

PSEG's WCM Implementation ... live for 4 years, matured and going strong

Public Service Enterprise Group (PSEG) is a traditional electric utility consisting of a regulated gas and electric distribution business (PSE&G) and a separate de-regulated generation business PSEG Power LLC serving the northeast area of the US. PSEG Power parents both PSEG Nuclear LLC and PSEG Fossil LLC. Together they provide 11,500 megawatts of peak and base load generating capacity. SAP WCM is used at our three nuclear units and 14 of our fossil sites.

At the Enterprise level, PSEG began its ERM journey by selecting SAP in 1997. PSEG Power's phased implementation began with a simple Work Management solution at Fossil in Jan 1998, ending with plant maintenance (PM) and materials management (MM) going live at nuclear 7/4/99. PSEG uses a wide variety of the core SAP functionality including Human Resources (HR) , Financials and Controlling (FI/CO) , Supply Chain Management (SCM) and Product Lifecycle Management (PLM). We started with SAP version 3.1h and completed our upgrade to SAP version 4.6c in July of 2001.

PSEG Nuclear LLC manages and operates a three-unit site in southern New Jersey. Even though the units are co-located, the Salem (twin PWR) and Hope Creek (single BWR) have separate operating staffs and differing operating procedures. At the time of the initial go live common work management and safety tagging processes were being implemented. Before SAP WCM we had separate master databases for tagging at each unit as well as separate engineering component databases. Configuration control was complicated at best especially when making plant modifications.

A key part of our site Work Management process is the strong integration between the field implementing work orders and the safety tagging system. This integration begins during the early stages of outage and online maintenance planning and scheduling and is ongoing up to work closeout. Delivered integration was the primary business driver in choosing the WCM application. At the time of the Nuclear go-live (7/99) the final testing and configuration of the WCM product was finishing up. For the first 3 months, we developed a simple throw-away interface between the legacy tagging system (TRIS) and the R3 Plant Maintenance (PM) module. The planned introduction of WCM was scheduled for just after our fall refueling outage. Being a nuclear generating facility, process adherence is a core value especially within the safety tagging process. Even so we were still concerned about our users transitioning to a new system and leaving the system that they were extremely familiar with, this drove us to a decision of waiting until the fall refueling outage was complete. During the outage, the TRIS legacy tagging system completely died and was not restored until the end of the outage approximately 25 days later, as a result of the legacy system failing we performed our fall refueling outage using a manual tagging process! Ouch! Needless to say this provided a boost to getting WCM up and running ASAP.

So how has it been so far? Simply having only one application and one set of master data to maintain has reduced our labor costs required to support the independent system and maintain two different sets of data. One headache gone! There are many advantages to using SAP for work clearance, but I'll just highlight a few of the benefits:

- I mentioned before the integration between WCM and Plant Maintenance (PM). The tool integrated with our work process has the WCD being reviewed 12 weeks before online maintenance and months before refueling outages to maximize common tag outs and limit the amount of tags to be hung. During work planning associations are made between WCDs, and the work scope contained in the Order Headers, and Order operations to clearly define which work requires clearance control to ensure maximum worker safety. At any point in the process the worker can query the system and find out the associated WCD and it's status. In the past with the two independent systems the similar outcome was a significant effort. Finally, standard tag outs can be memorized both with WCM and regular maintenance orders. Now we only have to plan once, instead of performing repetitive reviews every time a repetitive order is launched into the system
- Master data configuration within WCM allows for conflict checking, this conflict checking is an integral part of our defense in depth strategy to ensure the plant is configured and operated safely, and not placed in a configuration outside of its design & license basis.
- For the maintenance worker the interaction with the tool is simple and efficient. Management, union, and contractor personnel all use the WCM application to protect themselves and their workers. Process linkage to qualifications within the Human Resources (HR) module prevents untrained / unqualified personnel from signing onto WCM. This internal check was normally a burden placed upon the individual user, now it is handled automatically. Again, another defense in depth barrier.
- In the past returning plant systems to the operations department after maintenance work was a chore. To ensure that the work was done, tested satisfactorily, and ready for release was a complicated process using independent lists and checks. The integrated approach that WCM and Plant Maintenance (PM) provide makes this work effort efficient and timely. You no longer need a liars report or a policeman to get the work window closed and the system returned to production. Statements like "Hey you closed the order but you did not sign off the tags!" are a thing of the past.

The SAP Work Clearance Management application provides the process, tools, and the platform to safely execute work activities within our generation fleet. Using the WCM tool we are able to drive consistent processes and improve the safe & timely execution of work across our facilities. The integration between the WM and Safety Tagging Processes has streamlined our planning and work execution efforts and presents the user with only one system. If your processes depend on strong integration, this is the application for you. Go for it! If you use WCM you will improve:

- PERSONELL SAFETY
- PROCESS CONSISTENCY
- PLANT SYSTEM AVAILABILITY
- WORK EFFICIENCY