Override capabilities allow for estimates to be tailored to specific program requirements
- Exported data organized to support quick discovery of results for inclusion in other processes, briefs, and documents (LCSP, CARD, LCCE, PIB, etc)



## Provides Cost Estimating Capability to Logisticians

The USMC LRFS Cost Estimating Tool prompts the user for data and compiles the inputs directly into relevant cost models

- Minimal training required to get started
- Step-by-step interface guides logisticians through cost estimating processes with fields designed specifically for users unfamiliar with LRFS Cost Estimating
- Searchable Cost Element Structure identifies logistics elements
- Programmatic information requested is often readily available
- Context-sensitive, interactive help features allow for browsing or searching for answers effectively



## Uses Built-in Cost Methodologies

The USMC LRFS Cost Estimating Tool does all the calculations for the user with accuracy

- Interface designed to input appropriate data for the estimate
- Uses a repository of documented cost model data
- Provides uncertainty analysis capabilities
- A review indication helps keep track of progress and cost elements that have been checked for inaccuracies
- Automatically adjusts estimates with latest rates and factors




## Conforms to USMC Acquisition and Logistics Best Practices

The USMC LRFS Cost Estimating Tool supports MARCORSSYSCOM / PEO LS initiatives

- Standardized LRFS Cost Element Structure (CES) and process
- Utilizes latest AC ALPS Logistics Roadmap
- Compatible with the IPS Elements
- Facilitates the inclusion of LRFS results in the LCCE
- Logistics requirements identified for POM submission (PIB)


# Questions?





MARCORSYSCOM  
Marine Corps Systems Command  
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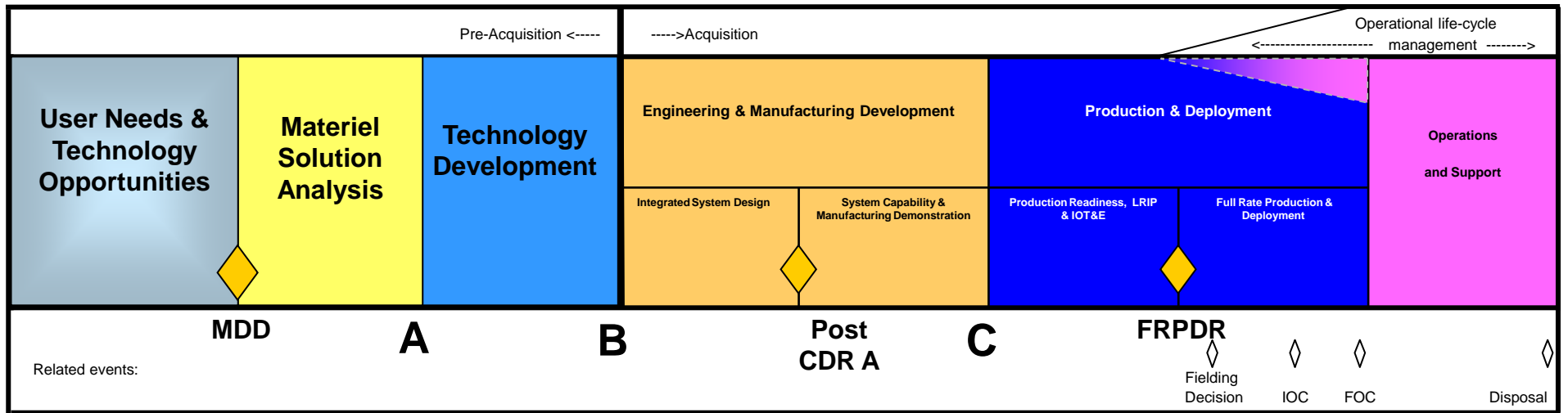
Booz Allen Hamilton Inc.  
Tel (703) 984-1726  
Pryor\_Zachary@bah.com



