

## Attachment 2

### Initial Information Request - December 26, 2007 Callaway Problem Identification and Resolution Biennial Inspection (IP 71152B; Inspection Report 05000483/2008006)

The inspection will cover the period of August 1, 2006, to February/March 2008. All requested information should be limited to this period unless otherwise specified. As discussed, you can upload the information to the Certrec inspection website. We would also like the information provided on a CD prior to our preparation week. We will break down the request by required dates to allow for effective preparation. Information provided in electronic media may also be in the form of e-mail attachment(s), CDs, or thumb drives. The Agency has converted to MSOffice. We have document viewing capability for Adobe Acrobat (.pdf) files and other image files.

Please have the information uploaded to the Certrec Website by January 25, 2008, if possible.

Note: On **summary lists** please include a description of problem, status, initiating date, and owner organization. Since you had a major conversion of your significance categories in January 2007, the team would like to have the requests divided, as necessary so that the information requested is compatible as far as significance. If you had existing CARS that were converted from the old system to the new system a list of those converted would be convenient.

1. Summary list of all Callaway Action Requests (CARS) of significant conditions adverse to quality (Significant level 1 and 2) opened or closed from 08/01/2006 thru the conversion implementation and (Significance Level 1, 2, and 3) after the conversion to the present.
2. Summary list of all CARS which were generated since 08/01/2006 separated by those prior to the conversion and following the conversion
3. A list of all corrective action documents that aggregate or "roll-up" one or more smaller issues for the period
4. Summary list of all action requests which were down-graded or up-graded in significance since 08/01/2006
5. List of all root cause analyses completed since 08/01/2006. Include in this listing those root causes considered as upper tier cause evaluations.
6. List of root cause analyses planned, but not complete at end of the period, include in this list the upper tier cause evaluations.
7. List of all apparent cause analyses completed since 08/01/2006.
8. List of plant safety issues raised or addressed by the employee concerns program since 08/01/2006
9. List of action items generated or addressed by the plant safety review committees since

08/01/2006

10. All quality assurance audits and surveillances of corrective action activities completed since 08/01/2006
11. A list of all quality assurance audits and surveillances scheduled for completion since 08/01/2006, but which were not completed
12. All corrective action activity reports, functional area self-assessments, and non-NRC third party assessments completed since 08/01/2006
13. Corrective action performance trending/tracking information generated since 08/01/2006 and broken down by functional organization. Quarterly reports are sufficient for this area if they are broken down by organization and issue.
14. Current revisions of corrective action program procedures for: Condition Reporting, Corrective Action Program, Root Cause Evaluation/Determination, Operator Work Arouns, Work Requests, Requests for Engineering Resolution (RFR), Temporary Modifications, Procedure Change Requests, Deficiency Reporting and Resolution, Operating Experience Evaluation
15. A listing of all external events (OE) evaluated for applicability at **Callaway** since 08/01/2006
16. Action requests or other actions generated since 08/01/2006 for each of the items below:  
  
Part 21 Reports:  
[Applicable] NRC Information Notices:  
All LERs issued by AmerenUE  
NCVs and Violations issued to AmerenUE (including licensee-identified violations)
17. Safeguards event logs
18. Current system health reports or similar information
19. Current predictive performance summary reports or similar information
20. Corrective action effectiveness review reports generated since 08/01/2006
21. List of risk significant components and systems
22. List of actions done and/or in the Human Performance Improvement Plan since the last PIR inspection
23. Outage maintenance that was not done for whatever reason.
24. Any rework of maintenance performed from last outage

### **Attachment 3 – Concerns Evaluated**

The NRC received a large number of allegations in Calendar Year 2007 at the Callaway Plant. Consequently, Region IV management requested the biennial problem identification and resolution inspection team to conduct a larger than normal number of safety conscious work environment interviews. The team grouped these concerns into three major areas (Examples 1 – 3) that reflected the types of statements made regarding the Callaway Plant. The team also reviewed two technical concerns (Examples 4 and 5).

