
EFCOG Assist Visits

Achieving Excellence in Facilities Maintenance and Sustainability

**Fred Berl
Los Alamos National Laboratory
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Key Point

- These are assist visits, not audits
- Peer to peer interactions
- Only strengths are posted on the EFCOG website
- Areas for improvement are listed and handed to you.
- Ask any Work Control Manager that has hosted an assist visit – they are valuable.

Brief History

- Assist visits started in 2006 with a visit to Hanford.
- Observed planning, scheduling, and job hazard analysis meetings, review Work Control Job Hazard Analysis (JHA) products, and interview personnel involved with work planning and execution.
- Evaluated the use of the NNSA Work Control CRAD document lines of inquiry.
- Although the assist visit was for Hanford, the EFCOG Assist Visit Team came away with many lessons learned regarding preparation and pre-visit activities.
- EFCOG WP&C now performs 2 assist visits per year, spring and fall.

Team Composition and Funding

- The team is comprised of WP&C peers.
- Typically there are 4 to 5 work planning managers, 5 to 6 senior planners, and several SMEs from Operations, Construction, D&D etc.
- Teams can be tailored to order. For example, LANL wanted R&D review, so several R&D members were added to the team.
- All travel and salary costs are funded by the persons home organization. The thought process is that team members come back with benchmarking and lessons learned to benefit the home organizations.
- Therefore, there is no cost to the hosting site.

Assist Visit Week Preparation and Schedule

- Send out WP&C documents two weeks in advance for review.
- The team flies to the site on Sunday in order to start the evaluation Monday morning.
- Monday – the host briefs the team on site policies, issues and areas of concern.
- Tuesday and Wednesday – The assist team visits jobs, interviews planners, craft, etc and reviews work packages
- Thursday – The assist team finalizes report and de-briefs the host. We are generally done by noon to allow the assist team to travel home.

EFCOG Peer Evaluator

- A peer evaluator is a DOE site manager, supervisor, or senior technical expert temporarily released from the responsibilities of his/her position to be a member of an EFCOG site evaluation team. The assignment usually is for a one-week period.
- The peer evaluator uses his/her technical knowledge, experience, and judgment to critically evaluate site performance and to provide candid, professional, constructive comments to team members and site staff.
- The peer evaluator accomplishes this by actively and fully participating in observations, interviews, site document reviews, and team meetings.
- We are always looking for peer evaluators.

Evaluation

- Facts are collected through three basic methods:
 - Observations
 - Interviews
 - Record Reviews

- It is through the use of these facts that the evaluator can begin to identify areas that need further review

AREAS FOR IMPROVEMENT & STRENGTHS

What We Will Look At

Assessment Criteria, Section 1 - Maintenance has developed an effective work planning and control process.

- LOI#1 - Work planning & control procedure(s) for initiating, analyzing, and developing work planning & control documents, including job hazard analysis, is approved and implemented.)
- LOI#2 - The WP&C process establishes the level of review and approval for different types of work documents. The type of document chosen is based upon the degree of risks, hazards, and complexity of the work activity.
- LOI#3 - Work planning / control qualifications are established for all personnel performing work, including subcontractors. Affected personnel are trained on these requirements.

What We Will Look At

Assessment Criteria, Section 1 - Maintenance has developed an effective work planning and control process.

- LOI#4 - Work planning & control procedure(s) include turnover requirements when line management and/or first line manager responsibilities are transferred.
- LOI#5 - The work planning & control procedures include a process for lessons learned/feedback during the execution of work activities, including incorporation of lessons learned into active and in development work documents.
- LOI#6 - Work control procedure(s) include a process for post work activity review, including incorporation of lessons learned into active and in-development work control documents and/or work control procedure.
- LOI#7 - The qualification requirements for managers who control work and personnel who plan work are established.

What We Will Look At (JHA Section)

Assessment Criteria, Section 2 - Proposed work activities are adequately defined and analyzed to identify hazards and their associated controls.

- LOI#1 - Initial discussion/walk down of the proposed work activity is performed by appropriate personnel (e.g., line management, engineer, planner, etc.) to ensure that the work is properly scoped and that boundaries are understood.
- LOI#2 - A team comprised of the appropriate personnel (e.g., work planner, work manager, workers, safety and health Subject Matter Experts (SME), etc.) is selected by line management to participate in the development of the work planning & control documents.
- LOI#3 - A team performs effective walk downs and hazard analyses in order to develop work step techniques and identify possible hazards and their associated controls.
- LOI#4 - A team considers potential upset conditions, accidents, and “what if” scenarios and their consequences during the walk downs and Assisted Hazard Analysis.