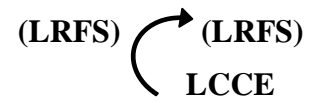
# Backups



# Background – LRFS Relationship to LCCE



**Past**



**Present**



**Legend:**

(LRFS) – an LRFS may or may not occur

LRFS – LRFS Required

LCCE – LCCE Required



# Crosswalk – LRFS to LCCE

- ▶ The LRFS feeds into the LCCE but the two do not merge precisely.
  - The timeframe of interest for the LCCE tends to be longer than the LRFS
  - Some LRFS elements crosswalk directly to the LCCE (e.g.; *Initial Spares*)
  - Other LRFS elements are only a portion of the costs seen in a LCCE element (e.g *Costs of Conducting Initial PBL BCA* and *Detailed PBL BCA* is part of the SEPM Cost)

		LCCE timeframe (System Dependent)												
		Element (\$K)	Total	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
LCCE		Systems Engineering / Program Management	\$9,500	\$800	\$950	\$950	\$800	\$1,000	\$1,000	\$800	\$800	\$800	\$800	\$800
	Shared	Initial Spares	\$1,150	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$750	\$400	\$0	\$0
LRFS		Initial PBL BCA	\$300	\$0	\$150	\$150	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Detailed PBL BCA	\$400	\$0	\$0	\$0	\$0	\$200	\$200	\$0	\$0	\$0	\$0	\$0

LRFS timeframe (7 Years)



# Training, Demonstration and Testing

# USMC LRFS CET Testing – MRAP (1 of 2)



## Mine Resistant Ambush Protected Vehicle (MRAP) Program - Cougar Variant was chosen to test the capability of the tool to accommodate unique programs


- ▶ Test objectives included:
  - ▶ Create a USMC LRFS for the MRAP program Cougar variant
  - ▶ Validate and document the LRFS CET as dictated by the Test Plan to determine if the LRFS CET suitable for deployment
  
- ▶ The MRAP Program is unique from other urgent needs ACAT I-D program in two ways:
  - ▶ The MRAP Program Office conducted an open competition which required a review of several designs from various contractors in a short period of time to accommodate the aggressive and accelerated program schedule. The review allowed the program to determine the final design of the Cougar vehicles which are grouped into two vehicle categories (CAT I and CAT II) each represented by several variants
  - ▶ The MRAP Program Office continued to redesign the vehicles through a series of Engineering Change Proposals (ECPs) within a year of the Full Rate Production Decision (FRPD which significantly deviated from the normal acquisition process



# USMC LRFS CET Testing – MRAP (2 of 2)

The LRFS CET produced an estimate that identifies a more comprehensive set of requirements than the Baseline in FY11

United States Marine Corps Systems Command

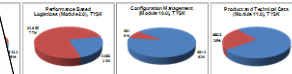


Logistics Requirements and Funding Summary  
Cost Estimating Tool:  
Joint Mine Resistant Ambush Protected Vehicle Program –  
Cougar Variant Test Report

March 8, 2011  
Prepared By: LRFS CET Team

Variant LRFS FY11 estimate and accounted for \$4,351 TYSK of the \$9,184 additional costs as shown in Figure 3.

**Baseline FY11 Underfunded Requirements (9% or more underfunded)**



Requirements had requirements provided in the Baseline for FY11 that were less than the MRAP Cougar Variant LRFS FY11 estimate of \$9,184 TYSK in additional costs as shown in Table 2.

**FY11 Underfunded Requirements (4% or less underfunded)**

Requirement	Baseline	Variant LRFS	Diff	%
Training	\$10,200	\$10,775	575	5.6%
MRAP Cougar Variant (MCAV)	\$10,728	\$15,134	4,406	40.9%
MRAP Cougar Variant (MCAV)	\$5,200	\$5,204	4	0.08%

APPROVED BY THE STUDY DIRECTOR AND CONTRACTING REPRESENTATIVE (COR) HAS BEEN RECEIVED

Recommendations:  
The study identified the following recommendations:  
1. The study team will evaluate the MRAP Cougar Variant LRFS results to determine if the requirements are appropriate and update the LRFS accordingly.  
2. The study team will continue to refine the estimate as the program assumptions are updated with actual costs as data becomes available. The study team will also assist in the expansion of the LRFS CET to include other MRAP variants.

