



Cost Assessment Data Enterprise

# CADE Vision & Current Initiatives

## Joint CSDR/EVM Training

May 2016

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Last Updated: May 13, 2016





# Purpose/Overview

OSD CAPE

## Purpose:

- Provide overview of CADE's Objective
- Update the aviation community on current Initiatives
- Request industry/government assistance to successfully implement initiatives

## Overview

### CADE Overview

Objective

Vision

Coalition

### CSDR/EVM Co-Plan Initiative

### PATH FORWARD

### FlexFile Overview/What We Need From You?

1921 Today's Burdensome Process

Why the FlexFile?

Efficiencies Realized

FlexFile Evolution

### Technical Data

1921-T/1921-Q/1921-R

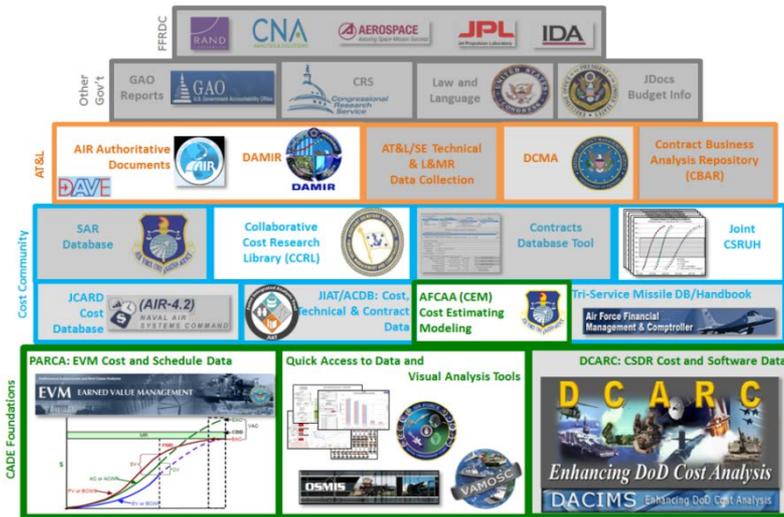
SRDR (Development/Maintenance)



# Why We Need This Data: Improved Acquisition Outcomes

OSD CAPE

## CADE Integration Across the Community



## BETTER DATA:

- **Quality:** Authoritative Quality Data means more time for analysis; less time collecting data.
- **Completeness:** Integrated data enables comprehensive assessments; less burden on industry
- **Availability:** Near real-time access to data
- **Transparency:** Authoritative Source data also increases confidence in results

## IMPROVED ACQUISITION OUTCOMES:

- **Authoritative Quality Data:** Cooperative Planning and Compliance lead to better data and improved program management
- **Common Terminology:** has created the ability to estimate across Departments
- **Full view of Weapons Systems Program Performance:** Visual analytics, trend analysis & technical data to improve cost realism and make informed decisions

## STRONGER DECISION SUPPORT:

- **Standardized:** Standardized data collection supports standardized analysis
- **Cost Realism:** Fundamental to preparing credible cost estimates & contract negotiations
- **Institutional Knowledge:** Effective tool to retain historical knowledge and turn data into information
- **Budget Preparation:** Used to assess the adequacy of budgets and program plans

Cost analysts will have data and institutional knowledge at their fingertips. It will be the exception – not the rule – that we have to go back to Industry to do our estimates



# CADE Coalition:

# The Cost Community, AT&L & Industry

OSD CAPE

## Cost

**FlexFile:** John Fitch, NCCA  
**CSDR/EVM Co-Plan, WBS Alignment:** John McGregor, AT&L  
 PARCA/EVM  
**1921-3:** Mike Biver and Dr. Carol Moore, CAPE  
**Sustainment:** Tom Henry, CAPE, Lisa Mably, AFCAA

## Technical

**SRDR:** Ranae Woods, AFCAA  
**CARD:** Curt Khol, CAPE  
**Tech Data WG:** Greg Hogan, AFCAA  
**MAIS WG:** Richard Mabe, AFCAA

## Commodity Study Joint Effort

### Aircraft, UAV



Scott Adamson, AFCAA

### Missiles



John Cargill, AFCAA

### Radar, C2 Center, C4I



Cari Pullen, AFCAA

### ICBM



Patty Hach, AFCAA

### O&S



Lisa Mably, AFCAA

### Navy Ship



Praful Patel, Ben Breaux, NCCA

### Space



Greg Hogan, AFCAA

### WTV



Aivars Baumanis, DASA-CE  
 David Holm, TACOM  
 Stephen Pawlow, PEO Land Systems

### MAIS



Richard Mabe, AFCAA

## Office Collaboration

**Air Force**  
 AFCAA CEM joint effort on CADE, commodity leads, Contracts Databases, SMC early FlexFile prototypes

**Navy**  
 FlexFile, JCARD (NAVAIR), Ships WG, CCRL, CER Handbook

**USMC**  
 USMC BOM/CER Effort

**Army**  
 JIAT, ACDB/WTV prototype, WTV CIPT, TACOM, Historical Data Migration

**MDA**  
 MDA-DCARC alignment, CCRG

**AT&L**  
 EVM-CR, CSDR/EVM Co-Plans, DAVE (DAMIR, AIR, Kaleidoscope) DDR&E/SE tech data; Big Data initiative, LM&R CARD input, DCMA, DPAP, DAU

**Industry**  
 LM, Boeing, NGC, BAE, GDLS, HII, Ball Aerospace CSDR Focus Group, JSCC, Joint Training, NDIA, WTV CIPT, Aviation CIPT

**AFCAA**  
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**DASA-CE**  
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# CSDR/EVM Co-Plan Initiative

OSD CAPE

## Reduce Contractor Administrative Burden:

- Align reporting structures for CDR and IPMR reporting
- Up-front planning prior to RFP release
- Standardization of WBS by commodity and phase
- Reduce ad-hoc data collection

## Strategic Planning between PM, CAPE, PARCA & Services:

- One voice, one direction
- Support needs of both Cost & EV communities
- Joint review/approval process
- Integrated Post Award Meeting

## Better Data:

- Less allocations caused by CDR and CPR misalignment
- Insight into requirements pre-RFP
- Standard process

## CAPE & PARCA Co-Planning Process

### Old

EV Planning Process



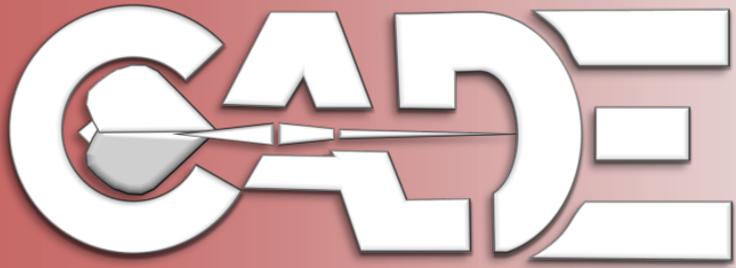
CSDR Planning Process



### New

Co-CSDR/EVM Planning Process





Cost Assessment Data Enterprise

# FLEXFILES

THE FUTURE OF COST ANALYSIS





# FlexFiles: Objectives

## A Win-Win Government and Industry Partnership

OSD CAPE

### Increase Efficiency:

- Collect data according to the contractor's management structure
- Removal of legacy 1921 forms
- Reduce ad hoc/supplemental government data collection efforts
- Much easier and less time consuming for Industry – allows them to reduce back end support
- Automation: data flows directly from contractor systems into ours

### Improving Data Quality:

- Eliminate Human Error/Subjectivity
- Collect raw data, and use technology to eliminate arbitrary allocations and errors
- Consistent application of Mil-STD-881C to both EV and CSDR data – data Alignment
- Review and mapping pre-contract award

### Ensure Completeness:

- Provides much more insight and analysis flexibility
- Annual submissions
- Receive data over time
- Include cost and supporting technical data



# Merge Two Different Use Cases for Data

OSD CAPE

## Analysts Focused on Single Program:

- Requires detailed understanding of one program
- Develops & defends programs budget submissions
- Supports PM, FM, Logistics, & contracting officer
- Needs to talk contractor's language

*Needs: Detailed data on one specific program over time*

## Analysts Focused on Early Alternatives/Independent Estimates:

- Requires general understanding of many programs
- Discerns highest effectiveness alternatives from different solutions
- Evaluates realism of budget submissions in context of broader historical experience
- Needs to compare systems from many contractors/programs

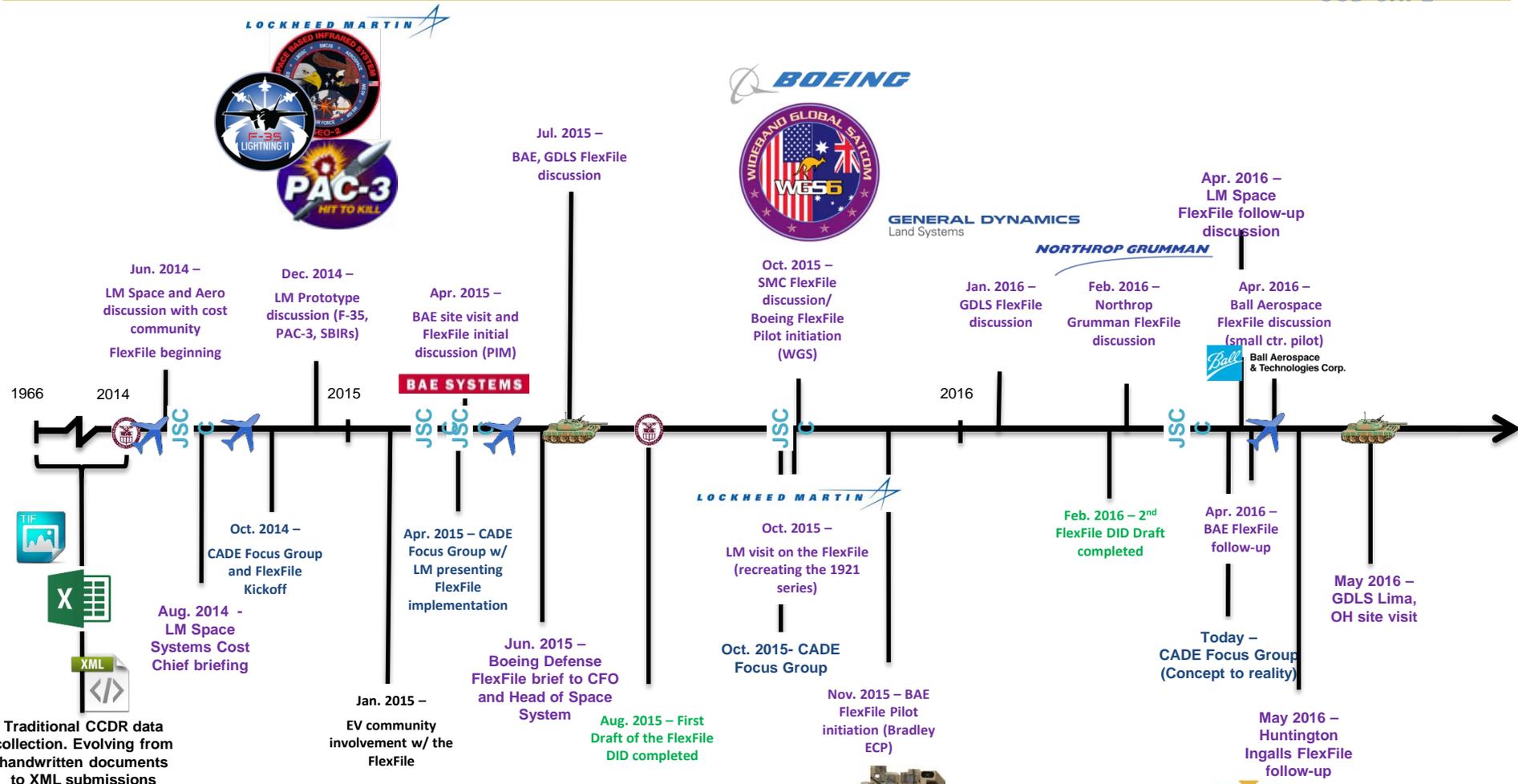
*Needs: Translatable data across many programs over time*

**The cases are dissimilar, but not mutually exclusive. A program cost analyst may be asked to show comparisons, a generalist may need to dig into detailed data to understand what is going on in history.**



# History of the FlexFile Effort

OSD CAPE



Nation Defense Industrial Association  
1/2014, 8/2015  
JSCC Joint Space Cost Council  
7/2014, 3/2015, 4/2015, 10/2015

Aviation CIPT  
5/2014, 9/2014, 5/2015, 12/2015  
Wheeled and Tracked Vehicle IPT  
7/2015, 5/2016





# Round 1 Pilots

OSD CAPE



## August 6, 2015: Developed FlexFile DID for pilots & feedback from government and industry:

- Established Process for FlexFile prototypes with industry partners

## Creation of working-level government teams:

- CAPE/DCARC leadership socialized pilots with contractor/government leadership
- Government teams reviewed data/compared with other reports

## Identification of pilot programs with Lockheed, Boeing, and BAE Systems

- Discussed current CCDR generation practice & data systems with contractors
- Mapped instruction data fields to contractor data fields in 4-6 hour meetings w/ contractors
- Reviewed LM data provided in Sep 2015
- Boeing/BAE generated FlexFile and provided walk-through by telecon

**Instruction feedback/lessons learned folded into FlexFile Pilot Round 2 draft DID, dated February 5, 2016**



# Round 2 Pilots

OSD CAPE

February  
2016



May  
2016



## February 5, 2016: FlexFile Instruction

- Revised draft released for comment & support second round of pilots

## FlexFile XML Schema & IT Tool Development

- Funded development for Mar-Aug 2016

## FlexFile Pilot Round #2 (Feb-May 2016)

- GDLS (Stryker, meeting 02 May)
- BAE (PIM, M88A2, meeting 12 Apr) (non-EVM)
- Boeing
  - Aviation O&S (platform TBD)
  - GBI (Boeing building data set)
- Northrop Grumman (B-2 EHF, meeting 24 Feb, NGC building data set)
- Huntington-Ingalls (Ship program, meeting TBD)
- Ball Aerospace (Small contractor, meeting TBD)

**Objective:  
Expand Scenarios,  
Contractors, and  
Systems Command  
Involvement**



# FlexFile Draft DID (May 2016)

OSD CAPE

A

## WBS Dictionary & Remarks

WBS Index  
 Definitions by WBS  
 Cost Content  
 Work Content  
 Supplier & GFE elements  
 Contractor Remarks, Comments by WBS Element  
 Direct-Reporting Subs

B

## Metadata

Program Name  
 Contract #  
 Approved Co-Plan #  
 Contractor Name, Location, POC  
 As of Date  
 Submission Event Name  
 Phase  
 Report Type

C

## Contractor Cost Data Report

Unallocated Actual Costs & Hours  
 WBS, Control Account, Work Package  
 Data by Month  
 Recurring vs. Nonrecurring  
 CLIN & Lot  
 Functional Rate (Gov & Internal)

D

## Allocation Methodology

Contractor's Distribution of Unallocated Actual Costs  
 Unit/Lot Level Allocation

E

## Contractor Cost Data Field Dictionary

Contractor Internal Accounting Data  
 Field Descriptions

*As required by Co-Plan*

F

## Estimates at Completion

Estimates at Complete (EAC) by WBS Element (as required by Co-Plan)

G

## Supplemental Information

MRP Floor Hours Report



# Data Group C: FlexFile Data Fields

OSD CAPE

## Allocation Methodology

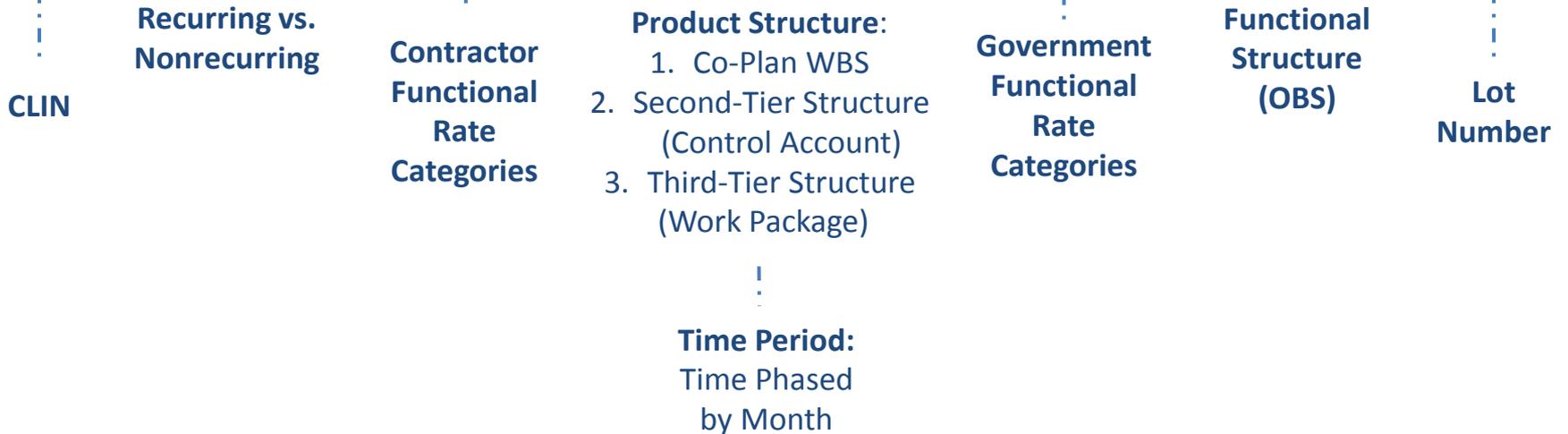
%



Actual Cost & Hours To Date



Cost & Hour Estimates At Completion





# FlexFile Critical Path

CSD CAPE

FlexFile  
XML Schema

IT Infrastructure  
Development

IOC

IT Tool  
Development

DID Draft #3

Round 3 Pilots

Training

Policy Updates

*April*

*June*

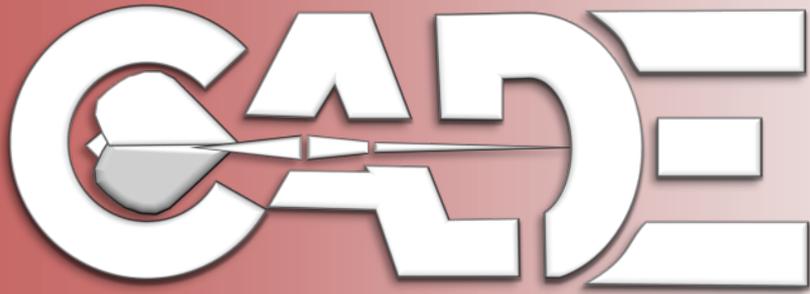
*September*

*December*

## Phased Roll-Out of FlexFile:

1. On EVM reporting contracts as contractors become familiarized with new instruction-Jan 2017+
2. Non-EVM, sustainment, and small contractors will follow as pilots prove DID in these areas

**DCARC is evaluating early pilot data submissions in lieu of CCDR reports as incentive for pilot support**



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# CADE Path Forward





# FlexFile Evolution

OSD CAPE

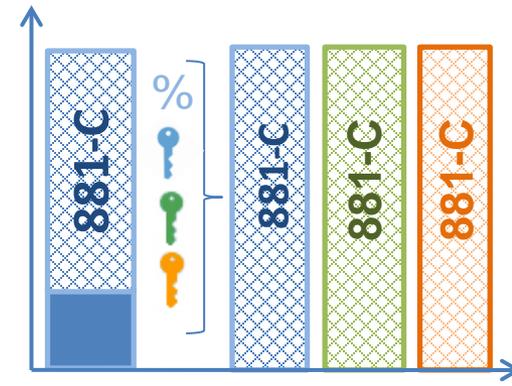
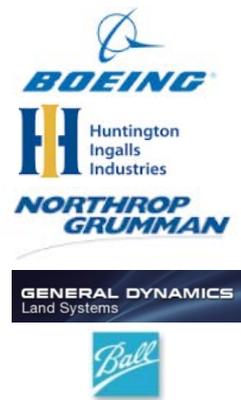
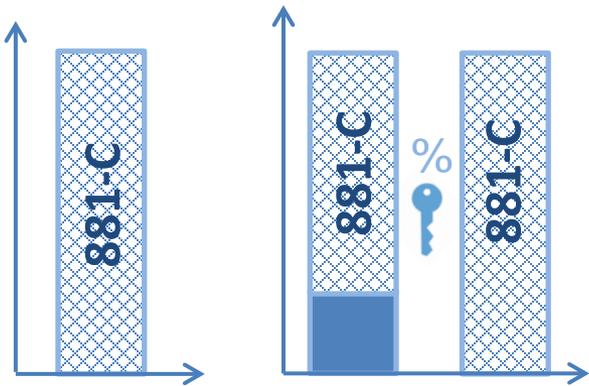
Summer 2014 – Summer 2015

SEP – DEC 2015

FEB – MAY 2016

MAR – AUG 2016

Future



Concept Definition

Insight into Cost Accounts & Re-Create 1921

Insight into Cost Accounts & Unallocated Data & Allocation Methodology

Round 2 Pilots:  
- Small Ctr  
- Sustainment  
- Ship and WTV  
Process Oriented WBS

IT Development  
XML Schema design  
Software App Dev  
- XML Ingest  
- Data export

Allocation and mapping matrix provided for contractor and government analysts



(LRIP Allocated Program)  
**BAE SYSTEMS**  
(Development Program)

**BOEING**  
(Production Program with Allocation Table)





# Path to FlexFile

OSD CAPE

Summer 2014 – Summer 2015

September – December 2015

JAN - MAY 2016

MAR – AUG 2016

Future



Concept Definition

Insight into Cost Accounts & Re-Create 1921

Insight into Cost Accounts & Unallocated Data & Allocation Methodology

Round 2 Pilots:

IT Development

Allocation and mapping matrix provided for contractor and government analysts

- Small Ctr
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- XML Schema design
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  - Data export



LOCKHEED MARTIN (LRIP Allocated Program)

BAE SYSTEMS (Development Program)

BOEING (Production Program with Allocation Table)

**Once we can prove through the pilot that a program can submit a FlexFile with an allocation matrix – we are ready to work with you to replace the CCDR requirement with a FlexFile**



# CADE

## Planned Accomplishments – Next 12 months

OSD CAPE

### Policy:

- Final CARD Guidance
- Final SRDR DID
- Draft 1921-T DID (including quantity)
- Standard CSDR
- Co-Plans
- FlexFiles – FlexFile Prototype Instruction and Prototypes (Draft DID)
- CSDR Planning and Validation Coordination with the Services
- CER Handbook

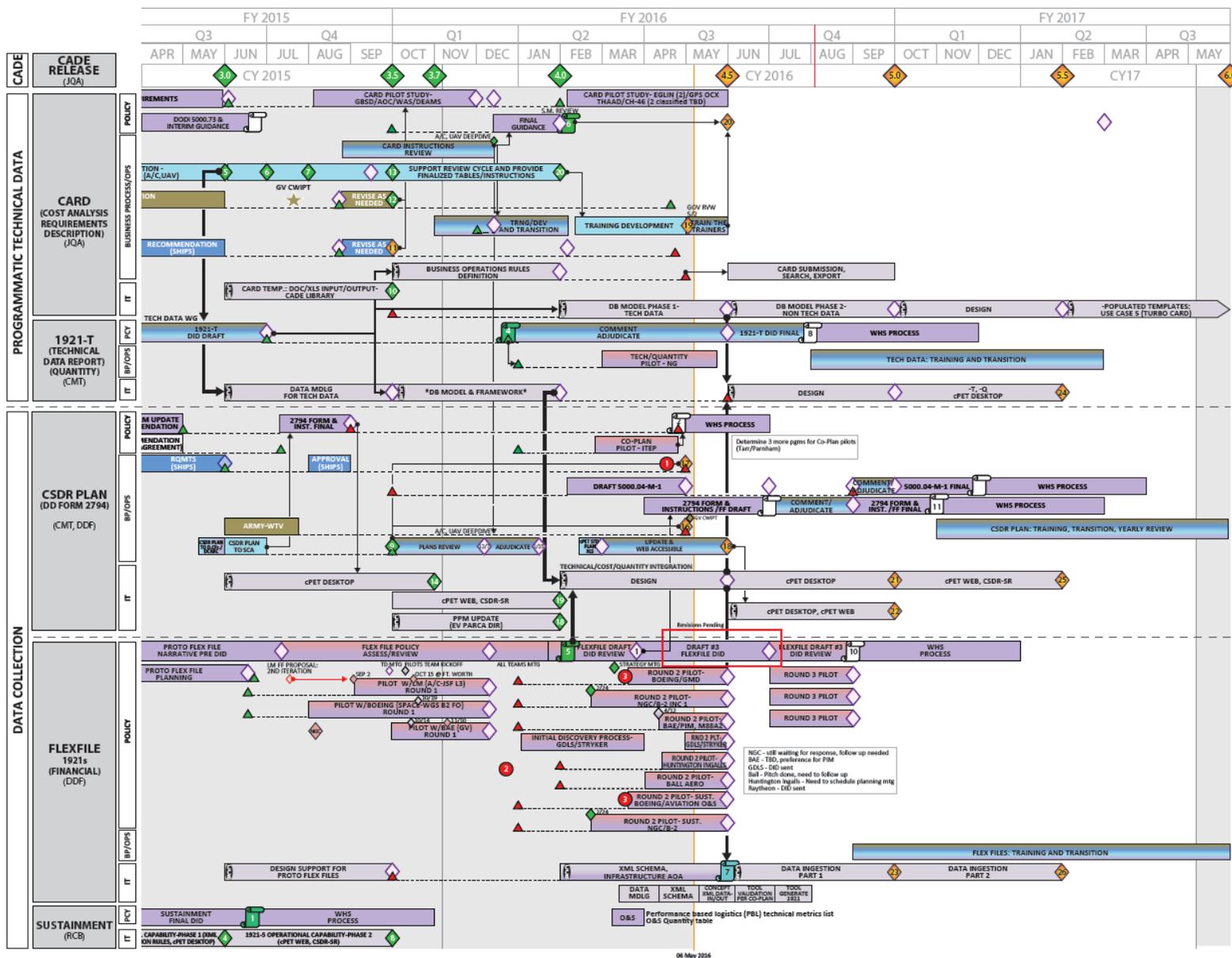
### Business Processes:

- Co-Plan (DD Form 2794)
- Air Force CEM, MAIS, Army WTV, Navy Ships
- CARD Tables
- CSDR Plan Standards
- CADE Library

### IT Development (release 4.5 to 5.0):

- Cross Program Query
- CADE Analytics
- SRDR cPET Desktop
- FlexFile Development

# CADE Initiatives



**KEY ACCOMPLISHMENTS (PAST 6 MONTHS)**

- CADE RELEASE 3.5/3.7/4.0
- 1921-S cPET WEB, CSDR-SR - LIVE
- A/F CSDR PLAN STANDARDS
- CADE LIBRARY - LIVE
- LAUNCH SYSTEMS CARD TABLES
- CO-PLAN cPET DESKTOP - LIVE
- SRDR EXCEL SUBMIT - LIVE
- PPM PLAN CO-SIGN - LIVE
- CO-PLAN cPET WEB, CSDR-SR - LIVE
- FINAL CARD TABLES/INSTRUCTIONS
- DRAFT 1921-T DID
- DRAFT FLEXFILE DID

**DELIVERABLES (NEXT 12 MONTHS)**

- FINAL SHIPS CARD TABLES
- FINAL WTV CARD TABLES
- ARMY WTV CSDR PLAN STANDARD
- NAVY SHIPS CSDR PLAN STANDARD
- A/F CSDR PLAN STD XLS - LIVE
- TRAINING DOCUMENTATION
- CARD IMPLEMENTATION
- COST/TECH INTEG cPET DT - LIVE
- A/F PLAN STD cPET DT/WEB - LIVE
- FF DATA INGESTION PT 1 - LIVE
- 1921-T/Q cPET DESKTOP - LIVE
- COST/TECH INTEG cPET WEB - LIVE
- FF DATA INGESTION PT 2 - LIVE
- SRDR cPET DESKTOP - LIVE
- SRDR cPET WEB/CSDR-SR - LIVE
- FINAL 2794 FORM & INST.
- FINAL SRDR DEV/MX DID & FORM
- FINAL CARD GUIDANCE
- HW/SW: FF NEEDS ASSESSMENT
- FINAL 1921-T DID
- FINAL ERP SRDR DID
- FINAL FLEXFILE DID
- FINAL 2794/FF DID
- CADE RELEASE 4.5

**DECISION POINTS (NEXT 1-6 WKS)**

- FlexFiles DID ready for Draft v3?

**HELP NEEDED (\$\$/RESOURCES)**

- SHIPS CSDR Plan Standard (Breux)
- FlexFiles Round 2 Pilots
- Boeing Round 2 Pilot (Miller)

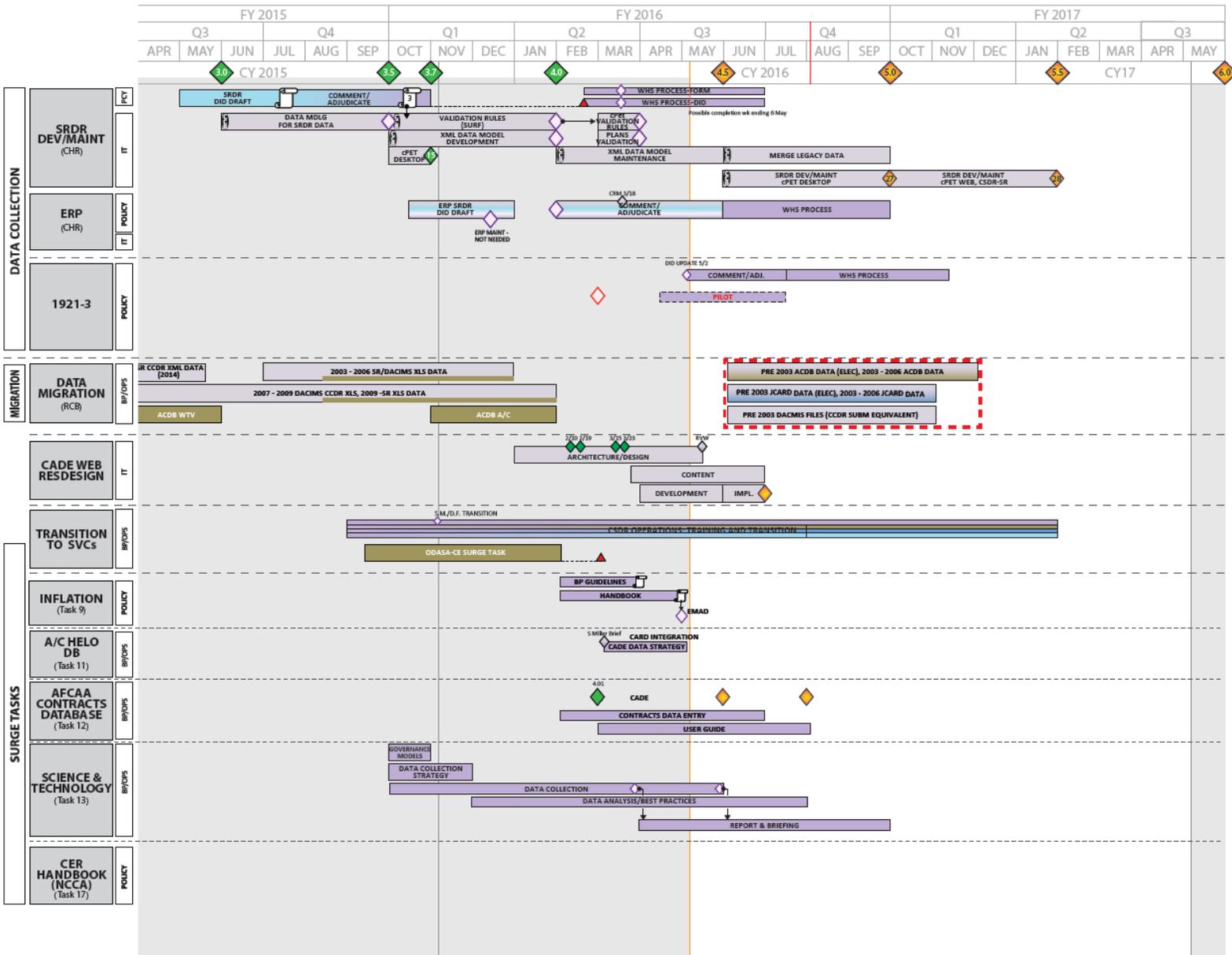
**Legend:**

- OSD-CAP: CADE DEV
- OSD-ATL: CAPABILITY
- AIR FORCE: DECISION-RES/DORON
- ARMY: DECISION-COOP COMMUNITY
- NAVY: DECISION-COOP COMMUNITY
- INDUSTRY: COOP TRAINING
- OSD-ATL: CSDR FOCUS GROUP
- AIR FORCE: COOP LEADERSHIP FORUM
- ARMY: JOINT TRAINING/FOCUS GROUP
- INDUSTRY: COOP TRAINING

**CADE**  
Cost Assessment Data Enterprise

**CAPABILITY ROADMAP**  
05 May 2016

# CADE Initiatives Continued



KEY ACCOMPLISHMENTS (PAST 6 MONTHS)	
◆	CADE RELEASE 3.5/3.7/4.0
◆	1921-5 cPET WEB, CSDR-SR - LIVE <small>02/16</small>
◆	A/F CSDR PLAN STANDARDS <small>03/16</small>
◆	CADE LIBRARY - LIVE <small>03/16</small>
◆	LAUNCH SYSTEMS CARD TABLES <small>03/16</small>
◆	CO-PLAN cPET DESKTOP - LIVE <small>03/16</small>
◆	SRDR EXCEL SUBMIT - LIVE <small>03/16</small>
◆	PPM PLAN CO-SIGN - LIVE <small>04/16</small>
◆	CO-PLAN cPET WEB, CSDR-SR - LIVE <small>04/16</small>
◆	FINAL CARD TABLES/INSTRUCTIONS <small>04/16</small>
◆	DRAFT 1921-T DID <small>04/16</small>
◆	DRAFT FLEXFILE DID <small>04/16</small>
DELIVERABLES (NEXT 12 MONTHS)	
◆	FINAL SHIPS CARD TABLES <small>04/16</small>
◆	FINAL WTV CARD TABLES <small>04/16</small>
◆	ARMY WTV CSDR PLAN STANDARD <small>05/16</small>
◆	NAVY SHIPS CSDR PLAN STANDARD <small>05/16</small>
◆	A/F CSDR PLAN STD XLS - LIVE <small>06/16</small>
◆	TRAINING DOCUMENTATION <small>06/16</small>
◆	CARD IMPLEMENTATION <small>06/16</small>
◆	COST/TECH INTEG cPET DT - LIVE <small>03/16</small>
◆	A/F PLAN STD cPET DT - LIVE <small>03/16</small>
◆	FF DATA INTEGRATION PT 1 - LIVE <small>03/16</small>
◆	1921-T/Q cPET DESKTOP - LIVE <small>04/17</small>
◆	COST/TECH INTEG cPET WEB - LIVE <small>04/17</small>
◆	FF DATA INTEGRATION PT 2 - LIVE <small>03/16</small>
◆	SRDR cPET DESKTOP - LIVE <small>03/16</small>
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◆	FINAL FLEXFILE DID <small>04/16</small>
◆	FINAL 2794/FF DID <small>03/16</small>
◆	CADE RELEASE 4.5 <small>04/16</small> - 5.5 <small>04/17</small>
DECISION POINTS (NEXT 1-6 WKS)	
◆	FlexFiles DID ready for Draft v3?
HELP NEEDED (\$\$/RESOURCES)	
◆	SHIPS CSDR Plan Standard (Breaux)
◆	FlexFiles Round 2 Pilots
◆	Boeing Round 2 Pilot (Miller)