What We Will Look At (JHA Section)

- LOI#5 - A team selects controls based upon the following hierarchy: (1) hazard elimination/reduction, (2) engineered controls, (3) administrative controls, and (4) personal protective equipment.
- LOI#6 - A team ensures that the level of control established for a hazard is maintained throughout the activity or until the hazard has been eliminated or reduced (controls can be graded to level of hazard reduction).
- LOI#7 - A team evaluates the possibility of creating additional hazards due to selected controls (i.e., excessive PPE causing heat exhaustion) and also evaluates the possibility of negative synergistic effects of selected controls.

What We Will Look At (Work Documents)

Assessment Criteria, Section 3 - The Maintenance work planning process generates work control documents that lead to safe and efficient completion of work activities.

- LOI#1 - The work scope and associated boundaries are clearly defined.
- LOI#2 - Work planning & control documents are written in a clear, concise, and worker friendly manner.
- LOI#3 - The work steps for activities are properly sequenced.

What We Will Look At (Work Documents)

Assessment Criteria, Section 3 - The Maintenance work planning process generates work control documents that lead to safe and efficient completion of work activities.

- LOI#4 - Work planning & control documents adequately incorporate technical and administrative requirements
- LOI#5 - Work hazard controls identified in the hazard analysis process have been incorporated into the work planning & control document as appropriate.
- LOI#6 - The controls for activity specific hazards are addressed prior to the hazard being encountered and are highlighted to emphasize their importance.

What We Will Look At (Execution)

Assessment Criteria, Section 4 - Maintenance personnel perform work in accordance with approved work control documents.

- LOI#1 - First line managers and workers are knowledgeable of their work control documents and meet all applicable training and medical requirements.
- LOI#2 – Operations / work control authority reviews and authorizes all work planning & control documents prior to commencement of work. They are required to evaluate all work at a facility and/or site to ensure work activities of one scope do not adversely affect the safe work of another.
- LOI#3 - Effective pre-job briefings are performed.
- LOI#4 - First line managers and workers follow work documents as written, or if unexpected conditions arise, workers and managers take action to stop the work and follow their change control process.

What We Will Look At (Execution)

Assessment Criteria, Section 4 - Maintenance personnel perform work in accordance with approved work control documents.

- LOI#5 - First line managers and workers understand their stop work/timeout authority.
- LOI#6 - Work planning & control documents contain adequate documentation (i.e., work status log) regarding work status including the nature of and response to unexpected conditions.
- LOI#7 - Lessons learned/feedback is incorporated into active and in-development work documents in a timely manner.

What We Will Look At (Self-Assessments)

Assessment Criteria, Section 5 - Maintenance has an established process that requires line management to perform timely assessments/surveillances of the work planning and control process.

LOI#1 - Independent and self assessments of the work planning and control processes are scheduled and performed.

LOI#2 - The assessments are of sufficient scope, detail, and quantity that the status of their work planning and control process can be ascertained.

LOI#3 - Line managers periodically perform surveillances, which include the observations of job walk downs and hazard analysis walk downs/meetings, pre-evolution briefings, and work performed to work control documents.

LOI#4 - Line managers periodically review in-development and approved work control documents.

LOI#5 - The results of oversight activities performed on their work planning and control processes are tracked and trended and appropriate actions are taken.

Sample Best Practices from Host Sites

Nevada Test Site

- Excellent Planner Training
- RWMC WP&C process as model for site
- Work Package process procedure
 - 4.3 [1.5]D - work location reviewed for potential legacy deficiencies that may require non safety SME participation
 - “Types of work” selection matrix
- Annual briefing to crafts for skill of worker hazard controls
- Recognition of Skill of Worker vs. Craft
- Establishment of Materials Warehousing Process

Sample Best Practices from Host Sites

Savannah River Site

- Mature and living T-Week process, where preparation meetings are held well in advance of the actual work week.
- CMMS Reporting tools to track work control metrics are best in class.
- Use of a data base to interface engineering, operations, material and maintenance data. This adds a lot of efficiency to the planning process.
- Best in class Procurement Engineering process
- Parts are delivered to the job site.
- Well defined and executed process to work tool pouch maintenance.

Sample Best Practices from Host Sites

Y-12

- Hazard Identification walk down form had 1) pre-defined controls for germane hazards and 2) color codes for when to off-ramp and use the JHA tool.
- Work order templates with drop downs for items (such as lock/out tag out, confined space etc) so all work packages were consistent with the same level of detail.
- Active reliability centered maintenance process that has enhanced system reliability and the PM process.
- Specialty shop, like the Pump Shop, were impressive in their craft skills and capability to rebuild components.

