



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

June 2, 2011

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

FROM: George T. Hopper */RA/*  
Chief, Reactor Projects Branch 7  
Division of Reactor Projects

SUBJECT: COMPLETION OF TEMPORARY INSTRUCTION (TI)-184,  
"AVAILABILITY AND READINESS INSPECTION OF SEVERE  
ACCIDENT MITIGATION GUIDELINES (SAMGS)" AT REGION II  
FACILITIES - REVISION

This memorandum documents completion of TI-184 at all Region II power reactor facilities.

The Enclosure to this memorandum lists the sites that were inspected and contains the responses to the specific questions asked in Section 03.01 of the TI. This Memorandum supersedes my Memorandum previously submitted on May 27, 2011, as it contains a correction for one inspection item. The completion of this TI will also be documented in the next NRC Integrated Inspection Report for each facility (05000xxx/2011003).

Please contact me at 404-997-4645 if you have any questions.

Enclosure: As stated

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404-997-4645

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**BROWNS FERRY  
TABLE OF RESULTS**

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a	When were the SAMGs last updated?			Browns Ferry (BFN) program documents are updated to the Revision 1 version of the BWR Owners' Group Emergency Procedure and Severe Accident Guidelines, dated July 1997. The current Owners' Group approved version is Revision 2, dated March 2001. The licensee is considering obtaining a contractor to upgrade the program to Revision 2. Note: Revision 3 of the guidelines is in draft.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		The licensee stated that controlled copies of the SAMGs are located at the Tennessee Valley Authority's (TVA) Central Emergency Control Center (CECC) in Chattanooga, Tennessee, which is the offsite location of the EOF. Inspectors verified controlled copies of the SAMG were in the CECC location for all three TVA nuclear sites.
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	SAMGs are controlled under the licensee's procedure program. However, there are no requirements for periodic review and revision.
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)	Y		Specifically under NPG-SPP-9.3, Plant Modifications and Engineering Change Control. For example, each new core design for an upcoming fuel cycle.

Enclosure

Letter or Number	Inspection Item	Yes	No	Response/Comments
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		The major sections of the guidance documents are covered. However, they were developed under an earlier revision of the Owners' Group guidance. See Section 'a' above.
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			SAMG training is conducted per site procedure TRN-34, Severe Accident Management Training, which provides guidance on the development and implementation of SAMG training for Decision Makers (Site Emergency Directors), Evaluators (TSC Staff), and Implementers (Licensed Operators). Initial training and retraining consists of classroom, self-study, and computer-based training with an examination. Retraining is required to be completed once every four years. Specific training includes SAMGs and technical support guidelines for decision makers and evaluators, and introduction to severe accident management and phenomenology for all SAMG positions.
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:			Inspectors interviewed 2 SROs, 2 ROs, 2 TSC staff, and 2 TSC managers assigned to apply the SAMGs during an emergency.
	(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)	Y		

Letter or Number	Inspection Item	Yes	No	Response/Comments
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		Four year cycle for all SAMG positions.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	Y		The licensed operators will actually implement the SAMGs based on TSC direction (SAMG team).
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	Y		The licensee typically conducts at least one annual exercise as a severe accident management drill involving all SAMG positions. Over a four year period, the licensee conducts an exercise with each of four emergency response teams.

**BRUNSWICK  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			<p>Minor revisions to the main SAMG procedures have been recently incorporated as follows:            SAMG-01, SAMG Primary Containment Flooding: 12/20/07            SAMG-02, Containment and Radioactivity Release Control: 1/5/10            SAMG-04, SAMG User's Guide: 4/11/11.            However, these revisions did not include significant owner's group updates from BWR owner's group revision 2 to EPG/SAG (Brunswick still uses rev. 1). Also, some outstanding revision 1 owner's group issues have not been incorporated, the oldest is from 1996. An effort to update the SAMG's at Brunswick is underway.</p>
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	Y		<p>All SAMG procedures are reviewed every two years. However, these reviews and revisions have not included significant updates from the BWR owners' group (see block a).</p>
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)	Y		<p>Procedure EGR-NGGC-0005, Engineering Change governs design changes and requires a review to determine design change impacts on procedures, including SAMG procedures.</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		Brunswick SAMG procedures are consistent with BWR owners' group revision 1 EPG/SAG procedures. However, revision 2 has introduced many changes that have not been incorporated. Additionally, not all BWR owners' group revision 1 issues have been incorporated either (see block a above).
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			Licensed operators receive initial classroom training and continuing (every 2 years) classroom training. Selected emergency response organization personnel receive initial computer based training and yearly computer based continuing training. Non-licensed operators receive initial classroom training and continuing classroom training on local actions that they would be expected to take during use of SAMG procedures only, not overall SAMG 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 <b>initial</b> training on the SAMGs? (Y/N)	Y		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		See(e) above