GROUP	INITIATIVE	STATUS
CSDR CAPE	CADE DEV	PROG. QUESTIONS
	CSDR ATBL	CAPABILITY
AIR FORCE	DECISION-REES/DARON	CSDR FOCUS GROUP
	ARMY	COST LEADERSHIP FORUM
NAVY	DECISION-COST COMMUNITY	JOINT TRAINING PLAN GROUP
	INDUSTRY	CSDR TRAINING



# CADE Closing: Why It's Important

OSD CAPE

## Improved Acquisition Outcomes:

- **Authoritative Quality Data:** Cooperative planning and compliance lead to better data and improved program management
- **Cost Realism:** Provide real-time cost data for analysis and facilitating quicker contract negotiations
- **Full view of Weapons Systems Program Performance:** Visual analytics, trend analysis and technical data to improve cost realism and make informed decisions

## Efficient and Effective Analysis (at all levels: OSD, Services, PMOs):

- Improved Analytical Rigor and Productivity
- More time for analysis and execution; Less time collecting and feeding data
- More comprehensive assessments and reduced burden on industry

## Cost Community Coordination:

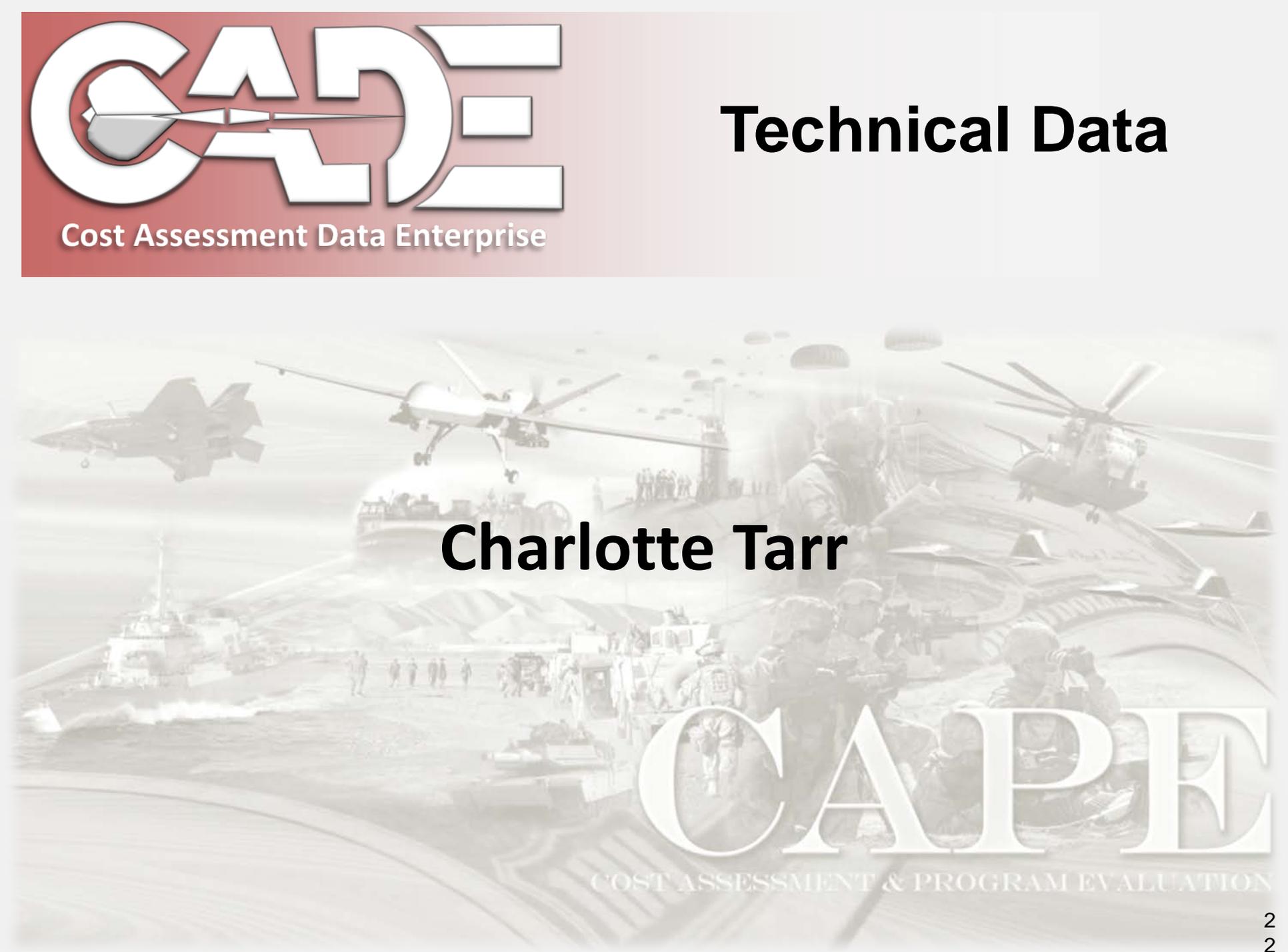
- Revolutionizing cost data collection
- Cost community ownership of leadership, training and estimating responsibility
- Improving terminology and practices across Departments

**Let's continue to become more efficient together**



Cost Assessment Data Enterprise

# Technical Data

A detailed, semi-transparent background image of an aircraft carrier's deck. It shows various aircraft including an F-35 fighter jet, a P-8 Poseidon maritime patrol bomber, and a Sikorsky helicopter. Personnel in military uniforms are visible on the deck, and the ship's superstructure is in the background.

**Charlotte Tarr**

**CAPE**

COST ASSESSMENT & PROGRAM EVALUATION



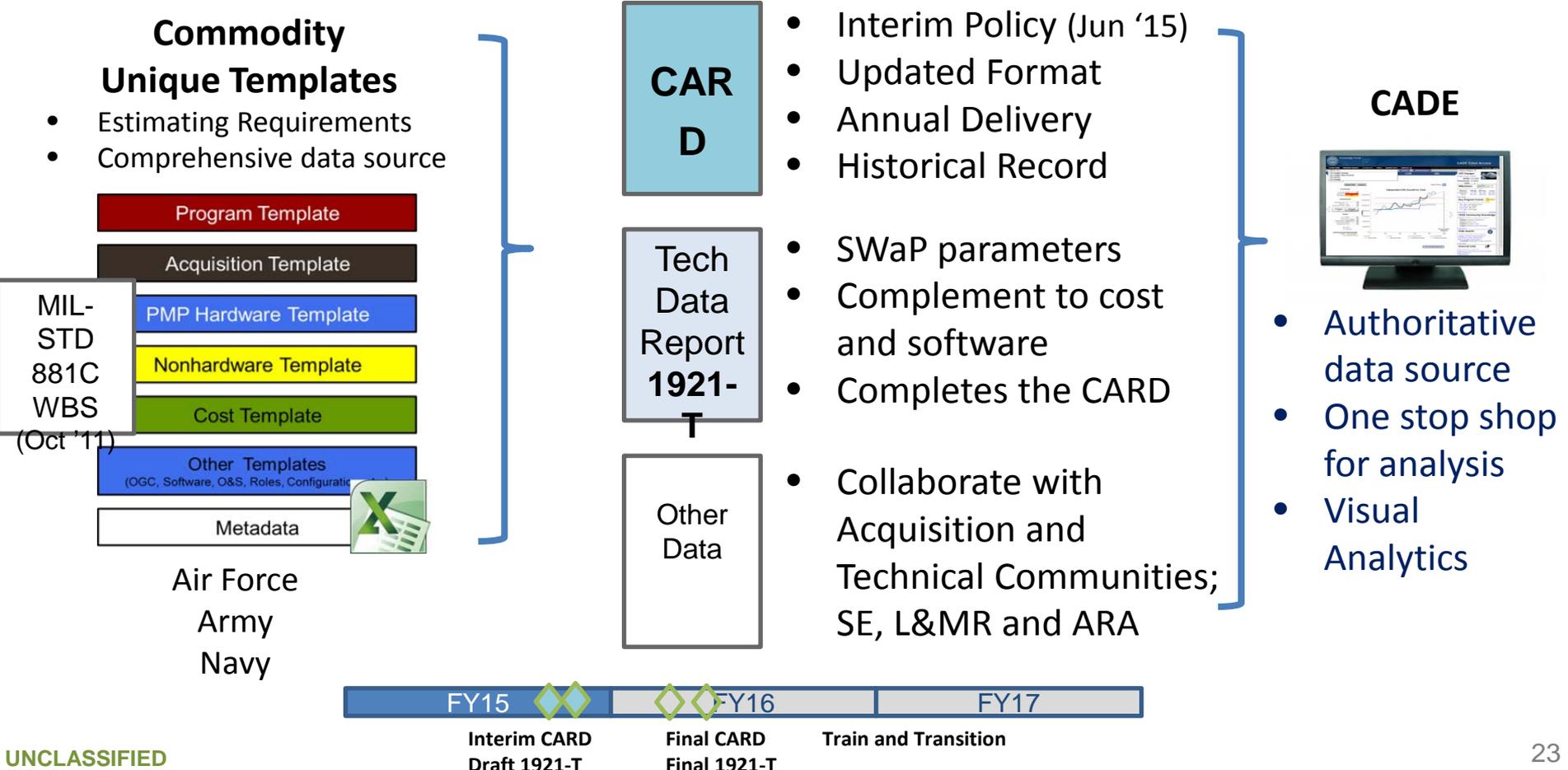
# Tech Data Streamlining

## Lessening Burden and Improving Data

OSD CAPE

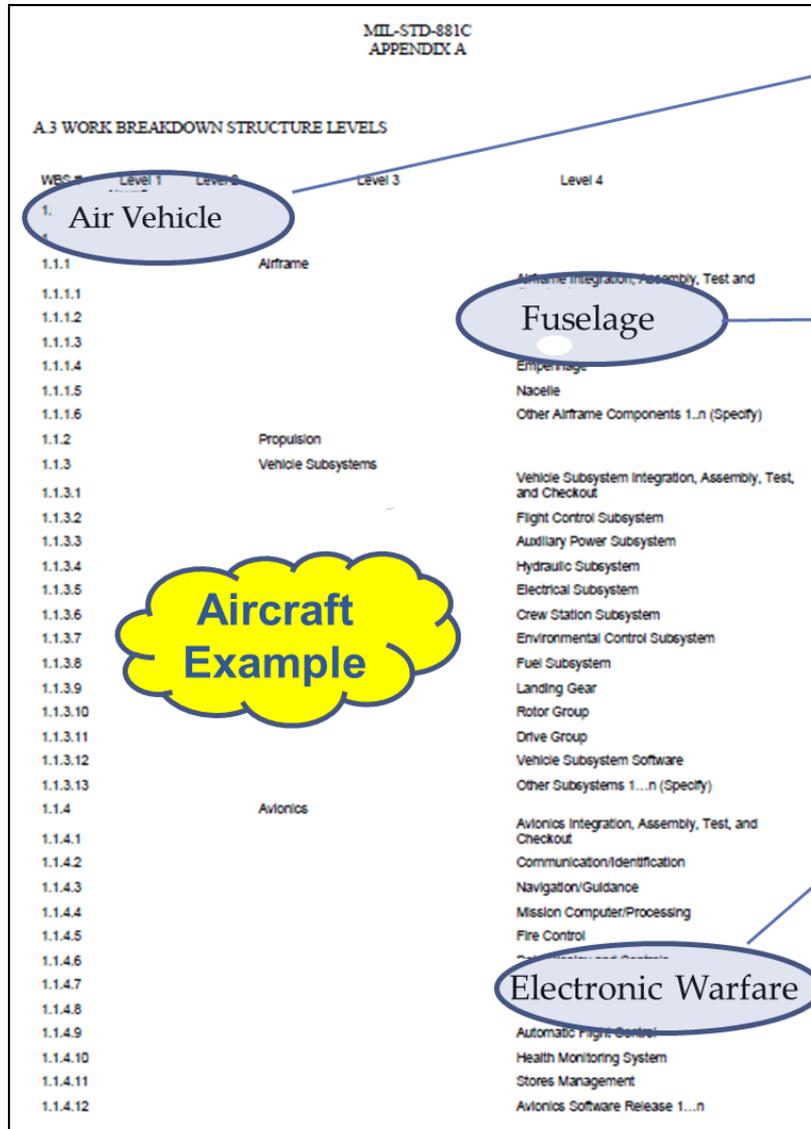
### Current State:

- Current data collection methods are ad-hoc, inefficient and scattered across the department
- Result: We re-construct technical analogies for nearly every estimate



# Aircraft Tech Data Example

OSD CAPE



## Aircraft System Level Parameters:

- System Physical Characteristics:
  - Length, Width, Height, Weight,...
- System Performance Characteristics:
  - Speed, Range, ...

## Fuselage Parameters:

- Weight
- Drawing Types/Count
- Material Mix
- Parts Count
- ...

## EW System Level Parameters:

- Total Weight (lbs)
- TRL
- Input Power
- Total HW Suite Volume (Cu. Ft)
- Power Density HW Suite (kW/Cu. Ft.)
- # Configurations
- Instantaneous Bandwidth (Ghz)
- Typical Receiver Bandwidth (Mhz)/Frequency
- Minimum Pulse Width (msec)
- Typical Pulse Width (msec)
- Scan Rate (RPM)
- Accuracy (+- Mhz)
- Response (sec)
- Coverage (deg)
- Azimuth (deg)
- ...

# Technical Data Report MGMT

## DID

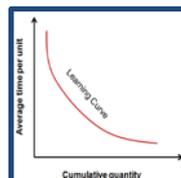


### TECHNICAL

#### FORMAT 1 (1921)-

- Technical Parameter Name
- Unit of Measure
- Value
- Part ID #
- Estimate/Actual
- Group Key
- Margin
- Value Source
- Unit of Measure Qualifier
- Comments

Report Frequency by Design Gate



### QUANTITY

#### FORMAT 2 (1921)-

- To Date/At Completion Units:
  - Lot/Block
  - Units Completed To Date
  - Units in Process
- Model/Variant/Flight
- At Completion QTY
- Internal QTY
- Concurrent QTY
- GFE Units
- Comments

Report Frequency by Cost Report



### REPAIR PART

#### FORMAT 3 (1921)-

- Repair Event
  - System/End Item Data:
    - End Item Number
    - Model/Variant
  - Failure Data:
    - Non-Mission Capable
    - Scheduled Event
    - Failure Code
    - Failure Code Description
  - Repair Data:
    - Start/Completion Date
    - Maintenance Type/Level
    - Man Hours
    - Labor/Material Cost

Report Frequency by Cost Report



# 1921-Q Reporting Requirements

OSD CAPE

## QUANTITY DATA REPORT

The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate, Information Management Division, 4800 Mark Center Drive, Alexandria VA 22350-3100 (0104-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.**

### UNITS COMPLETED TO DATE AND AT COMPLETION

WBS ELEMENT CODE	WBS ELEMENT NAME	TO DATE UNITS		AT COMPLETION UNITS						COMMENTS
		UNITS COMPLETED TO DATE	UNITS IN PROCESS	MODEL/VARIANT ID			INTERNAL UNITS	CO-PRODUCTION/ CONCURRENT UNITS	GFE UNITS	
				Variant 1	Variant 2	Spares Package				
A	B	C	D	E1	E2	E3	F	G	H	I
WBS Element Code & Name, as required by the Approved Plan		Units Completed To Date and Units in Process		End Item Units by Model/Variant, as well as spares and test items			Non-Delivered Units, Concurrent Units, and GFE Units At Completion			Contractor Comments by WBS

DD FORM 1921-Q, Part C (To Date & At Completion Units), FEB 2016



# Vehicle 1921-Q Example

## QUANTITY DATA REPORT

The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate, Information Management Division, 4800 Mark Center Drive, Alexandria VA 22350-3100 (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.**

### UNITS COMPLETED TO DATE AND AT COMPLETION

WBS ELEMENT CODE	WBS ELEMENT NAME	TO DATE UNITS		AT COMPLETION UNITS							COMMENTS		
		UNITS COMPLETED TO DATE	UNITS IN PROCESS	MODEL/VARIANT/FLIGHT ID						INTERNAL UNITS		CO-PRODUCTION/ CONCURRENT UNITS	GFE UNITS
				Primary Vehicle - V1	Primary Vehicle - V2	Spares Pkg Type 1	Spares Pkg Type 2	SIL Facility	Ground Test Vehicle				
A	B	C	D	E1	E2	E3	E4	E5	E6	F	G	H	I
1.0	Surface Vehicle System	3	4	3	5	-	-	-	1	1	-	-	
1.1	Primary Vehicle	3	4	3	5	-	-	-	1	1	-	-	
1.1.1	IA&T	3	4	3	5	-	-	-	-	-	-	-	
1.1.2	Hull	5	3	3	5	-	-	-	1	1	-	-	
1.1.2.1	Base Vehicle Hull	5	3	-	5	-	-	-	-	-	-	-	
1.1.2.2	Hull Mod	2	3	3	5	-	-	-	1	1	-	-	
1.1.3	Turret	9	2	6	5	-	5	-	1	1	-	-	
1.1.4	Suspension	8	4	3	5	-	-	-	1	1	-	-	
1.1.5	PPDT	3	5	3	5	-	-	-	-	-	-	22	
1.1.6	Fire Control	11	3	3	5	-	5	1	-	-	5	-	
1.1.7	Comm	4	2	3	5	-	-	-	-	-	-	-	
1.1.7.1	Part 1 a			3	-	9	-	1	-	-	-	-	
1.1.7.2	Part 1 b			-	5	-	-	1	-	-	-	-	
1.1.7.3	Part 2 (common)												
1.1.7.4	Part 3 (common 2x1)												

**B**

MODEL/VARIANT END ITEMS					
1. CONTRACT QUANTITY	2. UNIT/SUBLOT REPORTING TYPE				
	3. LOTS/BLOCKS			Lot	
	Lot 1	Lot 2	Lot 3	Comments	
<b>4. SYSTEM</b>	30	8	10	12	
<b>5. MODEL IDs</b>					
Primary Vehicle - V1	12	3	4	5	
Primary Vehicle - V2	18	5	6	7	
Spares Pkg Type 1	12	3	4	5	
Spares Pkg Type 2	18	5	6	7	
SIL Facility	3	1	1	1	
Ground Test Vehicle	3	1	1	1	



# 1921-T Reporting Requirements

OSD CAPE

## TECHNICAL DATA REPORT

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## TECHNICAL PARAMETER DATA TABLE

PART ID/KEY	ITEM TYPE	TECHNICAL PARAMETER NAME	GROUP KEY	VALUE	MARGIN	UNIT OF MEASURE	UNIT OF MEASURE QUALIFIER	ESTIMATE/ACTUAL	VALUE SOURCE	COMMENTS
A	B	C	D	E	F	G	H	I	J	K

Part ID for Unique/Common Identification of Parts per WBS Element (Part ID Mapping Table)

Item Type and Technical Parameter Name, as required by the Approved Plan

Group Key to cluster related parts, Value by part, and Margin if applicable

Unit of Measure and Qualifier, as required by the Approved Plan

For each reported Value, identify as Estimate/Actual and contractor's Value Source

Contractor Comments by Part

DD FORM 1921-T, Part C (Technical Parameter Data Table), FEB 2016



# Vehicle 1921-T Example

The Part ID/Key Mapping Table allows the technical parameter values from a specific hardware component to be specified and collected once, yet pertain to multiple occurrences throughout the WBS.

**TECHNICAL DATA REPORT**

The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate, Information Management Division, 4800 Mark Center Drive, Alexandria VA 22304-3100 (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

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**TECHNICAL PARAMETER DATA TABLE**

PART ID/KEY	ITEM TYPE	TECHNICAL PARAMETER NAME	GROUP KEY	VALUE	MARGIN	UNIT OF MEASURE	UNIT OF MEASURE QUALIFIER	ESTIMATE/ACTUAL	VALUE SOURCE	COMMENTS
A	B	C	D	E	F	G	H	I	J	K
x123	VEHICLE	Weight		2150	200	Pounds		Estimate	Mass Properties Report 11Nov2015	
x123	VEHICLE	Speed - Maximum		100		Miles per Hour	Dry Paved Road	Estimate	DT&E Report 02Feb2016	
x123	VEHICLE	Crew		4		Count	Persons	Actual	JROC KPP 10Jun2014	
z123	HULL	Weight		1000		Pounds		Estimate	Mass Properties Report 11Nov2015	
z123	HULL	Armor Type		Reactive		N/A		Estimate	JROC KPP 10Jun2014	
z123	HULL	Material Mix				Pounds	Aluminum	Estimate	Hull Subsystem IPR 22June2014	
z123	HULL	Material Mix				Pounds	Graphite Epoxy	Estimate	Hull Subsystem IPR 22June2014	
z123	HULL	Material Mix				Pounds	Steel	Estimate	Hull Subsystem IPR 22June2014	
d456	ITEM	Weight		100		Pounds		Estimate	Mass Properties Report 11Nov2015	
r234	SUSPENSION	Weight		250		Pounds		Actual	Mass Properties Report 11Nov2015	
r235	SUSPENSION	Type		Track		N/A		Actual	JROC KPP 10Jun2014	
t566	PPDT	Weight		500		Pounds		Estimate	Mass Properties Report 11Nov2015	
t566	PPDT	Horsepower		500		Inches		Estimate	Systems Eng Design Notebook 13Oct2015	
s234	E.BOX	Weight		100		Pounds		Estimate	Mass Properties Report 11Nov2015	
s235	E.BOX	Input Power		50		Watts		Estimate	Power Budget Report 12Dec2015	
rd123	ITEM	Weight		200		Pounds		Estimate	Mass Properties Report 11Nov2015	
rd1	E.BOX	Weight		50		Pounds		Actual	Mass Properties Report 11Nov2015	
rd1	E.BOX	Input Power		20		Watts		Actual	Power Budget Report 12Dec2015	
rd2	E.BOX	Weight		50		Pounds		Actual	Mass Properties Report 11Nov2015	
rd2	E.BOX	Input Power		10		Watts		Estimate	Power Budget Report 12Dec2015	
rd2	E.BOX	Number of Integrated Circuits	Card 1	44		Count	ICs	Estimate	Comm Subsystem IPR 23June2014	
rd2	E.BOX	Clock Speed	Card 1	33		MHz		Estimate	Comm Subsystem IPR 23June2014	
rd2	E.BOX	Card Surface Area	Card 1	48		Square Inches		Estimate	Comm Subsystem IPR 23June2014	
rd2	E.BOX	Number of Integrated Circuits	Card 2	12		Count	ICs	Estimate	Comm Subsystem IPR 23June2014	
rd2	E.BOX	Clock Speed	Card 2	64		MHz		Estimate	Comm Subsystem IPR 23June2014	
						Square Inches		Estimate	Comm Subsystem IPR 23June2014	
						Count	ICs	Estimate	Comm Subsystem IPR 23June2014	
						MHz		Estimate	Comm Subsystem IPR 23June2014	
						Square Inches		Estimate	Comm Subsystem IPR 23June2014	
						Pounds		Estimate	Mass Properties Report 11Nov2015	
						Watts		Estimate	Power Budget Report 12Dec2015	
						Pounds		Estimate	Systems Eng Design Notebook 13Oct2015	
						Miles per Hour		Estimate	John Doe email 1Jan2016	Extrapolated from V1 demonstrated speed
						N/A		Actual	JROC KPP 10Jun2014	
						Pounds		Estimate	Jane Smith email 12Jan2016	Average from three tools
						N/A		Estimate	Systems Eng Design Notebook 13Oct2015	
						Pounds		Actual	Mass Properties Report 11Nov2015	
						Pounds		Estimate	Mass Properties Report 11Nov2015	
						Watts		Estimate	Power Budget Report 12Dec2015	
						N/A		Actual	Test Team notes	
						Count	Students	Actual	Doctrine IPT Minutes 11Nov2015	
						Days		Actual	Doctrine IPT Minutes 11Nov2015	
						Count	Instructors	Actual	Doctrine IPT Minutes 11Nov2015	
						Count	Classes	Actual	Doctrine IPT Minutes 11Nov2015	
						Count	Students	Actual	Doctrine IPT Minutes 11Nov2015	
						Days		Actual	Doctrine IPT Minutes 11Nov2015	
						Count	Instructors	Actual	Doctrine IPT Minutes 11Nov2015	
						Count	Classes	Actual	Doctrine IPT Minutes 11Nov2015	
						N/A		Estimate	Analogy to XYZ program	
						GB		Estimate	Analogy to XYZ program	
						Pounds		Estimate	Mass Properties Report 11Nov2015	

**TECHNICAL DATA REPORT**

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**TECHNICAL PART ID/KEY MAPPING TABLE**

WBS ELEMENT CODE	WBS ELEMENT NAME	MODEL/VARIANT/FLIGHT ID					
		Primary Vehicle - V1	Primary Vehicle - V2	Spares Pkg Type 1	Spares Pkg Type 2	SIL Facility	Ground Test Vehicle
A	B	C1	C2	C3	C4	C5	C6
1.0	Surface Vehicle System						
1.1	Primary Vehicle	x123	y123	x123	y123		x123
1.1.1	JA&T						
1.1.2	Hull	z123x	z123x				
1.1.2.1	Base Vehicle Hull	z123z	z123z				
1.1.2.2	Hull Mod						
1.1.3	Turret	d456	d456	d456	d456		d456
1.1.4	Suspension	r234	r234	r234	r234		r234
1.1.5	PPDT	t566	t566	t566	t566		t566
1.1.6	Fire Control	s234	s234	s234	s234		s234
1.1.7	Comm	rd123	rd123x	rd123	rd123x		rd123x
1.1.7.1	Part 1 a	rd1		rd1			
1.1.7.2	Part 1 b		rd1		rd1		
1.1.7.3	Part 2 (common)	rd2	rd2	rd2	rd2		rd2
1.1.7.4	Part 3 (common 2x1)	rd3	rd3	rd3	rd3		rd3



# Software Data Update

OSD CAPE

### SRDR DID STATUS:

- Government and industry review of Data Item Descriptions (DIDs) complete
- Submitted to WHS for approval

### MAJOR DID UPDATES:

- Changes Enhance all Cost/Effort, Size, and Schedule visibility
- Consolidated Initial and Final Developer Report DIDs (currently two separate) into one DID establishing Initial, Interim, and Final reports
- Established software maintenance reporting
- Final Report time phased by month

### SRDR CADE IT DEVELOPMENT EFFORT:

- Draft SRDR Data Item Descriptions DIDs were developed by a joint service working group

**SRDR Visual Analysis Tool** User Guide Available Data

*For ESLOC Views, Enter ESLOC Assumptions*

Physical/Logical SLOC Factor	2
Modified ESLOC Factor	
Reused ESLOC Factor	
Auto Generated ESLOC Factor	

Select View

Category: Effort (Hours) Select Legend

View: Hours vs SLOC All Data Primary Development Process

Y-Axis Metric: Hours per SLOC

Filter Data	Selection	Filter Data
Counting Method	Normalized to Logical	Experience Level %
Report Type(s)	All Reports	Language
Service	Ang	CMM Level
% New Program	Ang	Peak Staff
Development Process	Ang	Requirements
Primary Contractor	Ang	Interfaces
Location	Ang	Requirements Volatility
Commodity	Ang	<span style="float: right;">Clear Filters ?</span>
Application Type Group	Ang	
Primary Application	Ang	

**Hours vs SLOC (N=191)**

**Final Crosswalk - Development SRDR**

Cost Estimating Need	Current SRDR Issue	New SRDR Requirement
Estimate by CSCI (SW Size, Effort, Description, Schedule)	Lack of Visibility	CSCI-Level Reporting
Standard size measures based on different system types (MDAP vs ERP)		ERPs RICE-FW, all else SLOC
Consistent logical DSLOC data by language to support Size and Effort		Use <b>Aerospace Unified Code Count (UCC)</b> , standard code counter; Use IFPUG for Function Points (FPs)
Requirements as Size/Effort driver		Standard, clear Requirements counts
Understanding of degree of effort for reused code relative to new code	Lack of Visibility	DM/CM/IM % or AAFs
Ability to estimate "full-up" SW effort		Prototype vs Production Representative Use ISO 12207:2008 Activities
Dollarsize SW effort estimates accurately		Direct and Indirect Costs by CSCI in SRDR
Accurately time-phase SW Dev estimates	Lack of Visibility	Report Monthly Effort in Final SRDR
Phasing, Software Growth relationships		Require Interim Reports
Stratify software efforts by Complexity, a key driver of effort (Productivity)	Too Complex	Reduce Application Domains from 119 to 17
Capture Analyst Capability Productivity Impact	Subjective/Little Value	Remove Experience requirement
Changes Enhance all Cost/Effort, Size, and Schedule Estimating Approaches: Analogy, Parametric, Commercial Models		<b>Industry Impact</b> ✓ Low Impact (Reduced <u>Reqt</u> ) ✓ Medium Impact ✓ Significant Impact



# Technical and Software Data Focus Group

OSD CAPE

## When & Where

- May 24, 2016
- SAFTAS, Crystal City, Virginia

## Who

- Technical data managers
- Software engineers
- Please send your Technical data managers and Software Engineer POCs to Cathy Ferguson at (571) 372-4260, [catherine.m.ferguson6.ctr@mail.mil](mailto:catherine.m.ferguson6.ctr@mail.mil) to be included in our invitation

## Topics

- Technical data collection initiatives
- Updated Software Resources Data Report (SRDR) Data Item Description (DID)
- How is technical data generated and captured in contractor IT systems?
- What is involved with generating technical data reports?

