



Developing Standardized Cost Element Structures (CES) for the United States Marine Corps (USMC)

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Purpose and Background

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▶ Purpose

- ▶ Explain the process used in the development of a CES for use in the USMC Logistics Requirements Funding Summary (LRFS).

▶ Background:

- ▶ A review of the existing USMC LRFS CES revealed that the CES did not comprehensively represent the logistics requirements and tasks to be estimated as part of a USMC LRFS:
 - ▶ Previous CES does not include all logistics cost elements for a program.
 - ▶ Previous CES is not standardized or defensible.
 - ▶ CES must reflect the requirements included in the Independent Logistics Assessment (ILA) Checklist.
 - ▶ CES must be approved by Subject Matter Experts (SME) and IPT members. Extensive SME/IPT participation is required.
- ▶ Industry and the Assistant Commander, Life Cycle Logistics (AC LCL) formed an IPT to create a new CES. The IPT comprised logisticians and cost estimators who worked together over the course of one year to create the new USMC LRFS CES.

LRFS Definition

The 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 requirements¹.

IPT Formation

IPT Formation Overview

▶ An IPT Charter was developed to outline several aspects of the CES development:



IPT Formation Overview

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IPT Formation

Overview Continued

- ▶ The IPT established committees based on Integrated Logistics Support (ILS) disciplines.
- ▶ Each committee was to include at least 5 members including a representative from each of the 3 functional areas:



IPT Formation

Mission and Goals

Mission

- Assist AC LCL to develop an automated cost estimating tool that will increase the overall efficiency and accuracy of the LRFS development process.

Goals

- To maximize knowledge sharing, best practices, and lessons learned from AC LCL and program acquisitions communities.
- To establish a common LRFS development process through the use of the tool.
- To reduce resource and LRFS development preparation and review activities.

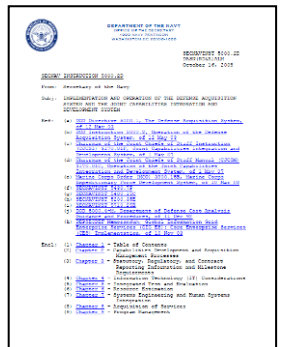
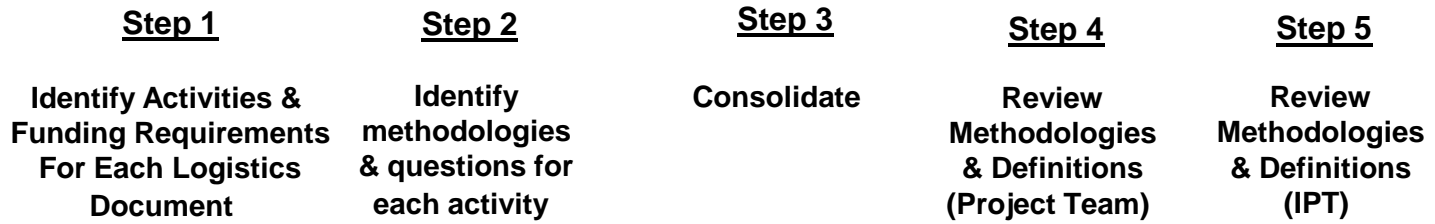
IPT Formation

Ground Rules

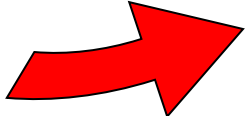
- ▶ The IPT will be organized into committees or smaller groups with subject matter expertise in certain ILS fields.
- ▶ Each committee will have a lead and a co-lead nominated by the IPT team lead or its members.
- ▶ Committee designated to a specific ILS field shall have the final decision making authority over other committees on issues within the committee's field.
- ▶ If no majority or consensus is reached, the committee lead or co-lead will determine path forward on issues related to his/her committee's designated field.
- ▶ All team members will get an opportunity to review and comment on products.
- ▶ If no majority or consensus is reached, then the IPT team lead will determine path forward on all non-ILS field specific subjects.
- ▶ If members cannot attend meetings, comments and inputs can be submitted via email.
- ▶ Once a topic has been discussed and agreed upon, let it be.
- ▶ Team meetings will take place in a non-attribution environment.
- ▶ Once a decision is made, dissenters can submit a written dissenting opinion by the next meeting. When Products go for signature, all dissenting opinions will be included in routing package.

