

DOE Scheduling Tests and Processes



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Presentation for IPMW 2016
November 1, 2016



Integrated EVM / PM Acquisition Lifecycle

EVM is Integral to DOE's PM Philosophy from CD-0 to CD-4

- Guideline 1 – Define Work Scope (WBS)
- Guideline 2 – Define Project Organization (OBS)
- Guideline 3 – Integrate Processes
- Guideline 4 – Identify Overhead Management
- Guideline 5 – Integrate WBS/OBS to Create Control Accounts
- Guideline 6 – Schedule with Network Logic**
- Guideline 7 – Set Measurement Indicators**
- Guideline 8 – Establish Budgets for Authorized Work**
- Guideline 9 – Budget by Cost Elements**
- Guideline 10 – Create Work Packages, Planning Packages**
- Guideline 11 – Sum Detail Budgets to Control Account
- Guideline 12 – LOE Planning and Control
- Guideline 13 – Establish Overhead Budgets
- Guideline 14 – Identify Management Reserve and Undistributed Budget
- Guideline 15 – Reconcile to Target Cost Goal
- Guideline 16 – Record Direct Costs
- Guideline 17 – Summarize Direct Costs by WBS Elements
- Guideline 18 – Summarize Direct Costs by OBS Elements
- Guideline 19 – Record/Allocate Indirect Costs
- Guideline 20 – Identify Unit and Lot Costs
- Guideline 21 – Track and Report Material Costs and Quantities
- Guideline 22 – Calculate Schedule Variance and Cost Variance
- Guideline 23 – Identify Significant Variances for Analysis
- Guideline 24 – Analyze Indirect Cost Variances
- Guideline 25 – Summarize Information for Management
- Guideline 26 – Implement Corrective Actions
- Guideline 27 – Revise Estimate at Completion (EAC)
- Guideline 28 – Incorporate Changes in a Timely Manner
- Guideline 29 – Reconcile Current to Prior Budgets
- Guideline 30 – Control Retroactive Changes
- Guideline 31 – Prevent Unauthorized Revisions
- Guideline 32 – Document PMB Changes