Sample Best Practices from Host Sites

Lawrence Livermore

- Best in Class Skill of the Craft Program (presented Tuesday Aug 30 presentation by Donna Governor).
- Speed and responsiveness of the Call Center
- Scheduling and coordination at the National Ignition Facility
- Institutionalization of one lab-wide process (bringing programmatic into the process)
- Institutionalization of WP&C requirements into the site ES&H Manual
- Work Control Review board as part of initiating activity level controls for research and development
- ES&H and SME involvement in the work control process






















Sample Best Practices from Host Sites

Los Alamos

- Maintenance Troubleshooting Guides for components (compressors and dryers, pumps, valves, chillers etc).
- Job turnover process
- Lesson Learned – Maintenance has our own lesson learned data base sorted by components or maintenance activity
- Maintenance specific JHA Manual
- P6 Scheduling system (approx 4,000 tasks per month using 871 craft)
- Maintenance Qualification Standards
- Work Control MOVs

Sample Best Practices from Host Sites

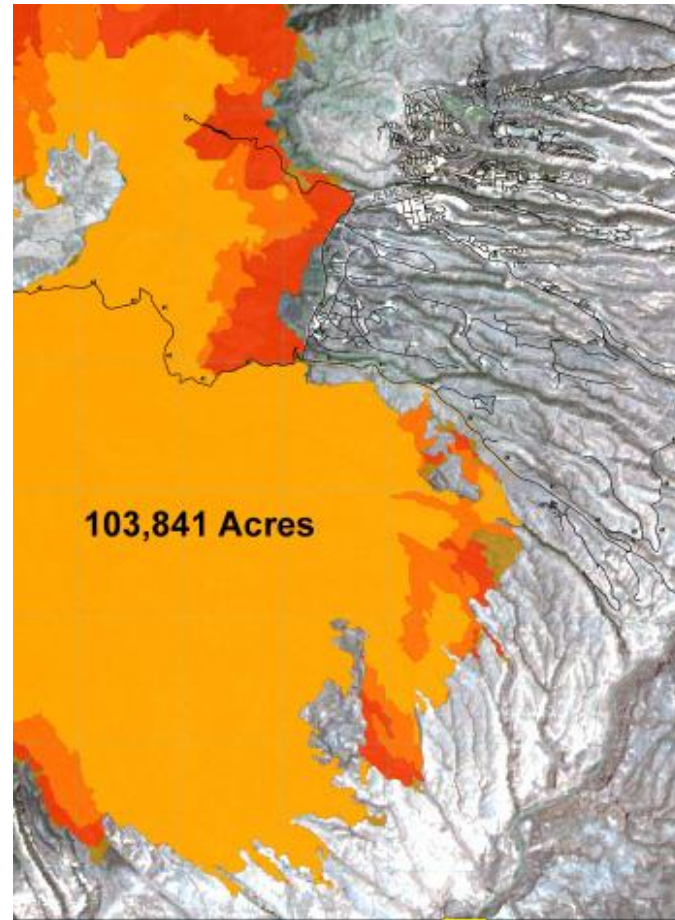
Components

Type	Name
	Batteries
	Bearings
	Boilers
	Bolts, Nuts, and Studs
	Circuit Breakers
	Circuit Cards, Control Systems
	Compressors
	Cranes
	Diesel Generators
	Doors
	Drum Tumblers
	Elevators
	Filters
	Fuses
	Glove Boxes
	Heavy Equipment
	HVAC
	Inverters
	Motor Control Centers
	Motors
	Power Supplies
	Pumps

Sample Best Practices from Host Sites

Symptom (Performance Indicator)	Probable Causes	Recommended Actions
Stuffing box overheats (packing).	Packing is too tight. Insufficient leak-off flow.	Loosen the packing follower nuts and retighten them finger-tight or until the proper leakage is obtained. Repack the stuffing box with new packing.
	Loss of cooling water supply.	Verify the location of the lantern ring. Verify that the supply lines are clear. Reestablish the cooling water flow.

End of Presentation – Fire Pictures if Time Permits



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Lessons learned (and to be learned)

We learned a great deal from the Cerro Grande fire, as a community and as a Lab.

After 2000 Cerro Grande fire, LANL received a great deal of funding from the federal government for recovery and improvement efforts:

- We built a state-of-the-art EOC, allowing us to remain onsite and manage operations around the clock during Las Conchas.
- We received \$24 million for firefighting equipment. It was money well spent and created a ripple effect when some of the equipment was donated to surrounding communities—communities that helped us fight Las Conchas.
- We removed incredible amounts of fuel and learned what a healthy forest should look like. We built additional fire roads and 186 miles of fuel breaks.
- Our flood mitigation efforts after Cerro Grande are still in place today and will help us greatly as we recover from Las Conchas.