**MRAP Cougar Variant LRFS for FY11 TYSK**

Module	Baseline	Variant LRFS
MRAP Cougar Variant (MCAV)	\$10,728	\$15,134
MRAP Cougar Variant (MCAV)	\$5,200	\$5,204
Training	\$10,200	\$10,775
<b>Total</b>	<b>\$26,128</b>	<b>\$31,117</b>

**Additional Costs (TYSK)**

Module	Baseline	Variant LRFS
MRAP Cougar Variant (MCAV)	\$10,728	\$15,134
MRAP Cougar Variant (MCAV)	\$5,200	\$5,204
Training	\$10,200	\$10,775
<b>Total</b>	<b>\$26,128</b>	<b>\$31,117</b>

Additional costs of \$4,351 TYSK were identified in the MRAP Test because it was unfunded in the Baseline.



# USMC LRFS CET Testing – Usability and Performance (1 of 3)



**The primary purpose of testing was to ensure that that the USMC LRFS CET accommodates users of varying computer, logistics, technical, and cost estimating expertise and provides them with the functionality to develop cost estimates.**

- ▶ To ensure tool quality, the test ensured that the test objectives were met by answering:
  - ▶ Does the tool exist on the MS Excel 2007 Platform within the MS Windows XP Operating System?
  - ▶ Does the USMC LRFS CET verify ease of learning and understanding of the tool with testers that have varying computer experience?
  - ▶ Can the tool be considered as “user-friendly” and intuitive for Logistics Requirements Funding Summary Cost Estimating?
  - ▶ Does the tool provide the capability to address programs’ costs, schedules, and factors with USMC participation to provide a sufficiently accurate cost estimate given minimal information and expertise?
  - ▶ Was the user able to use the tool with the training provided in order to develop the cost estimate? In other words, was the training adequate?
  - ▶ Was the user able to navigate the tool easily using the help menu?
  - ▶ Does the tool meet the functional needs of the user in developing the cost estimate?
  - ▶ Does the user feel confident that they will be able to use the tool in the future?



# USMC LRFS CET Testing – Usability and Performance (2 of 3)

## Test Event Details:

- ▶ Test conducted on 1-31-11 through 2-2-11
- ▶ LRFSs created for four test programs
- ▶ Briefs created for each test program and presented to mock ILA review panel
- ▶ Continuous learning points awarded to participants