CES Development Process Process

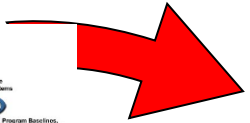
Cost Element Structure Development Process Overview



DoD 5000



Defense Acquisition Guidebook



USMC ILA Checklist

USMC ILA Checklist Activities → Activity Methodologies And Questions

AC ALPS Logistics Roadmap

AC ALPS Logistics Roadmap Activities → Activity Methodologies And Questions

Existing LRFS Template

Existing LRFS Template Activities → Activity Methodologies And Questions

Major Tasks And Sub-Tasks

Major Tasks And Sub-Tasks

Major Tasks And Sub-Tasks

Cost Element Structure Development Process

Overview continued

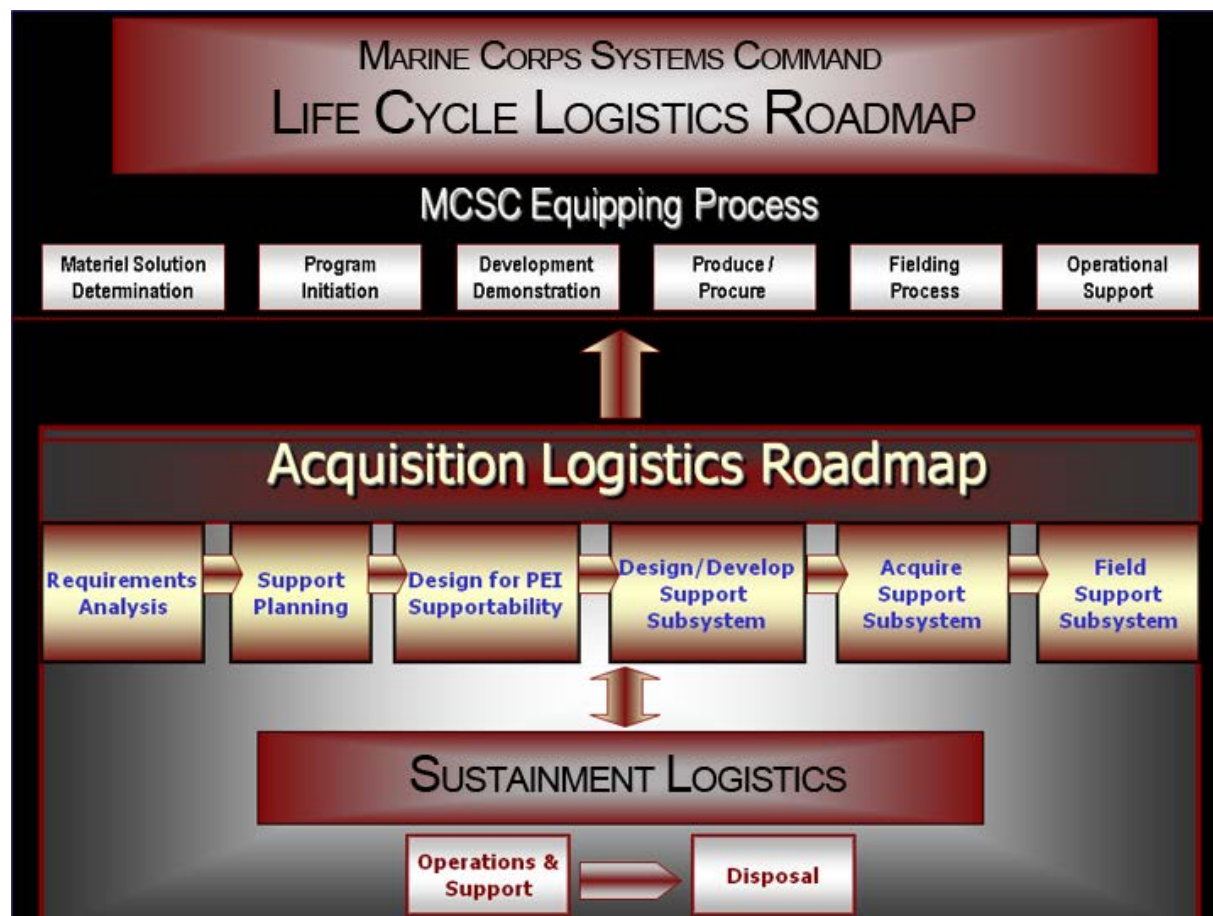
- ▶ The primary step to developing the LRFS CES required redefining the existing LRFS CES to include all logistics requirements for each logistics discipline. This made the CES development process meticulous and required a disciplined CES development cycle.
- ▶ To redefine the CES for each module, the development team relied on three authoritative source documents:

1	2	3
Life Cycle Logistics (LCL) Roadmap	ILA Checklist	MARCORSYSCOM LRFS Template

LCL Roadmap

Source Document 1 / 3

- ▶ The LCL Roadmap outlines each phase of the Life Cycle Support Process and includes detailed information about the:
 - ▶ Support Milestones
 - ▶ Support Processes
 - ▶ Required Inputs to each milestone and phase
 - ▶ Outcomes of each milestone and phase
- ▶ The CESs for each LRFS discipline were developed using the LCL Roadmap framework because logisticians understand these phases well. The goal was to increase the user-friendliness of the CES by incorporating a framework in which logisticians are already familiar.



ILA Checklist

Source Document 2 / 3

- ▶ The ILA Checklist is a comprehensive list of all activities and products that must be completed before each program Milestone.
- ▶ Sample portion of the ILA Checklist:

MCSC Independent Logistics Assessment (ILA) Checklist						
Version 3	Milestone				LCL Docs	Related Docs
	B	C	FRP	FIELDING		
<u>1.0 Life Cycle Logistics (LCL) Management</u>						
1.1 Management Planning.						
1.1.1 Were Logistics Support metrics identified in the APB and in implementing logistics documentation?	X	X	X		SP, LRFS, MCSAMP (Chapt. 7)	APB, LCCE, CDD
Note: Has the LOG IPT reviewed the Supportability areas within the current CDD, CPD and APB?						
1.1.2 Were logistics support and overall Sustainment performance requirements stated in the CDD, CPD and PBA?	X	X	X		SP, PBA, BCA, MCSAMP (Chapt. 7)	CDD, CDP, PBA, BCA, KPP, KSA, SEP
1.1.3 Is a comprehensive logistics support plan developed, documented, and implemented?	X	X	X	X	SP, MCSAMP (Chapt. 7 & 8)	ISMP