## Call for Industry Presenters

- Looking for industry representatives to discuss their processes and systems used to collect and manage technical data

# CADE

## Cost Assessment Data Enterprise

2016 ICEAA Professional Development & Training Workshop

# CADE Joint Training

## Philadelphia, May 2017

### Presenters:

**James Parnham**

James.M.Parnham.ctr@mail.mil

**Marc Stephenson**

Marc.J.Stephenson.ctr@mail.mil

**Last Updated: May 6, 2016**

CAPE  
COST ASSESSMENT & PROGRAM EVALUATION



# Course Objectives

OSD CAPE

By the end of the course, you will be able to:

## Analysts

Understand how CADE improves productivity

Support a Decision-Makers full view of Weapons Systems Performance

## Industry

Facilitate and Reduce your CSDR burden & data calls

Appreciate how CSDR planning improves effectiveness

- Explain the utility of CSDRs
- Improve data quality through CSDR planning



# Why We Need This Data – Improved Acquisition Outcomes

OSD CAPE

## Cost Realism:

- Fundamental to preparing credible cost estimates
- Used to assess the adequacy of budgets and program plans

## Analysis Effectiveness:

- Near-real-time access to data
- Integrated data enables more comprehensive assessments
- More time for analysis; less time collecting data

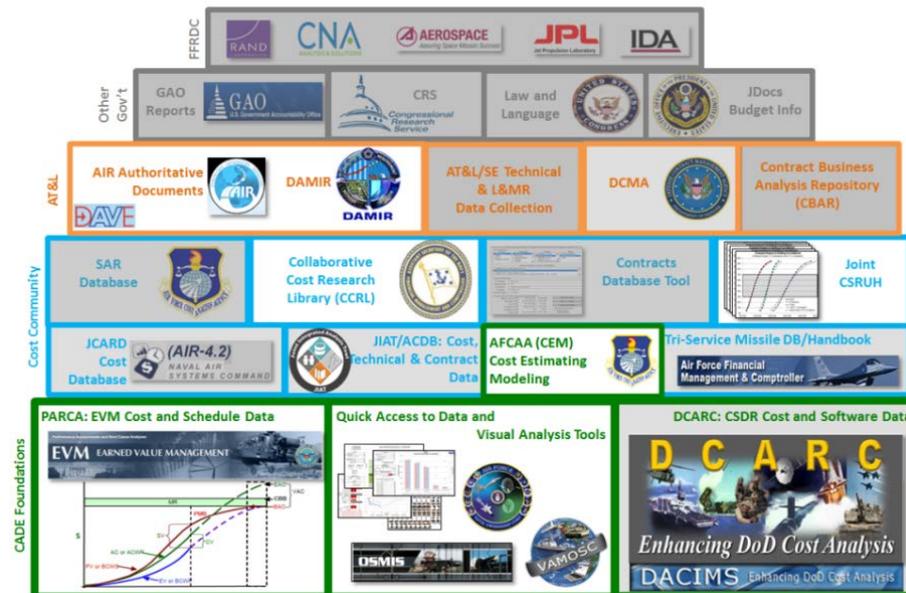
## Decision Support:

- Standardized data collection supports standardized analysis
- Source data transparency increases confidence in results

## Community Integration:

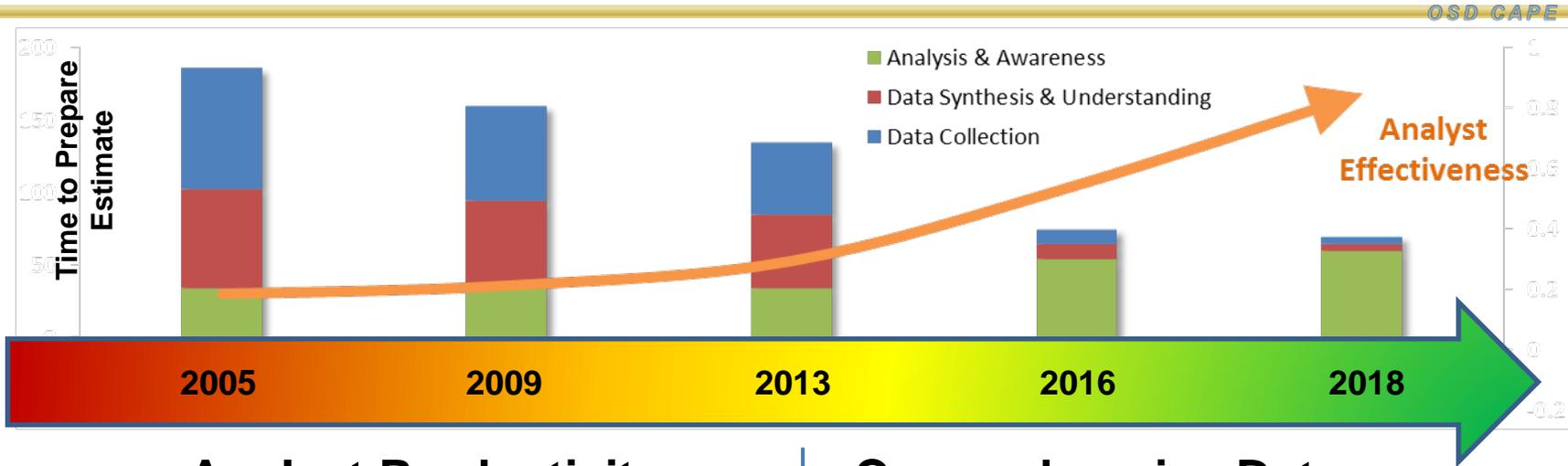
- Provides a common data set to every DoD analyst
- Allows for collaboration across departments and disciplines

### CADE Integration Across the Community





# Why Should You Care – More Efficient and Effective Analysis



## Improve Analyst Productivity:

- Less burden on analyst to retrieve and process data
- Become familiar with programs more quickly
- Complete analysis facilitates telling the program's "story"

## Comprehensive Data:

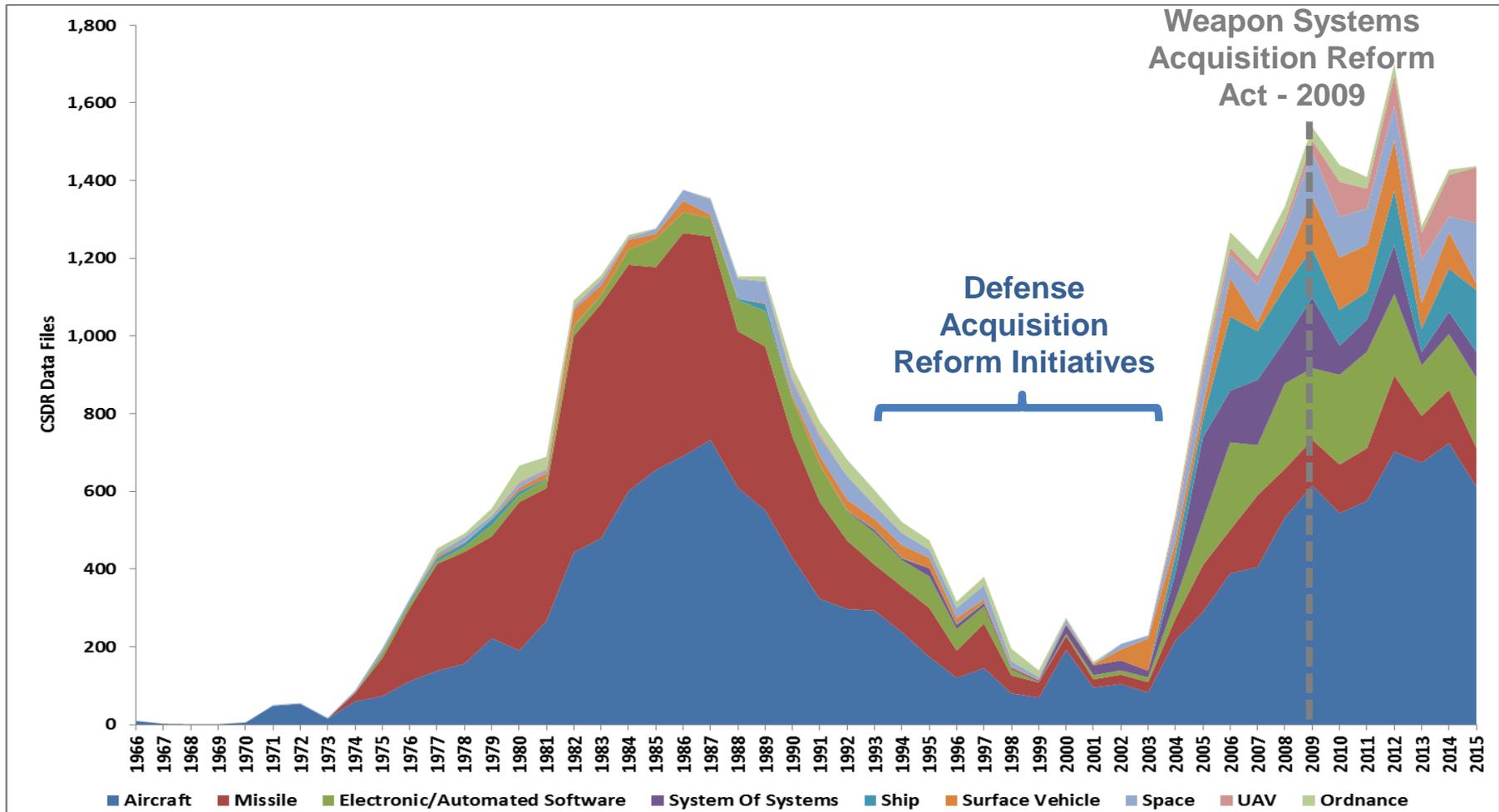
- Improved Planning and Compliance lead to better data
- "One-stop shop" for Cost, EVM, Programmatic, and Technical
- Centralized virtual library includes CARDS and ICEs

Cost analysts will have data and institutional knowledge at their fingertips. It will be the exception – not the rule – that we have to go back to Industry to do our estimates



# What Happens When We Don't Own the Data

OSD CAPE

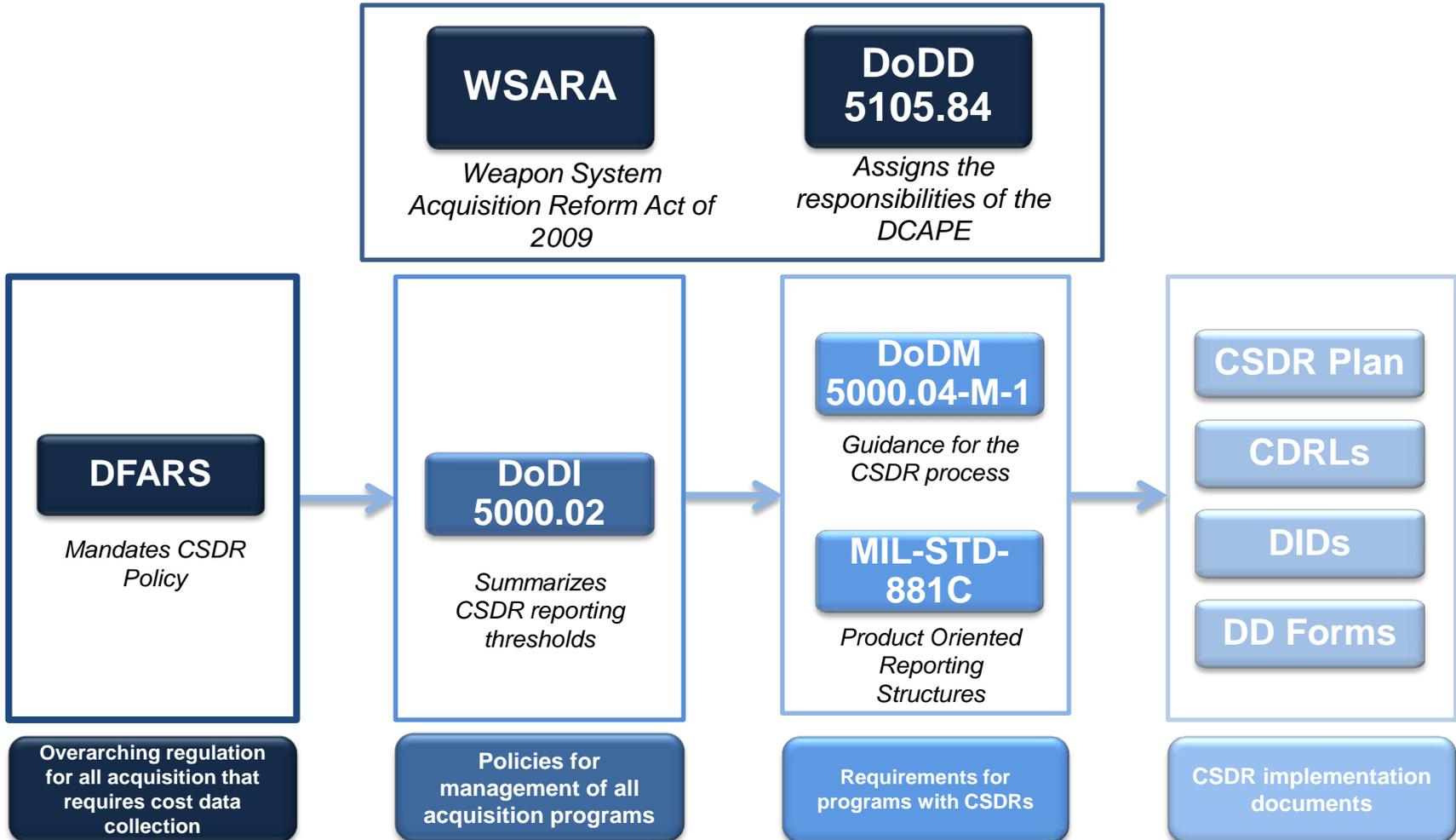


1990's reform efforts limited cost data collection and damaged DoD's ability to produce quality cost estimates



# Why Should You Comply?

OSD CAPE



**Systematic cost data collection is necessary for program stability**



# CADE Authoritative Data Sources

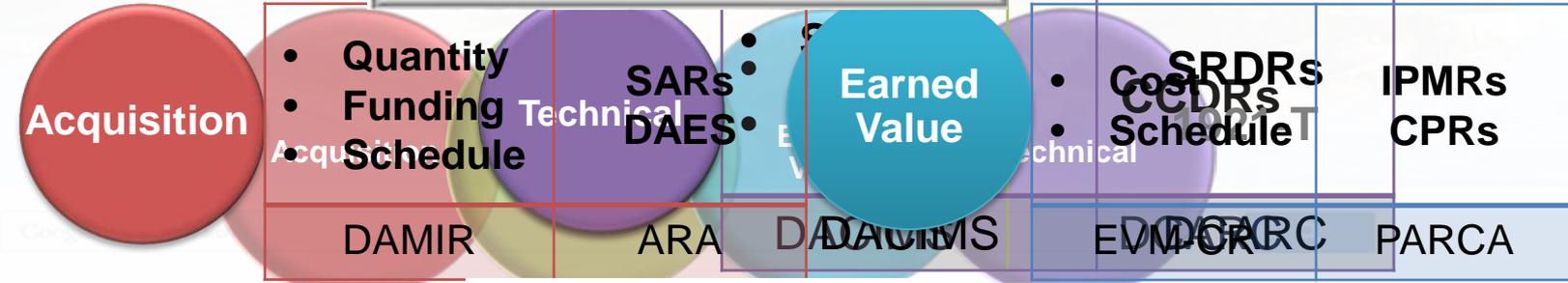
OSD CAPE



Cost Assessment Data Enterprise



**DAMIR**



**CADE**

About CADE, Request Access

**CSDR**

DCARC, DACIMS Policy, Info

**EVM**

EVM-CR, Policy, Info

# CADE Total Access Dashboard



Knowledge Portal

DCARC  
CAPE

OSD CAPE

Dashboard default view

Site-Level Navigation

Contextual Help and Feedback

CADE PORTAL CONTENT MANAGEMENT SEARCH PROGRAMS **DASHBOARD** RETRIEVE FILES TOOLS LIBRARY REPORTS CONTACT US

FOR OFFICIAL USE ONLY / PROPRIETARY DATA

mstephenson \* Please close this window to log out \*

Program: AH-64E Remanufacture

My Favorite Programs

Acquisition

EVM

Technical

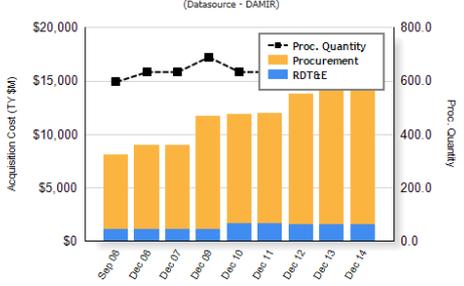
Program-specific data

Immediate access to Favorite Programs

Lead Service	Program Group	ACAT Cat
ARMY	MDAP	IC

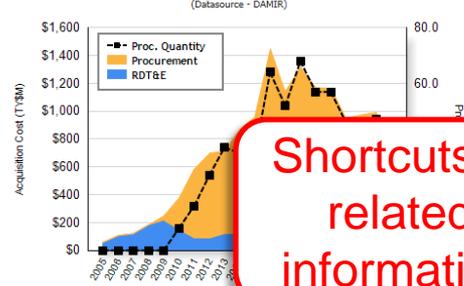
### Acquisition Cost and Quantity Estimate

#### Across SAR Submissions



### and Quantity

#### Dec-2014 SAR



Shortcuts to related information

### Program Contracts and Data Availability

Contract Number	Phase	Prime Contractor	Direct-Reporting Sub Data Available?	Service	EVM Tasks	CSDR Plans	
W58RGZ-15-C-0043	SDD	The Boeing Company	✗	ARMY	1		▼
W58RGZ-05-C-0001	SDD	The Boeing Company	✓	ARMY	1	5	▼
W58RGZ-05-C-0239	SDD	Longbow LLC	✓	ARMY		6	▼
W58RGZ-12-C-0055	SDD	The Boeing Company	✓	ARMY		5	▼
W58RGZ-12-C-0113	SDD	The Boeing Company	✗	ARMY		1	▼
W58RGZ-09-C-0147	LRIP	The Boeing Company	✓	ARMY		2	▼
W58RGZ-09-C-0161	LRIP	The Boeing Company	✓	ARMY		2	▼
W58RGZ-10-C-0005	LRIP	Longbow LLC	✓	ARMY		2	▼

**Collapse Widgets**

---

**USS Voyager**  
Program Funding as of Dec 2010 SAR

**RDTE(TY\$):** 32,423.4M  
**Procurement(TY\$):** 34,237.0M  
**Milcon(TY\$):** 676.6M  
**Units:** 179

[View Funding Detail](#)

---

**Milestones**  
Program Milestones from DAMIR

**Milestone APB Obj. APB Thres Current**  
IOC Jan 2014 Jul 2014 Apr 2014  
IOT&E USSV 2 Dec 2013 Jun 2014 Aug 2015

[View and Plot Milestones](#)

---

**Key Events**  
Key Events list maintained by community

- Aug 2010 - Warp Drive Sub
- Jan 2007 - Intrepid Award
- Jun 2008 - PDR Actual
- Jul 2009 - CDR

[View and Plot Key Events](#)

---

**Community Knowledge**  
Share information related to this program

- VD Test User shared a note. 3/23/2015
- VD Test User shared a file. 3/23/2015
- VD Test User shared a link. 3/23/2015
- VD Test User shared a file. 3/23/2015

[View Community Knowledge](#)

---

**CCRL Search**  
[Open CCRL website in a new tab](#)

The Collaborative Cost Research Library is an online document library that contains over 16,000 cost research files contributed by the services and support contractors. Search among these documents here.

[Search CCRL Documents](#)



# CADE Authoritative Data Sources

OSD CAPE



Cost Assessment Data Enterprise



Google™ Custom Search



**CADE**  
About CADE, Request Access

**CSDR**  
DCARC, DACIMS Policy, Info

**EVM**  
EVM-CR, Policy, Info

# EVM-CR – The EVM Engine

OSD CAPE

Access point to the EVM-CR (Either a CAC or ECA Certificate is required)

## EVM-CR

### Earned Value Central Repository



## PARCA

### PERFORMANCE ASSESSMENTS AND ROOT CAUSE ANALYSES

### Enhancing DoD Cost Analysis

Home

Contact Us

**DCARC Portal**

[Portal Login](#)  
Access to EVM-CR, Visual Display

[Request Portal Access](#)

[Registration Instructions](#)

## EVM Central Repository Overview

Viewers for Contract Performance Report (CPR) and Integrated Master Schedule (IMS files)

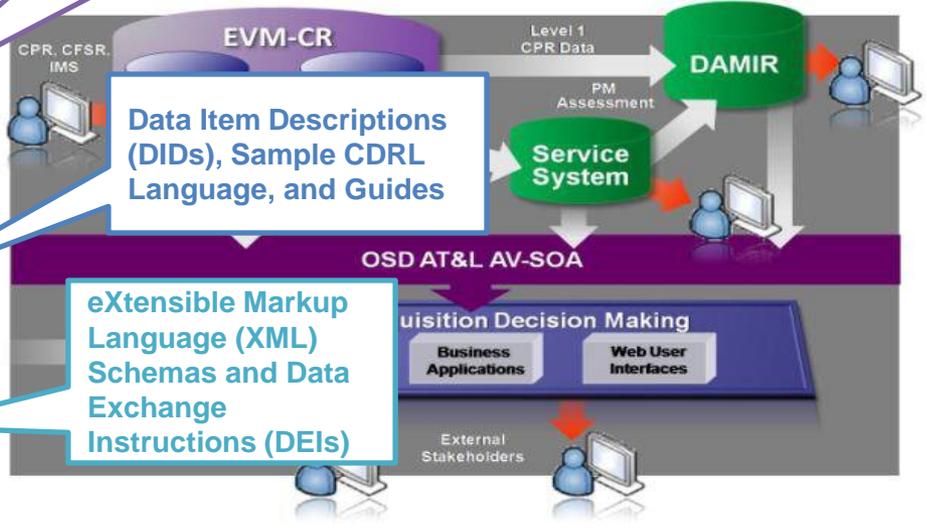
EVM-CR is a joint effort between DCARC and OUSD/AT&L, managed by PARCA, that provides: creation, and distribution for Key Acquisition EVM data. It provides comprehensive EVM data and access for OSD, the Services, and the DoD Components. Key outputs include Contract Performance Reports (CPRs), Contract Funds Status Report (CFSR), and the Integrated Master Schedules (IMS) submitted and approved by Program Management Offices (PMOs) for ACAT 1C & 1D (MDAP) and ACAT 1A (MAIS) programs. It also covers 1C, and 1D programs and 210 contracts and tasks reporting data.

EVM-CR Overview

EVM Tools

Documentation

UN/CEFACT XML



Data Item Descriptions (DIDs), Sample CDRL Language, and Guides

eXtensible Markup Language (XML) Schemas and Data Exchange Instructions (DEIs)



Tools for EVM success are available at <http://cade.osd.mil/EVM/>



# CADE Authoritative Data Sources

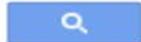
CSDR CADE



Cost Assessment Data Enterprise



Google™ Custom Search



**CADE**

About CADE, Request Access

**CSDR**

DCARC, DACIMS Policy, Info

**EVM**

EVM-CR, Policy, Info

# DCARC – The CSDR “Engine”

OSD CAPE



## Defense Cost and Resource Center

Home

at DCARC

Training & Events

Contact Us

### DCARC Portal

#### Portal Login

Access to DACIMS, CSDR-SR, cPetWeb, 1921-3 & FPR  
Request Portal Access  
Registration Instructions

#### eRoom Login

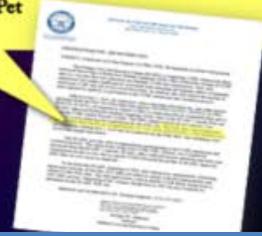
Access to Plan Development Forum  
Request eRoom Access

Access point to the CSDR-SR (Either a CAC or ECA Certificate is required)

### Effective July 1st, 2014

all submissions of **Cost Data Summary Reports** (DD Form 1921), **Functional Cost-Hour Reports** (DD Form 1921-1), and **Progress Curve Reports** (DD Form 1921-2), under the May 2011 Data Item Descriptions, are required to submit Extensible Markup Language (XML) files and Excel-compatible files to the CSDR.

... The XML files can be generated automatically from the Excel-compatible files (or vice versa) with DCARC's cPet software tool.



Still having trouble? Send us an email

CSDR Plan implementation documents to assist you in the planning process (Analysts)

CSDR reporting documents to ensure proper reporting practices (Data Providers)

All policy documents are available for you to verify if this requirement applies to your program. (Program Offices)

Tools for CSDR plan and form generation. \*GENERATES XML FORMATS (Analysts and Data Providers)

### CSDR Overview and Policy

- Introduction and Timeline
- DODI 5000.02
- CSDR Manual
- CSDR Requirements
- Defense Federal Acquisition Regulations Supplement (DFARS)
- WBS - MIL-STD-881C
- Operating and Support Cost Estimating Guide

### Plan Development and Contracting

- WBS - MIL-STD-881C
- Planning Forms, RDT, and Instructions
- CSDR Post-Award Meeting Procedures
- RFP Language
- CDRL Examples
- cPet Application - Plan Development
- Supporting Documentation Checklist

### CSDR Forms and Reporting

- DIDs and Reporting Forms
- Validation Process
- cPet Application - Cost Reporting and Validation
- CSDR Submit & Review Website

### Systems and Applications

- CSDR Planning and Execution Tool (cPet)
- CSDR Submit & Review Website

### DACIMS

- Defense Automated Cost Information Management System (DACIMS)

Data repository containing 47,027 reports as of May 2015, on 400 MDAP programs

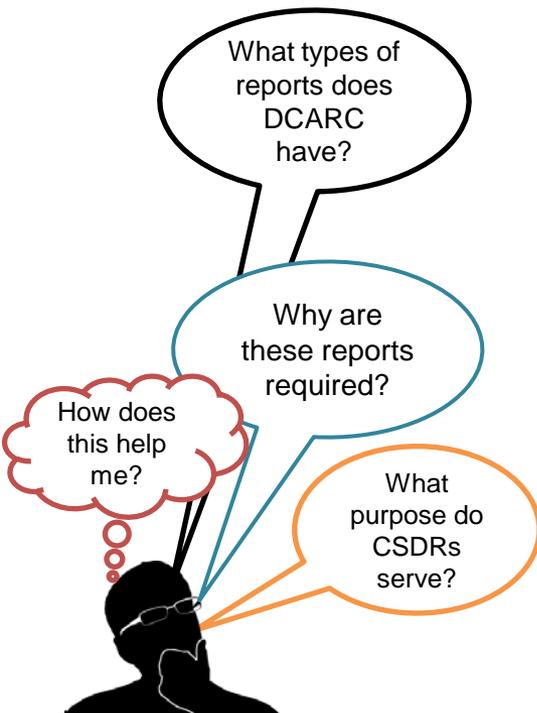
Tools for CSDR success are available at <http://cade.osd.mil/CSDR/>





# What are Cost and Software Data Reports? (CSDRs)

OSD CAPE



- Organized via a standard, product-oriented WBS
- Reporting required on MDAP/MAIS contracts and subcontracts
  - Over \$50M
  - Optional between \$20M and \$50M
- Helps us project future program & contract costs
- Available to all DoD Government analysts electronically
- CSDRs are a collaborative effort amongst the whole cost and acquisition community



# Cost and Acquisition Community

OSD CAPE

Participants	Role
PEO or SYSCOM	Initiate CSDR process at Program Office; identify all RFP's going out
Program Office	Help develop initial plans; work directly with contractors; identify RFP's
OSD CAPE	Provide input to plan to ensure cost needs are being met; provide final approval of plans
Service Cost Center	Help develop initial plan; provide input to plan to ensure cost needs are being met; provide initial approval
DCARC	Manage the entire CSDR planning process; ensure all rules and regulations are being followed
Industry	If sole source, provide input and help government understand processes and procedures
PARCA	Provide input to ensure cost reporting structure and WBS are consistent where needed



Full cooperation within the community has led to significantly improved data quality and analysis, reduced re-work, and improved decision outcomes.



# Types of CSDRs



OSD CAPE





# CSDR Plan DD Form 2794



OSD CAPE

## CSDR Plan

Defines WBS used for CSDR submissions

Identifies required reports

Lists Submission Events and expected due dates

Contains Standard Plan Language and Special Contractor Instructions

COST AND SOFTWARE DATA REPORTING PLAN						Form Approved OMB No. 0704-0188				
<p>The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p><b>PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.</b></p>										
<b>1. MAJOR PROGRAM</b> a. NAME: b. PHASE/MILESTONE <input type="checkbox"/> Pre-A <input type="checkbox"/> B <input type="checkbox"/> C-FRP <input type="checkbox"/> A <input type="checkbox"/> C-LRIP <input type="checkbox"/> O&S			c. PRIME MISSION PRODUCT <b>Metadata</b>		<b>2. WBS SYSTEM TYPE</b>	<b>3. SUBMISSION TYPE</b> <input type="checkbox"/> INITIAL <input type="checkbox"/> CHANGE	<b>4. CURRENT SUBMISSION DATE</b> (YYYYMMDD)	<b>5. LAST APPROVED PLAN DATE</b> (YYYYMMDD)		
<b>6a. POINT OF CONTACT (POC) NAME AND ADDRESS</b> (Include ZIP Code)			<b>6b. TELEPHONE NUMBER</b> (Include Area Code)		<b>6c. FAX NUMBER</b> (Include Area Code)	<b>6d. E-MAIL ADDRESS</b>				
<b>7. PLAN TYPE</b> <input type="checkbox"/> PROGRAM <input type="checkbox"/> CONTRACT (PRIME) <input type="checkbox"/> CONTRACT (SUB)	<b>8. PREPARING ORGANIZATION</b>	<b>9a. CONTRACTOR NAME/ADDRESS</b> i. PERFORMING ORGANIZATION    ii. DIVISION		<b>9b. CONTRACT NUMBER</b>	<b>9c. APPROPRIATION</b> <input type="checkbox"/> RDT&E <input type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M	<b>10. APPROVED PLAN NUMBER</b>				
<b>11. WBS ELEMENT CODE</b> a. PROGRAM/CONTRACT/SUBCONTRACT    b. CONTRACT/SUBCONTRACT		<b>12. WBS REPORTING ELEMENTS</b>			<b>13. REPORTS REQUIRED</b> (X if applicable)    DD 1921-3 (CBDR): <input type="checkbox"/>					
		<b>Element Code and Reporting Elements</b>			a. CWBS DICTIONARY	b. DD 1921 (CDSR)	c. DD 1921-1 (FCHR)	d. DD 1921-2 (PCR)	e. DD 1921-4 (CSR)	f. SRDR FORMATS
<b>14. CSDR SUBMISSION DATES</b>										
a. SUBMISSION		b. FORM(S)			c. EVENT			d. AS OF DATE (YYYYMMDD)	e. DUE DATE (YYYYMMDD)	
<b>15. REMARKS</b> <b>Contract Plan Language and Special Instructions</b>										

DD FORM 2794, MAY 2011

DD FORM 2794 (PAGE 2), MAY 2011

PREVIOUS EDITION IS OBSOLETE



# CSDR Plan

## DD Form 2794



OSD CAPE

### CSDR Plan

Defines WBS used for CSDR submissions

Identifies required reports

Lists Submission Events and expected due dates

Contains Standard Plan Language and Special Contractor Instructions

COST AND SOFTWARE DATA REPORTING PLAN											Form Approved OMB No. 0704-0188						
The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. <b>PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.</b>																	
1. MAJOR PROGRAM a. NAME: P-49 - Phoenix Fighter											2. WBS SYSTEM TYPE		3. SUBMISSION TYPE	4. CURRENT SUBMISSION DATE (YYYYMMDD)		5. LAST APPROVED PLAN DATE (YYYYMMDD)	
b. PHASE/MILESTONE			c. PRIME MISSION PRODUCT			Aircraft System		<input checked="" type="checkbox"/> INITIAL <input type="checkbox"/> CHANGE	20141118								
Pre-A <input type="checkbox"/> B <input type="checkbox"/> C-FRP <input checked="" type="checkbox"/>			P-49 - Phoenix Fighter														
A <input type="checkbox"/> C-LRIP <input type="checkbox"/>																	
6a. POINT OF CONTACT (POC) NAME AND ADDRESS (Include ZIP Code)					6b. TELEPHONE NUMBER (Include Area Code)		6c. FAX NUMBER (Include Area Code)		6d. E-MAIL ADDRESS								
Emily Beltramo 134 Program Office Drive Arlington, VA 22350					(571) 372-4263				emily.m.beltramo_ctr@mail.mil								
7. PLAN TYPE			8. PREPARING ORGANIZATION		9a. CONTRACTOR NAME/ADDRESS			9b. CONTRACT NUMBER		9c. APPROPRIATION		10. APPROVED PLAN NUMBER					
<input type="checkbox"/> PROGRAM <input checked="" type="checkbox"/> CONTRACT (PRIME) <input type="checkbox"/> CONTRACT (SUB)			Phoenix Fighter PMO		Vandalay Industries 352 Stork Rd. Los Angeles, CA 90049			TBD		<input type="checkbox"/> RDT&E <input checked="" type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M		N-12-X-C1					
11. WBS ELEMENT CODE			12. WBS REPORTING ELEMENTS			13. REPORTS REQUIRED (X if applicable)			DD 1921-3 (CBDR): <input checked="" type="checkbox"/>								
a. PROGRAM/ CONTRACT/ SUBCONTRACT	b. CONTRACT/ SUBCONTRACT					a. CWBS DICTIONARY	b. DD 1921 (CDSR)	c. DD 1921-1 (FCHR)	d. DD 1921-2 (PCR)	e. DD 1921-5 (SFCHR)	f. SRDR FORMATS						
1.0	1.0				P-49 - Phoenix Fighter	X	X	X									
1.1	1.1				Air Vehicle	X	X										
1.1.1	1.1.1				Airframe	X	X										
1.1.1	1.1.1.1				Airframe Integration, Assembly, Test and Checkout	X	X										
1.1.1	1.1.1.2				Fuselage	X	X										
1.1.1	1.1.1.2.1				Forward Fuselage	X	X										
1.1.1	1.1.1.2.2				Center Fuselage	X	X										
1.1.1	1.1.1.2.3					X	X										
1.1.1	1.1.1.3																
1.1.1	1.1.1.4																
1.1.1	1.1.1.5																
1.1.2	1.1.2																
1.1.3	1.1.3																
1.1.3	1.1.3.1																
1.1.3	1.1.3.2																
1.1.3	1.1.3.3																
1.1.3	1.1.3.4																
1.1.3	1.1.3.5																
1.1.3	1.1.3.6																
1.1.3	1.1.3.7																
1.1.3	1.1.3.8																
1.1.3	1.1.3.9																
1.1.3	1.1.3.10																
1.1.3	1.1.3.11																
1.1.3	1.1.3.12																
1.1.4	1.1.4																
14. CSDR SUBMISSION DATES																	
a. SUBMISSION		b. FORM(S)		c. EVENT		d. AS OF DATE (YYYYMMDD)		e. DUE DATE (YYYYMMDD)									
1		CWBS Dictionary		CWBS Dictionary - Lot 9 Completion		20160630		20160830									
2		1921, 1921-1		Lot 9 Completion: Final Report		20160630		20160830									
3		1921, 1921-1		Lot 10 Completion: Final Report		20170630		20170830									
4		1921, 1921-1		Lot 11 Completion: Final Report		20180630		20180830									
15. REMARKS																	
1. Accounting Differences: Describe significant accounting changes from previous accounting period in the Remarks sections of the 1921 and 1921-1 reports, if applicable.																	
2. DD Form 1921-3 Contractor Business Data Report:																	
3. Technical Characteristics: The contractor must report Airframe Unit Weight (lbs) in the Remarks section of the DD Form 1921 report.																	
DD FORM 2794 (PAGE 2), MAY 2011						PREVIOUS EDITION IS OBSOLETE											

Page 1

Page 1



# CWBS Dictionary



## CWBS Dictionary

Provides definitions for all WBS elements

Cost, technical and work content included in definitions

Physical description for all hardware elements

Metadata		Contract Work Breakdown Structure Dictionary		Program: P-49 Phoenix Fighter		RFP No: XXXXX		Contract Plan No.: A-10-X-C1	
						Contract No: DAAE07-XX-E-0001		Date: 9/26/2012	
						Point of Contact: Erin Bell, (310) 555-9461, ebell@company.com			
CWBS CODE	CWBS ELEMENT LEVEL					CWBS ELEMENT NAME	CWBS DEFINITION		
	1	2	3	4	5				
1.0	X					P-49 Phoenix Fighter	This WBS element includes the cost of the P-49 Phoenix Fighter in addition to the cost of the common WBS elements. The P-49 Phoenix Fighter is an Army aircraft developed to conduct anti-submarine warfare. This WBS element reports the total production cost, includes all design, development, production, and procurement efforts associated with the total complement of equipment, software, services, facilities, and integrated logistics support that are necessary to deliver and maintain the aircraft, through the cost for the common WBS elements. WBS element 1.1 Air Vehicle captures the cost of the product, while WBS elements 1.3 through 1.1.1 capture the cost of the "common elements".		
1.1		X				Air Vehicle	The air vehicle element includes design, production, material and equipment procurements including associated vendor design/development efforts to provide for a functionally integrated air vehicle including installation of engines and avionics and all contractor		
1.1.1			X			Airframe	vendor design to provide the fuselage, canopy assembly, and access doors. The make-up of the air frame is comprised of steel and composite metals including aluminum alloys. This element includes the basic structure including the wings, fuselage, empennage, and nacelle.		
1.1.2				X		Propulsion	The propulsion system incorporates the X-5231 engine. The engine is started by firing the initiator by command by the Missile Control Unit. The initiator is connected to the engine start cartridge and the igniter cartridge. The start cartridge produces high pressure gasses which impinge on a turbine, thereby spinning the engine up to starting speed.		
1.1.3				X		Vehicle Subsystems	The vehicle subsystems includes design, production, material and equipment procurements including associated vendor design/development efforts to provide for the Auxiliary Power Unit, Airframe Mounted Accessory Drive, Air Turbine Starter, oil cooling lines. The equipments perform engine starting on the ground, emergency starting during flight, ground checkout operations of aircraft accessories, and power takeoff for hydraulic pumps and electrical generator system and fuel motive flow pumps.		
1.1.4				X		Avonics	The avionics includes the X-1PY radar, radar altimeter, direction finding set, doppler compass, computer. The contractor is procuring this item from a supplier, and is also completing tests upon delivery.		
1.1.5				X		Armament/Weapons Delivery	This WBS element is not applicable to this contract.		
1.1.6				X		Auxiliary Equipment	This WBS element is not applicable to this contract.		
1.1.7				X		Furnishings and Equipment	This WBS element is not applicable to this contract.		
1.1.8				X		Air Vehicle Software	This WBS element is not applicable to this contract.		
1.1.9				X		Air Vehicle Integration, Assembly, Test, and Checkout	The air vehicle integration, assembly, test and checkout is conducted by the contractor at the contractor's site. It includes load analysis, stress analysis, and maintenance effort. Also included is the joining and installation of all third level WBS elements into the air vehicle, as well as final acceptance testing. All work is being conducted by the contractor at the contractor's facilities.		
1.2		X				Systems Engineering	This WBS element is not applicable to this contract.		
1.3		X				Program Management	Program management includes the contractor's efforts to perform tasks required for planning and control of program schedules, cost and technical performance including WBS maintenance, work authorizations, budgeting and data reporting. Also included is management and maintenance of the requirements database.		
1.4		X				System Test and Evaluation	This WBS element is not applicable to this contract.		
1.5		X				Training	This WBS element is not applicable to this contract.		
1.6		X				Data	This WBS element is not applicable to this contract.		
1.7		X				Peculiar Support Equipment	This WBS element is not applicable to this contract.		
1.8		X				Common Support Equipment	This WBS element is not applicable to this contract.		
1.9		X				Operational/Site Activation	This WBS element is not applicable to this contract.		
1.10		X				Industrial Facilities	This WBS element is not applicable to this contract.		
1.11		X				Initial Spares & Repair Parts	This WBS element is not applicable to this contract.		