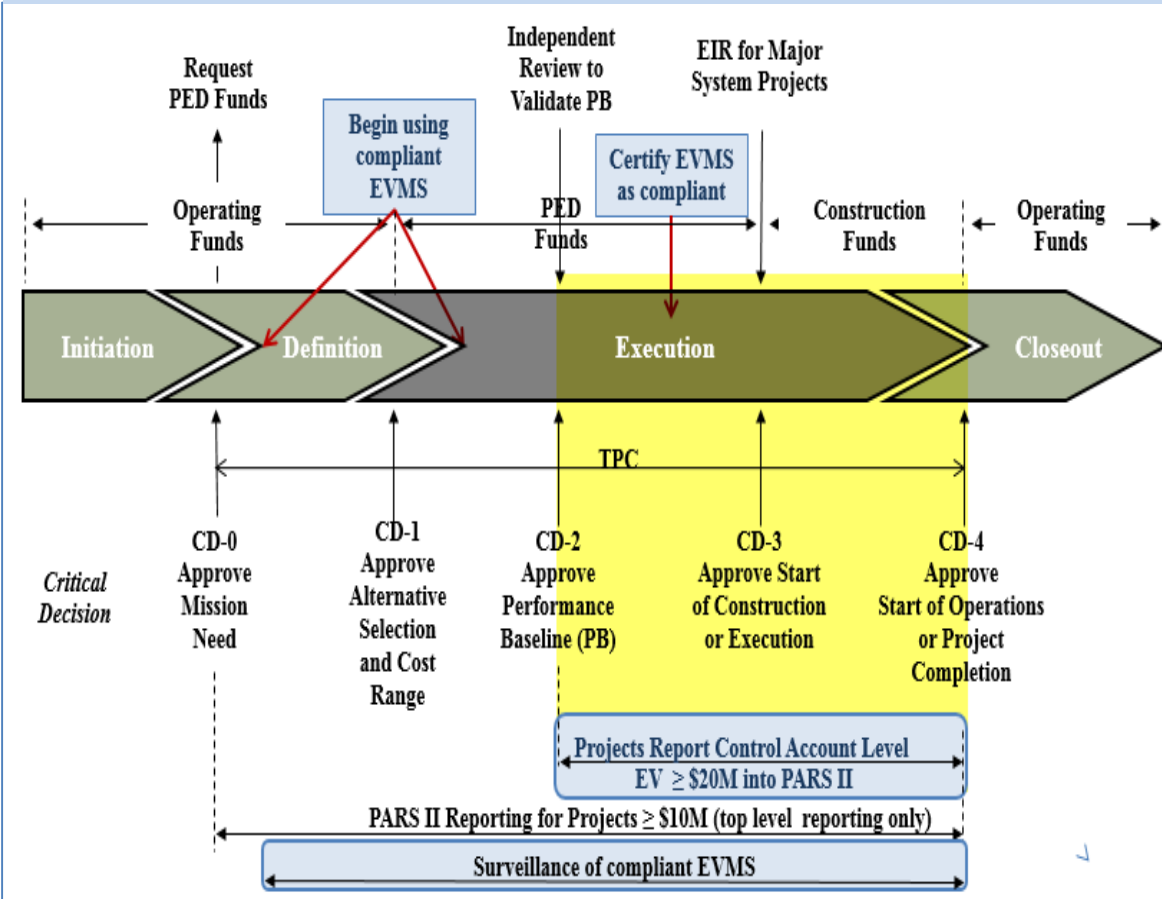
Organize

**Planning
Scheduling
Budgeting**

Accounting

Analysis

Revisions



Typical DOE Acquisition Management System for Line Item Capital Asset Projects

Guideline 6 – Integrated Master Schedule



Slide 3

- **IMS is a key component of the EVMS**
- **More tests than any other guideline**
 - However, most are automated
 - More than just the DCMA 14, but many of those are included
- **GL 6 Broken into three areas:**
 - GL 6.A – Schedule Architecture
 - GL 6.B – Schedule Construction
 - GL 6.C – Schedule Maintenance



- **DOE currently uses an assortment of tools to evaluate a contractor's management system**
 - PARS IIe
 - EV CAS for most of the EVMS Cost Tool evaluation
- **Deltek Acumen Fuse for schedule analysis**
 - Works best with P6
 - Quick and easy load of data – does not change the contractor's delivery file
 - Customizable to DOE test metrics
 - Can perform many analysis functions
 - Diagnostics – automated tests performed here
 - Logic analysis
 - Forensic testing over many periods



Fuse DOE Diagnostics

- **Process documentation and Fuse workbooks provided to industry and other DOE departments**
- **Fuse not REQUIRED to evaluate DOE schedule metrics**
 - All formulas are provided as part of the schedule analysis process documentation
- **10 additional diagnostics provided in the DOE template**
 - Combined with the 22 provided diagnostics from Fuse
 - GAO, DCMA and NASA diagnostics also available

DOE BL IMS Characteristics		DOE FCST IMS Characteristics		LOI 6.A BL Architecture		LOI 6.A FCST Architecture		LOI 6.B BL Construction		LOI 6.B FCST Construction		LOI 6.C BL Maintenance		LOI 6.C FCST Maintenance	
Total BL Score	Total FCST Score	Schedule Quality	Advanced	Characteristics	Duration	Logic	Lags	Constraints	Float	Status	Planned	In-Progress	Completed		
Baseline Compliance	Scenario Comparison	Cost	Risk Inputs	Risk Exposure	Earned Value	Earned Value Work	Earned Schedule	Work / Resources	DCMA 14 point check w/EV						

DOE Fuse Diagnostics



	Diagnostic Title	Diagnostic Description
Baseline	DOE BL IMS Characteristics	Metric counting only – provides scale of the baseline projects. Not used for assessment
	LOI 6.A BL Architecture	Provides analysis of the foundation of the IMS baseline files
	LOI 6.B BL Construction	Analyzes schedule metrics and construction techniques
	LOI 6.C BL Maintenance	Evaluates baseline update metrics and results of schedule analysis (float, LOE on CP, etc.)
	Total BL Score	Combination of 6A, 6B and 6C Baseline tests for a single output
Forecast	DOE FCST IMS Characteristics	Metric counting only – provides scale of the forecast projects. Not used for assessment
	LOI 6.A FCST Architecture	Provides analysis of the foundation of the IMS Forecast files
	LOI 6.B FCST Construction	Analyzes schedule metrics and construction techniques
	LOI 6.C FCST Maintenance	Evaluates Forecast schedules status and update metrics
	Total FCST Score	Combination of 6A, 6B and 6C Forecast tests for a single output



To Run Baseline Analysis

- Assign baseline files as projects
- Assign forecast files as baselines
 - The forecast files tell the baseline metrics if the task is complete or incomplete