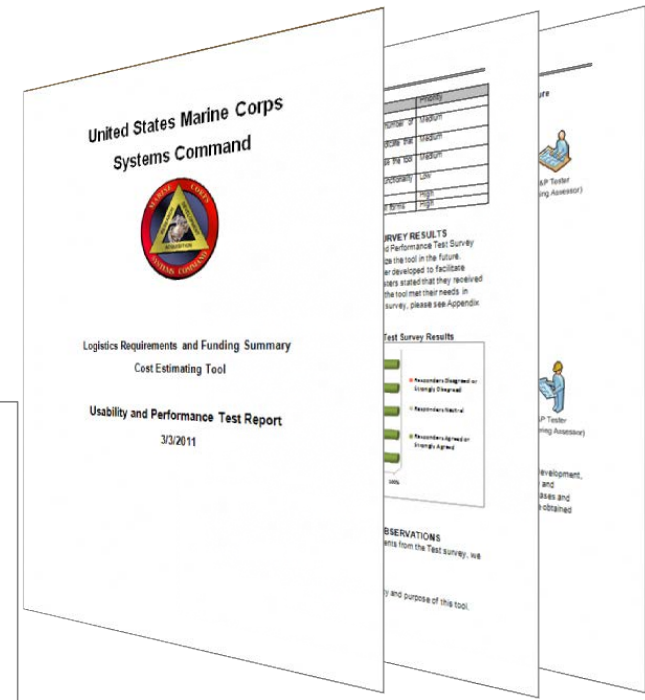




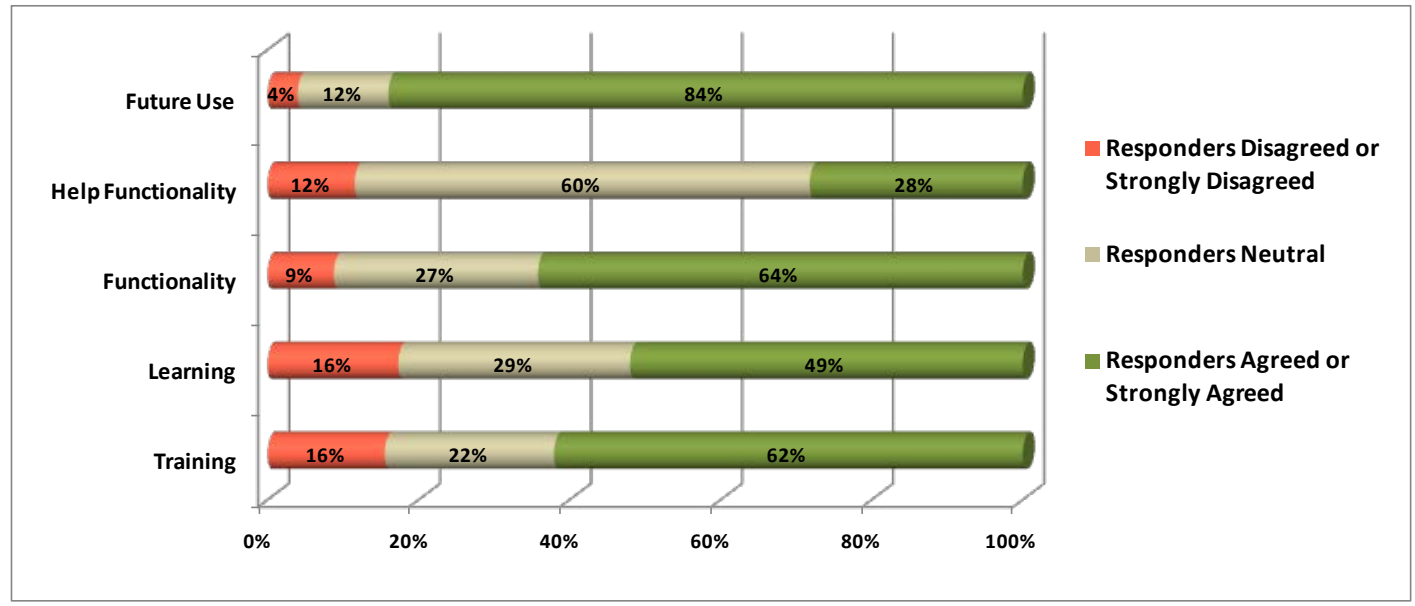
# USMC LRFS CET Testing – Usability and Performance (3 of 3)

## Test Results:

- ▶ 20 completed Test Participant Surveys were collected for the test
- ▶ 39 completed Test Incident Report Forms were collected for the test
- ▶ Usability and Performance Test Report



Overview of Usability and Performance Test Survey Results





# USMC LRFS CET – Demonstration and Training

## Demonstrations

Create awareness of the USMC LRFS CET by providing overviews of tool capabilities, benefits, and application to USMC/DOD services.

Demonstrations provided to:

### MARCORSYSCOM

- MRAP
- AC PROG
- GCSS-MC
- PEO Land Systems
- All Product Groups
- PM TRASYS, et al

### Army

- CECOM
- ODASA-CE
- PEO IEW&S
- PEO Soldier
- NV/RSTA

### Navy

- NAVSEA
- NAVAIR
- NCCA

### Other Organizations

- I&L (TLCM)
- Expeditionary Energy Office
- LOGCOM
- CD&I
- MORS
- SCEA
- SOLE



## Hands-On Training

Provide users with experience to utilize the USMC LRFS CET in MCSC for current and future programs.

