

EFCOG Best Practice #128

Best Practice Title: Identifying and Capturing Configuration Management Information

Facility: Multiple

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Brief Description of Best Practice: Each DOE site, and many facilities and projects within each site, apply different processes for identifying items that require configuration Management. The Engineering Practices Configuration Management Subgroup identified eight items that it considered "best practices" to identify Configuration Items (CIs) during a workshop involving 13 attendees from across the DOE Complex:

1. **Review Authorization Basis (AB):** When determining what you must maintain active configuration management (CM) on, review your authorization basis (including Environmental Permits as well as Safety Basis).
2. **Revise CI Criteria and Periodically Review:** Set specific points along a project (or operational) timeline to revisit your criteria for defining, selecting and managing CI.
3. **Capture working files (drawers and cardboard boxes):** At some sites, key information such as vendor manuals, are not being captured as the official record set. They are often found in boxes and cabinets in subcontractor offices. The team identified best practices were to capture these files electronically (if possible) or at least hard copy in the central record system.
4. **Identify mission critical equipment that would preclude operation if it fails.** As part of the strategy to determine what needs to have CI data captured, review equipment in use that could have a significant or major impact on operations if it failed. If it does, it should have captured CI date. If failure of the equipment does not impact operations, it may not need to have any CI captured.
5. **Capture Vendor Manuals:** Successful sites have found a way to capture vendor manuals and index them for ease of retrieval, using intelligent indexing systems. They also require all newly generated vendor manuals to come in PDF (or similar electronic media) to facilitate storage and availability.
6. **Conduct lesson learned on last job:** Good sites always take the time to conduct a lessons learned (formal or informal) when the finish the last project to understand what went well and what did not. These lessons learned need to also look at the CI planned for, gathered and ultimately used. Was there CI that were captured but ended up being of low value? Was there CI that the team thought could have used but was not captured? This should be one of the inputs into the next CI plan.
7. **Establish CI Point of Contact (POC):** Savannah River Plant (SRNS) has been very successful establishing a single POC for CI by major facility. This POC has authority to change drawing or document designation (example: essential, support) with an email (or one page form). This POC understands and implements the company standard on CM and represents his/her facility on that subject, allowing the system engineers and design authorities to focus on other priorities. This POC also is key when implementing other changes involving CI.
8. **Create a Transition Plan to identify CI:** At the beginning of a project, formally identify and document the CI needs. Identify how that CI is to be captured (e.g., drawings, digital photographs, etc.) Identify those spots in the schedule where CI collection should be revisited (may be when certain equipment or source term is removed). This should be a formal (issued) plan that is maintained for the project.

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Why the best practice was used: More than one million drawings and documents are in some form of maintenance at seven different sites. The engineering staffs at these sites are tasked with finding ways to reduce cost and schedule while still making critical information readily available for technical and operational staff. Determining early in the process what data is needed to be controlled is very important.

The sooner clearly defined CI elements are defined, the more effective the facility can be in capturing only what is necessary.

What are the benefits of the best practice: Implementation can significantly reduce CM costs. Either capturing too much data or not enough of the right data can significantly impact a project or facility ability to respond to changing conditions.

The above 8 elements were identified by CM experts across twelve DOE sites, which represented different projects, DOE sponsors and operational histories. They represent collective best practices that cross multiple sites.

What problems/issues were associated with the best practice: Many sites learned (or relearned) these best practices the hard way – by having to regenerate needed data or by spending more than was needed to maintain complete and adequate information. The longer the site has been in operation (or the more contractor changes it has had) has exasperated the data collection – often making it difficult for the new staff to find critical information.

How the success of the Best Practice was measured: A Value Engineering team utilizing the collective engineering experience and lessons learned from 12 DOE sites developed configuration management best practices for *Facilities Transitioning to Closure* in 2005. The Best Practice consists of four “best-in-class” standard drawing/CM media definitions, two initiatives, and 28 best practice recommendations. The full report can be found on the EFCOG Configuration Management Working Group Site: http://efcog.org/wg/ep_cm/docs/archive/CM%20VE%20Report-1.pdf.

Since that workshop several of the larger sites tracked their project progress in terms of re-categorizing drawings to the new definitions. This included reviewing the practice in 2012 to determine its continued efficacy.

Description of process experience using the Best Practice: Representatives from approximately half of the sites represented took back the lessons learned and best practices and applied at least some of those at their sites. All provided feedback that implementing even some of the above 8 elements improved their CM practices. This Best Practice implements several elements of Integrated Safety Management: “performing work within controls” and “providing feedback and improvements”.