MARCORSYSCOM LRFS Template

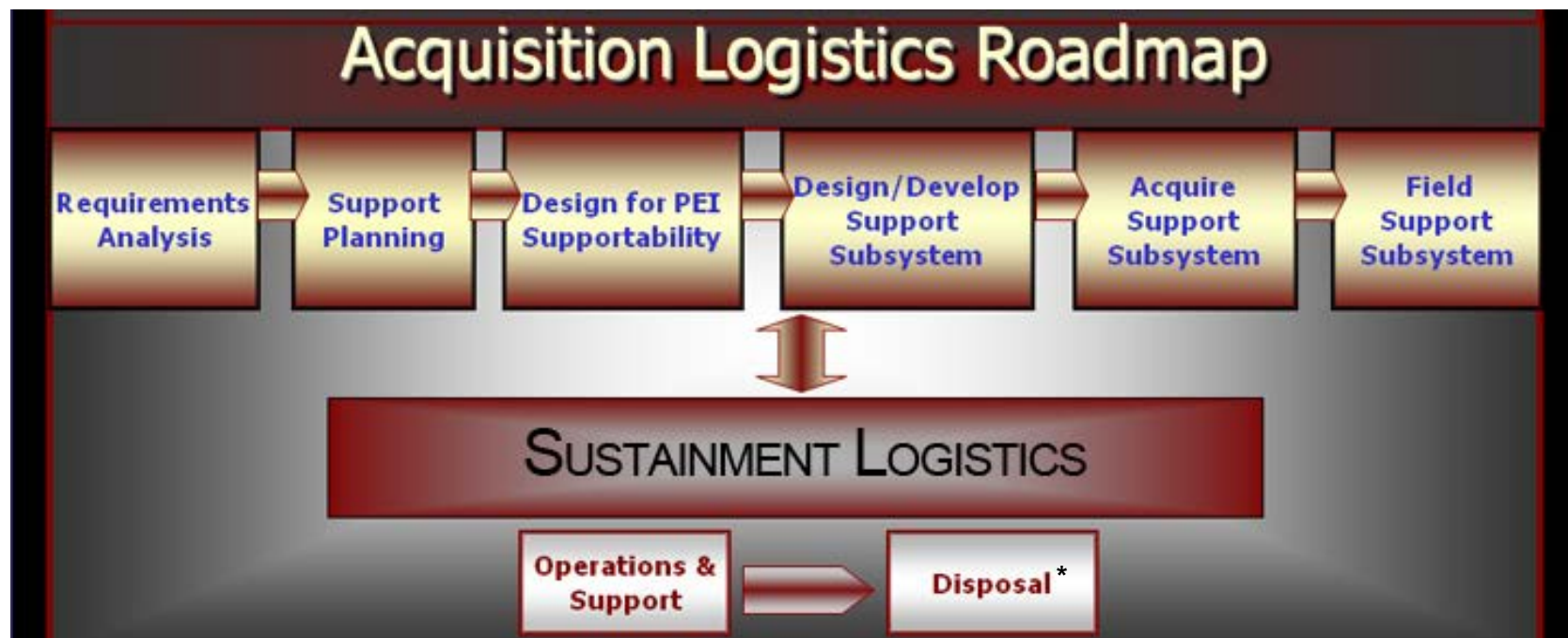
Source Document 3 / 3

- ▶ The baseline USMC LRFS Template CES contains 17 logistics disciplines at the 2nd indent level.
 - ▶ The CES contains some child elements that are unique to the discipline and some child elements that are repeated in each discipline.
 - ▶ The CES is not mapped directly to the Roadmap.
- ▶ Sample portion of the baseline CES:

Logistics Requirement Funding Summary (As of XXXXXXXXX)		Appn				2008		
		R&D	PMC	O&M	MILCON	Req'd	Funded	Delta
	Total Support Program					\$0	\$0	\$0
	Subtotal: R&D					\$0	\$0	\$0
	Subtotal: PMC					\$0	\$0	\$0
	Subtotal: O&M					\$0	\$0	\$0
	Subtotal: MILCON					\$0	\$0	\$0
Element #	Logistics Element							
1.0	ILS Management					\$0	\$0	\$0
1.1	Management of Support Alternatives Analyses	R&D				\$0	\$0	\$0
1.2	Supply Chain Management	R&D				\$0	\$0	\$0
1.3	Fielding					\$0	\$0	\$0
1.3.1	Development of Fielding Plan	R&D				\$0	\$0	\$0
1.3.2	Fielding Conferences	R&D				\$0	\$0	\$0
1.3.3	Quality Program Monitoring	R&D				\$0	\$0	\$0
1.4	Warranty Tracking Process/Monitoring	R&D				\$0	\$0	\$0
1.5	Product Support Performance and Acceptance Criteria Planning	R&D				\$0	\$0	\$0
1.6	Participation in IPT Meetings	R&D				\$0	\$0	\$0
1.7	IPRs	R&D				\$0	\$0	\$0

Process

- ▶ Before convening with the subcommittees dedicated to each logistics discipline, the development team conducted an internal side-by-side comparison and mapping of the same disciplines outlined in each source document.
- ▶ From this comparison a draft CES for one logistics discipline was developed.
- ▶ The discipline-specific draft CES was created to fit into the Roadmap phase-structure:



Disposal is an exception to the pattern of using the roadmap phases for each discipline.

