

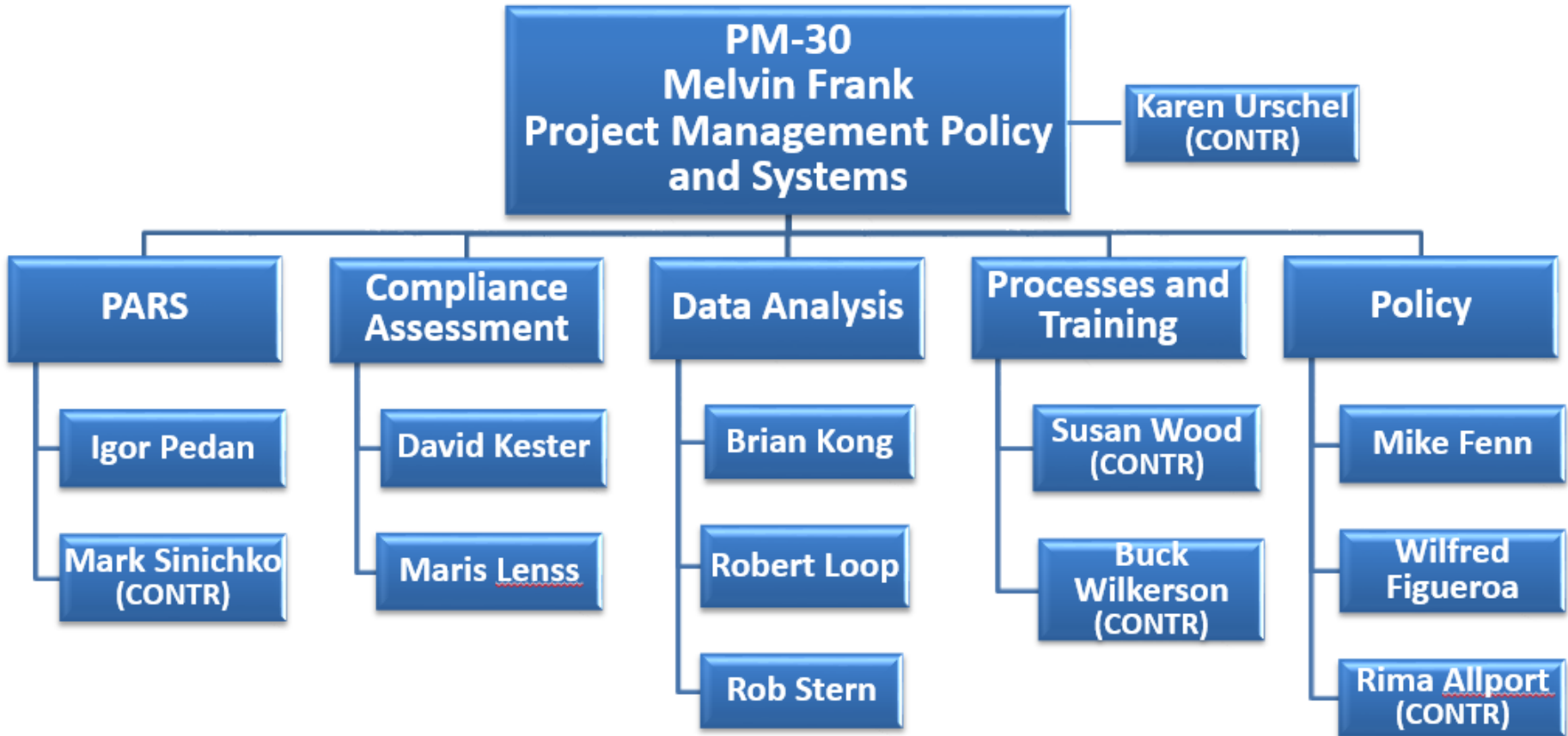
EVMS PILOT PROJECT STATUS UPDATE



Melvin Frank
Project Management Policy and Systems (PM-30)
Office of Project Management Oversight & Assessments (PM)

February 1, 2017

PM-30 Organization Chart





- Budget uncertainty necessitates that the Department of Energy (DOE) to identify operational efficiencies to execute its project management oversight responsibilities. To be successful, it is imperative that DOE, working collaboratively with Energy Facility Contractor Group (EFCOG) partners, rethink the way in which DOE Order 413 EVMS compliance is executed following a data-driven approach that objectively and consistently tests the reliability of core contractor EVMS management processes.