#### **Example 1 - General Culture Concerns:**

- Callaway Plant has a culture that discourages disagreement with upper management and inhibits effective problem identification and resolution. (Operations)
- Management would prefer not to know about problems and is reluctant to fully investigate them. (Operations)
- Workers do not enter issues into the corrective action program because they will be tasked with resolving the issues. (Radiation Protection)
- Callaway does not have a healthy safety conscious work environment. (Radiation Protection, Operations)

#### **Example 2 - Employee Concerns Program Issues:**

- The Employee Concerns Program does not maintain confidentiality. (Training)
- The Employee Concerns Program dismisses concerns without research. (Training)
- Two workers would not raise issues to the Employee Concerns Program for fear of retaliation. (Operations, Engineering)
- The Employee Concerns Program was halted in the performance of an investigation. (Maintenance)

#### **Example 3 - Chilling Effects:**

- A work environment where employees feel free to raise concerns does not exist within the training and security departments, as well as the entire site in general. (Training, Security)
- A corrective action document was deleted from the corrective action program after the plant manager chastised the originator for writing it. (Training)
- Workers do not feel comfortable raising issues to the NRC because several individuals who have done so were terminated. (Radiation Protection)

Example 4 - The condition that caused damage to the residual heat removal pump suction relief valves has not been addressed in a timely manner. (Operations)

Example 5 - Callaway Plant was not recognizing and committing to doing the right thing with regard to nuclear safety by not requesting a Technical Specification amendment that restricted solid plant operations upon a loss of two cold overpressure mitigation system relief. (Operations)

### **Evaluation – Examples 1, 2 and 3**

The NRC provided in Manual Chapter 0305, "Operating Reactor Assessment Program," a definition of a safety conscious work environment. Specifically, it is "an environment in which employees feel free to raise safety concerns, both to their management and to the NRC, without fear of retaliation and where such concerns are promptly reviewed, given their proper priority based on their potential safety significance, and appropriately resolved with timely feedback to employees."

Normally, an inspection team conducts 15 – 25 confidential interviews with employees to assess the safety conscious work environment at plants during biennial problem identification and resolution inspections. To develop a comprehensive assessment of the safety conscious work environment at Callaway Plant, the team interviewed 93 personnel in the operations, engineering, maintenance, radiation protection, security, outage planning, radioactive waste management, training, regulatory affairs and quality assurance organizations. The team used the questions prescribed in Inspection Procedure 71152B, "Identification and Resolution of Problems," to determine employee attitudes regarding the safety conscious work environment at Callaway Plant. The team informed the people selected by organizations who had expressed concern with the safety conscious work environment and by the results of the Callaway Plant 2007 Safety Culture Survey.

Generally, the team determined the following from the interviews:

- All personnel indicated that they would raise nuclear safety concerns by using one of the four methods - corrective action program, supervisor, employee concerns program, or NRC. However, the team determined that not all individuals would use all of the methods available to them. For example, one person indicated that he would not raise personal issues unrelated to nuclear safety because he believed that management would take no actions. Another individual indicated he would only talk to his supervisor.
- Not all employees would use the employee concerns program if they did not get satisfaction from use of the corrective action program or from their supervisor. Specifically, two individuals stated they did not trust the employee concerns program and would rather talk to the NRC.
- Thirty percent of the personnel interviewed had a misconception of the employee concerns program (e.g., did not know the program coordinator had changed, did not know the purpose of the employee concerns program, did not know the location of the coordinator's office, et cetera)

In addition, the team asked additional questions that reflected the statements of concerned individuals. For 52 of the 93 interviews, the team member asked the following specific questions to address the statements from concerned individuals in the operations, engineering, training, and radioactive waste management organizations:

- Do you believe that you can readily disagree with your management?
- Does your management encourage differing views?
- Does the culture here promote or inhibit using the corrective action program?
- Is management open to hearing problems?
- Is management reluctant to investigate problems fully?
- Does management recognize and commit to doing the right thing with regard to nuclear safety?

The team interviewed workers, supervisors, and managers. The individuals interviewed had a broad mix of experience at Callaway, from relatively new individuals to individuals with over 20 years of experience. The team questioned personnel on all of the operating crews. Without exception, the personnel interviewed responded to the above additional questions that: they felt free to disagree with all levels of management, the current culture at Callaway promotes effective problem identification and resolution, management encourages employees to raise nuclear safety problems and other concerns, and management fully investigates nuclear safety problems and other concerns.