Process Continued

- ▶ The draft CES was distributed to all members of the discipline's committee for review before convening.
- ▶ The discipline-specific IPT then met to review and refine the CES.
- ▶ The development team then integrated the discipline-specific CES into the LRFS CES.
- ▶ Discipline-specific CES development process summary:

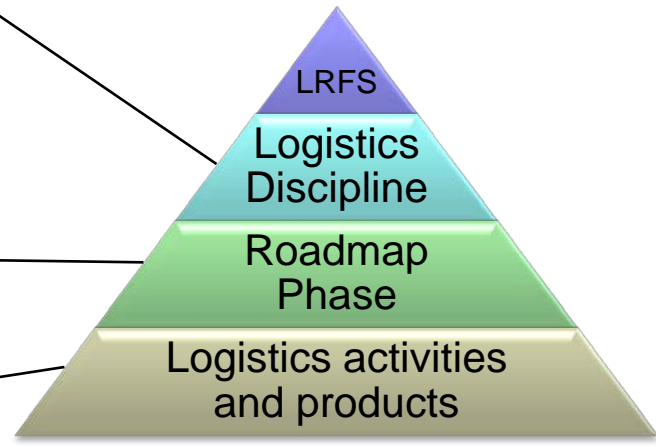


Final CES

Final CES

▶ The final CES is a 1136 element list comprising 16 logistics disciplines. Shown below is a sample discipline:

Element Number	Element Description
11	Product and Technical Data (Doesn't include costs for TD Procurement)
11.01	Requirements Analysis
11.01.01	Form TD Working Group
11.01.02	Provide Input to Programmatic Documents
11.01.03	Assess Initial Maintenance Concept w/PBL Considerations
11.02	Support Planning
11.02.01	Conduct Analysis of Support Alternatives
11.02.02	Review Preferred Supportability Plan
11.02.03	Develop Supportability Plan
11.02.04	Refine TM Requirements
11.02.05	Conduct Formal TD Call
11.02.06	Develop TD Requirements for Technical Development SOO/SOW
11.02.07	Provide TD Requirements to Procurement Request
11.02.08	Provide Input to Programmatic Documentation
11.02.09	Conduct TM Development
11.03	Design for PEI Supportability (DPS)
11.03.01	Conduct Manpower Task Analysis
11.03.01.01	Conduct Job Task Analysis
11.03.01.02	Participate in Various IPT/IPR
11.03.02	Receive/Review Technology Development Contract deliverables
11.03.03	Review and Comment on RFP and other Contractual language
11.03.04	Provide Input to Programmatic Documentation
11.04	Design/Develop Support Subsystem
11.04.01	Participate in Various IPT/IPR
11.04.02	Receive/Review TD deliverables
11.04.03	Provide Input to Programmatic Documentation
11.04.04	Review and Comment on RFP and other Contractual language
11.05	Acquire Support Subsystem
11.05.01	Review Contract(s) Modifications and Upgrades
11.05.02	Participate in Various IPT/IPR
11.05.03	Review TD and TM Deliverables
11.05.04	Validation/Verification of TM
11.05.05	Provide Input to Programmatic Documentation
11.05.06	Final Review, Approval and Promulgation of TMs and Fielding Plan
11.06	Field Support Subsystem
11.06.01	Load TD into Appropriate Data Repository
11.06.02	Issue Final Approved TMs
11.07	Operations and Support
11.07.01	Monitor website for TM Changes/Revisions
11.07.02	Receive TD Change Request
11.07.03	Load updated TD into Appropriate Data Repository
11.07.04	Update CM Plan



Questions?

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