– DOE EVMS Pilot Project Charter, May 2016

- Premise is that costs can be reduced, the consistency of message increased, and the likeliness of errors eliminated by following an automated, data driven EVMS compliance strategy.

7	Charge Number open and close documentation/v also include a list of all open charge numbers.
8	DOE Contract and project level modifications affe Identify increases to scope and application of fee
9	CAM agreement with other organizations – if not requirements.
10	Contractor Monthly Reports for last 12 months ar two years
11	Corrective Action Logs for 3 months
12	Cost tool percent complete documentation for 2
13	CPRs at Control Account Level for 3 months in Ex applicable
14	Contract (or project-level as appropriate) Work B and current
15	Contractor forecast of funding requirements and last 6 months
16	Estimate at Complete Documentation *** a) Kickoff package from last comprehensive EAC b) Last comprehensive date of completion c) Comprehensive EAC justification and basis of d) Comprehensive EAC approval e) Monthly EAC process and metrics
17	EVM System Description (Latest Version) that der including the mapping of the processes to the 32 provide all supporting policies, work instructions, Description including schedules, cost, material, ar
18	Explanation/procedures for material performance price variance. Include monthly progressing meth
19	High Dollar Value material identified, if any
20	OBS – if not in RAM
21	Organization Chart (include location of subcontra
22	Reports - MMAS reports with material price/usage information (Material System) - Labor name reports in hours for 2 months



23	Project Statement of Work, or Project Execution Plan (PEPs), and Project Data each project being reviewed (unless already in PARS II) and contract if applica	30*	Subcontractor EAC Procedures and Supporting Documentation, if applicable*
24	Quantifiable basis of measurement to support percent completion earned val technique claimed for past 3 months, where applicable.	31*	If there is subcontractor effort, provide subcontractor schedules and documentation for determination of subcontractor progress
25*	Responsibility Assignment Matrix (RAM)) in Excel or .csv (For each control account, please provide the \$ value, % complete, and the % c is LOE)* (for 3 months)	32*	Subcontractor fee work packages in Prime EVM cost tool for 2 years as applicable
26	Risk Register – 3 months and procedures at what level risks require mitigation	32a	Subcontractor monthly reports for last 3 months
27	Subcontractor Listing and where tracked within the WBS, as applicable.	33*	Subcontractor Scope of Work and WBS , if applicable*
28	Subcontractor contract modifications last 12 months	34	Technical Percent Complete if not a field within the schedule file
29*	Subcontractor Control Account Plans, if not applicable state not there is no su effort	35	Time phased ETC spread at Control Account level, provide supporting CAPs last 3 months, may be meet electronically with #3
		36	Variance Analysis Reports at the Control Account level for 3 months
		37	Variance Analysis Correction Action Log previous 3 months
		38*	WBS Dictionary
		39	Work Authorization Documentation for previous 3 months
		40	Work Package Exit Criteria for the current schedule (if not in schedule)



- Eliminate need for traditional review approach
- Promote automated testing
- Replicate EVMS compliance protocols at other DOE sites
 - CNS Buy-in and Ownership (Self Governance)
 - Applied to the LANS CAP closeout and ongoing surveillance
 - Applied to the SWPF Surveillance
 - Applied to the WTP Surveillance
- Remote Monitoring (Reduced Team Size)
- Rapid Response Teams limit cost and intrusiveness of EVMS oversight to identified issues and concerns
- Positions DOE for EVMS Reciprocity (OMB)