Letter or Number	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)?	Y		Control room operators and non-licensed operators for tasks outside the control room.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	Y		One general drill per assessment cycle (every six years) includes a walkthrough of a SAMG scenario. This was last done in September, 2006.

**CATAWBA  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Unit 1 Severe Accident Control Room Guidelines (SACRGs) - 1/10 Unit 2 SACRGs - 10/10 Diagnostic Flowchart (DFC), Severe Challenge Status Tree (SCST), Severe Accident Exit Guide (SAEG), Computational Aide (CA), Severe Challenge Guided (SCG), Severe Accident Guide (SAG) - 2/10
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		All SAMGs
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		All SAMGs
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		EG/1-2/A/CSAM/SACRG1 and EG/1-2/A/CSAM/SACRG2
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	The original SAMG documents were controlled and were maintained in the Document Control Master File but were not maintained under their document control system. Procedure revisions were controlled under NSD 224, Severe Accident Management Guidance, and periodic reviews were performed annually under PT/0/B/4600/007, Review of Emergency Plan and Implementing Procedures.
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)		N	The licensee's configuration control and change management procedures did not reference 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	Y		The licensee's procedures were consistent with the owner's group guidance with one exception. Catawba eliminated SAG-8, Flood Containment, in 1997 as it was determined to be redundant to SAG-

Letter or Number	Inspection Item	Yes	No	Response/Comments
	owner's group guidance (if any) having been incorporated (Y/N/comments)?			4, Inject into Containment. This was based on the containment size and resulting target water levels for SAG-4 and SAG-8 being the same value.
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			The Nuclear Operations Training Group was responsible for preparation, and administration of required SAMG training. This included both initial training for Operations and ERO personnel and requalification for Operations personnel. Operators' requalification training was conducted within the 2 year requalification curriculum. ERO staff received requalification training every two years by participating in an ERO SAMG drill.
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 <b>initial</b> training on the SAMGs? (Y/N)	Y		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		Operators received periodic training as part of their 2 year requalification and TSC staff met requalification requirements by participating in an ERO SAMG drill at least once every two years. All interviewees indicated that their training related to their assigned SAMG duties.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	Y		Operations staff were the implementers of the strategies developed, and would provide feedback to the TSC on the ability to execute the strategy. TSC staff provided expertise in the development of SAMG strategies based on requirements determined by the SAMG decision makers (TSC managers) who ultimately approved the strategies for implementation.

Letter or Number	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)?	Y		SAMG drills were conducted by the ERO organization at least five times over a two year period. This allowed all SAMG qualified personnel in the TSC to participate in at least one drill to meet requalification requirements. Operations also provided SROs and ROs to participate and provide Operations input to the strategy implementation; however, there was not a requirement for all operators to participate in a drill. Operators met requalification requirements through specific Operations SAMG training during Licensed Operator continuing training.

**CRYSTAL RIVER  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			CR3 Severe Accident Guideline was updated January 9, 2009, Revision 5.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	The SAMGs are covered by the licensee's document management system but do not get a periodic review and revision.
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)	Y		Design changes are covered by Corporate Engineering Procedure EGR-NCCG-0005, Engineering Change (EC). The EC screening questions in an associated "job aid" entitled "Design and Reviewer Considerations" has a question related to the impact of the EC on 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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		Site's SAMGs were compared to the CY 2000 version of the B&W Generic Severe Accident Guideline. Differences addressed site specific information.
e	How is training conducted on the SAMGs?  Who is trained on the SAMGs?  What is the periodicity of training?			1. Initial classroom training, Computer Based Training and Table Top Exercises 2. The implementers (SROs, ROs, STAs and Secondary plant operators) have initial training and annual SAMG computer based training (CBT) that includes:

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>introduction to Severe Accident Management; Severe Accident overview phenomenology and damage assessment; and mitigation strategy training.</p> <p>The Decision Makers (TSC Emergency Coordinators (EC)) and the Evaluators (TSC Accident Assessment Team) are trained on the topics listed above plus the following training: Severe Accident guidance and usage (CBT), Practice Scenarios (CBT) and Table Top exercises.</p> <p><b>3. Implementers:</b> Annual CBT  <b>Evaluators:</b> Biennial CBT and annual Table Top exercise.  <b>Decision Makers:</b> Initial training listed above only. (The licensee initiated nuclear condition report NCR 465189 to evaluate the need for TSC emergency coordinators who do not hold a licensee to have periodic SAMG training. If they hold a license, they receive the annual implementer training)</p>
f	<p>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:</p> <p>(3) Did they receive <b>initial</b> training on the SAMGs? (Y/N)</p> <p>Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?</p>			<p>Personal interviewed:  2 onshift SROs  2 onshift ROs  2 TSC Emergency Coordinators  2 Accident Assessment Engineers</p> <p>All 8 received initial SAMG training.</p> <p><b>4 licensed operators:</b> All stated that they received periodic training associated with SAMGs (Inspector confirmed through training record review that all licensed operators had taken CBT SAMG training in 2010 (Cycle 9 licensed operator continuing training (LOCT))).</p>

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				<p><b>2 TSC Managers*</b>. One TSC EC (licensed SRO) received periodic SAMG training as part of his LOCT. The second TSC EC (non-licensed) received initial training (2005) but has not had periodic training (note: currently, periodic training for TSC EC is not required). The inspector, through review of training records, determined that another TSC EC (non-licensed) had only initial training in 2002. (The licensee initiated nuclear condition report NCR 465189 to evaluate the need for TSC emergency coordinators who do not hold a licensee to have periodic SAMG training.)</p> <p><b>2 TSC Staff:</b> The inspector interviewed two accident assessment engineers (part of accident assessment team). Both completed periodic (biennial) training on SAMGs and an annual tabletop exercise.</p> <p><b>ALL:</b> All personnel interviewed were aware of their assigned duties with respect to SAMGs.</p>
	(4) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	Y		All personnel interviewed were able to articulate their responsibilities with respect to SAMGs. The operations staff (SROs, ROs, STA, and non-licensed operators) would implement the SAMGs if needed.

Letter or Number	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)?		N	<p>The “implementers” (operations licensed operators (SRO, ROs) and non-licensed operators) do not have “periodic exercises on SAMGs. They complete annual SAMG CBT.</p> <p>The “evaluators” (accident assessment team) have periodic (annual) tabletop exercises</p>



**FARLEY  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			The licensee last updated these documents in 1997 in accordance with Revision 0 of WOG Guideline Document, dated 1994. These documents do not contain Revision 1 of WOG Guideline Document dated October, 2001. However, the licensee has revised these documents as design changes occurred at the site.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		These documents are available to the Emergency Director (ED) in the TSC as hard copies. The licensee also maintains these procedures available on their internal web document resource.
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		N	Hard copies of these documents are not available. The licensee maintains these procedures available to the EOF via the licensee internal web document resource and on a stand-alone controlled document hard drive located within the EOF (drive is periodically backed up).
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		A hard copy of SARCG-1 and SARG-2 are available in the main control room. All other procedures are contained on the licensee internal web document resource and on a stand-alone controlled document hard drive located in the main control room.

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b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	The SAMGs are controlled as controlled copies per the licensee document management system. *The requirement for periodic review is not specifically spelled out in their controls. (See item 'a' above.)
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)	Y*		The licensee's design control program requires impact assessments by specified departments which includes Emergency Planning. *However, the impact assessment does not include a line item to review the SAMGs. The impact assessment only requires review against the Emergency Plan. The licensee does update the SAMGs when plant design changes are determined to impact these documents.
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		The licensee's documents are missing Revision 1 of WOG Guideline Document, but include all of the high-level steps required by both Revision 0 and Revision 1.
e	How is training conducted on the SAMGs?  Who is trained on the SAMGs?  What is the periodicity of training?			Initial reactor operators (RO) and senior reactor operators (SRO) receive classroom training on these documents at the completion of their initial license training. The licensee includes computer based training (CBT) in their 2 year cycle plan for license operator requalification. TSC management receives a table top exercise annually to review implementation of the SAMGs. The TSC management has an annual requirement to complete the CBT training required of the licensed operators in requalification training.