### Objectives:

- Generate and LRFS with the USMC LRFS CET
- Perform basic navigation throughout the tool
- Use support resources for the USMC LRFS CET
- Perform basic risk analysis of results
- Introduction to concepts of inflation, the AC ALPS Roadmap, Acquisition Logistics

### Hands-On Training provided to:

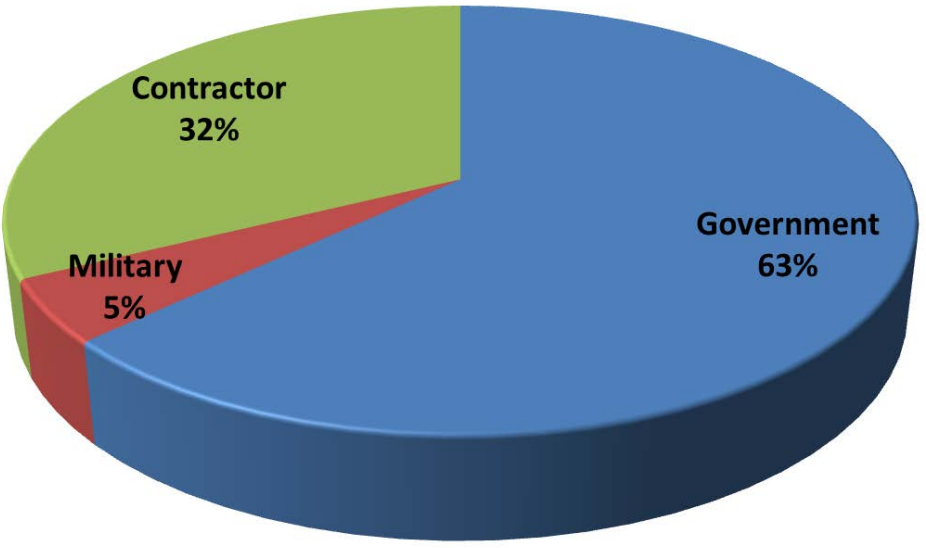
- MRAP (Pilot)
- PEO LS
- PM TRASYS
- PG10
- GCSS
- PG16
- PG11
- PG12
- AC ALPS SME
- PG14
- PG13 (April 2012)
- PG15 (April 2012)





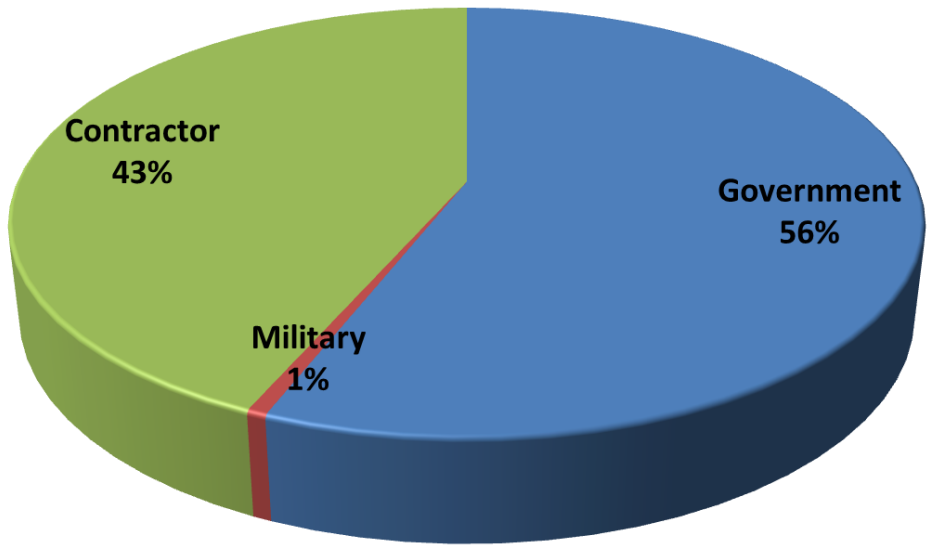
# USMC LRFS CET – Demonstration and Training

### USMC LRFS CET Users (Sample Taken March 2012)



**Total Users: 489**

### USMC LRFS CET Training Participants (Sample Taken March 2012)



**Total Training Participants: 166**