EVMS PILOT PROJECT STATUS UPDATE



David Kester
Project Management Policy and Systems (PM-30)
Office of Project Management Oversight & Assessments (PM)

February 1, 2017



- Y-12 National Security Complex
- Maintenance and Operations (M&O) Contract
 - Broad Scope of Work
 - Close Relationship with Government
- Considers the entire life cycle (Design, Construction, Commission) finishing in 2025
- \$6.5B Project defined by multiple subprojects
- Cost Reimbursable type contracts awarded every five years

DOE Operations



LEGEND:

- Operations Offices
- ▼ Production/Cleanup
- Laboratories
- Field Offices
- ▼ Site or Project Offices
- Special Purpose Sites/Offices
- ▲ Power Administrations
- ◆ NNSA Service Center
- Washington D.C. Headquarters

Update September, 2006
 NOTE: Location within each state is not to scale



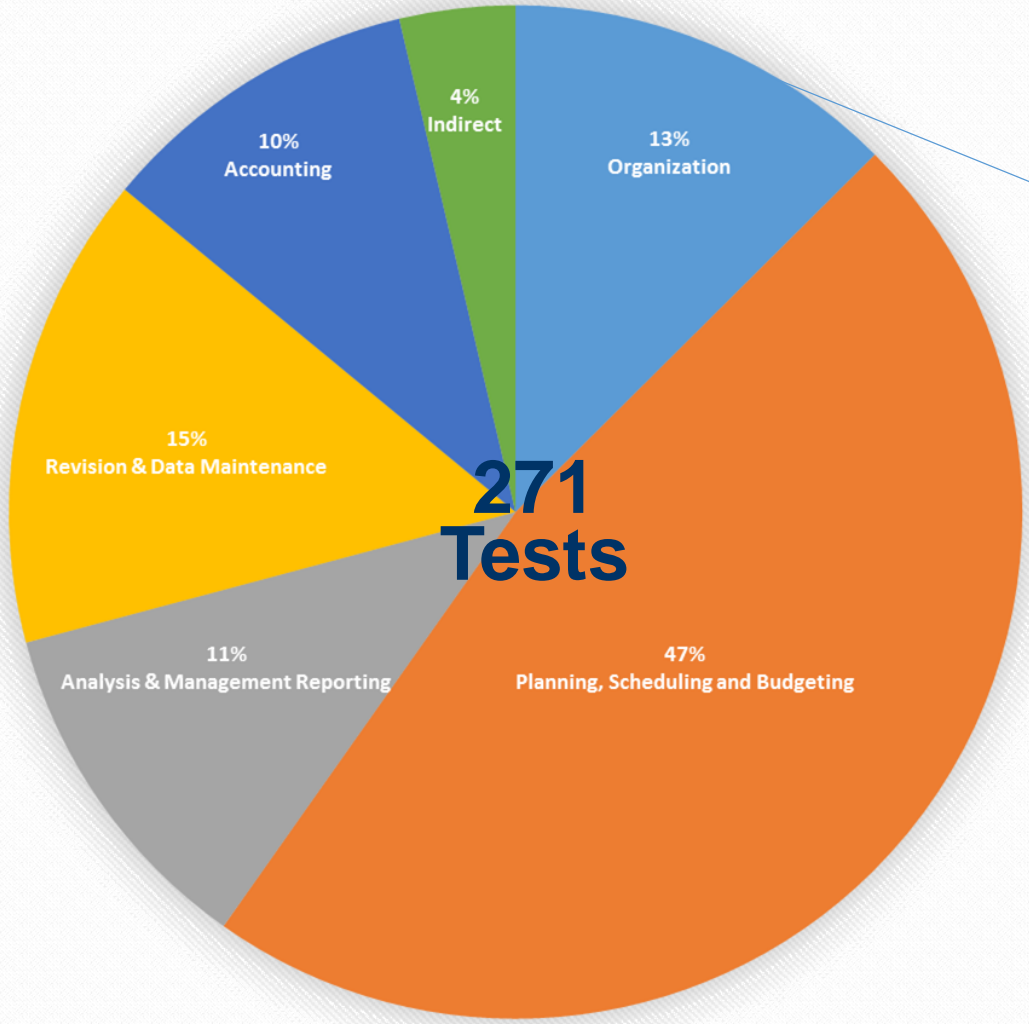
1. EVMSIH will be reassessed, tested, appropriately automated (to the greatest extent practicable)
2. Automated, data driven approach to be ready for use by other DOE Projects having DOE O 413 EVMS requirements
3. DOE PM will be able to certify the CNS EVMS using a streamlined approach to demonstrate EIA-748 compliance
4. DOE PM will be able to incrementally release EVMSIH 3.0