Element Codes

Element Levels

Element Names

Technical, Work, and Cost Content Definitions



# Cost Data Summary Report

## DD Form 1921



OSD CAPE

**DD 1921**

Displays ALL WBS elements

Recurring & Nonrecurring costs

Actual costs to date, estimates at completion

Number of Units

Contract Totals

G&A, FCCM, UB, MR, and Fee

SECURITY CLASSIFICATION <u>Unclassified</u>																																			
<b>COST DATA SUMMARY REPORT</b>									Form Approved OMB No. 0704-0188																										
<p>The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p><b>PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.</b></p>																																			
1. MAJOR PROGRAM		a. NAME:		2. PRIME MISSION PRODUCT		3. REPORTING ORGANIZATION TYPE		4. NAME/ADDRESS (Include ZIP Code)		5. APPROVED PLAN NUMBER																									
<input type="checkbox"/> Pre-A <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C-LR/P <input type="checkbox"/> C-FRP <input type="checkbox"/> O&S				<input type="checkbox"/> PRIME / ASSOCIATE CONTRACTOR <input type="checkbox"/> DIRECT-REPORTING SUBCONTRACTOR <input type="checkbox"/> GOVERNMENT		a. PERFORMING ORGANIZATION b. DIVISION																													
6. CUSTOMER (Direct-reporting subcontractor use only)		7. CONTRACT TYPE		8. CONTRACT PRICE		9. CONTRACT CEILING		10. TYPE ACTION		11. PERIOD OF PERFORMANCE																									
		Metadata						a. CONTRACT NO.: b. LATEST MODIFICATION: c. SOLICITATION NO.: d. NAME: e. TASK ORDER/DELIVERY ORDER/LOT NO.:		16. REPORT AS OF (YYYYMMDD)																									
a. START DATE (YYYYMMDD):				12. APPROPRIATION		13. REPORT CYCLE		14. SUBMISSION NUMBER		15. RESUBMISSION NUMBER																									
b. END DATE (YYYYMMDD):				<input type="checkbox"/> RDT&E <input type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M		<input type="checkbox"/> INITIAL <input type="checkbox"/> INTERIM <input type="checkbox"/> FINAL																													
17. NAME (Last, First, Middle Initial)			18. DEPARTMENT			19. TELEPHONE NUMBER (Include Area Code)			20. EMAIL ADDRESS		21. DATE PREPARED (YYYYMMDD)																								
<table border="1"> <thead> <tr> <th rowspan="2">WBS ELEMENT CODE A</th> <th rowspan="2">WBS REPORTING ELEMENTS B</th> <th rowspan="2">NUMBER OF UNITS TO DATE C</th> <th colspan="3">COSTS INCURRED TO DATE (thousands of U.S. Dollars)</th> <th rowspan="2">NUMBER OF UNITS AT COMPLETION G</th> <th colspan="3">COSTS INCURRED AT COMPLETION (thousands of U.S. Dollars)</th> </tr> <tr> <th>NONRECURRING D</th> <th>RECURRING E</th> <th>TOTAL F</th> <th>NONRECURRING H</th> <th>RECURRING I</th> <th>TOTAL J</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center; color: red;"><b>Element Codes and Reporting Elements</b></td> <td style="text-align: center; color: green;"><b>To Date Units</b></td> <td colspan="3" style="text-align: center; color: green;"><b>To Date Costs (Nonrecurring, Recurring, Total)</b></td> <td style="text-align: center; color: purple;"><b>At Completion Units</b></td> <td colspan="3" style="text-align: center; color: purple;"><b>At Completion Costs (Nonrecurring, Recurring, Total)</b></td> </tr> </tbody> </table>										WBS ELEMENT CODE A	WBS REPORTING ELEMENTS B	NUMBER OF UNITS TO DATE C	COSTS INCURRED TO DATE (thousands of U.S. Dollars)			NUMBER OF UNITS AT COMPLETION G	COSTS INCURRED AT COMPLETION (thousands of U.S. Dollars)			NONRECURRING D	RECURRING E	TOTAL F	NONRECURRING H	RECURRING I	TOTAL J		<b>Element Codes and Reporting Elements</b>	<b>To Date Units</b>	<b>To Date Costs (Nonrecurring, Recurring, Total)</b>			<b>At Completion Units</b>	<b>At Completion Costs (Nonrecurring, Recurring, Total)</b>		
WBS ELEMENT CODE A	WBS REPORTING ELEMENTS B	NUMBER OF UNITS TO DATE C	COSTS INCURRED TO DATE (thousands of U.S. Dollars)			NUMBER OF UNITS AT COMPLETION G	COSTS INCURRED AT COMPLETION (thousands of U.S. Dollars)																												
			NONRECURRING D	RECURRING E	TOTAL F		NONRECURRING H	RECURRING I	TOTAL J																										
	<b>Element Codes and Reporting Elements</b>	<b>To Date Units</b>	<b>To Date Costs (Nonrecurring, Recurring, Total)</b>			<b>At Completion Units</b>	<b>At Completion Costs (Nonrecurring, Recurring, Total)</b>																												
22. REMARKS																																			
<b>Remarks</b>																																			



# Cost Data Summary Report

## DD Form 1921



OSD CAPE

**DD 1921**

Displays ALL WBS elements

Recurring & Nonrecurring costs

Actual costs to date, estimates at completion

Number of Units

Contract Totals

G&A, FCCM, UB, MR, and Fee

SECURITY CLASSIFICATION: Unclassified

**COST DATA SUMMARY REPORT**

*Form Approved OMB No. 0704-0188*

The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.**

<b>1. MAJOR PROGRAM</b> a. NAME: P-43 - Phoenix Fighter		<b>2. PRIME MISSION PRODUCT</b> P-43 - Phoenix Fighter	<b>3. REPORTING ORGANIZATION TYPE</b> <input checked="" type="checkbox"/> PRIME / ASSOCIATE CONTRACTOR <input type="checkbox"/> DIRECT-REPORTING SUBCONTRACTOR <input type="checkbox"/> GOVERNMENT	<b>4. NAME/ADDRESS</b> (Include ZIP Code) Vandalay Industries 352 Stork Rd. Los Angeles, CA 90048	<b>5. APPROVED PLAN NUMBER</b> N-12-X-C1
<b>6. CUSTOMER</b> (Direct-reporting subcontractor use only)		<b>7. CONTRACT TYPE</b> FFP	<b>8. CONTRACT PRICE</b> \$867,992.5	<b>9. CONTRACT CEILING</b>	<b>10. TYPE ACTION</b> a. CONTRACT NO.: XXXXXX-13-C-0019 b. LATEST MODIFICATION P00421
<b>11. PERIOD OF PERFORMANCE</b> a. START DATE /YYYYMMDD: 20150601 b. END DATE /YYYYMMDD: 20181230		<b>12. APPROPRIATION</b> <input type="checkbox"/> RDT&E <input checked="" type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M	<b>13. REPORT CYCLE</b> <input type="checkbox"/> INITIAL <input type="checkbox"/> INTERIM <input checked="" type="checkbox"/> FINAL	<b>14. SUBMISSION NUMBER</b> 2	<b>15. RESUBMISSION NUMBER</b> 0
<b>17. NAME</b> (Last, First, Middle Initial) Bellows, Drew R		<b>18. DEPARTMENT</b> Finance	<b>19. TELEPHONE NUMBER</b> (Include Area Code) (310) 555-0559	<b>20. EMAIL ADDRESS</b> andrew_bellows@vandalayindustries.com	<b>21. DATE PREPARED</b> /YYYYMMDD 20160814

WBS ELEMENT CODE	WBS REPORTING ELEMENTS	NUMBER OF UNITS TO DATE	COSTS INCURRED TO DATE (thousands of U.S. Dollars)			NUMBER OF UNITS AT COMPLETION	COSTS INCURRED AT COMPLETION (thousands of U.S. Dollars)		
			NONRECURRING	RECURRING	TOTAL		NONRECURRING	RECURRING	TOTAL
1.0	P-43 - Phoenix Fighter	10.0	\$4,359.9	\$693,202.0	\$698,161.9	10.0	\$5,106.7	\$702,468.1	\$707,574.8
1.1	Air Vehicle	10.0	\$4,350.6	\$531,246.0	\$536,196.6	10.0	\$5,026.2	\$535,245.8	\$540,272.0
1.1.1	Airframe	10.0	\$4,072.6	\$154,155.7	\$158,228.3	10.0	\$4,074.8	\$155,555.8	\$159,630.6
1.1.1.1	Airframe Integration, Assembly, Test and Checkout	10.0	\$40.7	\$5,051.4	\$5,092.1	10.0	\$42.9	\$6,451.5	\$6,494.4
1.1.1.2	Fuselage	10.0	\$4,025.5	\$99,587.2	\$103,612.7	10.0	\$4,025.5	\$99,587.2	\$103,612.7
1.1.1.2.1	Forward Fuselage	10.0	\$1,355.1	\$44,255.2	\$45,610.3	10.0	\$1,355.1	\$44,255.2	\$45,610.3
1.1.1.2.2	Center Fuselage	10.0	\$1,677.3	\$35,124.2	\$36,801.5	10.0	\$1,677.3	\$35,124.2	\$36,801.5
1.1.1.2.3	Aft Fuselage	10.0	\$993.1	\$20,207.8	\$21,201.0	10.0	\$993.1	\$20,207.8	\$21,201.0
1.1.1.3	Wing	10.0	\$0.0	\$35,021.5	\$35,021.5	10.0	\$0.0	\$35,021.5	\$35,021.5
1.1.1.4	Empennage	10.0	\$6.4	\$14,435.6	\$14,502.0	10.0	\$6.4	\$14,435.6	\$14,502.0
1.1.1.5	Nacelle	0.0	\$0.0	\$0.0	\$0.0	0.0	\$0.0	\$0.0	\$0.0
1.1.2	Propulsion (P-429 Engine)	10.0	\$0.0	\$22,587.0	\$22,587.0	10.0	\$0.0	\$22,587.0	\$22,587.0
1.1.3	Vehicle Subsystems	10.0	\$5.2	\$72,108.0	\$72,113.2	10.0	\$5.2	\$72,108.0	\$72,113.2
1.1.3.1	Vehicle Subsystem Integration, Assembly, Test, and Checkout	10.0	\$5.2	\$2,105.0	\$2,110.2	10.0	\$5.2	\$2,105.0	\$2,110.2
1.1.3.2	Flight Control Subsystem	10.0	\$0.0	\$4,025.1	\$4,025.1	10.0	\$0.0	\$4,025.1	\$4,025.1
1.1.3.3	Auxiliary Power Subsystem	10.0	\$0.0	\$5,048.6	\$5,048.6	10.0	\$0.0	\$5,048.6	\$5,048.6
1.1.3.4	Hydraulic Subsystem	10.0	\$0.0	\$3,589.7	\$3,589.7	10.0	\$0.0	\$3,589.7	\$3,589.7
1.1.3.5	Electrical Subsystem	10.0	\$0.0	\$9,486.5	\$9,486.5	10.0	\$0.0	\$9,486.5	\$9,486.5
1.1.3.6	Crew Station Subsystem	0.0	\$0.0	\$0.0	\$0.0	0.0	\$0.0	\$0.0	\$0.0
1.1.3.7	Environmental Control Subsystem	10.0	\$0.0	\$12,120.8	\$12,120.8	10.0	\$0.0	\$12,120.8	\$12,120.8
1.1.3.8	Fuel Subsystem	10.0	\$0.0	\$8,049.5	\$8,049.5	10.0	\$0.0	\$8,049.5	\$8,049.5
1.1.3.9	Landing Gear	10.0	\$0.0	\$14,204.8	\$14,204.8	10.0	\$0.0	\$14,204.8	\$14,204.8
1.1.3.10	Rotor Group	10.0	\$0.0	\$3,905.0	\$3,905.0	10.0	\$0.0	\$3,905.0	\$3,905.0
1.1.3.11	Drive Group	10.0	\$0.0	\$9,573.0	\$9,573.0	10.0	\$0.0	\$9,573.0	\$9,573.0
1.1.3.12	Vehicle Subsystem Software	0.0	\$0.0	\$0.0	\$0.0	0.0	\$0.0	\$0.0	\$0.0
1.1.4	Avionics	10.0	\$770.1	\$249,416.5	\$250,186.6	10.0	\$610.8	\$252,016.2	\$252,827.0



# Functional Cost-Hour Report

## DD Form 1921-1

UNCLASSIFIED



OSD CAPE

**DD 1921-1**

Insight into individual WBS elements

Recurring & Nonrecurring costs

Actual costs to date, estimates at completion

Detailed breakout of all resource data

Reporting by functional categories

SECURITY CLASSIFICATION **Unclassified**

### FUNCTIONAL COST-HOUR REPORT

Form Approved  
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 16 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.**

1. MAJOR PROGRAM NAME:		2. PRIME MISSION PRODUCT	3. REPORTING ORGANIZATION TYPE <input type="checkbox"/> PRIME / ASSOCIATE CONTRACTOR <input type="checkbox"/> DIRECT-REPORTING SUBCONTRACTOR <input type="checkbox"/> GOVERNMENT		4. NAME/ADDRESS (Include Zip Code) a. PERFORMING ORGANIZATION	b. DIVISION	5. APPROVED PLAN NUMBER	
3. PHASE/MILESTONE <input type="checkbox"/> Pre-A <input type="checkbox"/> B <input type="checkbox"/> A <input type="checkbox"/> C-LRIP <input type="checkbox"/> C-FRP <input type="checkbox"/> O&S		6. CUSTOMER (Direct-Reporting Subcontractor Use Only)		7. TYPE ACTION a. CONTRACT NO.: b. LATEST MODIFICATION		c. SOLICITATION NO.: d. NAME:		e. TASK ORDER/DELIVERY ORDER/LOT NO.:
8. PERIOD OF PERFORMANCE a. START DATE (YYYYMMDD): b. END DATE (YYYYMMDD):		9. REPORT CYCLE <input type="checkbox"/> INITIAL <input type="checkbox"/> INTERM <input type="checkbox"/> FINAL		10. SUBMISSION NUMBER		11. RESUBMISSION NUMBER		12. REPORT AS OF (YYYYMMDD)
13. NAME (Last, First, Middle Initial)		14. DEPARTMENT		15. TELEPHONE NO. (Include Area Code)		16. EMAIL ADDRESS		17. DATE PREPARED (YYYYMMDD)
18. WBS ELEMENT CODE		19. WBS REPORTING ELEMENT		20. NUMBER OF UNITS a. TO DATE b. TO COMPLETION		21. APPROPRIATION <input type="checkbox"/> RDT&E <input type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M		

FUNCTIONAL DATA ELEMENTS	COSTS AND HOURS INCURRED TO DATE (thousands of U.S. Dollars or thousands of hours)			COSTS AND HOURS INCURRED AT COMPLETION (thousands of U.S. Dollars or thousands of hours)		
	A. NONRECURRING	B. RECURRING	C. TOTAL	D. NONRECURRING	E. RECURRING	F. TOTAL
<b>ENGINEERING</b>						
(1) DIRECT ENGINEERING LABOR HOURS						
(2) DIRECT ENGINEERING LABOR DOLLARS						
(3) ENGINEERING OVERHEAD DOLLARS						
(4) TOTAL ENGINEERING DOLLARS						
<b>MANUFACTURING OPERATIONS</b>						
(5) DIRECT TOOLING LABOR HOURS						
(6) DIRECT TOOLING LABOR DOLLARS						
(7) DIRECT TOOLING & EQUIPMENT DOLLARS						
(8) DIRECT QUALITY CONTROL LABOR HOURS						
(9) DIRECT QUALITY CONTROL LABOR DOLLARS						
(10) DIRECT MANUFACTURING LABOR HOURS						
(11) DIRECT MANUFACTURING LABOR DOLLARS						
(12) MANUFACTURING OPERATIONS OVERHEAD DOLLARS (Including Tooling and Quality Control)						
(13) TOTAL MANUFACTURING OPERATIONS DOLLARS (Sum of rows 6, 7, 9, 11, and 12)						
<b>MATERIALS</b>						
(14) RAW MATERIAL DOLLARS						
(15) PURCHASED PARTS DOLLARS						
(16) PURCHASED EQUIPMENT DOLLARS						
(17) MATERIAL HANDLING OVERHEAD DOLLARS						
(18) TOTAL DIRECT-REPORTING SUBCONTRACTOR DOLLARS						
(19) TOTAL MATERIAL DOLLARS						
<b>OTHER COSTS</b>						
(20) OTHER COSTS NOT SHOWN ELSEWHERE (Specify in Remarks)						
<b>SUMMARY</b>						
(21) TOTAL COST (Direct and Overhead)						

22. REMARKS

**Remarks**

DD FORM 1921-1, MAY 2011

SECURITY CLASSIFICATION **Unclassified**

Functional Categories

Metadata

WBS Element Code and Name

Number of Units to Date and at Completion

Costs and Hours Incurred to Date

Costs and Hours Incurred at Completion



# Functional Cost-Hour Report

## DD Form 1921-1



OSD CAPE

DD 1921-1

Insight into individual WBS elements

Recurring & Nonrecurring costs

Actual costs to date, estimates at completion

Detailed breakout of all resource data

Reporting by functional categories

SECURITY CLASSIFICATION: Unclassified

### FUNCTIONAL COST-HOUR REPORT

*Form Approved OMB No. 0704-0188*

The public reporting burden for this collection of information is estimated to average 16 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE**

**ORGANIZATION**

1. MAJOR PROGRAM NAME: P-43 - Phoenix Fighter  
 2. PRIME MISSION:  PRIME / ASSOCIATE CONTRACTOR  
 3. REPORTING ORGANIZATION TYPE:  DIRECT-REPORTING SUBCONTRACTOR  
 4. NAME/ADDRESS (Include Zip Code): Vandelay Industries, 352 Stork Rd., Vandelay, CA 90048  
 5. APPROVED: N-12-X-C1

6. CUSTOMER (Direct-Reporting Subcontractor Use Only):  
 7. TYPE ACTION:  INITIAL,  INTERIM,  FINAL  
 8. PERIOD OF PERFORMANCE: a. START DATE (YYYYMMDD): 20150601, b. END DATE (YYYYMMDD): 20181230  
 9. REPORT CYCLE:  FINAL  
 10. SUBMISSION NUMBER: 2  
 11. RESUBMISSION NUMBER: 0  
 12. REPORT AS OF (YYYYMM): 20160630

13. NAME (Last, First, Middle Initial): Bellows, Drew R  
 14. DEPARTMENT: Finance  
 15. TELEPHONE NO. (Include Area Code): (310) 555-0553  
 16. EMAIL ADDRESS: andrew\_bellows@vandelayindustries.com  
 17. DATE PREPARED (YYYYMM): 20160814

18. WBS ELEMENT CODE: 10  
 19. WBS REPORTING ELEMENT: P-43 - Phoenix Fighter

FUNCTIONAL DATA ELEMENTS	COSTS AND HOURS INCURRED TO DATE (thousands of U.S. Dollars or thousands of hours)			COSTS AND HOURS INCURRED AT COMPLETION (thousands of U.S. Dollars or thousands of hours)		
	A. NONRECURRING	B. RECURRING	C. TOTAL	D. NONRECURRING	E. RECURRING	F. TOTAL
<b>ENGINEERING</b>						
(1) DIRECT ENGINEERING LABOR HOURS	7	1128.6	1135.6	7.4	1257.2	1264.6
(2) DIRECT ENGINEERING LABOR DOLLARS	\$398.4	\$70,403.0	\$70,801.4	\$400.5	\$72,102.2	\$72,502.7
(3) ENGINEERING OVERHEAD DOLLARS	\$245.0	\$51,267.7	\$51,512.7	\$251.2	\$52,001.9	\$52,253.1
(4) TOTAL ENGINEERING DOLLARS	\$643.4	\$121,670.7	\$122,314.1	\$651.7	\$124,104.1	\$124,755.8
<b>MANUFACTURING OPERATIONS</b>						
(5) DIRECT TOOLING LABOR HOURS	0	247.698	247.698	0.1	247.7	247.8
(6) DIRECT TOOLING LABOR DOLLARS	\$1.7	\$8,179.0	\$8,180.7	\$3.6	\$8,179.0	\$8,182.6
(7) DIRECT TOOLING & EQUIPMENT DOLLARS	\$0.0	\$4,020.8	\$4,020.8	\$0.0	\$4,020.8	\$4,020.8
(8) DIRECT QUALITY CONTROL LABOR HOURS	1.2	347.49	348.69	1.9	384.2	386.1
(9) DIRECT QUALITY CONTROL LABOR DOLLARS	\$33.5	\$10,838.4	\$10,871.9	\$36.9	\$11,052.2	\$11,089.1
(10) DIRECT MANUFACTURING LABOR HOURS	90.2	4124.5	4214.7	95.2	4168.2	4263.4
(11) DIRECT MANUFACTURING LABOR DOLLARS	\$3,456.0	\$155,518.4	\$158,974.4	\$3,478.8	\$158,321.6	\$161,800.4
(12) MANUFACTURING OPERATIONS OVERHEAD DOLLARS (Including Tooling and Quality Control)	\$325.2	\$145,235.6	\$145,560.8	\$357.3	\$146,521.5	\$146,878.8
(13) TOTAL MANUFACTURING OPERATIONS DOLLARS (Sum of rows 6, 7, 9, 11, and 12)	\$3,816.4	\$323,792.3	\$327,608.7	\$3,876.6	\$328,095.1	\$331,971.7
<b>MATERIALS</b>						
(14) RAW MATERIAL DOLLARS	\$24.2	\$10,201.9	\$10,226.1	\$24.2	\$10,201.9	\$10,226.1
(15) PURCHASED PARTS DOLLARS	\$45.2	\$30,212.0	\$30,257.2	\$127.7	\$30,952.2	\$31,079.9
(16) PURCHASED EQUIPMENT DOLLARS	\$102.5	\$57,854.4	\$57,956.9	\$98.3	\$58,156.5	\$58,254.8
(17) MATERIAL HANDLING OVERHEAD DOLLARS	\$0.0	\$4,032.2	\$4,032.2	\$0.0	\$4,032.2	\$4,032.2
(18) TOTAL DIRECT-REPORTING SUBCONTRACTOR DOLLARS	\$0.0	\$100,426.5	\$100,426.5	\$0.0	\$101,021.5	\$101,021.5
(19) TOTAL MATERIAL DOLLARS	\$171.9	\$202,727.0	\$202,898.9	\$250.2	\$204,364.3	\$204,614.5
<b>OTHER COSTS</b>						
(20) OTHER COSTS NOT SHOWN ELSEWHERE (Specify in Remarks)	\$328.2	\$45,012.0	\$45,340.2	\$328.2	\$45,904.6	\$46,232.8
<b>SUMMARY</b>						
(21) TOTAL COST (Direct and Overhead)	\$4,959.9	\$693,202.0	\$698,161.9	\$5,106.7	\$702,468.1	\$707,574.8
<b>22. REMARKS</b>						
Costs in Line 16 (Purchased Equipment Dollars) are greater to date than at completion due to a pending credit for overbilling on a purchase order. Costs in Line 18 (Total Direct Reporting Subcontractor Dollars) are for The Aircraft Electronics Group (AEG), Akron, Ohio (\$100,426,500 to date, \$101,021,500 at completion)						

# Functional Cost-Hour Report

## DD Form 1921-1



### DD 1921-1

Insight into individual WBS elements

Recurring & Nonrecurring costs

Actual costs to date, estimates at completion

Detailed breakout of all resource data

Reporting by functional categories

COSTS INCURRED TO DATE (thousands of U.S. Dollars)			COSTS INCURRED AT COMPLETION (thousands of U.S. Dollars)		
NONRECURRING	RECURRING	TOTAL	NONRECURRING	RECURRING	TOTAL
D	E	F	H	I	J
\$4,959.9	\$693,202.0	\$698,161.9	\$5,106.7	\$702,468.1	\$707,574.8
\$4,350.6	\$531,246.0	\$536,196.6	\$5,026.2	\$535,245.8	\$540,272.0
\$4,072.6	\$154,155.7	\$158,228.3	\$4,074.8	\$155,555.8	\$159,630.6
\$40.7	\$5,051.4	\$5,092.1	\$42.9	\$6,451.5	\$6,494.4
\$4,025.5	\$99,587.2	\$103,612.7	\$4,025.5	\$99,587.2	\$103,612.7

1921

1921-1

20. NUMBER OF UNITS			21. APPROPRIATION		
a. TO DATE		b. AT COMPLETION	<input type="checkbox"/> RDT&E		
10.0		10.0	<input checked="" type="checkbox"/> PROCUREMENT		
			<input type="checkbox"/> O&M		
COSTS AND HOURS INCURRED TO DATE (thousands of U.S. Dollars or thousands of hours)			COSTS AND HOURS INCURRED AT COMPLETION (thousands of U.S. Dollars or thousands of hours)		
A. NONRECURRING	B. RECURRING	C. TOTAL	D. NONRECURRING	E. RECURRING	F. TOTAL
7	1128.6	1135.6	7.4	1257.2	1264.6
\$398.4	\$70,403.0	\$70,801.4	\$400.5	\$72,102.2	\$72,502.7
\$245.0	\$51,267.7	\$51,512.7	\$251.2	\$52,001.9	\$52,253.1
\$643.4	\$121,670.7	\$122,314.1	\$651.7	\$124,104.1	\$124,755.8
\$4,959.9	\$693,202.0	\$698,161.9	\$5,106.7	\$702,468.1	\$707,574.8

# Progress Curve Report

## DD Form 1921-2



### DD 1921-2

For specific hardware WBS elements

Unit or Lot reporting

Technical Characteristics

To Date, Direct Recurring costs & hours

Detailed breakout of resource data

Reporting by functional category

8. WBS ELEMENT CODE		19. WBS REPORTING ELEMENT		20. UNITS/LOTS COMPLETED		21. APPROPRIATION							
WBS Element Code and Name		Lot or Unit Total		UNIT TOTAL LOT TOTAL		RDT&E PROCUREMENT O&M							
DATA ELEMENTS				A. COMPLETED UNITS/LOTS (thousands of U.S. Dollars or thousands of hours)				B. WORK IN PROCESS (WIP) (thousands of U.S. Dollars or thousands of hours)		C. TOTAL DIRECT COSTS AND HOURS INCURRED TO DATE (thousands of U.S. Dollars or thousands of hours)			
				A1				A2		A3		A4	
(1) MODEL AND SERIES													
(2) FIRST UNIT													
(3) LAST UNIT													
(4) CONCURRENT UNITS/LOTS													
CHARACTERISTICS													
(5a) Weight													
(5b) Speed													
(5c) Power													
ENGINEERING (RECURRING ONLY)													
(6) DIRECT ENGINEERING LABOR HOURS													
(7) DIRECT ENGINEERING LABOR DOLLARS													
MANUFACTURING OPERATIONS (RECURRING ONLY)													
(8) DIRECT TOOLING LABOR HOURS													
(9) DIRECT TOOLING LABOR DOLLARS													
(10) DIRECT TOOLING & EQUIPMENT DOLLARS													
(11) DIRECT QUALITY CONTROL LABOR HOURS													
(12) DIRECT QUALITY CONTROL LABOR DOLLARS													
(13) DIRECT MANUFACTURING LABOR HOURS													
(14) DIRECT MANUFACTURING LABOR DOLLARS													
(15) TOTAL DIRECT MANUFACTURING OPERATIONS DOLLARS (Sum of rows 9,10,12, & 14)													
MATERIALS (RECURRING ONLY)													
(16) RAW MATERIALS DOLLARS													
(17) PURCHASED PARTS DOLLARS													
(18) PURCHASED EQUIPMENT DOLLARS													
(19) TOTAL DIRECT-REPORTING SUBCONTRACTOR DOLLARS													
(20) TOTAL DIRECT MATERIAL DOLLARS													
OTHER COSTS (RECURRING ONLY)													
(21) OTHER DIRECT COSTS NOT SHOWN ELSEWHERE (Specify in Remarks)													
SUMMARY (RECURRING ONLY)													
(22) TOTAL DIRECT COST													
ZZ. REMARKS													
Remarks													

Functional Categories



# Progress Curve Report

## DD Form 1921-2



OSD CAPE

**DD 1921-2**

For specific hardware WBS elements

Unit or Lot reporting

Technical Characteristics

To Date, Direct Recurring costs & hours

Detailed breakout of resource data

Reporting by functional category

SECURITY CLASSIFICATION		Unclassified		Form Approved OMB No. 0704-0168	
<b>PROGRESS CURVE REPORT</b>					
The public reporting burden for this collection of information is estimated to average 16 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Service Directorate (0704-0168). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. <b>PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.</b>					
1. MAJOR PROGRAM a. NAME: P-49 - Phoenix Fighter		2. PRIME MISSION PRODUCT P-49 - Phoenix Fighter		3. REPORTING ORGANIZATION TYPE <input checked="" type="checkbox"/> PRIME / ASSOCIATE CONTRACTOR <input type="checkbox"/> DIRECT-REPORTING SUBCONTRACTOR <input type="checkbox"/> GOVERNMENT	
b. PHASE/MILESTONE <input type="checkbox"/> Pre-A <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C-LRIP <input type="checkbox"/> C-FRP <input type="checkbox"/> O&S		4. NAME/ADDRESS (Include ZIP Code) a. PERFORMING ORGANIZATION Vandalay Industries 352 Stork Rd.		b. DIVISION Integrated Systems 325 Stork Rd.	
5. APPROVED PLAN NUMBER N-12-W-C1		6. CUSTOMER (Direct-Reporting Subcontractor Use)		7. TYPE ACTION a. CONTRACT NO.: XXXXXX-13-C-0019 b. LATEST MODIFICATION P00421 c. SOLICITATION NO.: N/A d. NAME: Phoenix Fighter e. TASK ORDER/DELIVERY ORDER/LOT NO.: Lot 3	
8. PERIOD OF PERFORMANCE a. START DATE (YYYYMMDD): 20150601 b. END DATE (YYYYMMDD): 20181230		9. REPORT CYCLE <input type="checkbox"/> INITIAL <input type="checkbox"/> INTERIM <input checked="" type="checkbox"/> FINAL		10. SUBMISSION NUMBER 2	
11. RESUBMISSION NUMBER 0		12. REPORT AS OF (YYYYMMDD) 20160630		13. NAME (Last, First, Middle Initial) Bellows, Drew R	
14. DEPARTMENT Finance		15. TELEPHONE NO. (Include Area Code) (310) 555-0559		16. E-MAIL ADDRESS andrew_bellows@vandalayindustries.com	
17. DATE PREPARED (YYYYMMDD) 20160814		18. WBS ELEMENT CODE 10		19. WBS REPORTING ELEMENT P-49 - Phoenix Fighter	
20. UNITS/LOTS COMPLETED <input type="checkbox"/> UNIT TOTAL <input checked="" type="checkbox"/> LOT TOTAL		21. APPROPRIATION <input type="checkbox"/> RDT&E <input checked="" type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M		22. REMARKS	
<b>DATA ELEMENTS</b>					
<b>A. COMPLETED UNITS/LOTS</b> (thousands of U.S. Dollars or thousands of hours)					
	A1	A2	A3	A4	
(1) MODEL AND SERIES					
(2) FIRST UNIT					
(3) LAST UNIT					
(4) CONCURRENT UNITS/LOTS					
<b>CHARACTERISTICS</b>					
(5a) Weight					
(5b) Speed					
(5c) Power					
<b>ENGINEERING (RECURRING ONLY)</b>					
(6) DIRECT ENGINEERING LABOR HOURS	1128.6				1128.6
(7) DIRECT ENGINEERING LABOR DOLLARS	\$70,403.0				\$70,403.0
<b>MANUFACTURING OPERATIONS (RECURRING ONLY)</b>					
(8) DIRECT TOOLING LABOR HOURS	247.7				247.7
(9) DIRECT TOOLING LABOR DOLLARS	\$8,179.0				\$8,179.0
(10) DIRECT TOOLING & EQUIPMENT DOLLARS	\$4,020.8				\$4,020.8
(11) DIRECT QUALITY CONTROL LABOR HOURS	347.5				347.5
(12) DIRECT QUALITY CONTROL LABOR DOLLARS	\$10,838.4				\$10,838.4
(13) DIRECT MANUFACTURING LABOR HOURS	\$4,124.5				\$4,124.5
(14) DIRECT MANUFACTURING LABOR DOLLARS	\$155,518.4				\$155,518.4
(15) TOTAL DIRECT MANUFACTURING OPERATIONS DOLLARS (Sum of rows 8, 10, 12, and 14)	\$178,556.6				\$178,556.6
<b>MATERIALS (RECURRING ONLY)</b>					
(16) RAW MATERIALS DOLLARS	\$10,201.9				\$10,201.9
(17) PURCHASED PARTS DOLLARS	\$30,212.0				\$30,212.0
(18) PURCHASED EQUIPMENT DOLLARS	\$57,854.4				\$57,854.4
(19) TOTAL DIRECT-REPORTING SUBCONTRACTOR DOLLARS					
(20) TOTAL DIRECT MATERIAL DOLLARS	\$98,268.3				\$98,268.3
<b>OTHER COSTS (RECURRING ONLY)</b>					
(21) OTHER DIRECT COSTS NOT SHOWN ELSEWHERE (Specify in Remarks)	\$25,012.0				\$25,012.0
<b>SUMMARY (RECURRING ONLY)</b>					
(22) TOTAL DIRECT COST	\$372,239.9				\$372,239.9



# Progress Curve Report

## DD Form 1921-2



OSD CAPE

DD 1921-2

1921-1

For specific hardware WBS elements

Unit or Lot reporting

Technical Characteristics

To Date, Direct Recurring costs & hours

Detailed breakout of resource data

Reporting by functional category

18. WBS ELEMENT CODE 1.0	19. WBS REPORTING ELEMENT P-49 - Phoenix Fighter	20. NUMBER OF UNITS a. TO DATE: 10.0 b. AT COMPLETION: 10	
FUNCTIONAL DATA ELEMENTS		COSTS AND HOURS INCURRED TO DATE (thousands of U.S. Dollars or thousands of hours)	
		A. NONRECURRING	B. RECURRING
ENGINEERING			
(1) DIRECT ENGINEERING LABOR HOURS		7	1128.6
(2) DIRECT ENGINEERING LABOR DOLLARS		\$398.4	\$70,403.0
(3) ENGINEERING OVERHEAD DOLLARS		\$245.0	\$51,267.7
(4) TOTAL ENGINEERING DOLLARS		\$643.4	\$121,670.7

18. WBS ELEMENT CODE 1.0	19. WBS REPORTING ELEMENT P-49 - Phoenix Fighter	20. NUMBER OF UNITS a. TO DATE: 10.0 b. AT COMPLETION: 10	
DATA ELEMENTS		A. COMPLETE TO DATE (thousands of U.S. Dollars or thousands of hours)	
		A1	A2
(1) MODEL AND SERIES		\$33.5	\$10,838.4
(2) FIRST UNIT		90.2	4124.5
(3) LAST UNIT		\$3,456.0	\$155,518.4
(4) CONCURRENT UNITS/LOTS		\$325.2	\$145,235.6
CHARACTERISTICS		\$3,816.4	\$323,792.3
(5a) Weight			
(5b) Speed		\$24.2	\$10,201.9
(5c) Power		\$45.2	\$30,212.0
ENGINEERING (RECURRING ONLY)		\$102.5	\$57,854.4
(6) DIRECT ENGINEERING LABOR HOURS		1128.6	
(7) DIRECT ENGINEERING LABOR DOLLARS		\$70,403.0	
MANUFACTURING OPERATIONS (RECURRING ONLY)		\$171.9	\$202,727.0
(8) DIRECT TOOLING LABOR HOURS		247.7	
(9) DIRECT TOOLING LABOR DOLLARS		\$8,179.0	
(10) DIRECT TOOLING & EQUIPMENT DOLLARS		\$4,020.8	
(11) DIRECT QUALITY CONTROL LABOR HOURS		347.5	
(12) DIRECT QUALITY CONTROL LABOR DOLLARS		\$10,838.4	
(13) DIRECT MANUFACTURING LABOR HOURS		\$4,124.5	
(14) DIRECT MANUFACTURING LABOR DOLLARS		\$155,518.4	
(15) TOTAL DIRECT MANUFACTURING OPERATIONS DOLLARS (Sum of rows 9, 10, 12, and 14)		\$178,556.6	
MATERIALS (RECURRING ONLY)		\$4,959.9	\$693,202.0
(18) RAW MATERIALS DOLLARS		\$10,201.9	
(17) PURCHASED PARTS DOLLARS		\$30,212.0	
(18) PURCHASED EQUIPMENT DOLLARS		\$57,854.4	
(19) TOTAL DIRECT-REPORTING SUBCONTRACTOR DOLLARS		\$328.2	\$45,012.0
(20) TOTAL DIRECT MATERIAL DOLLARS		\$98,268.3	
OTHER COSTS (RECURRING ONLY)			
(21) OTHER DIRECT COSTS NOT SHOWN ELSEWHERE (Specify in Remarks)		\$25,012.0	
SUMMARY (RECURRING ONLY)			
(22) TOTAL DIRECT COST		\$372,239.9	

1921-2



# Contractor Business Data Report DD Form 1921-3



OSD CAPE

## DD 1921-3

Report per contractor site

Covers all DoD business

Direct Costs by Program

Indirect Cost Categories

Direct Labor Rates by Function

Organization & Accounting Changes

SECURITY CLASSIFICATION \_\_\_\_\_

**CONTRACTOR BUSINESS DATA REPORT** Form Approved  
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 30 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate, Information Management Division, 1155 Defense Pentagon, Washington, DC 20301-1155 (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.

