

EFCOG Best Practice #127

Best Practice Title: Assessing Configuration Control of Drawing Files

Facility: Waste Isolation Pilot Plant (WIPP)

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Brief Description of Best Practice: The Configuration Management (CM) section establishes and maintains consistency among site design requirements, physical configuration and facility documentation as changes occur at WIPP. The CM section provides engineering services that include, but are not limited to, ensuring the availability of engineering information related to facility Structures, Systems, and Components (SSCs). Information such as drawings, the engineering assignment list, Engineering Change Orders (ECOs), Engineering Change Proposals (ECPs), and the Component Indices (CI) list are made available to all WIPP personnel.

The CM section establishes this consistency by developing and maintaining engineering processes and procedures at WIPP. This includes the development and implementation of associated design documentation such as drawings. To ensure that the drawings are available for use and show the current configuration, a self-assessment is performed annually on the drawings.

When the initial assessment was conducted, a 100% review of all drawings was undertaken. Each year after that, just the drawings that were modified the previous year were assessed. The drawings modified throughout the year and used for the assessment were tracked through the ECO process.

The assessment occurs each January when CM personnel, including drafters, conduct the review. The assessment is conducted as a two-step process that verifies the hanging drawing, electronic file, and drawing register database. First, the revision status of the hanging drawings are verified against the electronic CAD files on the site computer network. Second, the results are cross-referenced with the current revision listed in the drawing register database.

Why the best practice was used: In theory, as planned facility modifications and upgrades are occurring throughout the site the ECO process is capturing the work and it is being reflected accurately on the drawings. Ensuring the consistency of status information about the drawings creates an atmosphere where the physical design in the field matches the engineering documentation. With more than 6,200 drawing files currently active, the need to maintain a level of configuration control that results in high confidence that drawing configuration is being managed to meet the needs of WIPP is essential. This best practice positions the site to believe that drawing information accurately depicting current configuration is ready and available for the next design control task. It is a requirement detailed in a site procedure that ECO markups are shown on the most current available drawing.

What are the benefits of the best practice: Overall, the results indicate that the Engineering File Room drawing register, the storing of electronic drawing files on the site computer network, and the hanging drawing files in the Engineering File Room are effectively maintained and the processes utilized meet the current needs of WIPP. This is important because the current revision of the drawing is showing the most accurate field conditions and allows the system engineer to make modifications on the best available information.

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What problems/issues were associated with the best practice: None. Management at the WIPP supported this initiative and it has been well received by the staff at WIPP.

How the success of the Best Practice was measured: Overall, the result indicate that the Engineering File Room drawing register, the storing of electronic drawing files on the site computer network, and the hanging drawing files in the Engineering File Room are effectively maintained and the processes utilized meet the current needs of WIPP. Emphasis has been placed on integrating and coordinating activities to ensure that work is done correctly and safely based on procedures, processes, and work instructions. By utilizing Human Performance Indicator concepts, better communication, and increased collaboration throughout the Configuration Management group a culture shift has been formed that has been demonstrated by excellent results in the annual drawing assessment effort.

Description of process experience using the Best Practice: WIPP Site personnel can now access drawings in a matter of minutes as opposed to submitting a drawing request that might or might not be fulfilled the same day. This not only reduced the turn-a-round time for site personnel to retrieve information, it also reduced the work load in the Engineering File Room, allowing them more time to do other tasks. Because information is retrieved from the site network and drawings are not plotted on to paper as often, the cost of paper and ink cartridges has been reduced. This Best Practice implements several elements of Integrated Safety Management: "performing work within controls" and "providing feedback and improvements".