Automate | Demonstrate | Replicate

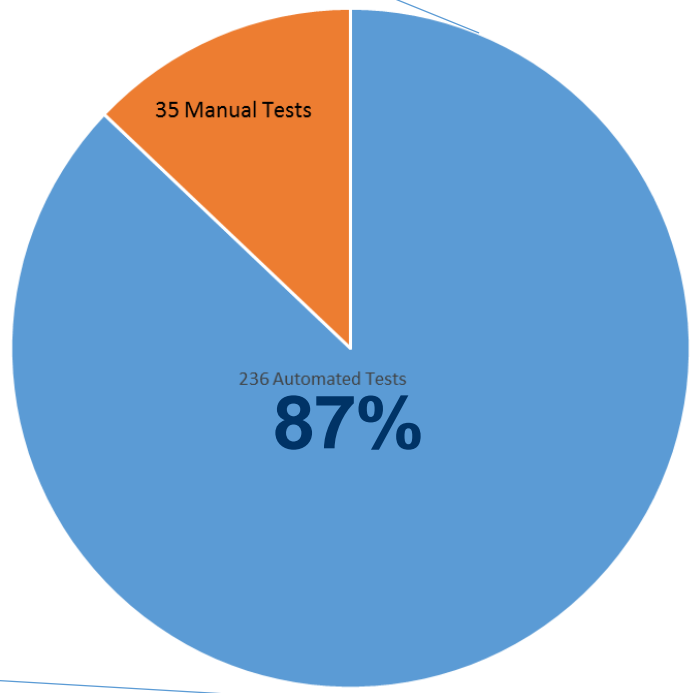
EVMS Pilot Results



Total Test Metrics by Process Area



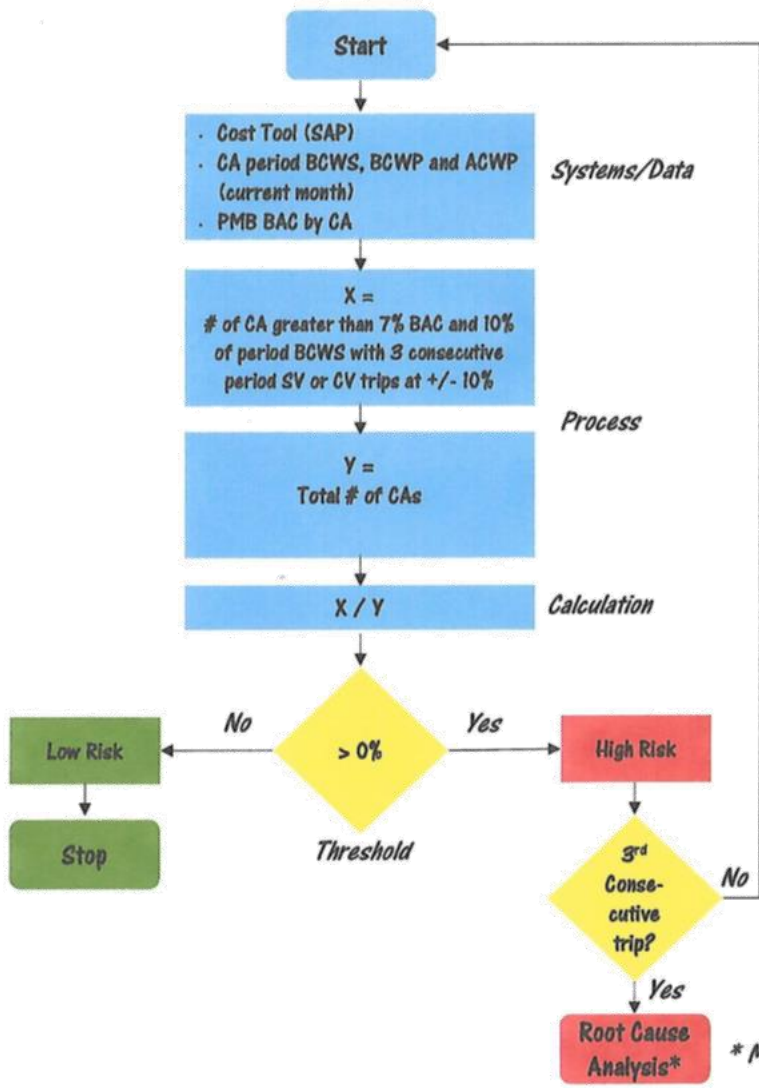
Automated vs Manual Tests





- EVMS assessments can come through both automated and manual testing
- The method chosen comes down to the ability to digitize the analog process
- Do more and find issues quicker using an automated method
- Allows the team to react more quickly, saving time and money
- Innovation requires a mindset shift – trust the data
- Stay the course - pursue the goal regardless of any obstacles or criticism

From Manual Testing to Automation



Organization

5.A.5 Test 1 (b) – CAM Span of Control

5-A-5. ARE CONTROL ACCOUNTS ESTABLISHED AT APPROPRIATE LEVELS BASED ON THE COMPLEXITY OF THE WORK AND THE CONTROL AND ANALYSIS NEEDED TO MANAGE THE WORK EFFECTIVELY? A CAM may be responsible for more than one CA. The key is that the CAM must be able to demonstrate effective control of the CA(s). The larger the staff, the more CAs open at the same time means the CAM, all other factors equal, has more difficulty demonstrating effective control. There are no dollar/span of management thresholds limiting a CAM's responsibility. A CAM's technical background, experience, and time devoted to the CAM responsibilities are the only limits/factors that guide how many and the scope of CA(s) one CAM can be responsible for. Generally, unopened future CAs are not the same concern as open CAs.

COMPLIANCE TESTING PROTOCOL BASIS

1. Identify "Major" control accounts (CA) if the following are met:
CA > 7% of Total BAC (and) CA > 10% of Period BCWS
2. For each major CA, assess span of control by monitoring consecutive CA level VAR trips for period SV or CV at +/- 10%.
3. If a CA trips a VAR for period SV or CV, for (3) consecutive months, a "Red" will be recorded for the project.
4. If CA trip continues, a project level ribbon chart will show "red", and will continue until the CA level is within the metric threshold.

* Materiality = RCA + 1 mo.