1. CONTRACTOR NAME/ADDRESS (Include Zip Code) <b>Metadata</b>		2. FPR UNIT	3. IMPLEMENTING CONTRACT NUMBER	4. DATA PERIOD (X) Prior Year Current Year Future Year	5. FISCAL YEAR (YY)	6. DATES IN FISCAL YEAR (YYYYMM) Start Date: End Date:
7. PREPARER'S NAME (Last, First, Middle Initial)			8. DEPARTMENT	9. TELEPHONE NO. (Include Area Code)	10. EMAIL ADDRESS	11. DATE PREPARED (YYYYMMDD)

**Overhead Accumulation, Distribution, and Application**

**DIRECT: COST/HOURS/MANPOWER** (Report dollars and hours in thousands)

Program Name a	A/F	Contract Number b	Equivalent Units c	Buyer d	Engineering			Manufacturing Operations			Materials		Other	
					Workers e	Dollars f	Hours g	Workers h	Dollars i	Hours j	Dollars k	Workers l	Dollars m	Hours n
1.														
2.														
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10.														
11. Other DoD Effort														
12. Other Government Effort														
13. Commercial Effort														
14. Total Direct Cost and Hours Base						\$0.0	0.0		\$0.0	0.0	\$0.0		\$0.0	0.0
a. Total Direct Workers					0			0			0		0	

**INDIRECT: COST/HOURS/MANPOWER** (Report dollars and hours in thousands)

INDIRECT COST CATEGORY	Engineering			Manufacturing Operations			Materials			Other			G&A	
	Workers o	Dollars p	Hours q	Workers r	Dollars s	Hours t	Workers u	Dollars v	Hours w	Workers x	Dollars y	Hours z	Dollars	Hours
15. Indirect Labor														
16. Employee Benefits														
17. Payroll Taxes														
18. Employment														
19. Communication/Travel														
20. Production Related														
21. Facilities-Building/Land														
22. Facilities-Furniture/Equipment														
23. Administration														
24. Future Business														
25. Other Miscellaneous														
26. Credits														
27. Total Indirect Cost and Hours														
28. Total G&A Cost and Hours														
29. Indirect/Direct Cost Rate														
30. G&A Rate/(Direct + Indirect)														

DD FORM 1921-3, MAY 2011

**CONTRACTOR BUSINESS DATA REPORT - PAGE 2**

PRODUCTION CAPACITY		Current Year	Method of Calculating "FPR unit % of Full Production Capacity"	
FPR Unit % of Full Production Capacity				
Number of Shifts				

**Current Year (Report hours in thousands)**

FUNCTIONAL CATEGORIES	1st Quarter				2nd Quarter				3rd Quarter				4th Quarter				Prior Year		Year:	
	Workers a	Hours b	Basic Rate\$ c	Effective Rate\$ d	Workers a	Hours b	Basic Rate\$ c	Effective Rate\$ d	Workers a	Hours b	Basic Rate\$ c	Effective Rate\$ d	Workers a	Hours b	Basic Rate\$ c	Effective Rate\$ d	Basic Rate\$ c	Basic Rate\$ c		
1. Engineering - Direct Labor																				
2. Manufacturing Operations - Direct Labor																				
a. Tooling - Direct Labor																				
b. Quality Control - Direct Labor																				
c. Manufacturing - Direct Labor																				

Total FPR Unit Revenue (Sales) (thousands of dollars)	Prior Year	Current Year	<b>Revenue</b>	

Organizational Changes (For Each Year Reported)	Accounting Changes (For Each Year Reported)	<b>Organizational and Accounting Changes</b>	

**REMARKS**

**Remarks**



# Contractor Business Data Report DD Form 1921-3



OSD CAPE

SECURITY CLASSIFICATION

## DD 1921-3

Report per contractor site

Covers all DoD business

Direct Costs by Program

Indirect Cost Categories

Direct Labor Rates by Function

Organization & Accounting Changes

CONTRACTOR BUSINESS DATA REPORT											Form Approved OMB No. 0704-0183								
The public reporting burden for this collection of information is estimated to average 30 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Project Director, Washington, DC 20503-2974.											Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Project Director, Washington, DC 20503-2974.								
Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.											PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.								
1. CONTRACTOR NAME/ADDRESS (Include Zip Code) "Vandalay Industries 352 Stork Rd Los Angeles, CA 90049"		2. FPR UNIT EBS		3. IMPLEMENTING CONTRACT NUMBER XXXXXX-13-C-0019		4. DATA PERIOD (X one) Prior Year Current Year Future Year		5. FISCAL YEAR (YYYY) 2014		6. DATES IN FISCAL YEAR (YYYYMMDD) Start Date: 20150601 End Date: 20161230									
7. PREPARER'S NAME (Last, First, Middle Initial) Keenan, Wade T			8. DEPARTMENT Integrated Systems		9. TELEPHONE NO. (Include Area Code) (310) 555-0559		10. EMAIL ADDRESS andrew_bellows@vandalayindustries.com		11. DATE PREPARED (YYYYMMDD) 20160814										
Overhead Accumulation, Distribution, and Application																			
DIRECT COST BY PROGRAM											DIRECT COST / HOURS / MANPOWER (Report dollars and hours in thousands)								
				Engineering			Manufacturing Operations			Materials		Other							
Program Name	AIF	Contract Number	Equivalent Units	Buyer	Workers	Dollars	Hours	Workers	Dollars	Hours	Workers	Dollars	Hours	Workers	Dollars	Hours			
1. P-49 Phoenix Fighter	F	XXXXXX-13-C-0019	10	U.S. AIR FORCE	5.0	\$124,104.1	1,264.6	17.3	\$331,971.7	4,263.4	\$204,614.5	7.3	\$46,232.6	12.1	\$46,232.6	12.1			
2. Millennium Falcon	F	XXXXXX-09-C-0089	19	U.S. NAVY	23.1	\$1,858.8	38.1	52.5	\$3,097.1	86.6	\$45,143.7	1.1	\$282.2	1.8	\$282.2	1.8			
3. USS Enterprise	F	XXXXXX-10-C-0002	17	U.S. NAVY	45.7	\$4,123.9	75.4	98.7	\$5,803.1	162.7	\$35,241.8	7.3	\$829.9	12.0	\$829.9	12.0			
4. Other DoD Effort																			
5. Other Government Effort																			
6. Commercial Effort																			
7. Total Direct Cost and Hours Base																			
8. Total Direct Workers																			
INDIRECT COST CATEGORY											INDIRECT COST / HOURS / MANPOWER (Report dollars and hours in thousands)								
				Engineering			Manufacturing Operations			Materials		Other		G&A					
Workers	Dollars	Hours	Workers	Dollars	Hours	Workers	Dollars	Hours	Workers	Dollars	Hours	Workers	Dollars	Hours	Dollars	Hours			
15. Indirect Labor	1,237	\$175,335	2,583	770	\$85,070.7	1,608	\$16,817.2	163	\$25,794.4	340	\$37,802.6	719	\$37,802.6	719	\$37,802.6	719			
16. Employee Benefits		\$153,557.8			\$56,324.0		\$4,471.0		\$23,762.5		\$8,981.9		\$8,981.9		\$8,981.9				
17. Payroll Taxes		\$46,144.9			\$17,526.7		\$1,343.6		\$7,140.8		\$2,699.1		\$2,699.1		\$2,699.1				
18. Employment		\$3,385.3			\$5,255.1		\$403.7		\$1,726.0		\$535.5		\$535.5		\$535.5				
19. Communication/Travel		\$5,222.9			\$1,306.0		\$403.7		\$833.9		\$4,045.3		\$4,045.3		\$4,045.3				
20. Production Related		\$12,504.2			\$20,386.6		\$6,710.1		\$478.6		\$2,567.6		\$2,567.6		\$2,567.6				
21. Facilities-Building/Land																			
22. Facilities-Furniture/Equip																			
23. Administration																			
24. Future Business																			
25. Other Miscellaneous																			
26. Credits																			
27. Total Indirect Cost and Hours																			
28. Total G&A Cost and Hour																			
29. Indirect/Direct Cost Rate																			
30. G&A Rate/Direct + Indirect																			
DD FORM 1921-3, MAY 2011																			
CONTRACTOR BUSINESS DATA REPORT - PAGE 2											Method of Calculating "FPR unit % of Full Production Capacity"								
PRODUCTION CAPACITY											Current Year								
FPR Unit % of Full Production Capacity											67								
Number of Shifts											60								
											2012 weighted average of three largest manufacturing sites accounting for 95% of the FRP total manufacturing. Rolling Meadows IL and Norwalk CT sites per sum of quarterly MQ-C2 Capacity census reports. BWI MD site per MQ-C2 Capacity report calculation.								
											Current Year (Report hours in thousands)								
				1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			Prior Year	Year: 2012	Year: 2013	
				Workers	Hours	Basic Rate	Effective Rate	Workers	Hours	Basic Rate	Effective Rate	Workers	Hours	Basic Rate	Effective Rate	Basic Rate	Basic Rate	Basic Rate	
				a	b	c	d	a	b	c	d	a	b	c	d	e	f	g	
				4,961	2,196	58.75	56.75	4,917	2,130	56.89	56.89	4,926	2,012	57.03	57.03	4,885	1,897	57.63	57.63
				106	42	39.03	39.03	104	43	38.46	38.46	108	43	38.67	38.67	110	42	39.10	39.10
				589	231	38.19	38.19	573	228	38.50	38.50	556	218	38.42	38.42	555	206	38.66	38.66
				2,125	870	35.52	35.52	2,120	876	35.58	35.58	2,101	845	35.71	35.71	2,057	792	36.33	36.33
				Prior Year		Current Year		Prior Year		Current Year		Prior Year		Current Year		Prior Year		Current Year	
				3,244,343		3,694,400		3,244,343		3,694,400		3,244,343		3,694,400		3,244,343		3,694,400	
				(thousands of dollars)		(thousands of dollars)		(thousands of dollars)		(thousands of dollars)		(thousands of dollars)		(thousands of dollars)		(thousands of dollars)		(thousands of dollars)	



# Contractor Sustainment Functional Cost-Hour Report

## DD Form 1921-5



OSD CAPE

DD 1921-5

Insight into individual WBS elements

Recurring & Nonrecurring costs

Actual costs to date, estimates at completion

Detailed breakout of all resource data

Reporting by sustainment functional categories

Sustainment Functional Categories

CONTRACTOR SUSTAINMENT FUNCTIONAL COST-HOUR REPORT												Form Approved OMB No. 0704-0188	
The public reporting burden for this collection of information is estimated to average 16 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.													
1. MAJOR PROGRAM a. NAME: b. PHASE/MILESTONE <input type="checkbox"/> Pre-A <input type="checkbox"/> B <input type="checkbox"/> C-FRP <input type="checkbox"/> A <input type="checkbox"/> C-LRIP <input type="checkbox"/> O&S		2. PRIME MISSION PRODUCT		3. REPORTING ORGANIZATION TYPE <input type="checkbox"/> PRIME / ASSOCIATE CONTRACTOR <input type="checkbox"/> DIRECT-REPORTING SUBCONTRACTOR <input type="checkbox"/> GOVERNMENT		4. NAME/ADDRESS (Include Zip Code) a. PERFORMING ORGANIZATION b. DIVISION				5. APPROVED PLAN NUMBER			
6. CUSTOMER (Direct-Reporting Subcontractor Use Only)						7. TYPE ACTION a. CONTRACT NO.: b. LATEST MODIFICATION:		c. SOLICITATION NO.: d. NAME:		e. TASK ORDER/DELIVERY ORDER/LOT NO.:			
8. PERIOD OF PERFORMANCE a. START DATE (YYYYMMDD): b. END DATE (YYYYMMDD):				Metadata				9. REPORT CYCLE <input type="checkbox"/> INITIAL <input type="checkbox"/> INTERM <input type="checkbox"/> FINAL		10. SUBMISSION NUMBER		11. RESUBMISSION NUMBER	12. REPORT AS OF (YYYYMMDD)
13. NAME (Last, First, Middle Initial)			14. DEPARTMENT					15. TELEPHONE NO. (include Area Code)		16. EMAIL ADDRESS		17. DATE PREPARED (YYYYMMDD)	
18. WBS ELEMENT CODE			19. WBS REPORTING ELEMENT Code and Name			20. NUMBER OF UNITS a. TO DATE b. AT COMPLETION			21. APPROPRIATION <input type="checkbox"/> RDT&E <input type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M				
SUSTAINMENT FUNCTIONAL DATA ELEMENTS						COSTS AND HOURS INCURRED TO DATE (thousands of U.S. Dollars or thousands of hours)			COSTS AND HOURS INCURRED AT COMPLETION (thousands of U.S. Dollars or thousands of hours)				
						A. NONRECURRING	B. RECURRING	C. TOTAL	D. NONRECURRING	E. RECURRING	F. TOTAL		
<b>ENGINEERING</b>													
(1) DIRECT ENGINEERING LABOR HOURS													
(2) DIRECT ENGINEERING LABOR DOLLARS													
(3) ENGINEERING OVERHEAD DOLLARS													
(4) TOTAL ENGINEERING DOLLARS													
<b>PROGRAM MANAGEMENT</b>													
(5) DIRECT PROGRAM MANAGEMENT LABOR HOURS													
(6) DIRECT PROGRAM MANAGEMENT LABOR DOLLARS													
(7) PROGRAM MANAGEMENT OVERHEAD DOLLARS													
(8) TOTAL PROGRAM MANAGEMENT DOLLARS													
<b>MAINTENANCE OPERATIONS</b>													
(9) TOUCH MAINTENANCE LABOR HOURS													
(10) TOUCH MAINTENANCE LABOR DOLLARS													
(11) TOUCH MAINTENANCE OVERHEAD DOLLARS													
(12) SUPPORT MAINTENANCE LABOR HOURS													
(13) SUPPORT MAINTENANCE LABOR DOLLARS													
(14) SUPPORT MAINTENANCE OVERHEAD DOLLARS													
(15) TOTAL MAINTENANCE OPERATIONS DOLLARS													
<b>MATERIALS</b>													
(16) RAW MATERIAL DOLLARS													
(17) PURCHASED PARTS DOLLARS													
(18) PURCHASED EQUIPMENT DOLLARS													
(19) MATERIAL HANDLING/OVERHEAD DOLLARS													
(20) TOTAL DIRECT-REPORTING SUBCONTRACTOR DOLLARS													
(21) TOTAL MATERIAL DOLLARS													
<b>OTHER COSTS</b>													
(22) OTHER COSTS NOT SHOWN ELSEWHERE (Specify in Remarks)													
<b>SUMMARY</b>													
(23) TOTAL COST (Direct and Overhead)													
22. REMARKS													
Remarks													

# Contractor Sustainment Functional Cost-Hour Report

## DD Form 1921-5



DD 1921-5

Insight into individual WBS elements

Recurring & Nonrecurring costs

Actual costs to date, estimates at completion

Detailed breakout of all resource data

Reporting by sustainment functional categories

SECURITY CLASSIFICATION											
Unclassified											
SUSTAINMENT FUNCTIONAL COST-HOUR REPORT											
									Form Approved OMB No. 0704-0168		
The public reporting burden for this collection of information is estimated to average 16 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Service Directorate (0704-0168). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.											
<b>1. MAJOR PROGRAM NAME:</b> a. PHASE/MILESTONE <input type="checkbox"/> Pre-A <input type="checkbox"/> B <input type="checkbox"/> C-FRP <input type="checkbox"/> O&S <input type="checkbox"/> A <input type="checkbox"/> C-LRIP											
<b>2. PRIME MISSION</b> P-49 - Phoenix Fighter		<b>3. REPORTING ORGANIZATION TYPE</b> <input checked="" type="checkbox"/> PRIME / ASSOCIATE CONTRACTOR <input type="checkbox"/> DIRECT-REPORTING SUBCONTRACTOR <input type="checkbox"/> GOVERNMENT		<b>4. NAME/ADDRESS</b> (Include Zip Code) a. PERFORMING ORGANIZATION Vanday Industries 352 Stork Rd. Los Angeles, CA 90048			b. DIVISION Integrated Systems 325 Stork Rd. Los Angeles, CA 90048		<b>5. APPROVED</b> N-12-X-C1		
<b>6. CUSTOMER</b> (Direct-Reporting Subcontractor Use Only)					<b>7. TYPE ACTION</b> a. CONTRACT NO. b. LATEST MODIFICATION		c. SOLICITATION NO.: d. NAME:		e. TASK ORDER/DELIVERY ORDER/LOT NO.:		
<b>8. PERIOD OF PERFORMANCE</b> a. START DATE (YYYYMMDD): 20150601 b. END DATE (YYYYMMDD): 20181230			<b>9. REPORT CYCLE</b> <input type="checkbox"/> INITIAL <input type="checkbox"/> INTERIM <input checked="" type="checkbox"/> FINAL		<b>10. SUBMISSION NUMBER</b> 2		<b>11. RESUBMISSION NUMBER</b> 0		<b>12. REPORT AS OF</b> (YYYYMM) 20160630		
<b>13. NAME</b> (Last, First, Middle Initial) Bellows, Drew R		<b>14. DEPARTMENT</b> Finance		<b>15. TELEPHONE NO.</b> (Include Area Code) (310) 555-0559		<b>16. EMAIL ADDRESS</b> drew_bellows@vandayindustries.com		<b>17. DATE PREPARED</b> (YYYYMM) 20160614			
<b>18. WBS ELEMENT CODE</b> 1.0		<b>19. WBS REPORTING ELEMENT</b> P-49 - Phoenix Fighter		<b>20. NUMBER OF UNITS</b> a. TO DATE: 10.0 b. AT COMPLETION: 10.0		<b>21. APPROPRIATION</b> <input type="checkbox"/> RDT&E <input checked="" type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M					
SUSTAINMENT FUNCTIONAL DATA ELEMENTS											
COSTS AND HOURS INCURRED TO DATE					COSTS AND HOURS INCURRED AT COMPLETION						
(thousands of U.S. Dollars or thousands of hours)											
A. NONRECURRING		B. RECURRING		C. TOTAL		D. NONRECURRING		E. RECURRING		F. TOTAL	
ENGINEERING											
(1) DIRECT ENGINEERING LABOR HOURS		7		1128.6		1135.6		7.4		1257.2	1264.6
(2) DIRECT ENGINEERING LABOR DOLLARS		\$398.4		\$70,403.0		\$70,801.4		\$400.5		\$72,102.2	\$72,502.7
(3) ENGINEERING OVERHEAD DOLLARS		\$245.0		\$51,267.7		\$51,512.7		\$251.2		\$52,003.9	\$52,253.1
(4) TOTAL ENGINEERING DOLLARS		\$643.4		\$121,670.7		\$122,314.1		\$651.7		\$124,104.1	\$124,755.8
PROGRAM MANAGEMENT											
(5) DIRECT PROGRAM MANAGEMENT LABOR HOURS		90.2		4124.5		4214.7		95.2		4169.2	4263.4
(6) DIRECT PROGRAM MANAGEMENT LABOR DOLLARS		\$3,456.0		\$155,518.4		\$158,974.4		\$3,478.8		\$158,321.6	\$161,800.4
(7) PROGRAM MANAGEMENT OVERHEAD DOLLARS		\$3,000.0		\$3,000.0		\$6,000.0		\$4,000.0		\$4,000.0	\$8,000.0
(8) TOTAL PROGRAM MANAGEMENT DOLLARS		\$6,456.0		\$158,518.4		\$164,974.4		\$7,478.8		\$162,321.6	\$163,800.4
MAINTENANCE OPERATIONS											
(9) TOUCH MAINTENANCE LABOR HOURS		5		10		15		10		10	20
(10) TOUCH MAINTENANCE LABOR DOLLARS		\$5,000.0		\$5,000.0		\$10,000.0		\$6,000.0		\$6,000.0	\$12,000.0
(11) TOUCH MAINTENANCE OVERHEAD DOLLARS		\$5,000.0		\$5,000.0		\$10,000.0		\$6,000.0		\$6,000.0	\$12,000.0
(12) SUPPORT MAINTENANCE LABOR HOURS		5		10		15		10		10	20
(13) SUPPORT MAINTENANCE LABOR DOLLARS		\$3,000.0		\$3,000.0		\$6,000.0		\$4,000.0		\$4,000.0	\$8,000.0
(14) SUPPORT MAINTENANCE OVERHEAD DOLLARS		\$3,000.0		\$3,000.0		\$6,000.0		\$4,000.0		\$4,000.0	\$8,000.0
(15) TOTAL MAINTENANCE OPERATIONS DOLLARS		\$16,000.0		\$16,000.0		\$32,000.0		\$20,000.0		\$20,000.0	\$40,000.0
MATERIALS											
(16) RAW MATERIAL DOLLARS		\$24.2		\$10,201.9		\$10,226.1		\$24.2		\$10,201.9	\$10,226.1
(17) PURCHASED PARTS DOLLARS		\$45.2		\$30,212.0		\$30,257.2		\$121.7		\$30,352.2	\$31,079.9
(18) PURCHASED EQUIPMENT DOLLARS		\$102.5		\$57,854.4		\$57,956.9		\$38.3		\$58,156.5	\$58,254.8
(19) MATERIAL HANDLING/OVERHEAD DOLLARS		\$0.0		\$4,032.2		\$4,032.2		\$0.0		\$4,032.2	\$4,032.2
(20) TOTAL DIRECT-REPORTING SUBCONTRACTOR DOLLARS		\$0.0		\$100,426.5		\$100,426.5		\$0.0		\$101,021.5	\$101,021.5
(21) TOTAL MATERIAL DOLLARS		\$171.9		\$202,727.0		\$202,838.9		\$250.2		\$204,364.3	\$204,614.5
OTHER COSTS											
(22) OTHER COSTS NOT SHOWN ELSEWHERE (Specify in Remarks)		\$328.2		\$45,012.0		\$45,340.2		\$328.2		\$45,304.6	\$46,232.8
SUMMARY											
(23) TOTAL COST (Direct and Overhead)		\$23,539.5		\$543,328.1		\$567,527.6		\$28,458.7		\$556,634.6	\$585,403.5
<b>22. REMARKS</b>											



# Initial and Final Software Resource Data Reports (SRDRs)



OSD CAPE

## SRDR

Software size, effort, and schedule

Data further explained in data dictionary

Initial Developer Report- Due at beginning of project increment (estimates)

Final Developer Report- Due at completion of project increment (actuals)

Section 3.3 ACTUAL PRODUCT SIZE REPORTING									
NUMBER OF SOFTWARE REQUIREMENTS	TOTAL	NUMBER OF EXTERNAL INTERFACE REQUIREMENTS	TOTAL	REQUIREMENTS VOLATILITY					
	NEW		NEW						
Section 3.3.4 FINAL TOTAL DELIVERED CODE			COUNTING CONVENTION		PRIME CONTRACTOR ONLY	ALL OTHER SUBCONTRACTORS			
Section 3.3.4.1 AMOUNT OF DELIVERED CODE DEVELOPED NEW				HUMAN GENERATED	<b>Software Size</b>				
				AUTO GENERATED					
Section 3.3.4.1 AMOUNT OF DELIVERED CODE REUSED FROM EXTERNAL SOURCE (i.e., NOT INHERITED FROM PREVIOUS INCREMENT/BUILD OR PREDECESSOR)				WITH MODIFICATIONS					
				WITHOUT MODIFICATIONS					
Section 3.3.4.1 AMOUNT OF DELIVERED CODE REUSED FROM EXTERNAL SOURCE (i.e., NOT INHERITED FROM PREVIOUS INCREMENT/BUILD OR PREDECESSOR)				WITH MODIFICATIONS					
				WITHOUT MODIFICATIONS					
Section 3.4 ACTUAL RESOURCE AND SCHEDULE REPORTING									
SOFTWARE ACTIVITY NAME	MAPS TO CSDR WBS NUMBER(S)	START MONTH	END MONTH	TOTAL HOURS PRIME CONTRACTOR ONLY	TOTAL HOURS ALL OTHER SUBCONTRACTORS				
(Example: SOFTWARE REQUIREMENTS ANALYSIS)									
(Example: SOFTWARE ARCHITECTURE AND DETAILED DESIGN)									
(Example: SOFTWARE CODING AND UNIT TESTING)									
(Example: SOFTWARE INTEGRATION)						<b>Effort and schedule</b>			
(Example: SOFTWARE QUALIFICATION TESTING)									
(Example: SYSTEM/SOFTWARE INTEGRATION)									
(Example: SYSTEM/SOFTWARE QUALIFICATION TESTING)									
(Example: SOFTWARE QUALITY ASSURANCE)									
(Example: SOFTWARE CONFIGURATION MANAGEMENT)									
(Example: SOFTWARE PROGRAM MANAGEMENT)									
ALL OTHER DIRECT SOFTWARE ENGINEERING DEVELOPMENT EFFORT (Example: DATA, PROCESS IMPROVEMENT, INDEPENDENT VERIFICATION & VALIDATION, PROBLEM RESOLUTION)									
TOTAL SOFTWARE DEVELOPMENT EFFORT									
<b>Comments</b>									



# Initial and Final Software Resource Data Reports (SRDRs)



OSD CAPE

## SRDR

Software size, effort, and schedule

Data further explained in data dictionary

Initial Developer Report- Due at beginning of project increment (estimates)

Final Developer Report- Due at completion of project increment (actuals)

ESTIMATED PRODUCT SIZE REPORTING							
NUMBER OF SOFTWARE REQUIREMENTS	TOTAL	22405	NUMBER OF EXTERNAL INTERFACE REQUIREMENTS	TOTAL	94	REQUIREMENTS VOLATILITY	Low
	NEW	100		NEW	94		
			COUNTING CONVENTION	PRIME CONTRACTOR ONLY	ALL OTHER SUBCONTRACTORS		
AMOUNT OF DELIVERED CODE DEVELOPED NEW			SLOC	HUMAN GENERATED	8,306	N/A	
			N/A	AUTO GENERATED	N/A	N/A	
AMOUNT OF DELIVERED CODE REUSED FROM EXTERNAL SOURCE (i.e. NOT INHERITED FROM PREVIOUS INCREMENT/BUILD OR PREDECESSOR)			SLOC	WITH MODIFICATIONS	6,860	N/A	
			N/A	WITHOUT MODIFICATIONS	N/A	N/A	
AMOUNT OF DELIVERED CODE INHERITED (i.e. REUSED FROM PREVIOUS INCREMENT/BUILD or PREDECESSOR)			SLOC	WITH MODIFICATIONS	N/A	N/A	
			N/A	WITHOUT MODIFICATIONS	232,800	N/A	
SOFTWARE RESOURCES DATA REPORTING: INITIAL DEVELOPER REPORT (SAMPLE FORMAT 2)							
COMMENTS	ESTIMATED RESOURCE AND SCHEDULE REPORTING						
	SOFTWARE ACTIVITY NAME	MAPS TO CSDR WBS NUMBER(S)	START MONTH	END MONTH	TOTAL HOURS PRIME CONTRACTOR ONLY	TOTAL HOURS ALL OTHER SUBCONTRACTORS	
	SOFTWARE REQUIREMENTS ANALYSIS	1.1.4	4/7/2015	5/10/2017	14925	N/A	
	SOFTWARE ARCHITECTURE AND DETAILED DESIGN	1.1.4	7/6/2015	9/15/2017	12746	N/A	
	SOFTWARE CODING AND UNIT TESTING	1.1.4	12/1/2015	11/1/2017	7859	N/A	
	SOFTWARE INTEGRATION	1.1.4	9/20/2016	11/1/2017	4650	N/A	
	SOFTWARE QUALIFICATION TESTING	1.1.4	11/6/2017	12/22/2017	3001	N/A	
	SYSTEM/SOFTWARE INTEGRATION	1.1.4	11/29/2016	4/16/2018	5200	N/A	
	ALL OTHER DIRECT SOFTWARE ENGINEERING DEVELOPMENT EFFORT	N/A			0	N/A	
	N/A						
TOTAL SOFTWARE DEVELOPMENT EFFORT					20710		
COMMENTS							

# Future of CSDRs



CSD CAPE

Pre-2003

unreadable  
image files



- Not checked for arithmetic or logic errors

2015

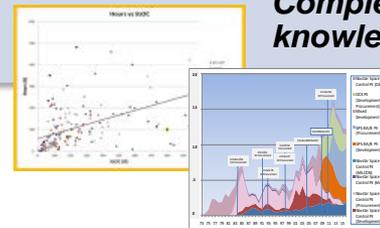
Easier data  
manipulation via  
Excel & XML



- cPet and manual validations
- Cost community collaboration
- Accountability

Future

Complete, seamless  
knowledge sharing



## FlexFiles

- Collect data according to the contractor's financial structure
- Data mapped to MIL-STD-881C
- Reduction in labor to produce reports

## Tech Data

- Standardized technical data collection
- Improved CARD process & data
- Actuals reported from industry

FlexFiles and Tech Data will reduce the time for data collection and increase the quality of data analytics



# Using the Data

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OSD CAPE

## EXAMPLE 1: Projecting Future Lots



# How to Use the Data: Projecting Future Lots

OSD CAPE

Using the Functional Cost Hour Report (DD Form 1921-1), we can determine the total and per unit *recurring* costs for each functional category and the associated overhead costs

FUNCTIONAL DATA ELEMENTS	COSTS AND HOURS INCURRED AT COMPLETION (thousands of U.S. Dollars or thousands of hours)		
	D. NONRECURRING	E. RECURRING	F.TOTAL
(10) DIRECT MANUFACTURING LABOR HOURS	95.2	4168.2	4263.4
(11) DIRECT MANUFACTURING LABOR DOLLARS	\$3,478.8	\$158,321.6	\$161,800.4

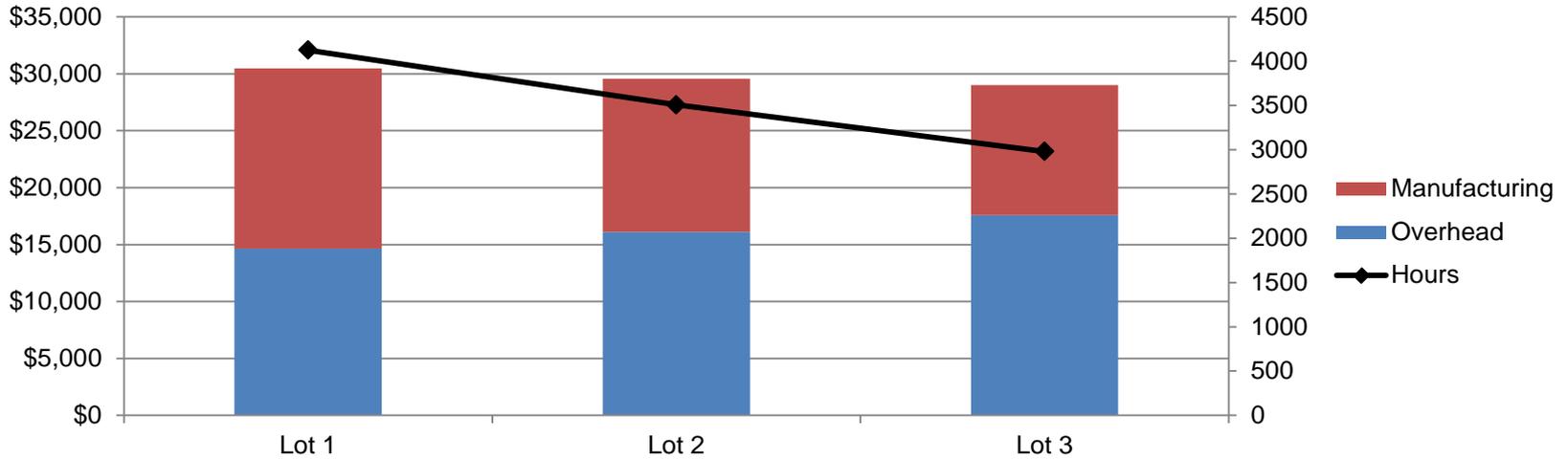
Lot	Total Units Produced	Total Recurring Direct Manufacturing Labor	Total Recurring Other Labor	Recurring Material Cost	Total Recurring Overhead Cost	Total Recurring Cost
Lot 1	10	\$158,321.6	\$141,258.8	\$200,332.10	\$202,555.60	\$702,468.10
Lot 2	20	\$269,146.7	\$268,391.7	\$380,631.0	\$445,622.3	\$1,363,791.75
Lot 3	40	\$457,549.4	\$509,944.3	\$723,198.9	\$971,456.7	\$2,662,149.23



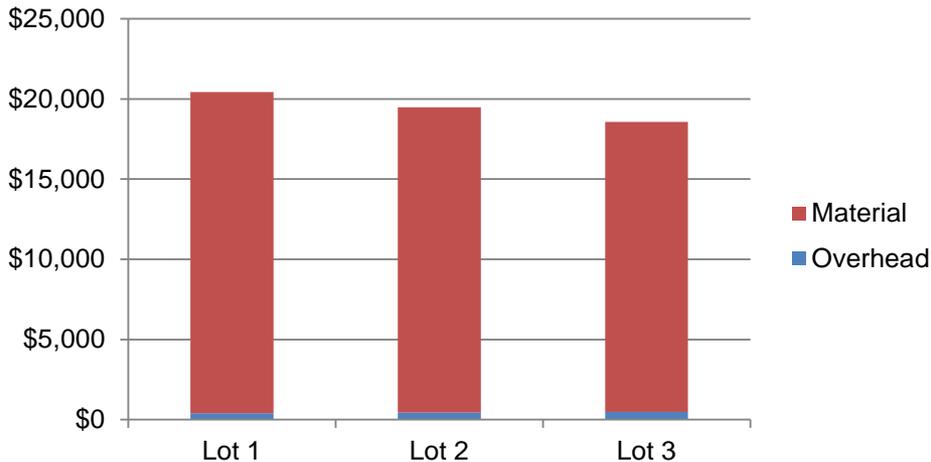
# How to Use the Data: Projecting Future Lots

OSD CAPE

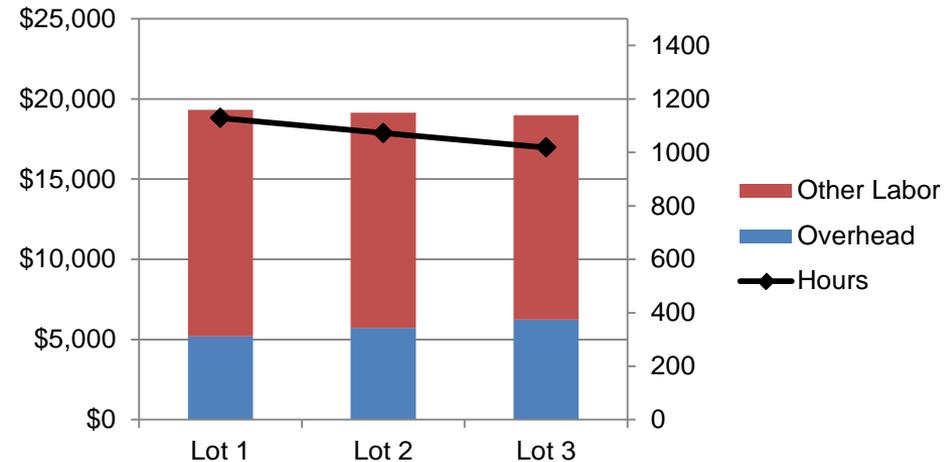
## Manufacturing Labor Dollars Per Unit



## Material Dollars Per Unit



## Other Labor Per Unit



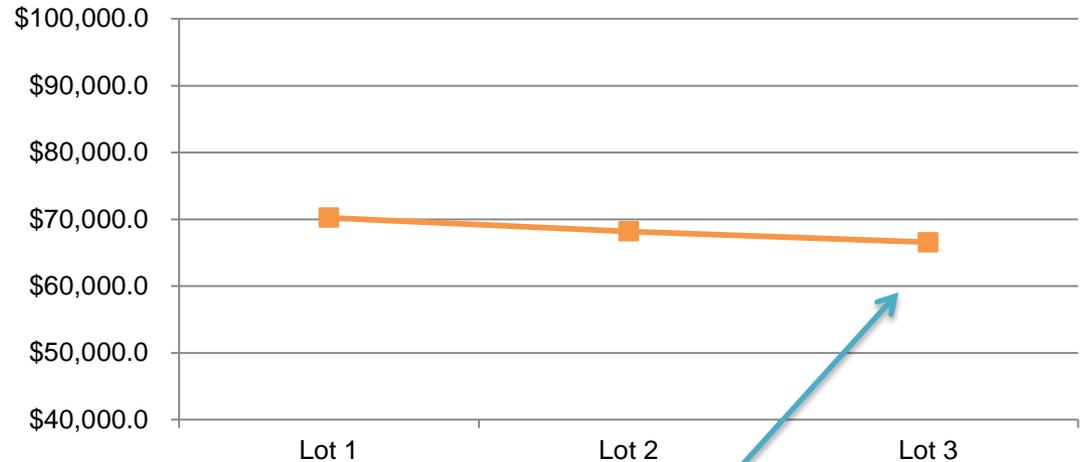


# How to Use the Data: Projecting Future Lots

OSD CAPE

## Average Unit Cost: IPMR Format 1

Lot	Total Units Produced	Total Costs
Lot 1	10	\$702,468.10
Lot 2	20	\$1,363,791.75
Lot 3	40	\$2,662,149.23



No breakout of functional categories or overhead leads to a flat learning curve from lot to lot

**Using the IPMR Format 1, you only get insight into the total cost. Format 1 fails to break out costs by functional category and overhead.**



# Projecting Future Lots: Sample Problem

OSD CAPE

Sample Problem:

Parnham Corp. is contracted to build 80 units in Lot 4.

