UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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May 26, 2011

MEMORANDUM TO: Timothy J. Kobetz
Chief, Reactor Inspection Branch
Division of Inspection and Regional Support, NRR

FROM: Dale A. Powers
Acting Chief, Technical Support Branch
Division of Reactor Safety, Region IV

SUBJECT: Completion of Temporary Instruction 2515/184, "Availability and Readiness Inspection of Severe Accident Mitigation Guidelines (SAMGs)," at Region IV Reactor Facilities

Inspections required by Temporary Instruction 2515/184 have been completed for all Region IV reactor facilities.

The results of the inspections are documented in the attachments. The completion of this Temporary Instruction will also be documented in the second quarter NRC Integrated Inspection Report for each facility (reports 2011003). Please contact Eric Ruesch at 817-860-8126 if you have any questions.

Enclosures:
1. Table of Results, Arkansas Nuclear One
2. Table of Results, Callaway Plant
3. Table of Results, Columbia Generating Station
4. Table of Results, Comanche Peak Nuclear Power Plant
5. Table of Results, Cooper Nuclear Station
6. Table of Results, Diablo Canyon Power Plant
7. Table of Results, Fort Calhoun Station
8. Table of Results, Grand Gulf Nuclear Station
9. Table of Results, Palo Verde Nuclear Generating Station
10. Table of Results, River Bend Station
11. Table of Results, San Onofre Nuclear Generating Station
12. Table of Results, South Texas Project Electric Generating Plant
13. Table of Results, Waterford Steam Electric Station, Unit 3
14. Table of Results, Wolf Creek Generating Station

Arkansas Nuclear One

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | Unit 1 SAMGs were updated in August 2006. Unit 2 SAMGs were updated in May 2008. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | | X | The SAMGs are not covered under the licensee's procedure control and document management system. Licensee states that a Entergy headquarters condition report is going to be written to address this issue. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | | | Partially. Corporate procedure EN-DC-115, "Engineering Change Process" has guidance to perform an impact review for SAMGs.<br><br>ANO also has an Emergency Planning (EP) Desktop Guide, EP-007, "Severe Accident Management (SAM) Program," that requires EP to perform an annual review of SAMGs for changes and updates due to operations and engineering activities. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | Unit 1 SAMGs follow the Generic Severe Accident Guidelines issued by the B&W owner's group (March 1994).<br><br>Unit 2 SAMGs follow the Generic Severe Accident Guidelines issued by the Combustion Engineering owner's group (April 1995). |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | The licensee conducts training via a combination of instructor-led classroom training and computer-based training. All emergency response organization (ERO) personnel except media communications personnel receive initial training, followed by refresher training not to exceed 3 calendar years. Operators may receive training more frequently due to the 2 year requalification cycle. |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | As described in item e above, the licensee performs refresher training, as required by the emergency preparedness desk guide, EP-007, "Severe Accident Management (SAM) Program." The inspectors verified that the individuals had received training as required. |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | All individuals could articulate their responsibilities with respect to the use of SAMGs. |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | The licensee conducts SAMG drills every 6 years. |

Callaway Plant

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | April 4, 2011 |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | The EOF SAMGs had not been controlled or updated until recently identified in a licensee condition report following issuance of this temporary instruction. |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | | X | Not all SAMG procedures, only the control room response procedure SACRG – 1, 2. |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | | X | The licensee does not perform periodic reviews for any of its procedures. Instead the licensee changed its QA manual to state it is not required to perform 2 year reviews per ANSI N18.7 because it took an exception and modified its commitment to Reg Guide 1.33. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | | X | CAR 201103614 written to address this. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | The licensee has made several updates beyond the initial Westinghouse Owners Group SAMGs. |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Control room operators are trained on the SACRG-1 procedure. TSC staff is trained on the SACRG-2 and, if previously an operator, they have had SACRG-1.<br>Most interviewed indicated they had not been trained on the individual SAG procedures.<br>Periodicity of training is 3 years with the latest training in February of 2011. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | Part of Personnel are trained on SAMGs as part of their initial operator or emergency response organization training and EP position training. |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | Every 3 years. |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | | X | The licensee is planning its first SAMG-related EP exercise in December, 2011. |