Letter or Number	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 <b>initial</b> training on the SAMGs? (Y/N)	Y*		*TSC staff does not complete any training on SAMGs. The reactor operators, senior reactor operators, and TSC management received training as listed in item 'e' above.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		The licensee includes computer based training (CBT) in their 2 year cycle plan for license operator requalification (RO and SRO). TSC management receives a table top exercise annually to review implementation of the SAMGs. The TSC management also has to annually complete the CBT training that the licensed operators in requalification training perform.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	Y		Some weaknesses in knowledge of implementation were discovered. Generally, the SROs knew entry criteria and their requirement to implement SACRG-1. Most could not articulate individual steps or how the strategy worked. All knew their required interface with the TSC manager in implementing SACRG-2. Generally, the TSC managers understood how to implement SACRG-2 and the diagnostic flow chart.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	Y		TSC management receives a table top exercise annually to review implementation of the SAMGs. This was last accomplished in December, 2009. The table top exercise for 2010 was not completed and has been identified by the licensee and entered into their corrective action program (CR 2011106588).

**HARRIS  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			There have been several updates to the SAMG procedures, they span from 2001 to the most recent, which occurred in 2010. However, the SAMGs have not been revised to incorporate Revision 1 of the Westinghouse Owners Group (WOG) background documents which was released in June, 1994. Some more recent modifications were added and procedures updated to reflect changes such as NFPA805 implementation/modifications and Alternate Seal Injection (ASI) modification. However, other modifications have not been reviewed for SAMG calculation document changes to reflect current plant conditions such as; new steam generators, containment sump level, and RCS press parameters (AR 406767).
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		There are controlled copies of SAMGs in the TSC. There were outdated revisions in place, i.e., SAMG-9AG-003 (5/10/11) Revision 7 vs. Revision 8. Procedures were updated (AR 464673).
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		There are controlled copies of SAMGs in EOF. There were outdated revisions in place, i.e., SAMG SAMP-001, Revision 5 vs. Revision 6 SAMG SAG 008. Procedures were updated (AR 464673).
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		There is a controlled copy of SAMGs 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)		N	Harris (via docketed letter 94-1890) no longer performs a biennial review of all their controlled procedures. They review a sample of those procedures not revised in the last two

Enclosure

Letter or Number	Inspection Item	Yes	No	Response/Comments
				years, to ensure the intent of the biennial review is met (HNP Procedure Biennial Review Process AP-043). AR 406767 was generated 6/10 to document and investigate why the SAMGs were not updated to reflect Revision 1 of the Westinghouse Owners group severe accident management guidance document.
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)	Y		Documents were updated for modifications installed during refueling outage 16. However, several older relevant modifications were not incorporated. Changes are in process to address these mods (AR 406767) and are scheduled to be complete by 6/11.
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		It appears the SAMGs are consistent with the general intent of the owner's group document. However, updates to reflect WOG, Revision 1 are in progress (AR 406767).
e	How is training conducted on the SAMGs?  Who is trained on the SAMGs?  What is the periodicity of training?			<u>Initial</u> classroom training is conducted for implementers (the control room staff per SAMG-SAMP-001, Attachment 1), decision makers (Plant Operations Director, Site Emergency Coordinator-TSC and Emergency Response Manager) and evaluators (Technical Analysis Director, TSC SRO, TSC AAT- STA, TSC- Core Performance Engineer, TSC-Mechanical Engineer, TSC-Electrical/I&C Engineer, Technical Analysis Manager and EOF SRO). Also, decision makers and evaluators participate in a practical "table-top" exercise.