- Using both CSDR Data and IPMR Data, how much will Lot 4 cost per unit?

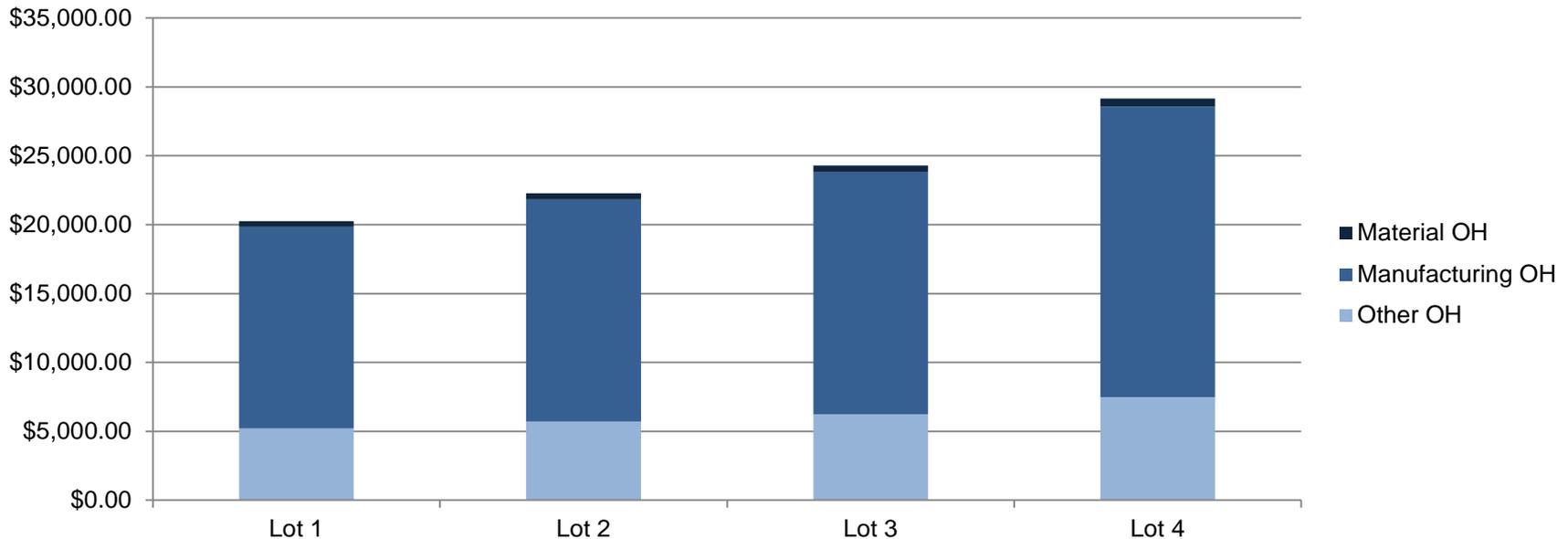


# Projecting Future Lots: Sample Problem

OSD CAPE

Using the Contractor Business Data Report (DD Form 1921-3), you know that the overhead rate for Parnham Corp. has increased by 11% in the performing year due to cancellation of one of the firm's major programs

### Overhead Per Unit



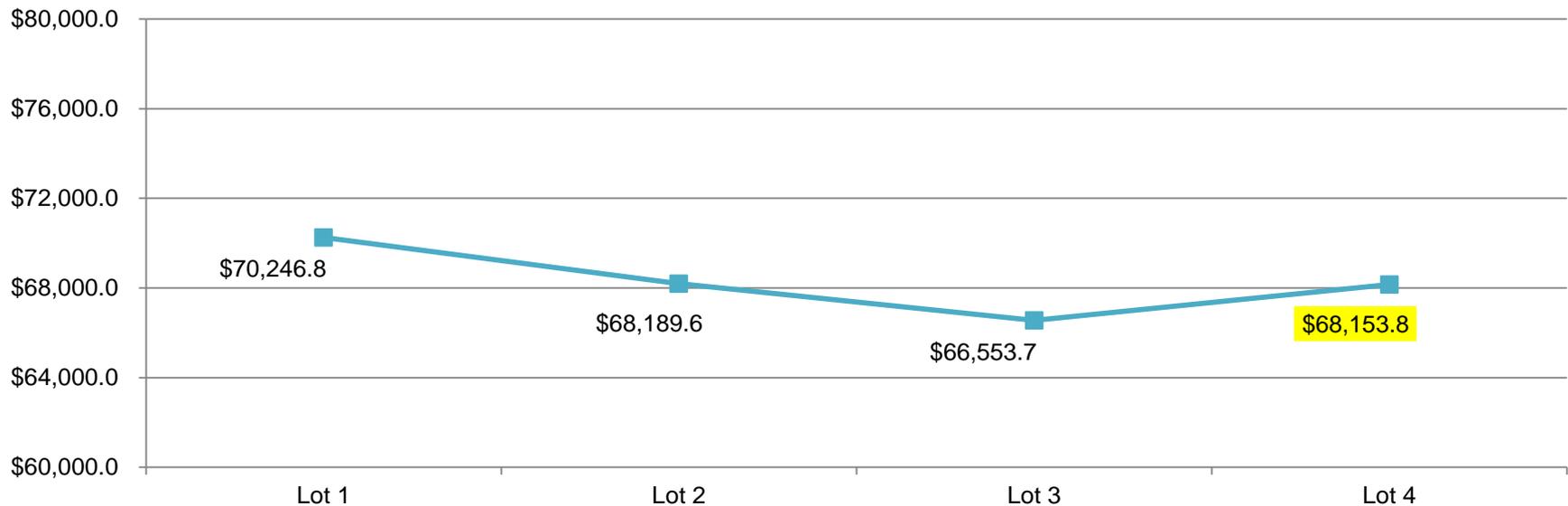


# Projecting Future Lots: Sample Problem

OSD CAPE

Lot	Total Units Produced	Total Recurring Cost per Unit	Improvement	Total Cost	
Lot 1	10	\$70,246.8		\$702,468.10	
Lot 2	20	\$68,189.6	97.1%	\$1,363,791.75	
Lot 3	40	\$66,553.7	97.6%	\$2,662,149.23	
Lot 4	80	\$68,153.8	102.4%	\$5,452,301.98	Projection

## Total Cost Per Unit: 1921-1



The increase in Total Cost is due to 11% increase in overhead rate from 1921-3

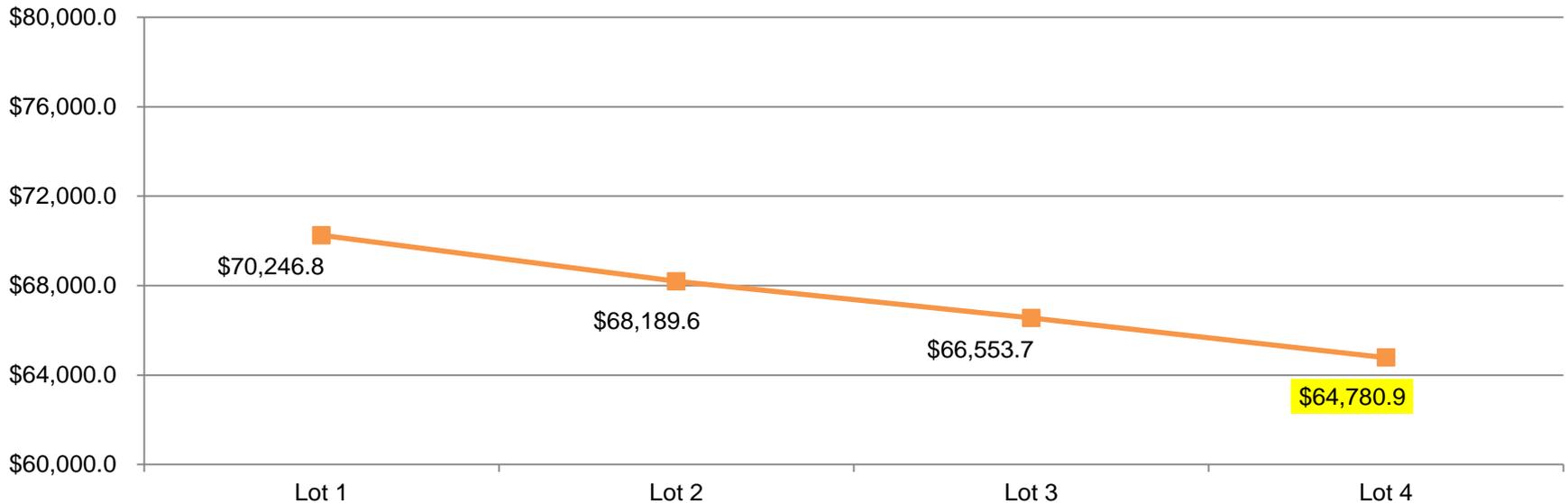


# Projecting Future Lots: Sample Problem

OSD CAPE

Lot	Total Units Produced	Total Recurring Cost per Unit	Improvement	Total Cost	
Lot 1	10	\$70,246.8		\$702,468.1	
Lot 2	20	\$68,189.6	97.1%	\$1,363,791.8	
Lot 3	40	\$66,553.7	97.6%	\$2,662,149.2	
Lot 4	80	\$64,780.9	97.3%	\$5,182,471.2	Projection

## Total Cost Per Unit: IPMR Format 1



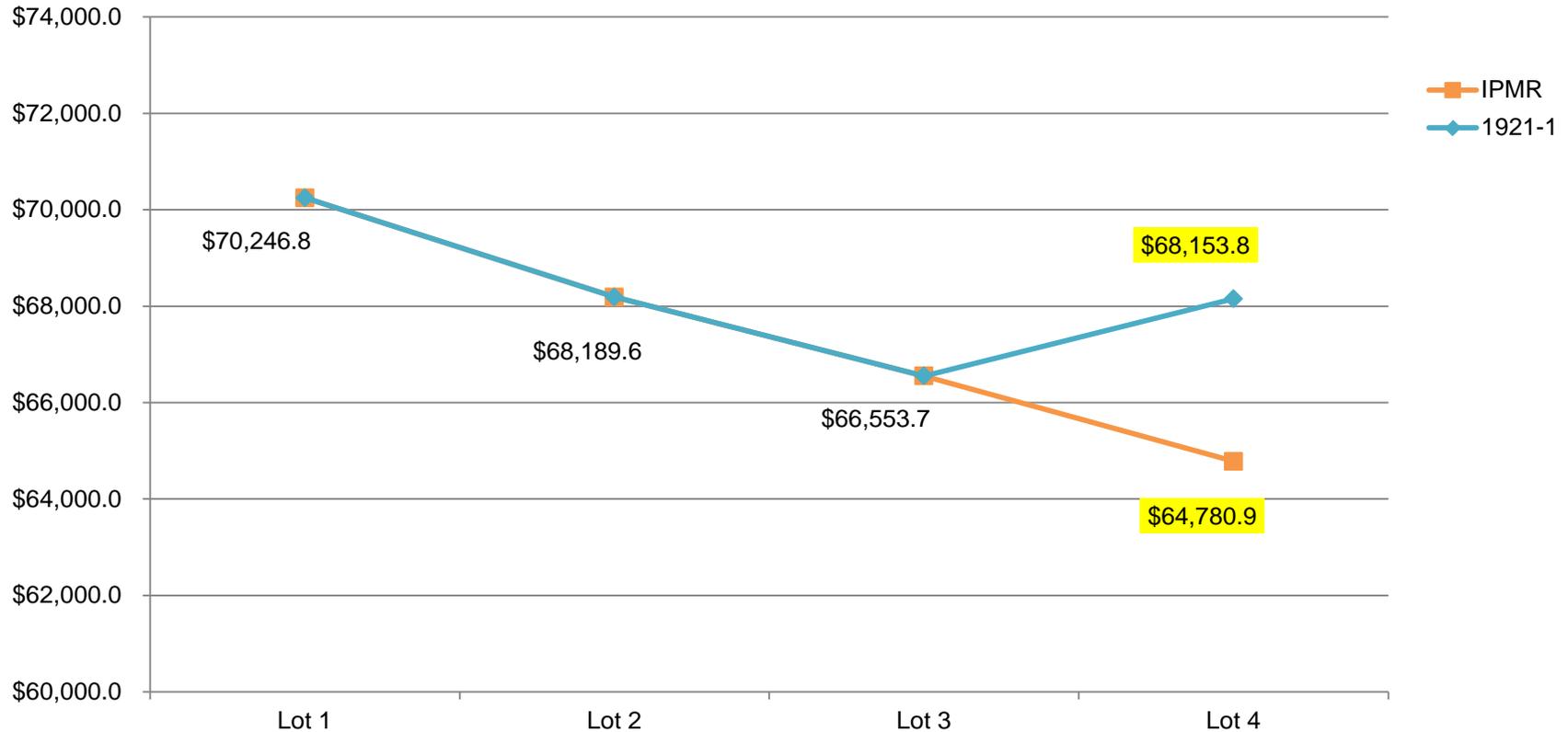
**Using the IPMR, you have no insight into this change in overhead rate and no means to estimate the per unit impact**



# Projecting Future Lots: Sample Problem

OSD CAPE

## Total Cost Per Unit: IPMR Format 1 vs. 1921-1



**\$3.4M per unit difference leads to a \$270M discrepancy over 80 units**



# Using the Data

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OSD CAPE

## **EXAMPLE 2: Profit Margin on FFP Contracts**



# How to Use the Data: Determining Profit

OSD CAPE

## What CSDRs Give You:

- Provide cost and price insight into Firm Fixed Price (FFP) contracts on all MDAP Programs with contracts over \$50M
- Profit is reported consistently on all contracts that require CSDR reporting
- EVM reporting is not required on FFP contracts

## Benefits from Using CSDR Profit Data:

Provide the Government Insight Into Profit Going Into Negotiations

Allows the Government to Make an Informed Decision on How to Contract Moving Forward

Stronger Negotiation Starting Point



# Where to get profit

OSD CAPE

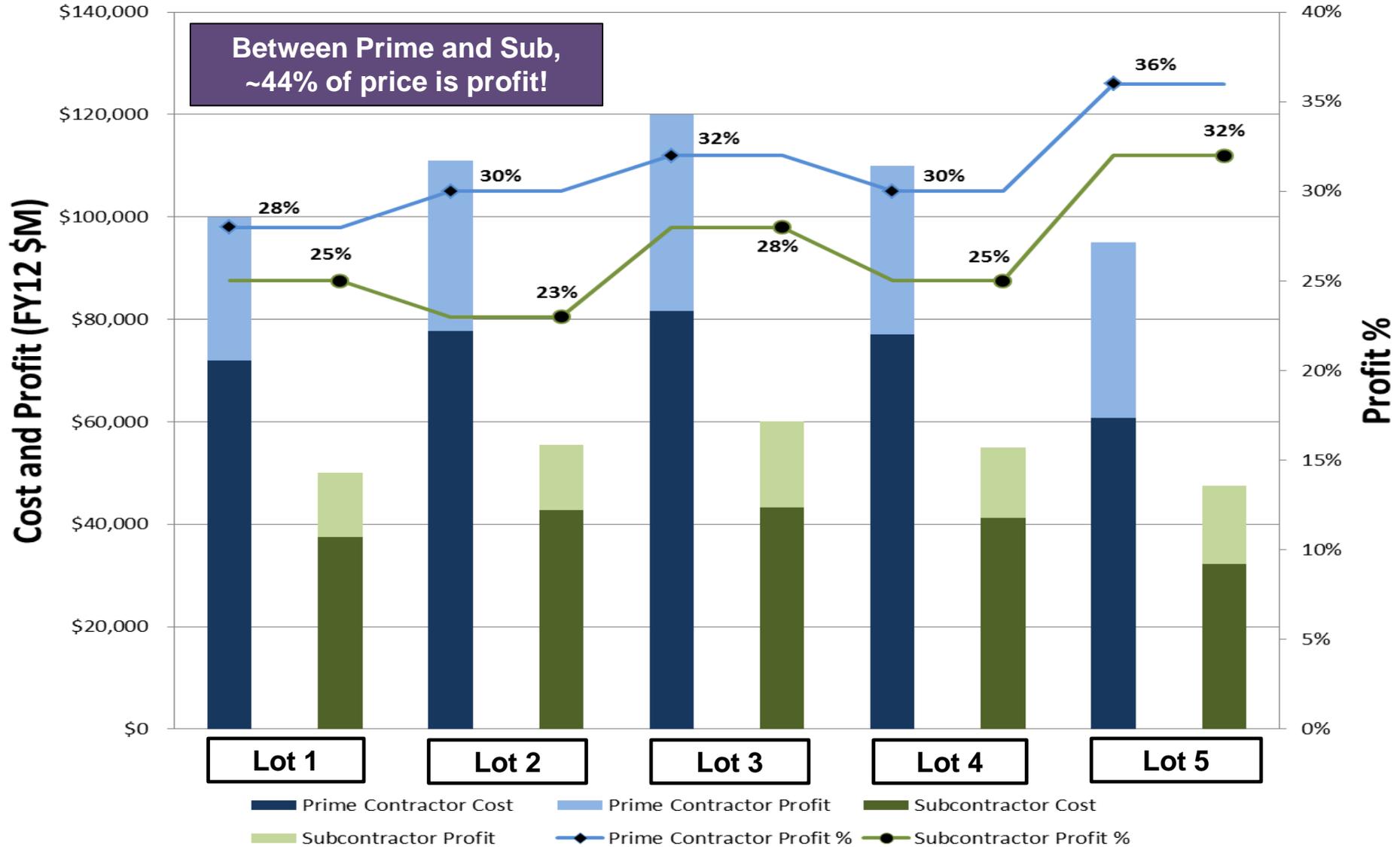
## 1921 Summary Elements

Subtotal Cost	\$698,161.9				\$707,574.8
Reporting Contractor G&A	\$62,057.0				\$68,124.2
Reporting Contractor Undistributed Budget					\$0.0
Reporting Contractor Management Reserve					\$2,452.0
Reporting Contractor FCCM	\$6,124.4				\$7,292.1
Total Cost	\$766,343.3				\$785,443.1
Reporting Contractor Profit/Loss or Fee	\$70,548.5				\$82,549.4
Total Price	\$836,891.8				\$867,992.5



# Profit Analysis Using CSDRs

OSD CAPE





# Why you should use CSDRs

OSD CAPE



- ❑ CSDRs collect data on the actual costs and software effort for contracts on all MDAP and MAIS programs
  - A wide variety of forms are available to collect data necessary for estimating
  - Reporting structure is organized according to a standard, product oriented WBS which fosters comparability of data across companies, plants, weapon system commodity groups, and major subassemblies
- ❑ CADE innovates to make analysts more effective and to reduce burden on data providers
  - Collecting the necessary data via CSDRs reduces time spent collecting data and increases time for analysis



# What We Need From You

OSD CAPE

- ✓ Register for Portal Access
- ✓ Assist/Inform DCARC of need for CSDR planning PRIOR to RFP release or mod
- ✓ Use tools available on CADE website to fulfill CSDR requirements



Tools for CSDR success are available at <http://cade.osd.mil/CSDR/>

# CADE

## Cost Assessment Data Enterprise

2016 CADE Training

# CSDR/EVM Co-Planning

**Presenters:**

**Brian Kolstad** [brian.e.kolstad.ctr@mail.mil](mailto:brian.e.kolstad.ctr@mail.mil)

**Last Updated: May 6, 2016**

**CAPE**  
COST ASSESSMENT & PROGRAM EVALUATION



# Standard Co-Planning Benefits

OSD CAPE





# Standard Plan Goals

OSD CAPE

## Objective

- Consistency program-to-program within a commodity group across Services
- Better communication of expectations to Industry

## Work Products

- Standard CSDR Plans for each commodity area
- Extensions to 881C appendices
- Implemented as starting point for DCARC CSDR Planning

## Benefits

- Insight into EVM Reporting Requirements prior to RFP Release/Contract Award
- Review and approval of EVM & CSDR reporting structures
- Reduction of administrative burden on Industry
- Less allocation of costs





# Cost and Acquisition Community

OSD CAPE

Participants	Role
PEO or SYSCOM	Initiate CSDR process at Program Office; identify all RFP's going out
Program Office	Help develop initial plans; work directly with contractors; identify RFP's
OSD CAPE	Provide input to plan to ensure cost needs are being met; provide final approval of plans
Service Cost Center	Help develop initial plan; provide input to plan to ensure cost needs are being met; provide initial approval
DCARC	Manage the entire CSDR planning process; ensure all rules and regulations are being followed
Industry	If sole source, provide input and help government understand processes and procedures
PARCA	Provide input to ensure cost reporting structure and WBS are consistent where needed

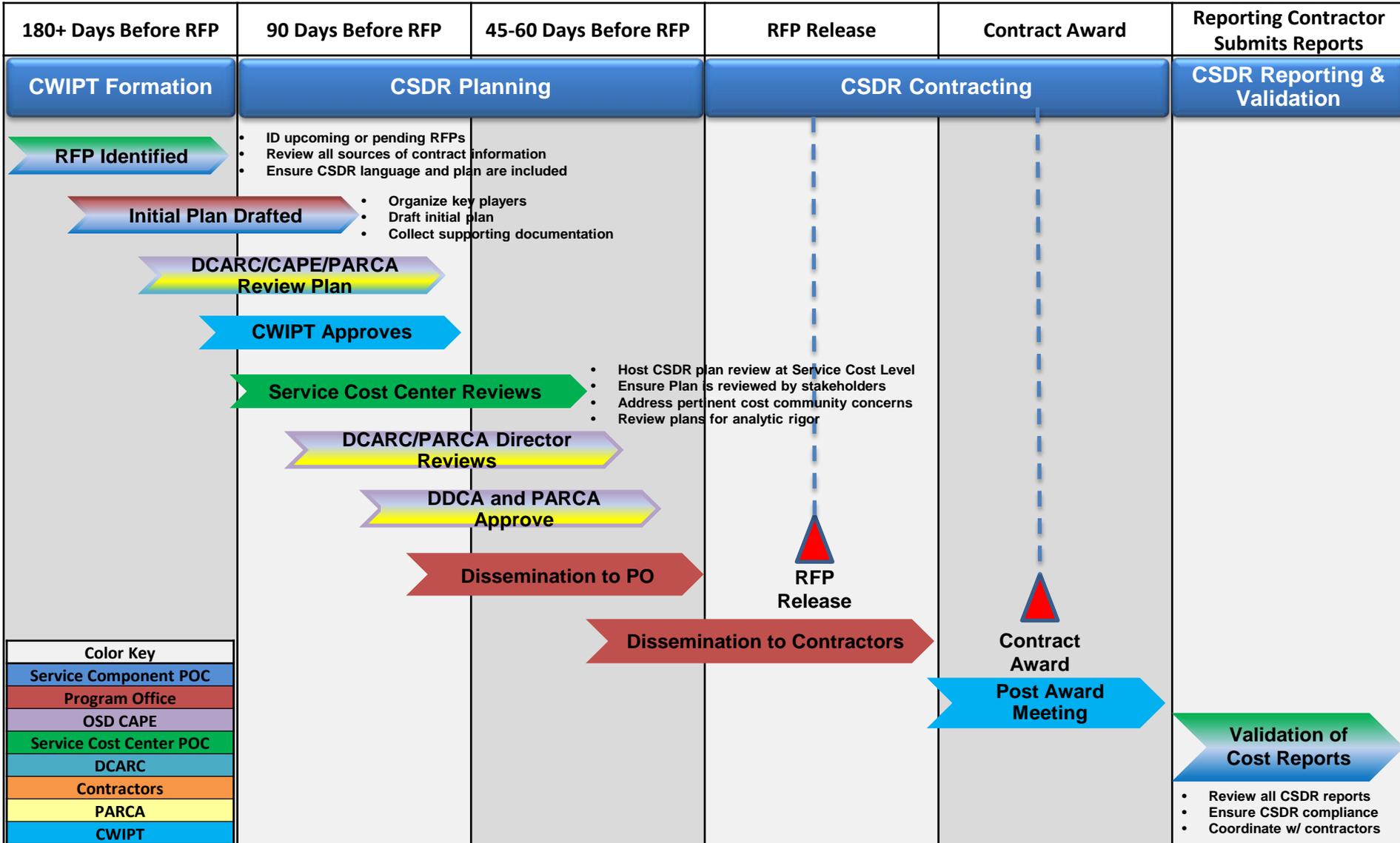


Full cooperation within the community has led to significantly improved data quality and analysis, reduced re-work, and improved decision outcomes.



# Top Level Planning Process

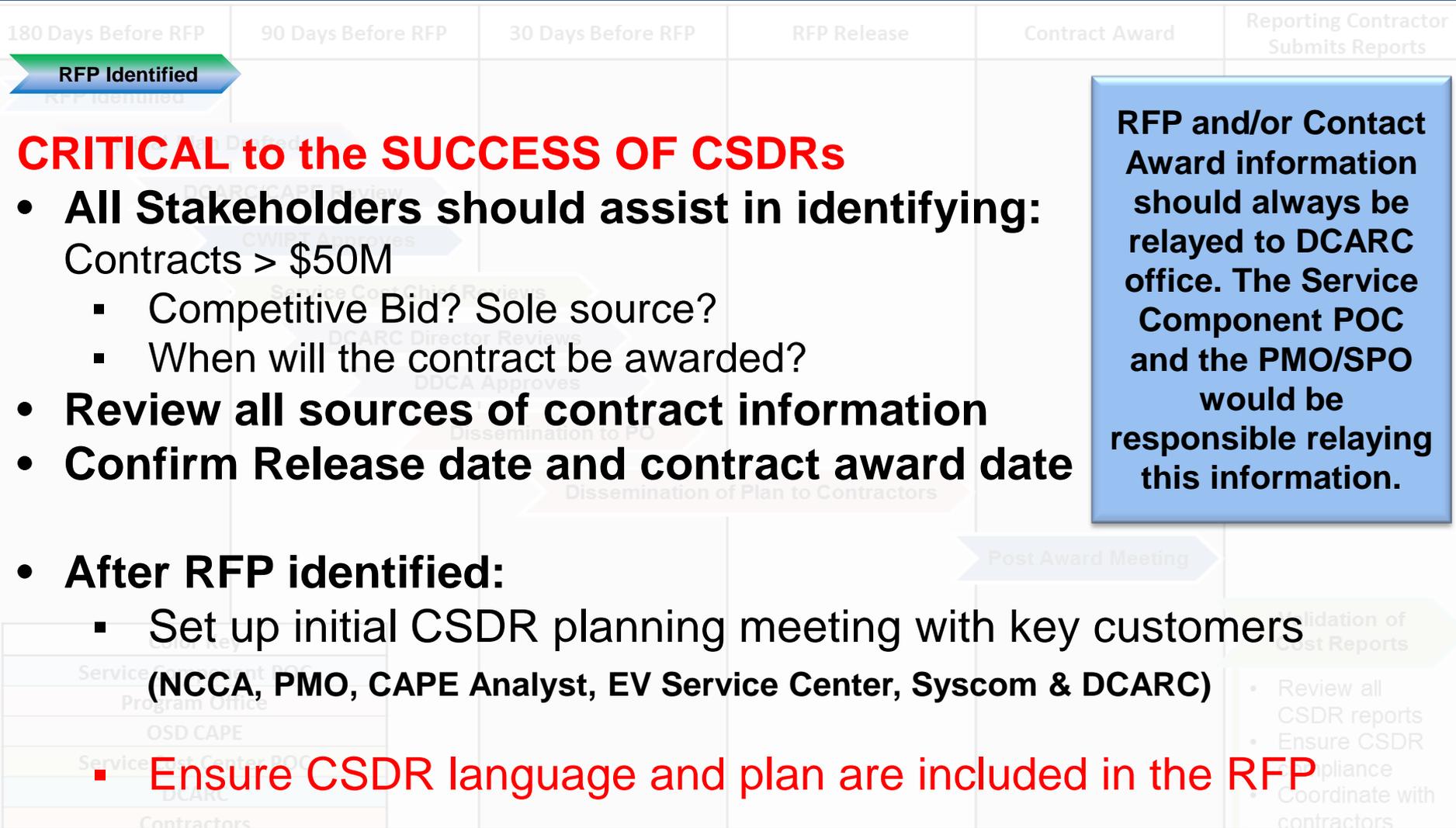
OSD CAPE





# RFP Identified

OSD CAPE





# Initial Plan Drafted

OSD CAPE

180 Days Before RFP

90 Days Before RFP

60 Days Before RFP

30 Days Before RFP

RFP

Reporting Contractor  
Submits Reports

RFP Identified

Initial Plan Drafted

DCARC/CAPE Review

CWIPT Approves

Service Cost Chief Review

DCARC Director Review

DDC Approval

Release

Post Award Meeting

Validation of  
Cost Reports

- Review all CSDR reports
- Ensure CSDR compliance

- **Work with Program Office to identify effort**
- **Review CDRLs and SOW language**
- **Coordinate with CWIPT on initial draft plan**
- **Utilize CEM Standard Co-Plans:**
  - Compliant with MIL-STD-881C
  - Compliant with cPet (CSDR Planning and Execution Tool)
  - Captures entire contractual effort
  - Satisfies CWIPT cost needs
- **Request following documents from the Program Office:**
  - Program Schedule
  - CDRLs
  - SOW Language
  - Resource Distribution Table (RDT)

Coordination takes  
approximately 10-20  
hours per plan

Color Key

Service Component POC

Program Office

OSD CAPE

Service Cost Center POC

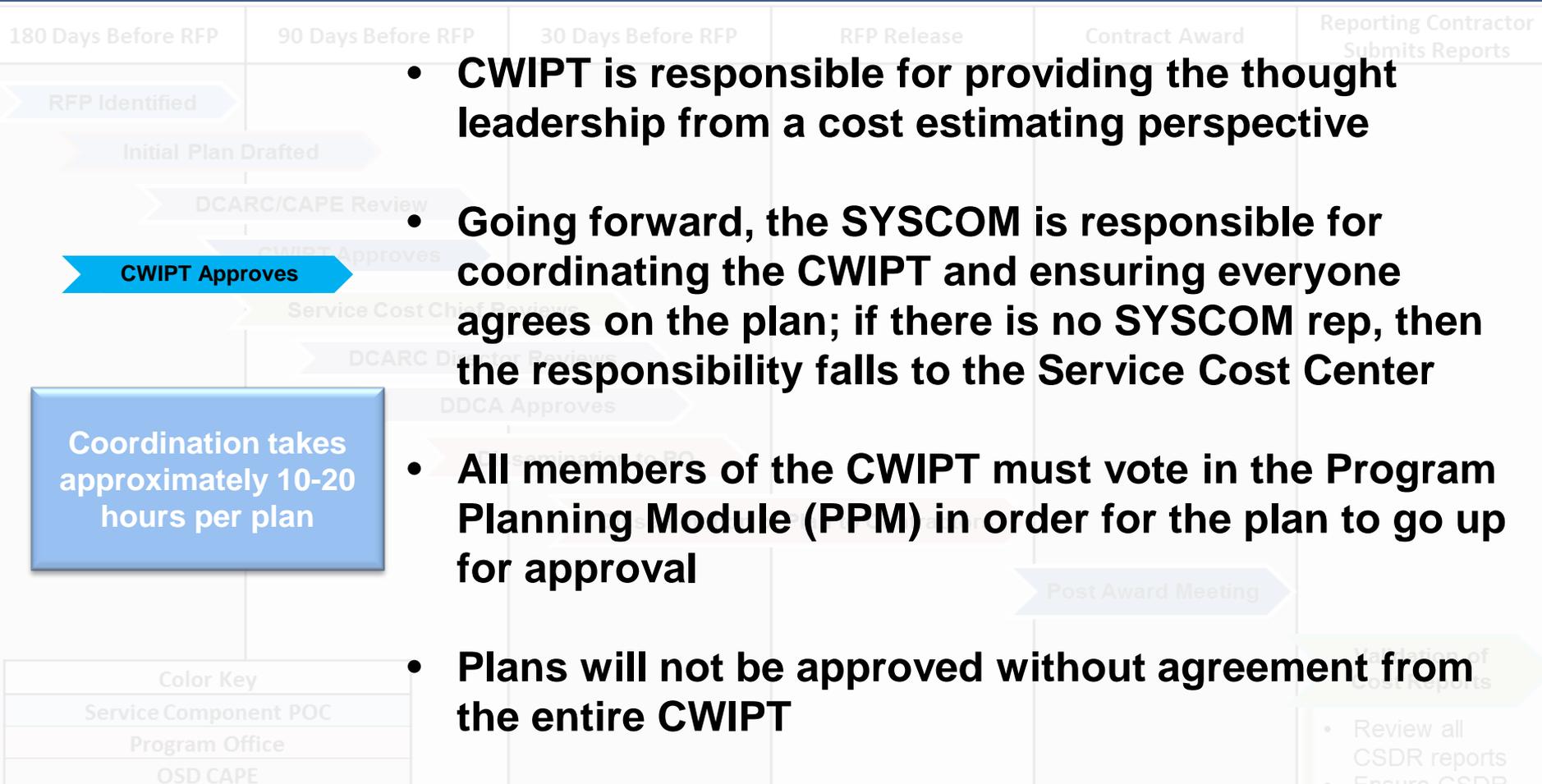
PARCA

CEM Standard Co-Plans available at: <http://dcarc.cape.osd.mil/Files/CSDRSR/Standard%20Plans.zip>



# CWIPT Approves Plan

OSD CAPE



CWIPT Approves

Coordination takes approximately 10-20 hours per plan

- CWIPT is responsible for providing the thought leadership from a cost estimating perspective
- Going forward, the SYSCOM is responsible for coordinating the CWIPT and ensuring everyone agrees on the plan; if there is no SYSCOM rep, then the responsibility falls to the Service Cost Center
- All members of the CWIPT must vote in the Program Planning Module (PPM) in order for the plan to go up for approval
- Plans will not be approved without agreement from the entire CWIPT

**CWIPT is responsible to the Program Manager for ensuring CSDR plans provide accurate, timely data in order to support cost estimating needs. The Program Manager is ultimately responsible for the formation of the CWIPT.**



# Service Cost Center CSDR Plan Review

OSD CAPE

Service Cost Center will hold a meeting to ensure the CSDR plan meets cost community needs. The POC will provide initial approval of the CSDR plan before forwarding it to CAPE for final approval.