Past three months of baseline projects

The screenshot displays the Deltek Acumen software interface. The top navigation bar includes tabs for S1 // Projects, S2 // Diagnostics, S2 // Logic, S3 // Risk, S4 // Acceleration, S5 // Dashboard, Forensics, Metrics, and Fields. Below this is a toolbar with various icons for project management, including Microsoft Project, Oracle Primavera, Phoenix Project Manager, and Deltek Open Plan. The main workspace is divided into two panes. The left pane, titled 'Projects', shows a tree view with a folder 'MOR-DED BL 1601 (995)' containing three sub-items: 'MOR-DED - BL 1601 (332)', 'MOR-DED - BL 1512 (331)', and 'MOR-DED - BL 1511 (332)'. An orange arrow points from this pane to the right pane. The right pane, titled 'Activities - MOR-DED - BL 1601', contains a Gantt chart with columns for Timeline, Id, Description, Start, Finish, Rem..., Calibration, and Gantt Ch... The chart shows four activity bars: a red bar for 'MOR-DED - BL 1601' (11/2/2015 to 8/22/2016), a green bar for 'MOR-DED - BL 1601' (11/2/2015 to 8/22/2016), a yellow bar for 'MOR-DED - BL 1512' (11/2/2015 to 8/22/2016), and a green bar for 'MOR-DED - BL 1512' (11/2/2015 to 8/22/2016). Below the Gantt chart is a detailed view for 'MOR-DED - BL 1601' with tabs for Cost Uncertainty, Cost, Resource Assignments, Risk Events, and Settings. The 'General' tab is active, showing fields for Id, Project, Type, Platform, Original Project Name, Original File Path, Description, WBS, Calendar, Author, Date Imported, and Imported.



Other Analysis Capabilities

- Risk Analysis

DOE QE LOI Model Workbook IHv2F7 v.0 Pre-test final MORDED BL - Deltek Acumen

S1 // Projects S2 // Diagnostics S2 // Logic S2 // Benchmarking S3 // Risk S4 // Acceleration S5 // Dashboard Forensics Metrics Fields

Views Editing Activities Risk Exposure Analysis Templates Risk Models Import / Publish

Left Panel Right Panel Activity View Risk Adviser™ Finish Start Duration Float Cost Add to Risk Comparison Configuration Run Risk Analysis Build Scenario Create Cost Estimate Print Preview Excel Copy to Clipboard

Projects

Id	Description	Remaining...
FCST 1601	FCST 1601	187d
FCST 1512		
FCST 1511		
FCST 1601.0	Program Milestones	187d
FCST 1601.1	Vehicle	147d
FCST 1601.2	System T&E	187d
FCST 1601.4	Depot Test Set	150d
FCST 1601.6	System Project Ma...	40d

FCST 1601 - FCST 1601

Resource Assignments	Risk Events	Settings
Duration Uncertainty	Cost Uncertainty	Cost
General	Status	Relationships
Id	FCST 1601	Description
Project	FCST 1601	WBS
Type	Project	Calendar
Platform	Oracle Primavera	Author
Original Project Name	FCST 1601	Date Imported
Original File Path	D:\Buck V ...	Imported

FCST 1601 Uncertainty Only (No Risk Events)