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p><u>Requalification</u> training occurs every two years and is similar to initial training. All participants receive classroom/computer based training. Decision makers and evaluators participate in a table-top exercise.</p>
f	<p>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:</p>			
	<p>(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)</p>	Y		
	<p>Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?</p>	Y		<p>Every two years continuing training is required and conducted.</p>
	<p>(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?</p>	Y		<p>Those interviewed could articulate their role in implementation of the SAMG procedures. There was discussion and differing opinions during the interviews relative to who are the "implementers" of the SAMG procedures, i.e., does the control room or TSC actually implement the procedures. AR 465394 was generated to review this disparity.</p>
g	<p>Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?</p>		N	<p>Periodic exercises, "table-top" and classroom computer based training are provided for decision makers and evaluators to participate in every two years. The control room staff (implementers per SAMG-SAMP-001, Attachment 1) is only provided with classroom training every two years.</p>

**HATCH  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Unit 1: 31EO-SAG-001-1 Ver. 2 3/8/06 31EO-SAG-001-2 Ver. 2 3/8/06 Unit 2: 31EO-SAG-002-1 Ver. 5 5/23/06 31EO-SAG-002-2 Ver. 3 5/23/06
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		Procedure 31EO-SAG-001-1, 31EO-SAG-002-1, 31EO-SAG-001-2, and 31EO-SAG-002-2 contain a procedure cover page and the controlled version of the SAG-1 or SAG-2 flowchart. This procedure is available to the TSC in both hardcopy and via the licensee internal web document resource and a standalone backed up controlled document hard drive located within the TSC.
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		N	The EOF located at SNC Corporate HQ's in Birmingham Al did not have the above Hatch SAG procedures printed and maintained as controlled documents in hardcopy. However, these procedures are available to the EOF via the licensee internal web document resource and a standalone backed up controlled document hard drive located within the EOF.
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		Each control room contained current revisions of SAG-1 and SAG-2 flowcharts.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	Y		The SAGs are controlled to the same requirements as EOPs in accordance with 30AC-OPS-007-0, Emergency Operating Procedures Revision Requirements.
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)	Y		NMP-ES-022, DCP Site Approval, Implementation and Closure and 30AC-OPS-007-0 require SAGs to be updated for plant design changes.

Letter or Number	Inspection Item	Yes	No	Response/Comments
d	<p>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 owner's group guidance (if any) having been incorporated (Y/N/comments)?</p>	Y		<p>Hatch Severe Accident Guidelines (SAGs) are consistent with the BWR owner's group SAGs.</p>
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			<p>Hatch Severe Accident Management Training Program System Master Plan Rev02 contains the qualification requirements for all severe accident management emergency response positions. This qualification is broken into the following categories:</p> <ul style="list-style-type: none"> <li>A) Decision Maker is a qualified TSC Operations Supervisor.</li> <li>B) Evaluator is a qualified TSC Operations Supervisor, or TSC Operations Support, or Plant Status Communicator.</li> <li>C) Implementer – SRO's, RO's</li> </ul> <p>Initial Training for each of the above Accident Management Team (AMT) positions includes: Completion of classroom presented courses EP-51000, Severe Accident Guidelines and EP-50200, Technical Support Guidelines. In additions to the above classroom courses Decision Makers and Evaluators must participate in at least one Tabletop Training Exercise and be evaluated in the Tabletop Exercise prior to being assigned as an Accident Management Team Member.</p> <p>Continuing Training: Each of the three categories above must complete computer based training course EP-50100, Severe Accident Guidelines continuing training at least every two calendar years.</p>



Letter or Number	Inspection Item	Yes	No	Response/Comments
				Through license continuing training AMT members will be informed of major equipment and guideline changes that could affect their job. Also as part of license continuing training AMT members will review the Technical Support Guidelines flowchart once every two years. In addition to the above, Decision Makers and Evaluators are required to at least once every three calendar years demonstrate through tabletop exercise the capability to implement Severe Accident Guidelines.
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 <b>initial</b> training on the SAMGs? (Y/N)  Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?  (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	Y		Personnel qualified as "Decision Maker" in the TSC would direct SAG action(s) to be taken.  Personnel qualified as "Evaluator" in the TSC would aid the "Decision Maker" in determining which SAG action(s) to take.  Personnel qualified as "Implementer (includes all licensed RO's and SRO's)" receive direction from the "Decision Maker" and personnel qualified as implementer's are the ones who actually implement the SAG action(s).