## Service Cost Center Reviews

### LESSONS LEARNED:

Review plan & understand plan package prior to meeting

Plan accordingly for the data you need ahead of time

Gain CWIPT agreement prior to meeting

Include PMO in invite

Include CAPE analyst

### The following questions must be considered at this meeting:

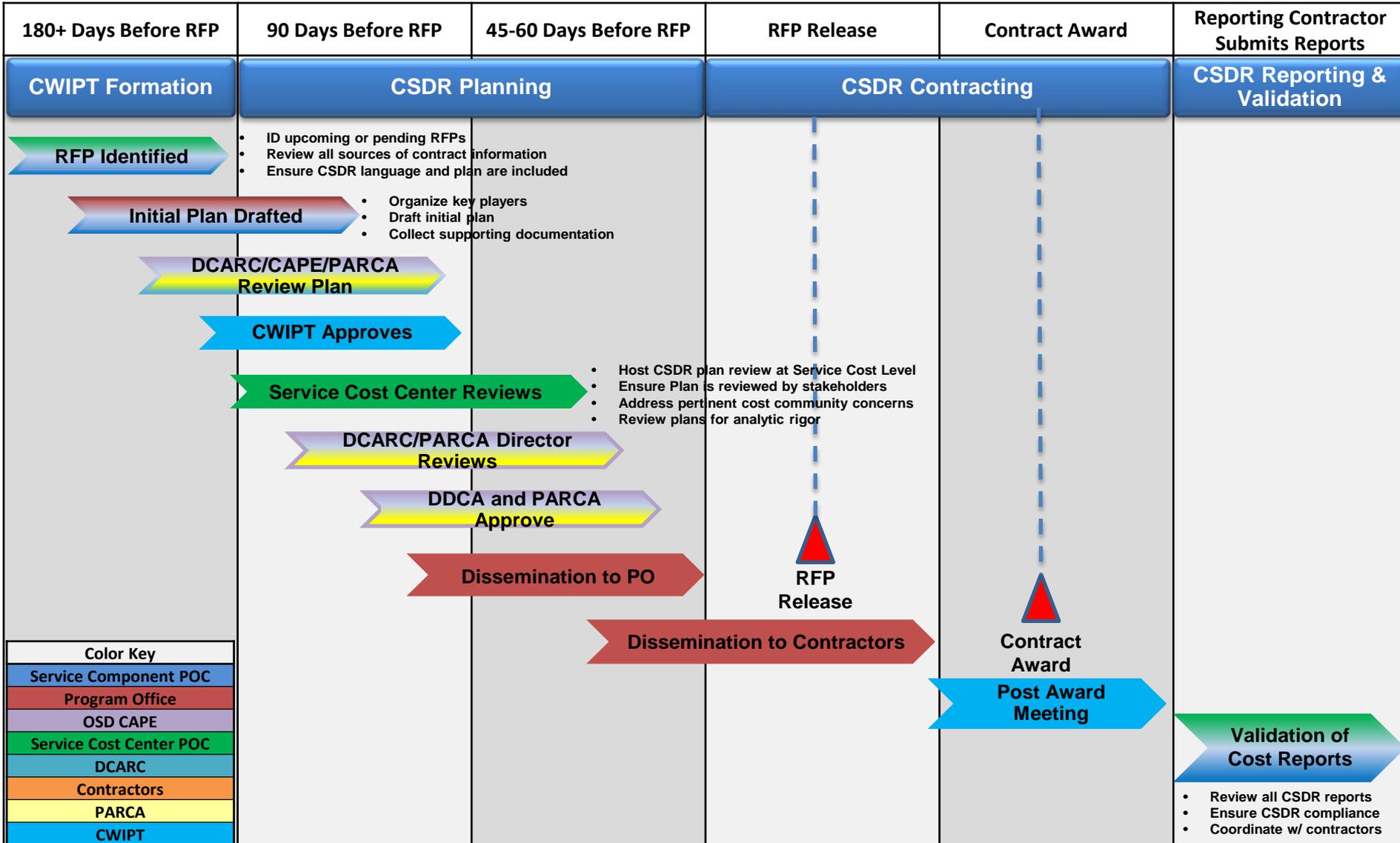
- How are you going to use this data?
- Does this plan get you the data that you need?
- Does this plan get you the data when you need it?
- How many data points will you have for the next Milestone decision?
- Does this plan capture the entire contractual effort?
- Are all of the efforts on the contract (i.e. new build vs. buying kits vs. upgrades) discretely broken out in either the WBS or the reporting events?
- Will there be any learning on any aspects of the contract? Are 1921-2's applicable?
- Is there any software development effort? Are the SRDRs broken out by CSCI?
- How is the rate tooling broken out? Is it worthwhile getting?
- Are the modification/Installation/Integration costs segregated?
- Are there any anti-tamper or cyber security costs for this program?

**Result: Entire CWIPT team should attend meeting and be prepared to answer all questions**



# Top Level Planning Process

OSD CAPE





# Execution of Co-Plan Policy

OSD CAPE

## Pre-Contract Award:

- EV & CSDR reporting is outlined in Acquisition Strategy
- PMO coordination with CAPE/PARCA to develop Co-Plan
- Review of EV & CSDR CDRLs
- Review of EV and CSDR Reporting Structure Mapping, if not consistent with 881C
- Service EV & Cost Director, DCARC & EV Director, and PARCA/CAPE-Approved

## Post-Contract Award:

- Revision of Co-Plan reporting structures according to Contractor tailoring requests at Post Contract Award Meeting
- Contract reporting requirements established within EVM-CR and CSDR-SR
- CSDR and EVM reporting structures verified against Approved-CSDR/EVM Co-Plan

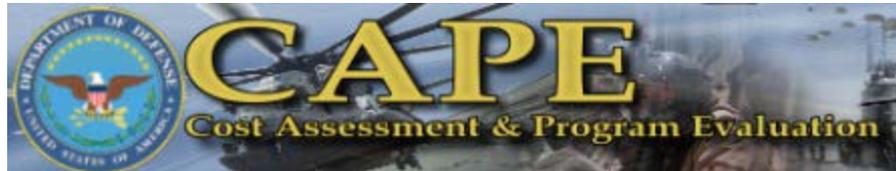


# Pilot Status

OSD CAPE

**Potential pilots being reviewed as plans come up for development**

**Going forward, the process is for CAPE and PARCA to leverage the standard plan templates, and then work with PMO, Services/Agencies, and Contractor (when applicable) to finalize**



Engine



Electronic Warfare



C4I



UAV



Aircraft



Missile



Avionics



Space



# STANDARD Co-PLANS

Subcontractor



AIS Investment



ICBM



Sustainment



Launch Vehicle



Vehicle



Sea System





# Status of Standard Plans

OSD CAPE

Aircraft Development and Production	Complete
UAV Development and Production	Complete
Engine Development and Production	Complete
Avionics Development and Production	Complete
Electronic Warfare Development and Production	Complete
Missile Development and Production	Complete
Automated Information Systems	Complete
C4I Electronics Development and Production	Complete
C4I Radar Development and Production	Complete
ICBM Development and Production	Complete
Generic Sustainment	Complete
Space Systems Development and Production	Complete
Launch Systems	Complete
Generic Subcontractor	Complete
Modification Programs	Pending
ERP Programs	Pending
Surface Vehicle	Pending
Ships	Pending
Unmanned Underwater Vehicle	Pending

**Initial set of AFCAA Standard Plans available for use on contracts this month against current 2011 CSDR Plan & 2015 CSDR/EVM Co-Plan**

### *Next Steps:*

- Further buy-in via Comment Resolution Matrix
  - Air Force Field Cost Chiefs
  - CAPE Analysts
  - Other Services
- Additional Standard Plans pending

### *Future:*

- More Standard Plans
- Continuous improvement through usage
- Implement in cPet and CADE



# Sample Standard Co-Plan

OSD CAPE

WBS REF	Y	PORTS REQUIRED (if applicable)		CCDR			g. SRDR FORMATS	h. IPMR FORMAT 1			
		DD 1921-3 (CBDR):	DD 1921-1 / 1921-5 EAC:	EVM Reporting:	b. DD 1921 (CDSR)	c. DD 1921-1 (FCHR)			d. DD 1921-2 (PCR)	e. DD 1921-5 (SFCHR)	f. EAC
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
Missile System				X	X			X	X		
Air Vehicle				X	X	X		X	X		
Guidance	X			X	X	X					
Guidance Integration, Assembly, Test and	X			X	X						
Dome Assembly	X			X	X						
Seeker Assemblies (IR Seeker)	X			X	X						
Focal Plane Array	X			X	X						
Optics	X			X	X						
Cooling	X			X	X						
Gimbal	X			X	X						
Guidance Software Release	X			X	X	X	X				
Guidance Software Relea	X			X	X	X	X				
Program Management	X			X	X	X			X		
Software Program Managemen	X			X	X	X		X			
Other Program Management 2..	X			X	X						
Data	X			X	X	X			X		
Data Rights	X			X	X			X			
Data Rights 1...n (Specify)	X			X	X						
Data Deliverables	X			X	X						
Data Deliverables 1...n (Specify)	X			X	X						
Data Depository	X			X	X						
Rate Tooling	X			X	X	X					
Rate Tooling by End Item/Subsystem 1...n (Specify)	X			X	X						
Warranty	X			X	X	X					
Warranty by End Item/Subsystem 1...n (Specify)	X			X	X						

Lower-level WBS/CRS Extensions:  
 ➤ EAC not required at lower levels  
 ➤ Harmonized with Tech Data and Quantity

CSDR Software elements

CSDR Common elements harmonized with SPDR

Data Extension: Focused Sub-elements

Rate Tooling Extension  
 Warranty Extension

IPMR Standard consistency at Level 3

FCHR and PCR at select elements of interest

MIL-STD-881C COMPLIANCE CONFIRMED BY PARCA



# 2011 CSDR Plan Submission Events

OSD CAPE

14. CSDR SUBMISSION DATES			Development
a. SUBMISSION	b. FORM(S)	c. EVENT	
1	CWBS Dictionary	Contract Award (plus 12 months)	
2	1921, 1921-1, 1921-2	Contract Award (plus 12 months)	
3	SRDR Initial	Contract Award (plus 12 months - Total Contract Estimate)	
4	SRDR Initial	Start of each Software Release	
5	1921, 1921-1	Start of each Software Release (Coincident with SRDR Initial)	
6	SRDR Final	End of each Software Release	
7	1921, 1921-1	End of each Software Release (Coincident with SRDR Final)	
8	1921, 1921-1	System Requirements Review (SRR)	
9	1921, 1921-1	Preliminary Design Review (PDR)	
10	1921, 1921-1	Critical Design Review (CDR)	
11	1921, 1921-1, 1921-2	First Production Representative Unit Delivered	
12	1921, 1921-1, 1921-2	Annual Report 1...n	

14. CSDR SUBMISSION DATES			Production
a. SUBMISSION	b. FORM(S)	c. EVENT	
1	CWBS Dictionary	Contract Award (plus 12 months)	
2	1921, 1921-1, 1921-2	Contract Award (plus 12 months)	
3	1921, 1921-1, 1921-2	Annual Report 1...n	
4	CWBS Dictionary	Contract Completion (60 days from completion)	
5	1921, 1921-1, 1921-2	Contract Completion (60 days from completion)	
6	1921, 1921-1, 1921-2	Wildcard Report Request	

14. CSDR SUBMISSION DATES			Sustainment
a. SUBMISSION	b. FORM(S)	c. EVENT	
1	CWBS Dictionary	Contract Award (plus 12 months)	
2	1921, 1921-5	Contract Award (plus 12 months)	
3	SRDR Initial	Contract Award (Initial Estimate - Total Contract)	
4	1921, 1921-5	Annual Report - Year 1...n (contract award +12 mo for AF and by Gov. FY for USN)	
5	SRDR Final	Contract Completion	
6	CWBS Dictionary	Contract Completion	
7	1921, 1921-5	Contract Completion	



# 2015 Co-Plan Submission Events

OSD CAPE

14. CSDR SUBMISSION DATES				Development			
a. SUBMISSION	b. FORM(S)	c. EVENT		d. REPORT TYPE			
1	CWBS Dictionary	Contract Award (plus 12 months)		Initial			
2	1921, 1921-1, 1921-2	Contract Award (plus 12 months)		Initial			
3	SRDR Development	Contract Award (plus 12 months - Total Contract Estimate)		Initial			
4	SRDR Development	Start of each Software Release		Initial			
5	1921, 1921-1	Start of each Software Release (Coincident with SRDR Initial)		Initial			
6	1921, 1921-1	System Requirements Review (SRR)		Interim			
7	SRDR Development	System Requirements Review (SRR)		Interim			
8	1921, 1921-1	Preliminary Design Review (PDR)		Interim			
9	SRDR Development	Preliminary Design Review (PDR)		Interim			
10	1921, 1921-1	Critical Design Review (CDR)		Interim			
11	SRDR Development	Critical Design Review (CDR)		Interim			
14. CSDR SUBMISSION DATES				Production			
a. SUBMISSION	b. FORM(S)	c. EVENT		d. REPORT TYPE			
1	CWBS Dictionary	Contract Award (plus 12 months)		Initial			
2	1921, 1921-1, 1921-2	Contract Award (plus 12 months)		Initial			
3	1921, 1921-1, 1921-2	Annual Report 1...n		Interim			
4	CWBS Dictionary	Contract Completion (60 days from completion)		Final			
5	1921, 1921-1, 1921-2	Contract Completion (60 days from completion)		Final			
6	1921, 1921-1, 1921-2	Wildcard Report Request					
14. CSDR SUBMISSION DATES				Sustainment			
a. SUBMISSION	b. FORM(S)	c. EVENT		d. REPORT TYPE			
1	CWBS Dictionary	Contract Award (plus 12 months)		Initial			
2	1921, 1921-5	Contract Award (plus 12 months)		Initial			
3	SRDR Maintenance	Contract Award (Initial Estimate - Total Contract)		Initial			
4	1921, 1921-5	Annual Report - Year 1...n (contract award +12 mo for AF and by Gov. FY for USN)		Interim			
5	SRDR Maintenance	Annual Report - Year 1...n (contract award +12 mo for AF and by Gov. FY for USN)		Interim			
6	SRDR Maintenance	Contract Completion		Final			
7	1921, 1921-5	Contract Completion		Final			
8	CWBS Dictionary	Contract Completion		Final			

# CADE

## Cost Assessment Data Enterprise

# CSDR Validation Process

**Presenter:**

**Paola Jimenez**

[Paola.M.Jimenez.ctr@mail.mil](mailto:Paola.M.Jimenez.ctr@mail.mil)

Last Updated: May 06, 2016

**CAPE**  
COST ASSESSMENT & PROGRAM EVALUATION

# Importance of Validations



## Ensures:

- ✓ Data completeness and accuracy
- ✓ Comprehensive explanations of anomalies prior to acceptance
- ✓ Collective review by the cost community
- ✓ Ability to create a consistent and robust dataset

SECURITY CLASSIFICATION: Unclassified

### COST DATA SUMMARY REPORT

From Approval: OSD APL 00040188

The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Service, Executive Service Directorate (0704-0188). Respondents should be assured that no part of this collection of information shall be subject to automatic information collection. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Service, Executive Service Directorate (0704-0188). Respondents should be assured that no part of this collection of information shall be subject to automatic information collection.

MAJOR PROGRAM: NSA

PRIME MISSION PRODUCT: NSA

REPORTING ORGANIZATION TYPE: GOVERNMENT

NAME(ADDRESS (Include ZIP Code)): NSA

APPROVED PLAN NUMBER: NSA

CUSTOMER (Other-reporting organization use only): NSA

CONTRACT TYPE: CONTRACT PRICE

CONTRACT NO.: NSA

IN TYPE ACTOR: NSA

SOLICITATION NO.: NSA

TASK ORDER/DELIVERY ORDER/REQ NO.: NSA

PERIOD OF PERFORMANCE: START DATE (YYYYMMDD): NSA END DATE (YYYYMMDD): NSA

APPROPRIATION: NSA FISCAL YEAR: NSA REPORT CYCLE: NSA SUBMISSION NUMBER: NSA REPORT AS OF (YYYYMMDD): NSA

NAME (Last, First, Middle Initial): NSA DEPARTMENT: NSA TELEPHONE NUMBER (Include Area Code): NSA EMAIL ADDRESS: NSA DATE PREPARED (YYYYMMDD): NSA

WBS ELEMENT CODE	WBS REPORTING ELEMENTS	NUMBER OF UNITS	COSTS INCURRED TO DATE (Thousands of U.S. Dollars)			NUMBER OF UNITS AT COMPLETION	COSTS INCURRED AT COMPLETION (Thousands of U.S. Dollars)		
			NONRECURRING	RECURRING	TOTAL		NONRECURRING	RECURRING	TOTAL
	<b>Element Codes and Reporting Elements</b>	<b>To Date Units</b>				<b>At Completion Units</b>			<b>At Completion Costs (Nonrecurring, Recurring, Total)</b>

REMARKS

DD FORM 1521, MAY 2011 PREVIOUS EDITIONS OBSOLETE SECURITY CLASSIFICATION: Unclassified

**VALIDATION**

Knowledge Portal CAPE CAPE

CADE Total Access

CADE PORTAL CONTENT MANAGEMENT SEARCH PROGRAMS DASHBOARD TOOLS REPORTS CONTACT US

Program: NSA

EVH CSOR G.S

IRIS Voyager

Acquisition Cost and Quantity Estimate

Time-Phased Acquisition Costs and Quantity

Dec-2010 SAR

Shortcuts to related information

Program Contracts and Data Availability

Contract Number	Phase	Phase/Ref	Prime Contractor	Service	AB PRICE	FFP	FFP Effort	CDR Plans*
001-4130-79A-00A-04	OSD	None	The Academy	AB PRICE	FFP	0	0	
00200-01-0-0400	UNSPED	None	The Academy	AB PRICE	OPPP/PMF	0	0	
00000-01-0-0000	UNSPED	None	The Academy	AB PRICE	OPPP/PMF	0	0	



# Top Level CSDR Validation

OSD CAPE

## Pre-Validation

- Contractor creates/validates CCDRs using cPet
- Contractor submits CSDRs using cPet

## CSDR Validation

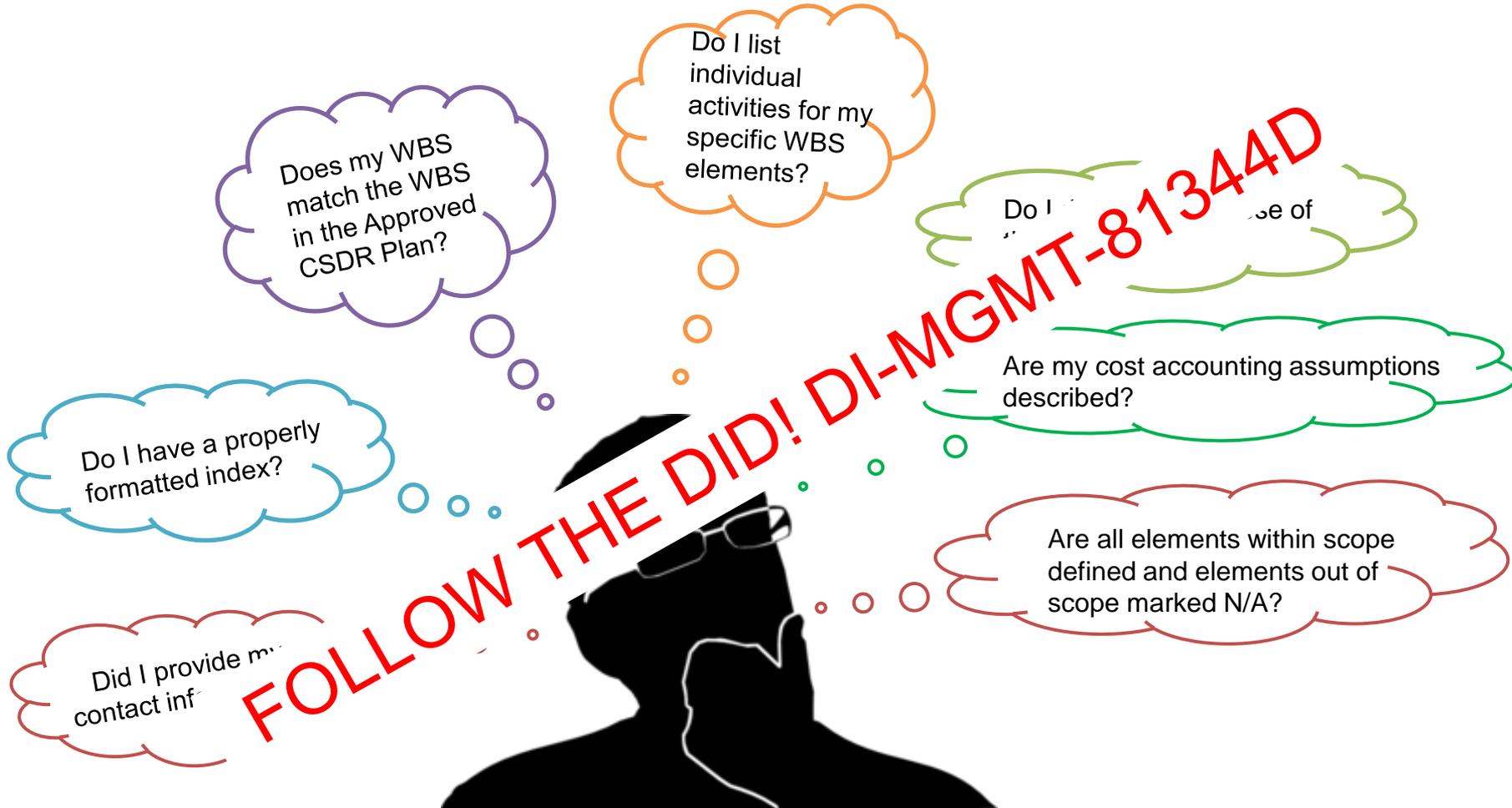
- DCARC initiates Validation
- PO/CAPE/SCC given five business days to review and provide DCARC any feedback
- DCARC compiles all government feedback and iterates with the contractor on necessary corrections
  - DCARC emails Validation Error Report to Contractor
  - Contractor corrects CSDRs and re-submits
  - DCARC re-validates CSDRs and proceeds to finalization stage
- DCARC proceeds with finalizing the reports

## CSDR Report Finalization

- If CSDRs are acceptable, DCARC finalizes by publishing CSDRs to CADE
- If CSDRs are not acceptable, DCARC finalizes by providing Contractor formal Rejection Notification with a 30 day re-submittal

**FYSA:  
THE CSDR S-R WILL  
BLOCK SUBMISSIONS  
WITH MAJOR  
ERRORS. USE cPET!**

# When Creating a CWBS Dictionary:



Save Some Time! Remember to Use cPet to Easily Build Your Index and Dictionary Template!



# CCDR Validation Process

## cPet Automated Checks

OSD CAPE

### cPet Checks:

CCDRs are XML Compatible

CCDRs are consistent with the CSDR Contract Plan

Numbers sum correctly

Checks for numerical anomalies

1921, 1921-1, and 1921-2 reports are consistent

**Validation Error Results**

Category	Severity	Location	Description	Details
Summary	Warning	1921 vs Contract Plan	Minor errors found.	
Summary	Error	1921 Internal	Major errors found.	
Summary	Error	1921-1 vs Contract Plan	Major errors found.	
Summary	Error	1921-1 vs 1921	Major errors found.	
Summary	Warning	1921-1 Internal	Minor errors found.	
1921 vs Contract Plan	Warning	WBS Element Code: 1.1.1.1.5 WBS Element Name: Nacelle	Required reporting element from 1921 reports zero cost for Total At Completion.	
1921 vs Contract Plan	Warning	WBS Element Code: 1.1.1.3.6	Required reporting element from 1921 reports zero cost for Total At Completion.	
1921 vs Contract Plan	Warning	WBS Element Name: Crew Station Subsystem WBS Element Code: 1.1.3.50	Non-required reporting element from 1921 reports non-zero costs.	
1921 vs Contract Plan	Warning	WBS Element Name: Rotor Group WBS Element Code: 1.1.4.12	Required reporting element from 1921 reports zero cost for Total At Completion.	
1921 vs Contract Plan	Warning	WBS Element Name: Avionics Software WBS Element Code: 1.1.5	Required reporting element from 1921 reports zero cost for Total At Completion.	
1921 vs Contract Plan	Warning	WBS Element Name: Auxiliary Equipment WBS Element Code: 1.1.6	Required reporting element from 1921 reports zero cost for Total At Completion.	
1921 vs Contract Plan	Warning	WBS Element Code: 1.2	Required reporting element from 1921 reports zero cost for Total At Completion.	
1921 vs Contract Plan	Warning	WBS Element Name: Systems Engineering WBS Element Code: 1.4	Required reporting element from 1921 reports zero cost for Total At Completion.	
1921 vs Contract Plan	Warning	WBS Element Name: System Test and Evaluation WBS Element Code: 1.4	Required reporting element from 1921 reports zero cost for Total At Completion.	
1921 Internal	Error	WBS Element Code: 1.0 WBS Element Name: P-49 - Phoenix Fighter	Child elements do not sum to parent element correctly.	Column To Date Recurring WBS Element 1.0: \$6,693,202.0 WBS Element 1.1: \$6,531,246.0 WBS Element 1.2: \$6,000.0 WBS Element 1.3: \$6,59,732.5 WBS Element 1.4: \$6,000.0 WBS Element 1.5: \$6,000.0 WBS Element 1.6: \$6,12.3 WBS Element 1.7: \$6,23,465.6 WBS Element 1.8: \$6,1.2 WBS Element 1.9: \$6,0.0 WBS Element 1.10: \$6,0.0

**\*All major errors must be corrected prior to submittal. cPet will identify those errors for you.**



# cPet Major Errors

OSD CAPE

## Math Errors

- Nonrecurring/Recurring/Total figures do not sum correctly
- Child elements do not sum to parent element correctly
- Summary elements do not sum correctly
- Group within data column does not sum correctly

## Comparison Errors

- Subtotal does not match root WBS element
- Corresponding costs on 1921-1 and 1921-2 do not match
- Corresponding quantities on 1921-1/5 and 1921 do not match
- Corresponding costs on 1921-1/5 and 1921 do not match

## Form Errors

- Blank WBS Element Code found for reporting element(s)
- Redundant data provided for reporting element
- Required reporting element omitted
- Reporting Contractor G&A reports zero cost at completion
- Reporting Contractor Profit/Loss or Fee reports zero cost at completion
- Systems Engineering/Program Management reports zero cost at completion

# Reviewing Major Errors in the S-R

Name: Critical Design Review (CDR)

Major Errors (30) Minor Errors (13) History View Reports References

**STOP!**

There are 30 Major Errors that must be corrected prior to submissions of the 1921, 1921-1, and 1921-2 reports. Please see the below descriptions that identify each major error. If you have any questions, please go to the "References" page and then contact Charlotte Tarr, Robert Currie at [charlotte.m.tarr.ctr@mail.mil](mailto:charlotte.m.tarr.ctr@mail.mil); [robert.j.currie6.ctr@mail.mil](mailto:robert.j.currie6.ctr@mail.mil), you have any further questions.

If you are not the preparer of this report, please hit the "Email Validation Error Report" button below and send the errors to the preparer of the report to be corrected. Please correct the reports and upload them to the "Files" tab and run the validation again.

[Export Validation Error Report To Excel](#) [Email Validation Error Report](#)

Category	Location	Description	Details	Error Magnitude
1921-1 vs Contract Plan	WBS Element Code 1.2.1	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.2	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.2.1	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.2.2	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.3	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.3.1	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.3.1.1	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.3.1.2	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.3.2	Required reporting element omitted from 1921-1 submission.		●
1921-1 vs Contract Plan	WBS Element Code 1.2.3.2.1	Required reporting element omitted from 1921-1 submission.		●

1 2 3

The DCARC POC's are listed at the top of the report for you to contact with questions.

Submitters will have the option to Export the Error Report to Excel, or Email Validation Error Report to another user.

The cPet Validation Error Report will now be displayed on the Validation screen. ALL identified Major errors MUST be corrected in order to proceed to the next step in the upload process.



# Proceed without Major Errors

Name: Fixed

**Major Errors (0)** Minor Errors (5) History View Reports References

**Proceed!**

**There are 0 Major Errors that must be corrected prior to submissions of the 1921, 1921-1, and 1921-2 reports.**  
Please review the "Minor Errors" page to ensure all errors that need to be addressed have been answered.  
After doing so, you may proceed to the "Review and Submit" page to submit the reports.