EVMS Pilot Timeline

- EVMS Pilot Charter May 2016
- Kick off @ Oak Ridge, TN May 2016
- Build | Deploy | Test Jun – Nov 2016
- Full Testing Protocol Dec 2016
- Process Preliminary Results Nov – Mar 2017
- PM Report & Recommendations Mar 2017
- CNS Corrective Action Plan TBD
- PM EVMS Certification Letter TBD

- EVMSIH 3.0 (Incremental Release)
 - Organization May 2017
 - Planning and Budgeting July 2017
 - Analysis Aug 2017
 - Revisions Sep 2017
 - Accounting | Indirect Oct 2017

Dates Subject to Change

EVMS PILOT PROJECT

STATUS UPDATE



Sandra Tracy
EVMS Compliance Manager
Consolidated Nuclear Security (CNS)

February 1, 2017

CNS EVMS Compliance



Responsibilities and Authority:

- EVMS Compliance is the responsible authority for implementing and maintaining the surveillance program
- Accountable for performing EVMS surveillances and issuing and communicating findings to all levels
- Approves Correction Plans and closure of any findings
- EVMS Compliance reports independently of the project management organization
 - Independence ensures the results are objective and that programmatic and systemic issues are identified
- **Owner of “Rules, Tools, Process, Procedures”**

CNS EVMS Surveillance Process Overview

CNS has **two processes** to satisfy the requirements of an Annual EVMS Surveillance:

Project Specific EVMS Surveillances

- Covers all EIA 32 Guidelines for a specific project
- All applicable projects are reviewed annually

Year-End EVMS Evaluation

- Reviews Project Specific EVMS Surveillance results for repeatable issues
 - Identifies potential weaknesses in procedures, guidance, and training of personnel



Old EVMS Checklist Process

EVMS ASSESSMENT CHECKLIST	
PROCESS AREA: ORGANIZATION	ANSI GUIDELINES: GL's 1, 2, 3, 4, 5 (note: Most of GL 4 is Acctg.)
Project:	Control Account: Management Assessment No.
Name:	<input type="checkbox"/> CAM <input type="checkbox"/> PM <input type="checkbox"/> Other: Date:
PERFORMANCE OBJECTIVE: The Organization Process is principally concerned with: a. defining the scope of work required to be performed b. ensuring work/scope properly defined into manageable Control Accounts (CA) c. assigning the tasks to organizations responsible for performing the work d. ensuring integration of planning, scheduling, budgeting, estimating, work authorization, and cost accumulating systems	Verification Approach: <input type="checkbox"/> Observe Activity <input type="checkbox"/> Interview <input type="checkbox"/> Document Review
OBJECTIVE EVIDENCE REVIEWED:	LINES OF INQUIRY: (Choose 2-4 questions)
DATA - DATA TRACES-	1 Can you show us your WBS & OBS, and then explain how your WBS reflects how you plan to execute your scope?
<input type="checkbox"/> WBS <input type="checkbox"/> CPR	2 What is your original approved Scope of Work? What is your current SOW
<input type="checkbox"/> WBS Dictionary <input type="checkbox"/> SOW	3 Can you show us how the SOW traces to your WBS Dict. CA and WP scope?
<input type="checkbox"/> Org. Chart / OBS <input type="checkbox"/> Work Auth. <input type="checkbox"/> SOW - WBS Dictionary	4 How were the boundaries of your Control Account (CA) decided?
<input type="checkbox"/> RAM / \$ RAM <input type="checkbox"/> WBS-WBS D.-CAP-CPR	5 How did you break your work into Work Packages (WP)?
<input type="checkbox"/> Schedule /CP Schedule <input type="checkbox"/> CA Plans (WPPP - time phased, resource plans)	6 How does your WBS/CA/WP help you measure and manage performance?
	7 Do you control the budget and schedule required to do the work?
	8 Can you demonstrate how your CA scope, cost, and schedule integrate?
	9 How is a major subcontractor integrated into the WBS & WBS Dictionary?
CRITERIA CHECKLIST (By Guideline or Good Business Practice "O") Yes No	10 How is your CA's Product or Process Orientated vs. Functionally, how do you determine who the CAM should be? What is the interface with Functional OBS?
1a Is there only one WBS used for Project?	11 If your CA's are Product or Process Orientated vs. Functionally, how do you determine who the CAM should be? What is the interface with Functional OBS?
1b Is all project scope of work (SOW) included in the WBS?	12 Who controls indirect costs at Y-12?
1c Are the CA levels defined and does the WBS extend to the CA/WP?	13 How is work authorized to your CA? How do you authorize work to the performing organizations?
1d Are the products or services to be provided defined?	
1e Are external reporting levels defined?	
1f Is a WBS Dictionary present?	
2a Are all authorized tasks assigned to performing org. or work teams?	
2b Is subcontract work defined and identified in WBS?	
2c Was the appropriate CAM selected?	
2d Was the RAM documented to demonstrate assignment of respons.?	
3a Are schedules, WA, budget, actual cost collection, integrated?	
3b Are work tasks traceable from WBS to schedule?	
3c Are work tasks traceable - WBS to cost collection?	
3d Do CA's facilitate the integration process?	
3e EVM documents/tools trace? (scope, sched., budgets, actual, EV)	
3f Are resources required to do the work identified?	
4f CAM understands CFO controls indirect costs at Y-12	
5a Is a CA assigned to one WBS?	
5b Are elements to measure performance available at CA or below?	
O1 PM/CAM understands & explains Integrated Project Team Concept	
O2 CAM accepts/understands responsibility for CA not functionally pure?	
O3 WBS/CA structure allows visibility & analysis for project phase?	
O4 Is the RAM Bubble Chart available?	
O5 Do the Project WBS and SAP Charge Code Hierarchy mirror?	
	COMMENTS / NOTES: (Asked questions) Note: 3e Is for successful demonstration of Data Trace documents (see 6b & 11b)