Columbia Generating Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | July 13, 2010, to incorporate enhancements. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | | X | Controlled copies are not located in the EOF, but are located in the Control Room Simulator which is in the same building as the EOF. |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | X | | |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | The licensee provides classroom instruction during initial training and qualifications for all licensed operators, all TSC managers and engineers on the ERO roster. The licensee has established a two-year cycle for periodic refresher training. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | Every 2 years. |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | The licensee conducts SAMG drills on a biennial basis. |

Comanche Peak Nuclear Power Plant

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | Updates are controlled by individual SAMG procedure. The most recent update was March 31, 2011; some procedures have not been updated since July 1, 1997. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | | X | Five uncontrolled copies are located in the TSC. |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | | X | No copies of the SAMGs are in the EOF. |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | | X | Two uncontrolled copies are located in the control room. |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | | X | The SAMGs are not covered by the licensee's document control system. Emergency planning Staff Guideline 001 documents the requirement for controlling SAMGs and the biennial review of the SAMGs. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | | X | The licensee relies on the biennial EP review of the SAMGs to identify changes needed to the SAMGs. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | | X | Although the initial SAMGs are somewhat consistent with the Westinghouse Owners Group (WOG), the licensee has not incorporated the revision 1 (dated 2001) of the WOG SAMGs. The licensee entered this condition into the corrective action program. |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Control room staff receives classroom training every 2 years. Designated TSC personnel receive "read-and-sign" training every 2 years. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | | X | The licensee has not performed exercises that implement the SAMGs. The licensee plans to perform a table top drill of the SAMGs every 6 years. The last table top drill was performed in 2006. |

Cooper Nuclear Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | Last updated on October 27, 2004.<br><br>Cooper Nuclear Station is currently in the process of implementing changes into the station specific SAMGs. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | X | | |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | Cooper Nuclear Station maintains CNS PSTG/SATG Appendix D, "Differences Between PSTG/SATG and BWROG EPGs/SAGs." This documents and explains the differences between Revision 2 of the BWR Owners' Group Emergency Procedure and Severe Accident Guidelines. |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Operations – There is initial formal training as part of the qualification program, and there is requalification training for all senior reactor operators.<br><br>All other ERO members – There is formal classroom training for all ERO positions. The amount of training is dependent on the position. The licensee has not established a schedule for periodic refresher training for other ERO positions; this has been entered into the corrective action program for evaluation. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | | X | As described in item e above, all senior reactor operators receive requalification training, but other ERO members do not. |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | The licensee conducts SAMG drills on a triennial basis. Mini-drills and table-top exercises are performed on a more frequent basis. |

Diablo Canyon Power Plant

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | May 14, 2009 |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | The procedure that controls the document management system specifies that the SAMGs will be reviewed every 2 years. The computer-based document management system that provides notification when procedures are to be reviewed does include the SAMGs but states they are exempt from periodic technical review. The procedure sponsor for the SAMGs confirmed that SAMGs are not being reviewed against current plant design and procedures. This has been entered into the CAP system. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | | | Partially. The main process (License Basis Impact Evaluation) that the licensee uses does not include a review of the SAMGs when the licensee makes changes to the plant or procedures. The process that triggers a SAMG review is the Design change process used to make modifications to the plant. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | All licensed operators receive initial training on SAMGs as part of initial qualification and receive periodic training that is build into the licensed operator refresher training program. TSC managers and engineers are trained on the SAMGs when assigned in those positions and receive refresher training every 2 years. The training consists of lectures and |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| | | | | tabletop exercises. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | During the interviews of the licensed operators, they could not recall the periodicity of the training, but they stated that refresher training is periodically provided. Interviewed TSC personnel did know the periodicity of refresher training. |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | When the EOPs direct entering into the SAMGs, the control room establishes prescribed system alignments per SACRG-1 prior to turning implementation control over to the TSC. The TSC engineers evaluate the conditions and make recommendations to the TSC manager. The TSC manager decides and approves all recommendations. After approval, the control room is directed to implement the recommendation. |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | There is no required periodicity, but to exercise off site monitoring the SAMGs are sometimes entered to provide the necessary conditions to evaluate these groups. The last time the SAMGs were entered in a drill was March 2, 2011. Prior to that was in October 2003. A request for additional information on use of SAMGs in drills has been entered into the CAP program. Current EP drill plans include entry into the SAMGs as part of drills in the future.<br>One shift manager, whose position is considered a critical position in the Performance Indicator (PI), had never participated in a drill exercise since becoming a shift manager in 2009. The licensee entered this issue in the corrective action program. |