If you have any questions, please contact Charlotte Tarr, Robert Currie at [charlotte.m.tarr.ctr@mail.mil](mailto:charlotte.m.tarr.ctr@mail.mil); [robert.j.currie6.ctr@mail.mil](mailto:robert.j.currie6.ctr@mail.mil)

[Export Validation Error Report To Excel](#) [Email Validation Error Report](#)

Back **Next** Select the required 1921, 1921-1, 1921-2, or 1921-5 reports, check "Group Reports & View Data" and identil

If no Major cPet Errors are identified in the report,  
the contractor can proceed with submission



# CCDR Validation Process

## Manual Checks

OSD CAPE

### Manual Checks:

All metadata is reported accurately

Units are reported accurately

Costs are categorized correctly

Costs increase from previous report

Appropriate and accurate explanations

SECURITY CLASSIFICATION: **Unclassified**

### COST DATA SUMMARY REPORT

Form Approved  
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.**

<b>1. MAJOR PROGRAM</b> a. NAME: P-49 - Phoenix Fighter		<b>2. PRIME MISSION PRODUCT</b> P-49 - Phoenix Fighter		<b>3. REPORTING ORGANIZATION TYPE</b> <input checked="" type="checkbox"/> PRIME / ASSOCIATE CONTRACTOR <input type="checkbox"/> DIRECT-REPORTING SUBCONTRACTOR <input type="checkbox"/> GOVERNMENT		<b>4. NAME/ADDRESS</b> (Include ZIP Code) a. PERFORMING ORGANIZATION: Vandalay Industries, 352 Stokk Rd., Los Angeles, CA 90048 b. DIVISION: Integrated Systems, 325 Stokk Rd., Los Angeles, CA 90048		<b>5. APPROVED PLAN NUMBER</b> N-12-X-C1	
<b>6. CUSTOMER</b> (Direct-reporting subcontractor use only)		<b>7. CONTRACT TYPE</b> FFP		<b>8. CONTRACT PRICE</b> \$867,992.5		<b>9. CONTRACT CEILING</b>		<b>10. TYPE ACTION</b> a. CONTRACT NO.: XXXXXX-13-C-0019 b. LATEST MODIFICATION: P00421	
<b>11. PERIOD OF PERFORMANCE</b> a. START DATE (YYYYMMDD): 20150601 b. END DATE (YYYYMMDD): 20181230		<b>12. APPROPRIATION</b> <input type="checkbox"/> RDT&E <input checked="" type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M		<b>13. REPORT CYCLE</b> <input type="checkbox"/> INITIAL <input type="checkbox"/> INTERIM <input checked="" type="checkbox"/> FINAL		<b>14. SUBMISSION NUMBER</b> 2		<b>15. RESUBMISSION NUMBER</b> 0	
<b>17. NAME</b> (Last, First, Middle Initial) Bellows, Drew R		<b>18. DEPARTMENT</b> Finance		<b>19. TELEPHONE NUMBER</b> (Include Area Code) (310) 555-0553		<b>20. EMAIL ADDRESS</b> drew_bellows@vandalayindustries.com		<b>21. DATE PREPARED</b> (YYYYMMDD) 20180814	

WBS ELEMENT CODE	WBS REPORTING ELEMENTS	NUMBER OF UNITS TO DATE	COSTS INCURRED TO DATE (thousands of U.S. Dollars)			NUMBER OF UNITS AT COMPLETION	COSTS INCURRED AT COMPLETION (thousands of U.S. Dollars)		
			NONRECURRING	RECURRING	TOTAL		NONRECURRING	RECURRING	TOTAL
10	P-49 - Phoenix Fighter	10.0	\$4,959.9	\$693,202.0	\$698,161.9	10.0	\$5,106.7	\$702,468.1	\$707,574.8
11	Air Vehicle	10.0	\$4,950.6	\$531,246.0	\$536,196.6	10.0	\$5,026.2	\$535,245.8	\$540,272.0
11.1	Airframe	10.0	\$4,072.6	\$154,155.7	\$158,228.3	10.0	\$4,074.8	\$155,555.8	\$159,630.6
11.1.1	Airframe Integration, Assembly, Test and Checkout	10.0	\$40.7	\$5,051.4	\$5,092.1	10.0	\$42.9	\$6,451.5	\$6,494.4
11.1.2	Fuselage	10.0	\$4,025.5	\$99,587.2	\$103,612.7	10.0	\$4,025.5	\$99,587.2	\$103,612.7
11.1.2.1	Forward Fuselage	10.0	\$1,355.1	\$44,255.2	\$45,610.3	10.0	\$1,355.1	\$44,255.2	\$45,610.3
11.1.2.2	Center Fuselage	10.0	\$1,677.3	\$35,124.2	\$36,801.5	10.0	\$1,677.3	\$35,124.2	\$36,801.5
11.1.2.3	Aft Fuselage	10.0	\$993.1	\$20,207.8	\$21,201.0	10.0	\$993.1	\$20,207.8	\$21,201.0
11.1.3	Wing	10.0	\$0.0	\$35,021.5	\$35,021.5	10.0	\$0.0	\$35,021.5	\$35,021.5
11.1.4	Empennage	10.0	\$6.4	\$14,495.6	\$14,502.0	10.0	\$6.4	\$14,495.6	\$14,502.0
11.1.5	Nacelle	0.0	\$0.0	\$0.0	\$0.0	0.0	\$0.0	\$0.0	\$0.0
11.2	Propulsion (P-429 Engine)	10.0	\$0.0	\$22,587.0	\$22,587.0	10.0	\$0.0	\$22,587.0	\$22,587.0
11.3	Vehicle Subsystems	10.0	\$5.2	\$72,108.0	\$72,113.2	10.0	\$5.2	\$72,108.0	\$72,113.2
11.3.1	Vehicle Subsystem Integration, Assembly, Test, and Checkout	10.0	\$5.2	\$2,105.0	\$2,110.2	10.0	\$5.2	\$2,105.0	\$2,110.2
11.3.2	Flight Control Subsystem	10.0	\$0.0	\$4,025.1	\$4,025.1	10.0	\$0.0	\$4,025.1	\$4,025.1
11.3.3	Auxiliary Power Subsystem	10.0	\$0.0	\$5,048.6	\$5,048.6	10.0	\$0.0	\$5,048.6	\$5,048.6
11.3.4	Hydraulic Subsystem	10.0	\$0.0	\$3,589.7	\$3,589.7	10.0	\$0.0	\$3,589.7	\$3,589.7
11.3.5	Electrical Subsystem	10.0	\$0.0	\$9,486.5	\$9,486.5	10.0	\$0.0	\$9,486.5	\$9,486.5
11.3.6	Subtotal Cost				\$698,161.9				\$707,574.8
11.3.7	Reporting Contractor G&A				\$62,057.0				\$68,124.2
11.3.8	Reporting Contractor Undistributed Budget								\$0.0
11.3.9	Reporting Contractor Management Reserve								\$2,452.0
11.3.9	Reporting Contractor FCCM				\$6,124.4				\$7,292.1
11.3.9	Total Cost				\$766,343.3				\$785,443.1
	Reporting Contractor Profit/Loss or Fee				\$70,548.5				\$82,549.4
	Total Price				\$836,891.8				\$867,992.5

**22. REMARKS**  
The data contained in this report is for 10 air vehicles built in Lot 9, which began on June 1, 2015. The final delivery for Lot 9 was made on June 30, 2016.

DD FORM 1921, MAY 2011

PREVIOUS EDITION IS OBSOLETE.

SECURITY CLASSIFICATION

Unclassified



# Can't Submit? What Next?

OSD CAPE

- ALWAYS run the cost reports through cPet Web or Desktop to identify and correct Major errors PRIOR to submission to DCARC/CADE Submit-Review application
- If Major errors are identified, the cost reports MUST be corrected in order to proceed with the upload
- Who to call?
  - Contact the POC who compiled the cost reports, and provide them with the exported cPet Validation Error Report

*Submissions delayed or effected by the Submit-Review's cPet Auto-Review feature will NOT be subject to date changes or extensions and may affect the program's compliance ratings*

Upload screen, for further information on how

# SRDR Validations

## SRDR Validations

All metadata is reported accurately

Accurate explanation of software characteristics

Discrete software size and effort reported

Discrete reporting by release and CSCI

Data dictionary provides necessary insight

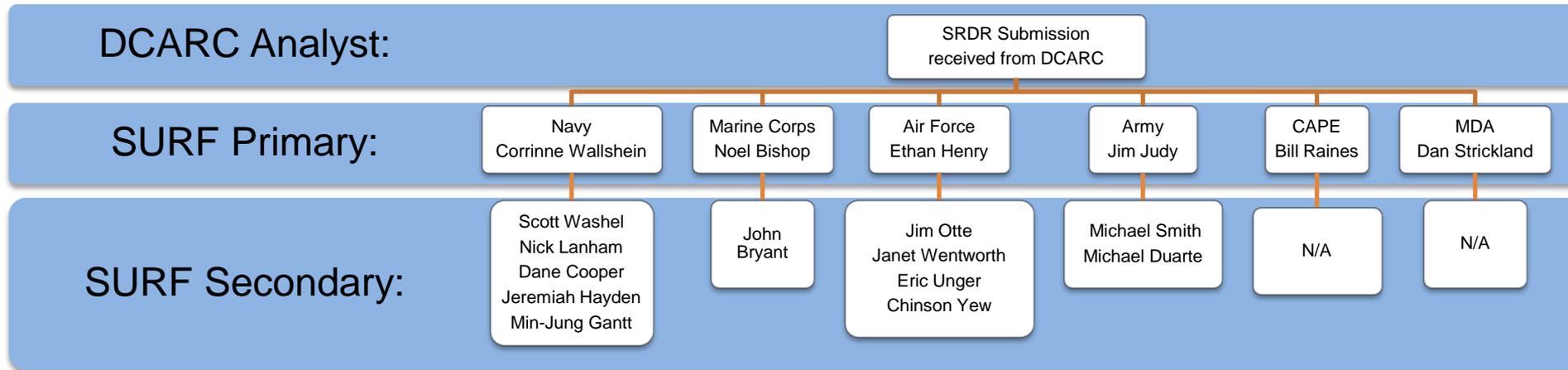


SOFTWARE RESOURCES DATA REPORTING: INITIAL GOVERNMENT REPORT (SAMPLE FORMAT 1)						
Due 180 days before contract award as part of the Cost Analysis Requirements Description (CARD)						
Section 3.1 REPORT CONTEXT AND DEVELOPMENT ORGANIZATION						
MAJOR PROGRAM a. NAME: Section 3.1.2			b. PHASE/MILESTONE: Section 3.1.2			
NAME/ADDRESS a. REPORTING ORGANIZATION: Section 3.1.3			APPROVED PLAN NUMBER Section 3.1.4			
b. DIVISION: Section 3.1.3			Section 3.1.4			
WBS ELEMENT CODE Section 3.1.5		WBS REPORTING ELEMENT Section 3.1.5				
SUBMISSION NUMBER Section 3.1.6			RESUBMISSION NUMBER Section 3.1.7			
REPORT AS OF (YYYYMMDD) Section 3.1.8			DATE PREPARED (YYYYMMDD) Section 3.1.9			
NAME (Last, First, Middle-Initial) Section 3.1.9		Department Section 3.1.9		Telephone (include Area Code) Section 3.1.9		EMAIL ADDRESS Section 3.1.9
DEVELOPMENT ORGANIZATION Section 3.1.10		SRDR DATA DICTIONARY FILENAME Section 3.1.11				
COMMENTS Section 3.1.12						
Section 3.2 PRODUCT AND DEVELOPMENT DESCRIPTION						
FUNCTIONAL DESCRIPTION Section 3.2.1						
SOFTWARE DEVELOPMENT CHARACTERIZATION Section 3.2.2						
APPLICATION TYPE	PRIMARY PROGRAMMING LANGUAGE	SECONDARY PROGRAMMING LANGUAGE	PERCENT OF PRODUCT SIZE	PLANNED DEVELOPMENT PROCESS	SW DEVELOPMENT METHOD(S)	UPGRADE OR NEW?
Section 3.2.3	Section 3.2.3.1	Section 3.2.3.1	Section 3.2.3.2	Section 3.2.3.3	Section 3.2.3.4	Section 3.2.3.5
Section 3.2.3	Section 3.2.3.1	Section 3.2.3.1	Section 3.2.3.2	Section 3.2.3.3	Section 3.2.3.4	Section 3.2.3.5
SOFTWARE REUSE Section 3.2.3.6						
Section 3.2.4 COTS/GOTS APPLICATIONS USED:						

SOFTWARE RESOURCES DATA REPORTING: INITIAL GOVERNMENT REPORT (SAMPLE FORMAT 1)					
Section 3.4 ESTIMATED RESOURCE AND SCHEDULE REPORTING					
SOFTWARE ACTIVITY NAME	START MONTH	END MONTH	TOTAL HOURS FROM CONTRACTOR ONLY	TOTAL HOURS ALL OTHER SUBCONTRACTORS	
SOFTWARE REQUIREMENTS ANALYSIS	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SOFTWARE ARCHITECTURE AND DETAILED DESIGN	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SOFTWARE CODING AND UNIT TESTING	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SOFTWARE INTEGRATION	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SOFTWARE QUALIFICATION TESTING	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SYSTEM/SOFTWARE INTEGRATION	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SYSTEM/SOFTWARE QUALIFICATION TESTING	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SOFTWARE QUALITY ASSURANCE	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SOFTWARE CONFIGURATION MANAGEMENT	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SOFTWARE PROGRAM MANAGEMENT	Section 3.4.3	Section 3.4.3	Section 3.4.4	Section 3.4.2	
SOFTWARE ENGINEERING DEVELOPMENT EFFORT			Section 3.4.4	Section 3.4.2	
DATA, PROCESS IMPROVEMENT, INDEPENDENT VERIFICATION & VALIDATION, PROBLEM				Section 3.4.2	
DEVELOPMENT EFFORT				Section 3.4.4	Section 3.4.2
Section 3.4.4					
Section 3.5 PRODUCT QUALITY REPORTING (OPTIONAL)					
NUMBER OF DEFECTS DISCOVERED Section 3.5.1.1			NUMBER OF DEFECTS REMOVED Section 3.5.1.2		
COMMENTS			NUMBER OF DEFECTS DEFERRED TO POST DEPLOYMENT Section 3.5.1.2		
Section 3.5.1.3					



# SURF V&V Structure



- Performs pre and post SRDR acceptance Validation and Verification (V&V) with DCARC
- Uses a detailed first-ever published *joint* V&V guide
  - Training guide used to determine SRDR quality tags for database
- SRDRs distributed among SURF members to balance workload



# Collaborative Validation

OSD CAPE

## DCARC:

- Review reports for compliance with the DIDs and Policy (i.e. cost and units are accurately reported)
- Develop the validation error report
- Validates reports using cPet

## Program Office:

- Data reflects entire contract
- Accurate and complete explanations
- Correct data reported for all elements in scope
- Product characteristics and functional breakdown validation
- Correct variant reporting
- Nonrecurring and recurring costs reported accurately

## Service Cost Center/CAPE:

- Provides enterprise wide perspective to ensure consistency across programs
- Ensures data reported provides insight needed to support estimating decisions



# CSDR Compliance Rating Criteria

OSD CAPE

Rating criteria emphasizes on time data submission

RATING	CRITERIA
Green	No open CSDR compliance issues.
Green Advisory	All outstanding CSDR deliverables* are less than or equal to three months overdue.
Yellow	Any outstanding CSDR deliverable greater than three months, but less than or equal to six months overdue.
Red	Any outstanding CSDR deliverable greater than six months overdue.
Red- Critical	<ol style="list-style-type: none"> <li>1. Program Office released RFP without approved CSDR plan.</li> <li>2. Program Office awarded prime contract without approved CSDR plan or failed to mod contract to place an approved CSDR plan on contract.</li> <li>3. Program Office or Prime contractor failed to enforce flow down of CSDR requirements to direct reporting subcontractor or the prime contractor failed to mod subcontract to place an approved CSDR plan on contract.</li> </ol>
Not Rated	The program has no CSDR activity (e.g., approved waiver, Pre-MDAP, cancelled, has no CSDR activity, or not currently tracked)

## OF NOTE:

- CSDRs Assessed Qtrly w/DAES
- Reviewed as a part of DABs
- No ICE issued w/o approved CSDR plan on contract

\*CSDR deliverables include Contract Data Reporting Structure Dictionaries, CCDRs, SRDRs, and CDRLs



# CSDR Validation Summary

OSD CAPE

- CSDRs are validated consistently prior to acceptance in order to populate a robust dataset of historical cost data
- Government Analysts involvement in validation of reports is crucial to receiving quality data
- 3 Steps to Success:
  - Follow the CSDR Plan
  - Use the latest Data Item Description (DID)
  - Use cPet!

**Quality Data Leads to Quality Analysis!**



# Final Thoughts

OSD CAPE

- ✓ Register for Portal Access immediately so you have an account ready in order to submit your CSDRs
- ✓ Visit the CADE website frequently for updates to forms, DIDs, policies, or procedures that can impact your submission
- ✓ Notify DCARC immediately if you receive a Validation Error Report or a formal Rejection Memo and need additional time to resubmit. Not submitting promptly can impact the Program's DAES assessment
- ✓ For more Validation Training, please visit the breakout rooms for the Advanced cPET/Validation Case Study or cPet Training Labs



Tools for CSDR success are available at <http://cade.osd.mil/CSDR/>



# DCARC Point of Contacts

OSD CAPE

Army	Navy	Air Force	DoD and MAIS
<p>Linh Le Mylinh.t.le.ctr@mail.mil (703) 697-6679</p>	<p>Sandi Enser Sandra.b.enser.ctr@mail.mil (571) 372-4272</p>	<p>Linnay Thomas Linnay.m.thomas.civ@mail.mil (571) 372-4269</p>	<p>Brian Kolstad Brian.e.kolstad.ctr@mail.mil (571) 372-4141</p>
<p>Marc Stephenson Marc.j.stephenson.ctr@mail.mil (703) 697-0362</p>	<p>Emily Beltramo Emily.m.beltramo.ctr@mail.mil (571) 372-4263</p>	<p>James Parnham James.m.parnham.ctr@mail.mil (571) 372-4271</p>	<p>Olivia Collins Olivia.l.collins7.ctr@mail.mil (571) 256-9937</p>
	<p>Cathy Ferguson Catherine.m.ferguson.ctr@mail.mil (571) 372-4260</p>	<p>Paola Jimenez Paola.m.jimenez.ctr@mail.mil (571) 372-4140</p>	

- ✓ Daron Fullwood, DCARC Director, CADE Deputy Program Manager  
571-372-4267, Daron.D.Fullwood.civ@mail.mil
- ✓ Brandon Bryant, DCARC Training POC  
571-372-4273, Brandon.S.Bryant4.ctr@mail.mil

CADE Website: <http://cade.osd.mil/>



# Round Table Discussion



# Cost Estimating using CSDR Data

OSD CAPE

- You are a government cost estimator preparing an independent LCCE for a MS C decision on a new attack helicopter MDAP program. Answer the following questions:
  - What data would you use to prepare the estimate?
  - How could you apply historical CSDR data to support your estimate?
  - How could CSDRs be more useful to you?



# CWIPT Roles and Responsibilities

OSD CAPE

- An MDAP program that you are responsible for is entering MS B a year from now. Please answer the following questions:
  - Which offices make up the CWIPT?
  - What are the roles and responsibilities of each member?
  - What can you do to ensure an approved plan is included in the RFP?



# CSDR Validations

OSD CAPE

- A final report for an MDAP program that you are responsible for was just submitted to the DCARC. Please answer the following questions:
  - What role do you play in the validation process?
  - What can you do to ensure the data reported is accurate and complete?
  - What tools can you use to help support your validation process?

# Cost Assessment Data Enterprise (CADE)

## CADE Total Access Demo

18 May 2016

Bess Dopkeen, CADE Program Manager

[Bess.R.Dopkeen.CIV@mail.mil](mailto:Bess.R.Dopkeen.CIV@mail.mil)

(703) 695-7282

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Peter Braxton, CADE Training

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(703) 695-2114

Brandon Bryant, CADE Training

[Brandon.S.Bryant4.CTR@mail.mil](mailto:Brandon.S.Bryant4.CTR@mail.mil)

(571) 372-4273



# CADE Objectives/KPPs

OSD CAPE

## **Improve Analyst Productivity (at all levels: OSD, Services, PMOs)**

- Increase output per unit time
- Provide near real-time access to data, more data, and less burden on the analyst to retrieve and process
- Reduce time for analyst to climb the program familiarization learning curve

## **Effectiveness**

- Enable more comprehensive assessments
- Gain insight from previous analysts
- Facilitate telling the program's "story", holistic analysis

## **Data Quality and Reporting Compliance Improvement**

- Includes all the Department's cost data - both EVM and CSDRs

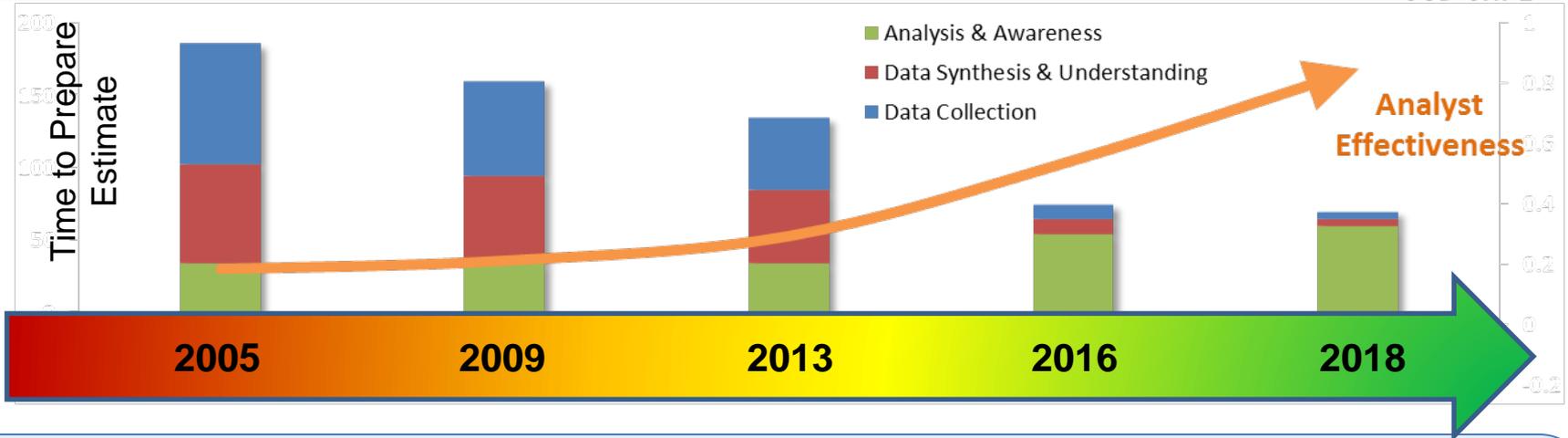
## **Comprehensiveness**

- Having all information at the analyst's fingertips – a centralized virtual library



# Analysis Evolution

OSD CAPE



**Data Sources**

- Program Office
- DACIMS
- SARs
- DAES
- Contractors
- Service O&S
- Data Libraries
- Colleagues Network

- **EVM-CR**
- DACIMS
- **DAMIR**
- Contractors
- Service O&S
- Data Libraries

- **EVM Visual Display**
- **DCARC Bulk Download**
- DAMIR
- Contractors
- Service O&S
- Data Libraries

- **CADE Total Access**
- Service O&S
- Data Libraries

- **CADE Total Access 2.0**

**Synthesis and Analysis**

- Manual Entry**: Represented by icons of PDF and DOC files.
- Cut & paste**: Represented by a document icon with a green arrow pointing to another document icon.
- Automated Entry Manual Analysis**: Represented by XML file icons and a FLAT file icon with a line graph.
- Automated analytics**: Represented by various data visualization charts and graphs.
- Complete, seamless knowledge sharing**: Represented by a network diagram and a data visualization chart.

# CADE Vision of the Future: Total Analyst Access

Seamless integration of authoritative data sources

CPR, IMS, CCDR and SRDR VATs

New website/portal design

**Build Portfolio**

Browse Programs:  Active  Inactive

Filter by:  Army  Navy  Air Force

Category:  Helicopter  Transport Vehicle  Aircraft CR

Cost Metrics:  % Complete  % Budget

CPR Visual Display

Program-level Visual Display

CCDR Visual Display

Software Visual Display

IMS Visual Display

## Vision of Future Capability

**Contractor Compliance Report Card**

**On Time Scores**

- Submitted on Time
- Submitted Late
- Rejected - not re-submitted
- Submission in Submitting
- Expected this Period \*\*\*\*
- Missing
- Not Required this period
- Not required on this task

Month	Submitted	Late	Rejected	Submitted	Expected	Missing	Not Required
Apr-11	100%	0%	0%	0%	0%	0%	0%
May-11	100%	0%	0%	0%	0%	0%	0%
Jun-11	100%	0%	0%	0%	0%	0%	0%
Jul-11	100%	0%	0%	0%	0%	0%	0%
Aug-11	100%	0%	0%	0%	0%	0%	0%
Sep-11	100%	0%	0%	0%	0%	0%	0%
Oct-11	100%	0%	0%	0%	0%	0%	0%
Nov-11	100%	0%	0%	0%	0%	0%	0%
Dec-11	100%	0%	0%	0%	0%	0%	0%
Jan-12	100%	0%	0%	0%	0%	0%	0%
Feb-12	100%	0%	0%	0%	0%	0%	0%
Mar-12	100%	0%	0%	0%	0%	0%	0%

Data Availability

Report	4/18/2006	1/31/2014	# of Reports
First Report			78
Latest Report			

CPR

Month	Sep-14	Oct-14	Nov-14	Dec-14	Jan-14	Feb-14
*IPMR Cost	Green	Green	Red	Green	Green	Green
*History Formatted Cost	Green	Green	Green	Green	Green	Green

**CADE Total Access**

USS Voyager

**Portfolio Analysis**

Contract #3 CDR, Contract #7 CDR, Contract #8 CDR

Metric: SAC, % Complete

Key Program Events:

- Mar 2012 - IM 08088 LA ops
- Oct 2012 - Dev AP8 #3
- Sept 2012 - New PM
- Jun 2011 - First Flight

**Bulk Download**

Download All CSDR Data

Download All EVM Data

Continually expanding set of widget capabilities

**XML**

```
<code:element name="Customer">
  <code:complexType>
    <code:sequence>
      <code:element name="Name">
        <code:complexType>
          <code:attribute name="First" type="xsd:string"/>
          <code:attribute name="Last" type="xsd:string"/>
        </code>
      </code>
    </code>
  </code>
</code:element>
```

**CERS**

$y = ax^b$

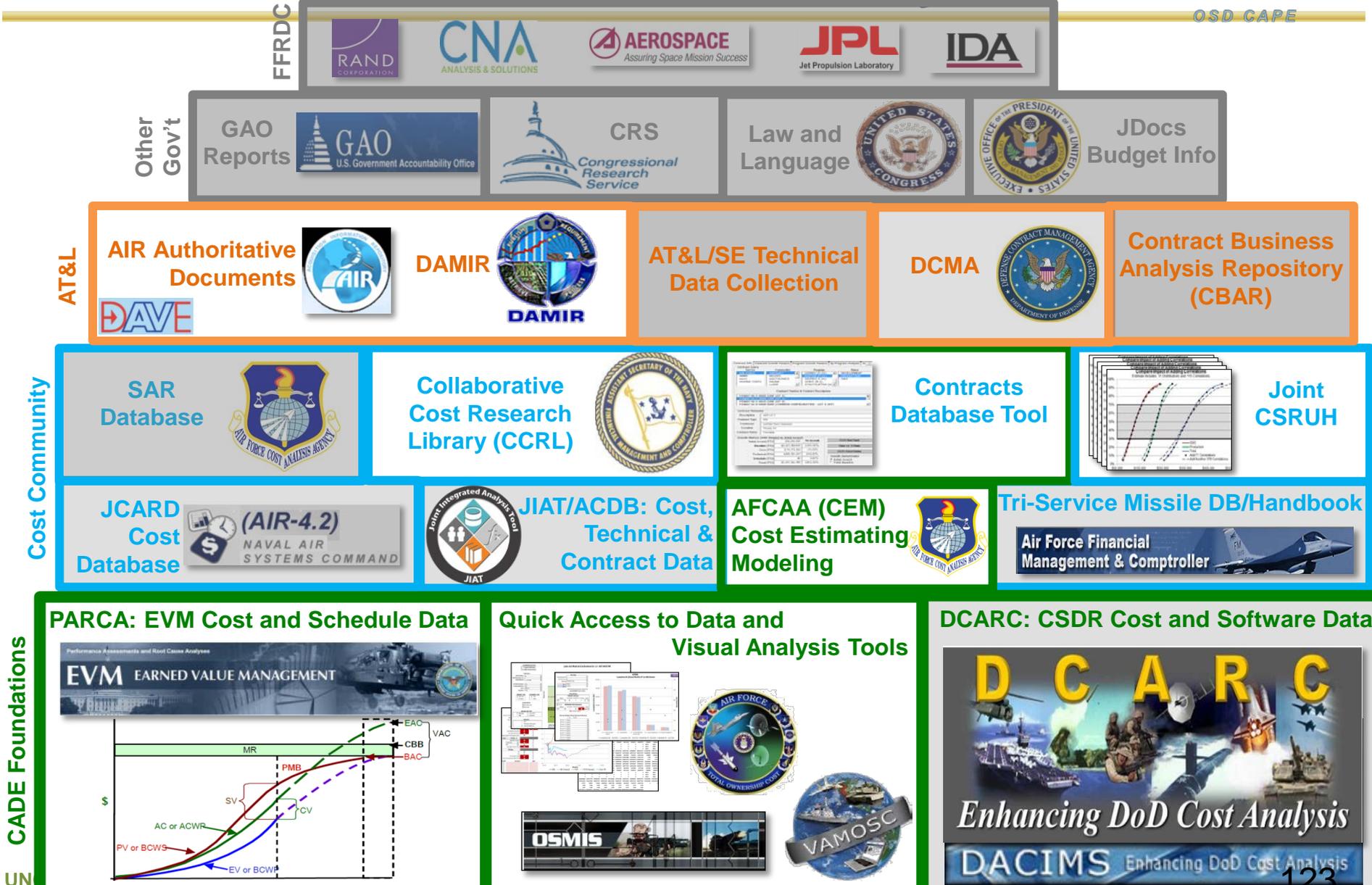
Search for a program among official language and the law.



V  
A  
T  
S



# CADE Integration Across the Community



UN  
CADE Foundations



# CADE Authoritative Data Sources

OSD CAPE

Data Type	Programmatic	Cost	Earned Value	Technical
Data	<ul style="list-style-type: none"> <li>Quantity</li> <li>Funding</li> <li>Events</li> </ul>	<ul style="list-style-type: none"> <li>Costs</li> <li>Hours</li> <li>NR/Rec</li> <li>Functional Categories</li> <li>By Tail #</li> </ul>	<ul style="list-style-type: none"> <li>AC/PV/EV</li> <li>EAC/VAC</li> <li>CV/SV</li> <li>CPI/SPI</li> <li>IMS</li> </ul>	<ul style="list-style-type: none"> <li>SW Size &amp; Effort</li> <li>Size, Weight, &amp; Power</li> </ul>
Reports	SARs DAES Reports	1921, 1921-1, 1921-2, Dict.	CPRs IPMRs	SRDR TDR
Source	DAMIR	DACIMS	EVM-CR	DACIMS
Owner	ARA	DCARC	PARCA	DCARC

CADE provides quick access to Cost data integrated with other data types



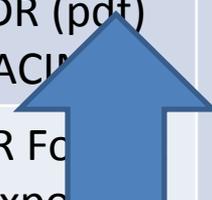
# CADE Data Access

\*CCDR migration ongoing

OSD CAPE

Era		Programmatic	Cost	Earned Value	Technical (SW)
new	post-1997	SAR [DAMIR]	CCDR (XML) [SR, DAMIR]	IPMR	SRDR Dev/Maint
		Acq Db (flat file export)	CCDR Db (flat file export)	EV Db (flat file export), IMS Native Format	XML, SRDR Db
old			CCDR (Excel) [SR, DACIMS]	CPR, IMS, History File	SRDR Initial/Final
			CCDR Db (flat file export)	EV Db (flat file export), IMS Native Format	CSDR Format Export, SRDR Db
older			CCDR (pdf) [DACIM]	CPR (EDI)	2630-2/-3
			CSDR Format Export	CPR Format Export	CSDR Format Export, SRDR Db
oldest	pre-1997	SAR (pdf)	CCDR (TIF)	CPR (Excel)	none
		Newer data are available in a more usable format			

IN CADE!



Newer data are available in a more usable format



# CADE Total Access Home Page

OSD CAPE



Knowledge Portal  
DCARC  
CAPE

Site-Level Navigation

Contextual Help and Feedback

**CADE Total Access**  
FOR OFFICIAL USE ONLY / PROPRIETARY DATA

CADE PORTAL    SEARCH PROGRAMS    DASHBOARD    RETRIEVE FILES    TOOLS    LIBRARY    CONTACT US    Test User \* Please close this window to log out \*

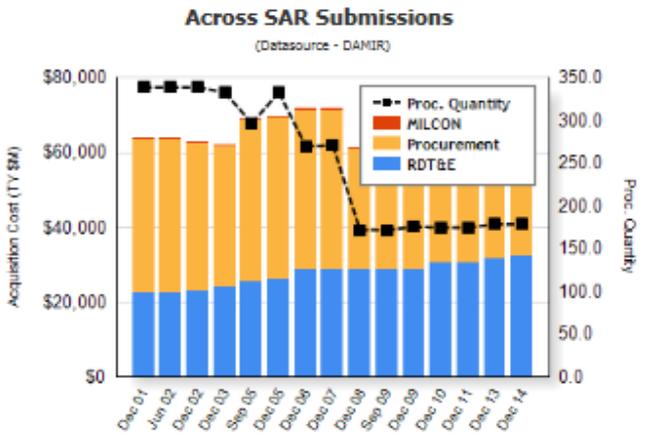
Program:  ★ ★ My Favorite Programs

Acquisition    Cost    EVM    Technical

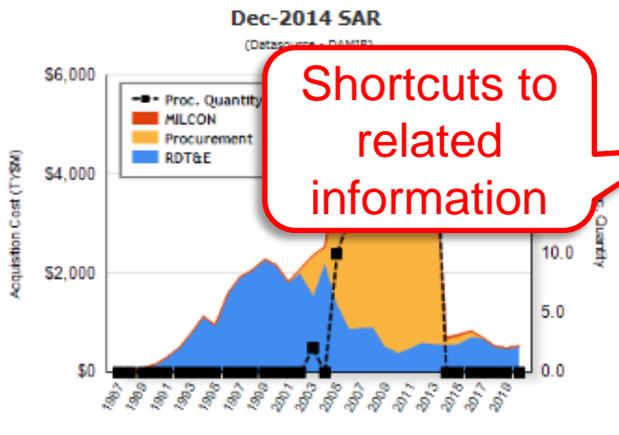
Program-specific data

USS Voyager					
Lead Service	Program Group	ACAT Category	Latest SAR	Acq Cost (\$M)	Quantity
AIR FORCE	MDAP	ID	Dec 2014	67,337.0	179

**Acquisition Cost and Quantity Estimate**



**Time-Phased Acquisition Costs and Quantity**



Shortcuts to related information

**Program Contracts and Data Availability**

Contract Number	Phase	Prime/Sub	Prime Contractor	Service	Contract Type	EVM Efforts	CSDR Plans *
007-4150-7996-006-024	SDD	Prime	The Academy	AIR FORCE	FFP	2	1
NCCC06-01-D-74656	LRIP/PROD	Prime	The Academy	AIR FORCE	CPIF/FFP/FPAP	1	1
DAAA06-10-C-0095	LRIP/PROD	Prime	The Academy	AIR FORCE	CPIF/FFP/FPAP	2	1

**USS Voyager**  
Program Funding Detail from DAMIR

**RDT&E(TY\$):** 32,423.4M  
**Procurement(TY\$):** 34,237.0M  
**MILCON(TY\$):** 676.6M  
**Units:** 179

[View Funding Detail](#)

---

**SAR Schedule Events**  
SAR Program Events from DAMIR

Event	APB Obj.	APB Thres	Current
IOC USSV 2	Jan 2014	Jul 2014	Sep 2015

[View and Plot Events](#)

---

**Key Events**  
Key Events list maintained by community

- Dec 2008 - OTB
- Dec 2009 - Program rebaseline
- Nov 2010 - CDR
- Jun 2008 - PDR Actual

[View and Plot Key Events](#)

---

**Community Knowledge**  
Share information related to this program

- rbailey shared a note. 5/20/2015
- rtravis shared a note. 3/25/2015
- Eric Lofgren shared a file. 3/25/2015
- Eric Lofgren shared a link. 3/25/2015

[View Community Knowledge](#)

---

**CCRL Search**  
[Open CCRL website in a new tab](#)

The Collaborative Cost Research Library is an online document library that contains over 16,000 cost research files contributed by the services and support contractors. Search among these documents here.

[Search CCRL Documents](#)



# Questions?

OSD CAPE

**What issues have I faced using these data sources in the past?**

**What data and functionality would I like to see in CADE?**

**What can I do to get involved?**

- Intra-departmental collaboration
- Improve data quality and content
- Participate in the Users Group – contact [Peter.J.Braxton.CTR@mail.mil](mailto:Peter.J.Braxton.CTR@mail.mil) (703) 695-2114

# Cost Assessment Data Enterprise (CADE)

**Thank you for attending the demo!**  
**Government analysts should now be able to  
log in to CADE**

**<http://cade.osd.mil/>**

**For site feedback and Users Group:**

**Peter Braxton, CADE Training**

**[Peter.J.Braxton.CTR@mail.mil](mailto:Peter.J.Braxton.CTR@mail.mil)**

**(703) 695-2114**

**For account issues:**

**Jenighi Powell, CADE Help Desk**

**[jenighi.p.powell.ctr@mail.mil](mailto:jenighi.p.powell.ctr@mail.mil)**

**(571) 256-9955**