CA Checklist with 150 "LOI's", manually reviewed and assessed

ANSI/EIA 748B Guidelines:	
ORGANIZATION (5):	
1	ANSI/EIA 748 Guideline 1: Define the authorized work elements for the program. A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process a) Is there only one WBS used for Project? b) Is all project scope of work (SOW) included in the WBS? (& WBS Dictionary) c) Are the CA levels defined and does the WBS extend to the CA/WP? d) Are the products or services to be provided defined? e) Are external reporting levels defined? f) Is a WBS Dictionary present?
	R
2	ANSI/EIA 748 Guideline 2: Identify the program organizational structure including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled a) Are all authorized tasks assigned to performing org. or work teams? b) Is subcontract work defined and identified in WBS? c) Appropriate CAM selected? d) Was the RAM documented to demonstrate assignment of responsibilities?
	G
3	ANSI/EIA 748 Guideline 3: Provide for the integration of the company's planning, scheduling, budgeting, work authorization and cost accumulation processes with each other, and as appropriate, the program work breakdown structure and the program organizational structure. a) Are the schedules, WA, budget, actual cost collection, integrated? b) Are work tasks traceable from WBS to schedule? c) Are work tasks traceable - WBS to cost collection? d) Do CA's facilitate the integration process? e) Do the EVM Documents for scope, schedule, budgets and EV methods trace? f) Are the resources required to do the work identified?
	R
	F4
	F1

Manually prepared Summary/Ribbon Chart identifying LOI failures and rolling to GL



NEW DOE DATA DRIVEN PROCESS:

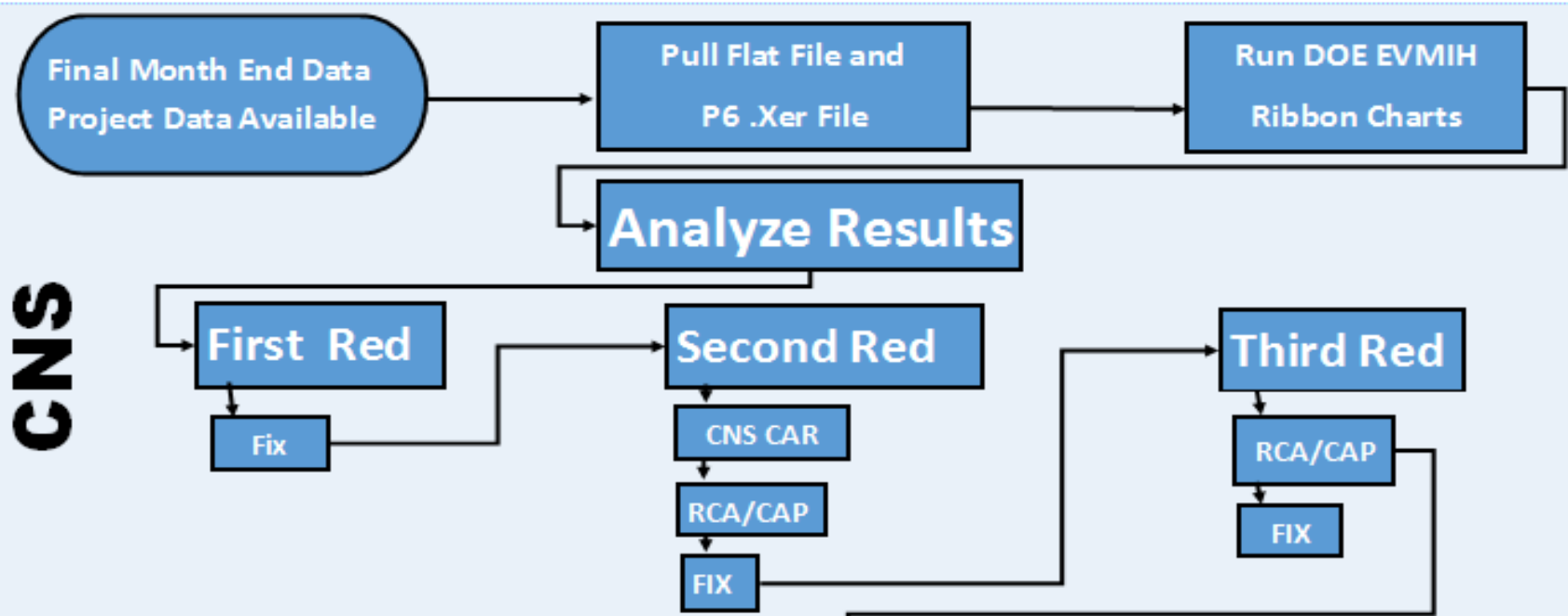
Benefits:

- Provides Consistency in applying EIA 748
- Is a time-saver for a Compliance organization
 - Replaces the manual review approach used in the past
- Performs a “deep dive” into the data which was difficult to do in the past with a manual system
- Drill down capabilities within the tools allow analysis and identification of problem areas
- Allows Contractors to review compliance monthly
- Identifies repeatable/systemic issues for Root Cause Analysis (RCA) and drives changes to:
 - Processes
 - System Description or Procedure clarifications
 - Training


CNS & THE DATA DRIVEN PROCESS:

- Monthly Reviews of data by EVMS Compliance & project
- Analysis of results looking for causal reasons
- Identify corrective actions that must be implemented
- Evaluate systemic issues for root cause
- Issue CNS CAR whenever two months in a row fail
- Provide PM-30 a Corrective Action Plan if three months in a row fail
- Quarterly reports will be provided to Sr. Management identifying the test results, root cause, and status
- Expectation is that findings are corrected and the system will be continually compliant

MONTHLY RIBBON CHART PROCESS



PM-30



PM—30 Process
Monthly Analysis

- 1st Red—PM-30 Interest
- 2nd Red—PM-30 Dialog
- 3rd Red—Receive RCA/CAP
PM-30 Dialog
- 4th Red— Formal Action

EVMS PILOT PROJECT CNS DEMO

EVMSIH COMPLIANCE TESTING AUTOMATION



Kevin McGuire
Consolidated Nuclear Security (CNS)

February 1, 2017