Fort Calhoun Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | The technical implementation procedures were all updated on June 3, 2008. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | Controlled copies are not located within the control room proper, but a controlled copy is available within the control room envelope. |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | | X | FCSG-16, "Control of Severe Accident Management Guidelines" specifies that updates to the SAMGs shall be made as needed according to (a) NRC requirements published as regulations, issues and resolutions, audit findings and drill observations; (b) feedback from the Emergency Response Organization and the plant operations staff performing drills and training; (c) additional insights from the Probabilistic Safety Assessment; (d) scientific and technical advances in the understanding of severe accidents; (e) plant modifications and procedure changes; and (f) fuel reload analysis. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | | X | There are no specific requirements to update SAMGs to reflect design changes. There are references, however, to ensure that all affected "Abnormal Operating Procedures, Emergency Operating Procedures, etc." have been identified.<br>The inspectors noted that this is in conflict with the requirement of FCSG-16, that updates be made according to "plant modifications and procedure changes" (see item b, above). |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | Fort Calhoun's Severe Accident Management Guidelines are consistent with CE-NPSD-916, "Generic Accident Management Guidelines." |

| Letter | Inspection Item | Yes | No | Response/Comments |
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| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Licensed operators and shift technical advisors receive SAMG classroom training via classroom training during initial license class. Refresher training is conducted via classroom training every three years.<br><br>TSC decision makers (directors and site directors) and TSC evaluators (primary system engineers, reactor engineers, and reactor safety coordinators) receive classroom training prior to their assignment on the Emergency Response Organization. Refresher training is required every three years, which is credited in specific SAMG drill participation. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | Operators receive training in license class. TSC staff receive training as classroom presentations. |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | Every three years. Neither reactor operator interviewed had received periodic training, as they have had their licenses less than three years. They were aware that their refresher training is due in 2011. |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | SAMGs are implemented by control room staff (licensed operators) as directed by the TSC decision makers, upon recommendations by the TSC evaluators. |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | Periodic drills have been staged roughly once per year over the past six years. |

Grand Gulf Nuclear Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | February 18, 2011, to correct typos and add missing connecting lines on the flowchart. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | The SAMGs at Grand Gulf Nuclear Station are administered by their own procedure, 01-S-05-37, "Revision and Control of Emergency Procedures and Severe Accident Procedures." This procedure sets forth criteria for when the procedure is required to be revised but does not require a periodic review of the SAMGs. The criteria for revision are very comprehensive and are equivalent to a periodic review. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | X | | The licensee procedure requires a revision to the SAMGs for plant modifications, changes in fuel design, changes to the updated final safety analysis report, changes to the BWR owners group EPGs/SAGs, changes to procedures referenced in the SAMGs, changes to plant Technical Specifications, and operating and training experience. The licensee uses the regulatory review process (10 CFR 50.59), as necessary. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | The licensee conducts initial training with all required emergency response personnel required to implement the SAMGs with the exception of technical support center managers. The licensee performs periodic training with all required emergency response personnel required to implement the SAMGs with the following exceptions: |

| Letter | Inspection Item | Yes | No | Response/Comments |
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| | | | | the technical support center manager does not receive periodic training as required by procedure; and as of 2008, the licensed reactor operators are no longer required to receive periodic training. This change was documented in the licensee procedure governing periodic training of SAMGs. The licensee entered the issues with the technical support center managers' lack of training in the corrective action program for review. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | | | See item e. |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | The control room staff will be responsible for implementation of the SAMGs with technical input from technical support center staff and emergency operations center staff. |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | The inspectors interviewed an emergency preparedness staff member and determined through review of previous site emergency exercises that the licensee staff has entered the SAMGs during these quarterly exercises. SAMGs were entered once in four exercises in 2010 and twice in four exercises in 2009 and 2008. However, there is no requirement for them to develop exercises requiring entry into the SAMGs each year during one or more quarterly exercises. |