FCST 1601 - FCST 1601 Finish Date

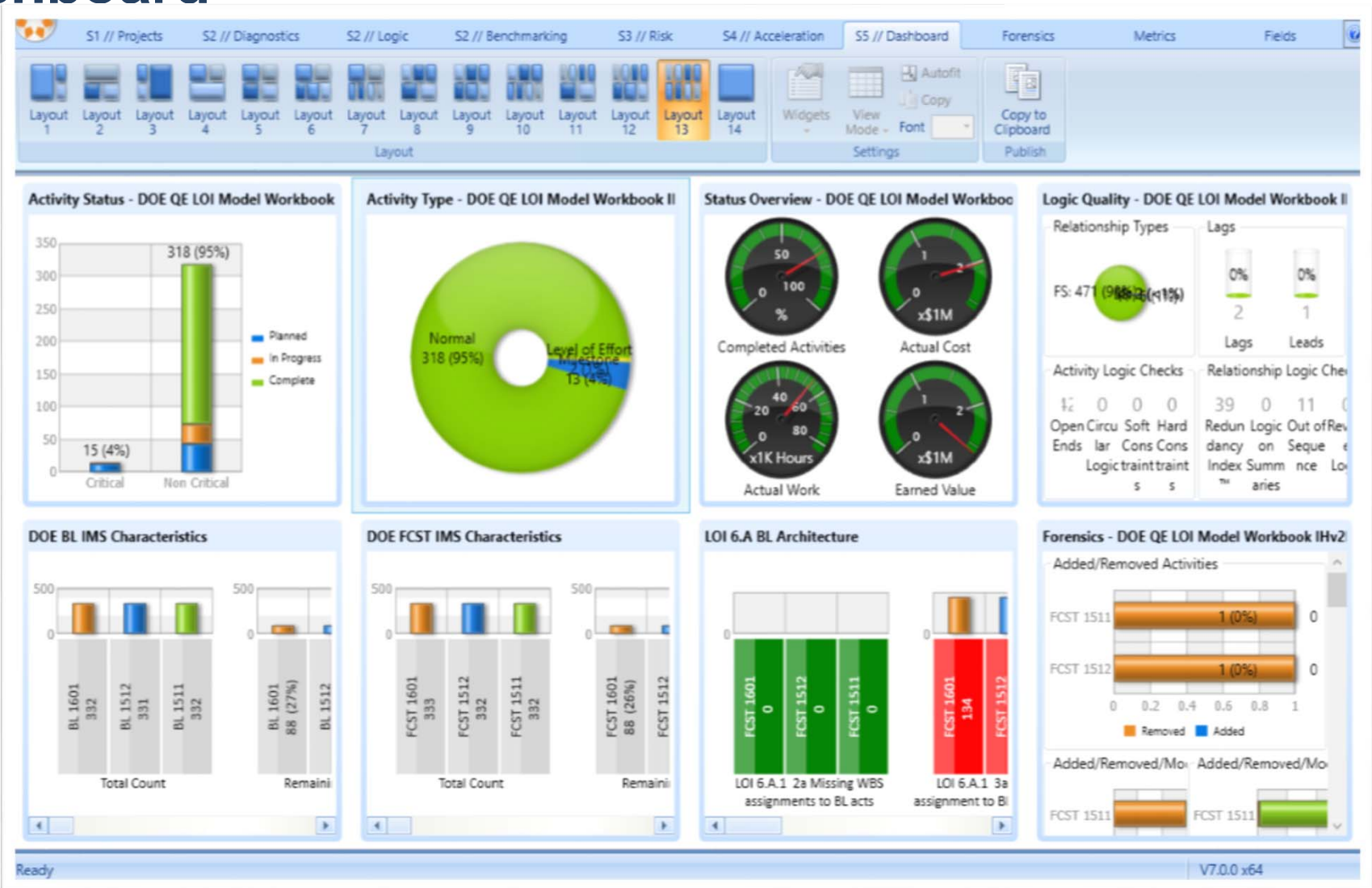
Metric	Value
Deterministic - 0 %	10/12/2016
Mean (P55)	11/8/2016
P0 - Best Case	10/14/2016
P50	11/7/2016
P75	11/16/2016

Ready V7.0.0 x64



Other Analysis Capabilities

- Dashboard





DOE IH v2.0 Fuse Template Standards

- **Written for Fuse Release 7 at this time**
 - Earlier releases will not correctly identify incomplete baseline activities and milestones
- **Grey boxes are for information only, not a LOI test metric**
- **Looks for code fields to identify SM and SVTs, Critical Path, PP, SLPP, WBS, OBS and others**
- **Ignore Fuse-generated ‘Scores’**

Project / Snapshot	Missing Logic	Logic Density™	Critical	Hard Constraints	Negative Float	Lags	Insufficient Detail™	Number of Leads	Merge Hotspots	Score
FCST 1601	42 (13%)	2.89	15 (17%)	0 (0%)	0 (0%)	2 (2%)	1 (0%)	1 (0%)	22 (7%)	80%



DOE PM Website - ENERGY.GOV/PM

Please find the full set of slides presented at the IPMW DOE Track on the DOE PM Website EVM Page <http://www.energy.gov/projectmanagement/earned-value-management>

EARNED VALUE MANAGEMENT

- Project Management
- Earned Value Management**
- EVMS Guidance
- EVM SMEs
- Training
- Glossary of Terms & Acronyms
- Career Development (PMCDP)
- Policy Development
- Information Systems



KEY RESOURCES

- PMCDP
- EVMS
- PARS IIe
- FPD Resource Center
- PM Newsletter
- Forms and Templates

The mission of the DOE Earned Value Management website is to educate and train on theory and practice of Earned Value Management, and use it as an integrated Project Management process.

Earned Value Management (EVM) is a systematic approach to the integration and measurement of cost, schedule, and technical (scope) accomplishments on a project or task. It provides both the government and contractors the ability to examine detailed schedule information, critical program and technical milestones, and cost data.



Questions?