The licensee had performed several assessments of their safety conscious work environment that included:

- 2005 Synergy Safety Culture Survey
- 2007 Synergy Safety Culture Survey
- 2006 operations, engineering and training organization safety conscious work environment surveys
- 2008 Independent Assessment of Safety Conscious Work Environment At Callaway

Generally, these assessments and surveys identified that the licensee maintained a safety conscious work environment; however, each of the surveys identified that general culture and work environment factors needed attention. The external surveys identified on site organizations that had poor responses relative to industry norms and to other onsite organizations that responded to the survey. Finally, each of the external surveys identified that the licensee should address the general culture and work environment factors so that a safety conscious work environment issue does not emerge. In response to the 2008 Independent Assessment, the licensee had initiated a Significance Level 2 Callaway Action Request to determine the root cause(s) and develop appropriate corrective actions. Since the licensee had not finalized their cause evaluation and developed corrective actions at the time of this inspection, the next biennial problem identification

and resolution inspection will evaluate the effectiveness of the corrective actions.

Because of the consistent responses among these assessments and our interviews, the team concluded that Callaway had maintained a safety conscious work environment although some areas and organizations required additional oversight.

#### **Evaluation – Example 4**

Previously, NRC had reviewed the timeline for development and implementation of this modification. NRC had concluded that the licensee did not properly develop the modification; therefore, the licensee could not implement the modification during Refueling Outage 15. From review of actions following the failure to implement the modification, NRC challenged the licensee regarding the ability of the relief valve discharge line to perform its function. From discussions with the licensee, NRC concluded that leaving the line unmodified would not significantly increase the risk to the plant, that the licensee planned to implement the modification in a manner commensurate with its safety significance and that the licensee had violated no regulations.

During this inspection, the team reviewed documentation related to implementing the modification and related to the modification and corrective actions. The team interviewed personnel familiar with implementation of the modification for the relief valves in the residual heat removal system. The team verified that the licensee had completed and scheduled the modification identified as a corrective action in Callaway Action Request 200601188. Modification Package 07-0007, "Modify the RHR Suction Relief Discharge Piping."

#### **Evaluation – Example 5**

The team evaluated this technical concern related to depressurizing the reactor coolant system while in solid plant conditions. The team performed the evaluation by interviewing plant personnel and reviewing applicable documents that included: Technical Specifications and Technical Specification Bases, Standard Technical Specifications, Technical Specification Task Force documents, a license amendment request, and internal e-mails on this topic.

Technical Specification 3.4.12.G states that with two required relief valve inoperable, action shall be taken to depressurize the reactor coolant system and establish a reactor coolant system vent greater than 2.0 square inches within 8 hours. Given this specification, it would appear that depressurizing with saturated conditions (a steam bubble) in the pressurizer would allow better pressure control than depressurizing with a solid pressurizer. Depressurizing with a steam bubble would reduce the risk of overpressurization because of better pressure control.

The industry, through an owner's group initiative, proposed to increase the Technical Specification completion time with an inoperable cold overpressure mitigation system from 8 hours to 12 hours for all three PWR designs. The NRC agreed this was a more realistic time to plan and execute the evolution and endorsed it by revising necessary Standard Technical Specifications to allow a 12-hour completion time with an inoperable cold overpressure mitigation system. The licensee submitted a license amendment request on November 29, 2007, which requests extending the completion time from 8 hours to 12 hours to depressurize the reactor coolant system and establish a vent.

The license amendment did not request a limitation that the Technical Specification be carried out exclusive of solid plant operations. Requesting such a limitation would exceed and be more

restrictive than what NRC had previously reviewed as acceptable for Technical Specification changes. The licensee would have to demonstrate such a change as risk beneficial as described in Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities."

The team determined through interviews and reviewing documented e-mails, discovered that Callaway Plant personnel had discussed this issue with their industry Technical Specifications group and submitted their licensee amendment request without a provision to prohibit solid plant operation. This change to a 12-hour completion time would likely address the concern as evidenced by a senior reactor operator at the Callaway Plant writing that the 12-hours allowed should be enough to comply with the Technical Specification while the pressurizer remains saturated with a steam bubble.

The team concluded that Callaway Plant management made an acceptable decision to not exceed what was considered as an acceptable path to ensure plant safety by not prohibiting solid plant operations with respect to Technical Specification 3.4.12.G. Further, based upon the discussions in Examples 1, 2, and 3 above in general and based upon this instance specifically, the team determined that Callaway Plant recognized and committed to take appropriate actions. Specifically, the licensee researched the issue and submitted a Technical Specification amendment that requested the longest completion time allowed by Standard Technical Specifications.