Palo Verde Nuclear Generating Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | SAMG April 7,2010, calc aid July 29,1998 (the calc acid supports implementation of SAMGs). |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | X | | The SAMGs are a procedure. All modifications, design changes, and document changes utilize the impact process to review for program and procedure revisions. The impact process is implemented through procedures 81DP-0CC26 and 81DP-0CC26-01. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | PVNGS SAMGs generally follow the methodology used by the CE generic SAMGs. Variations in structure and detail exist between the two documents. Some information originally included by CE generic SAMGs has been incorporated into the PVNGS supporting procedure "SAMG Calc Aid" vice the SAMG directly. |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Classroom and simulator training. All candidates in licensed operator initial training receive initial training. All STAs receive annual training. ROs, SROs and non-licensed operators received initial training as part of B.5.b. and upon initial SAMG implementation. Only STAs are trained annually on SAMGs. Other operations personnel are not trained at a specific periodicity. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | Interviewed 2 ROs, 2 SROs, 2 STAs (who perform the TSC staff function for SAMGS), 2 emergency coordinators and 2 TSC technical managers. |
| | (1) Did they receive **initial** training on | X | | |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| | the SAMGs? (Y/N) | | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | | X | Only STAs receive periodic SAMG training, annually. No other position is periodically trained. |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | STAs implement SAMGs and develop/recommend mitigation strategy. The TSC technical manager reviews and approves the strategies. The emergency coordinator makes a final decision and communicates the decision to the control room. Operations personnel manipulate plant equipment to implement the chosen strategy. |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | | X | There has been one table top exercise in the last 6 years that used SAMGs. No other E-plan drill or exercise implemented SAMGs. |

River Bend Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | February 24, 2011 |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | SAMG's are controlled through normal station procedure control processes. They are required to be reviewed at least annually by the procedure owners. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | X | | EN-DC-115, "Engineering Change Process," paragraph 5.4, requires the responsible engineer to perform an impact screening, to determine program impact, and determine external department impact considerations during the engineering change development process. This screening includes an evaluation of whether SAMG's require revision. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners' group guidance (if any) having been incorporated (Y/N/comments)? | X | | The severe accident procedures closely parallel the structure and content of the BWR Owners' Group Emergency Procedure and Severe Accident Guidelines, revision 2, dated March 2001. |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Evaluator and decision-maker positions are trained on the accident phenomena related to accident mitigation of core damage events and use of the Technical Support Guidelines. Decision makers are trained on accident mitigation strategies and use of the severe accident procedures as part of the Operations Training Program. Initial training for evaluator and implementer may be completed by classroom lecture, required reading, self-study, procedure walkthrough, tabletop drill, or emergency plan drill. Decision maker positions receive refresher training on SAMGs as part of the licensed operator requalification training. Evaluator positions will |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| | | | | receive refresher training on accident phenomena and Technical Support Guidelines every three calendar years. Refresher training for Implementer is not required. Periodic tabletop drills or drills are used to ensure ERO personnel are familiar with the transition to and use of SAMGs and with the interfaces (decision maker, evaluator, and implementer) during SAMG use. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | See item e. |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | See item e. |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | RBNP-095 "Severe Accident Management Guidelines Program Administration," states a drill or tabletop drill to demonstrate transition to and use of the SAPs from the EOPs are required to be completed once every three calendar years. |

San Onofre Nuclear Generating Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | June 30, 2010. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | | X | Not in scope since the SAMGs are not design basis documents. The licensee has entered this item into the CAP to evaluate. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Licensed operators and key ERO personnel receive classroom instruction during initial qualifications. The licensee does not perform periodic training; this has been entered into the licensee's CAP. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | | X | No formal periodic training on SAMGs – licensee entered condition into the CAP. Some interviewees recalled receiving SAMG training after their initial training, but could not recall the type of training. Some have participated in mini-drills and table-tops as described in Item g below. |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | TSC personnel implement SAMGs with operator support. |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | Exercises are conducted triennially. Also, mini-drills and table-tops are conducted during exercise preparation. |

South Texas Project Electric Generating Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | Revision 1 dated January 16, 2008. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | 3 copies. |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | 1 copy. Electronically available also. |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | 2 copies. However, 2 ROs and 1 of 2 SROs interviewed did not know where in the control room they were located. The licensee has taken corrective action. |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | X | | The Severe Accident Mitigation Program procedure requires that SAMGs be updated as needed according to plant modifications and procedure changes. The Design Change Process does not have a specific requirement for SAMGs; however, it does require operations to review plant modifications and to determine if SAMGs need revision. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Training is conducted through classroom instruction. ERO staff members designated as evaluator, decision maker, and implementer receive initial training prior to assuming an ERO position and then receive training periodically every 3 years. Positions include the TSC manager, EOF director, shift managers (SROs), licensed operators (ROs), shift technical advisors (SROs), and other TSC personnel. The emergency preparedness training program requires that continuing training on SAMGs shall be provided to the positions listed above via |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| | | | | combined function drill, tabletop, or functional group workshop specifically addressing SAMG implementation. The licensee has instead performed classroom training, also permitted by procedure. |
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | Licensed reactor operators responded that they would take direction from the control room supervisor and become implementers. Licensed operators actually implement the SAMGs. Shift managers (SROs) responded they follow EOPs until the kickout point to use SAMGs and then they become decision makers. One shift manager was unaware of his role as a decision maker. Licensee has taken corrective action. |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | | X | Periodic exercises have not been conducted. |

Waterford Steam Electric Station, Unit 3

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | The severe accident management guidelines (SAMGs) were last updated June 26, 2006. The Supplemental SAMG, S-SAMG-01, Loss of Large Areas of the Plant due to Fire/Explosion, was last updated on March 25, 2011. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | | X | The SAMGs located in the technical support center (TSC) are updated, but are not controlled. See item b. |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | | X | See item b. |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | | X | See item b. |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | | X | The SAMGs are not covered under the licensee's procedure control and document management system. The licensee initiated a condition report, CR-WF3-2011-01643, to address the adequacy of administrative controls for appropriate reviews and approvals. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | | | Partially - The licensee's configuration control and change management systems do not cause the licensee to update SAMGs to reflect design changes (i.e., 50.59 process and licensing design bases changes). However, the engineering change process does address SAMGs in the impact review (EN-DC-115). |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | The licensee's SAMG follows the Combustion Engineering owner's group generic accident management guidelines.<br><br>Additionally, the S-SAMG-01 are consistent with the guidance in NEI 06-12. |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | The licensee provides classroom training on SAMGs and S-SAMG-01. The licensee trains operators, engineers, and other Emergency Response Organization members that may implement SAMGs and S-SAMG-01. The licensee conducts this training every 3 calendar years. |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | All individuals interviewed understood their roles in implementing both the SAMGs and S-SAMG-01 guidance. |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | The licensee performs periodic exercises, emergency planning drills, in which individuals use both the SAMGs and S-SAMG-01. The licensee also requires that individuals who would implement them to do so during an emergency drill at a minimum of every 6 years. |

Wolf Creek Generating Station

TABLE OF RESULTS

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| a | When were the SAMGs last updated? | | | Updates are controlled by individual SAMG procedure. The most recent update was March 31, 2010; some procedures have not been updated since September 30, 1997. |
| | Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N) | X | | |
| | Are controlled copies of the SAMG located in the control room? (Y/N) | X | | |
| b | Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N) | X | | SAMGs are covered by the licensee's procedure control and document management system.<br>However, periodic review and revision to reflect the latest industry guidance and operating experience has not been performed by Wolf Creek. This issue was previously identified in the licensee's corrective action program in July 2009. However, corrective actions have yet to be completed and are due in September 15, 2011. |
| c | Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe) | X | | Yes – the configuration control and change management system requires affected procedures to be updated. |
| d | Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)? | X | | They are similar in structure and high-level accident mitigation strategies. However, they are not consistent with the latest revisions of owners group guidance because they have not been revised since the most recent owners group guidance was issued. This issue was previously identified in the licensee's corrective action program in July 2009. Corrective actions have yet to be completed and are due September 15, 2011. |
| e | How is training conducted on the SAMGs?<br>Who is trained on the SAMGs?<br>What is the periodicity of training? | | | Classroom training sessions. Initial training for engineers is 40 hours long; initial training for operators is 8 hours long. Refresher training for engineers and operators is 2 hours every 2 years. |

| Letter | Inspection Item | Yes | No | Response/Comments |
|---|---|---|---|---|
| f | Interview 4 licensed operators (2 reactor operators and 2 senior reactor operators), 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency to determine: | | | |
| | (1) Did they receive **initial** training on the SAMGs? (Y/N) | X | | All but one TSC engineer had received the training, he planned to attend the next session. |
| | Did they receive **periodic** training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties? | X | | Every 2 years |
| | (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)? | X | | TSC staff gathers information and provides it to TSC managers who use SAMG decision making tools to direct the control room to implement the various SAG and SCG procedures as plant conditions dictate. |
| g | Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)? | X | | The licensee conducts tabletop exercises which use SAMGs. Wolf Creek does not incorporate SAMG usage into the full-EP drills involving the simulator. This is because the simulator modeling of beyond design basis events cannot be verified. |