Letter or Number	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)?		N	<p>Only those qualified as Decision Makers and Evaluator's are required to conduct SAG table top exercises every three years.</p> <p>Those designated as Implementers (RO's and SRO's) do not conduct periodic exercises specifically covering SAG procedures. However, Implementers do review SAG procedures through the licensed operator continuing training classroom process as well as perform some procedures utilized by the SAG's during licensed operator continuing training simulator scenarios.</p>

**McGUIRE  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Unit 1 & 2 Severe Accident Control Room Guidelines (SACRG) - 11/19/09 Diagnostic Flowchart (DFC), Severe Challenge Status Tree (SCST), Severe Accident Exit Guide (SAEG), Computational Aide (CA), Severe Challenge Guided (SCG), Severe Accident Guide (SAG) - 2/15/05 SAG 2-7 - 9/21/06
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		All SAMGs were located in Technical Support Center (TSC).
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		All SAMGs were located in the Emergency Operations Facility (EOF)
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		SACRGs Unit 1 and 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)		N	<p>The original SAMGs were a controlled document maintained in the Document Control Master File and were maintained separately from the licensee's document control system.</p> <p>NSD 224, Severe Accident Management Guidance, provided the guidance for the development, maintenance, training, and usage of the SAMGs.</p> <p>SAMGs were reviewed by Nuclear Engineering PRA Models and Initiatives Group based on plant modifications, information received from Owner's Groups, and feedback from drills. Resulting revisions were tracked and documented in the deviation document as required.</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				The deviation document was included as part of the SAMG initial issue and subsequent revision packages. This deviation document provided written justification to ensure the actions were consistent with associated Westinghouse Owners Group (WOG) SAMGs as they apply to the site.
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)		N	The licensee's configuration and control documents made no reference to SAMGs. The licensee generated PIP M-11-03789 on 5/12/11 which documented that the administrative process to ensure plant modifications were reviewed for impact to SAMGs needs to be clarified.
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		<p>Deviations from the WOG generic SAMGs were documented in the deviation document and included as part of the initial issue and subsequent revision packages.</p> <p>The licensee's procedures were consistent with the WOG guidance with the exception of the deletion of SAG-8, Flood Containment, in a 2003 revision.</p> <p>The licensee deleted SAG-8 using the analysis for plant-specific containment flooding level setpoints located in WOG Executive Volume, Section 6. In accordance with the setpoint basis, Setpoint L02, Lower Target Containment Water Level, and Setpoint L03, Upper Target Containment Water Level, all had the same value. Therefore, the licensee determined there were no technical differences between SAG-4 and SAG-8 and SAG-4 meets the intent of SAG-8. Based upon this justification, SAG-8 was deleted.</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			<p>The Nuclear Operations Training group is responsible for the administration of required SAMG training, both initial training and continuing training for Emergency Response Organization (ERO) staff and Operations personnel.</p> <p>SAMG Initial and continuing training requirements are implemented in accordance with the licensee's Employee Training and Qualification System Standard (ETQS Standard 7111.0) and Emergency Response Training guideline (MTP 7111.0).</p> <p>There were five ERO positions that are required to be SAMG qualified. They are: Emergency Coordinator, Assistant Emergency Coordinator, Operations Procedure Support, Reactor Engineer, and System Engineering Manager.</p> <p>There are four Operations positions that are required to SAMG qualified. They are: Control Room Operator, Shift Supervisor, Operations Shift Manager, and Shift Technical Advisor.</p> <p>Under the requirements, SAMG-qualified ERO staff members are required to participate in a SAMG drill once per 24 months. Operations personnel receive classroom training once per 24 months through the Operations License Requalification Training program</p>

Letter or Number	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 <b>initial</b> training on the SAMGs? (Y/N)	Y		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		All interviewed personnel acknowledged that they received biennial SAMG training in accordance with their continuing training requirements.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	Y		All interviewees were able to articulate their assigned duties. Control room operators understood their roles as implementers and were cognizant of their responsibilities for SACRG-1 and SACRG-2. The TSC interviewees were knowledgeable of their individual responsibilities and were also able to demonstrate a general knowledge of all three SAMG-designated roles (Implementer, Evaluator, and Decision Maker).
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	Y		ERO's target is to conduct five SAMG drills every two years (2-3 drills / yr) in order to allow each staff member in a SAMG-qualified TSC position to participate in a drill exercise. Within ERO, there are five TSC positions that are required to be SAMG-qualified and required to participate in a drill biennially. Operations personnel are not required to participate in SAMG drills.

**NORTH ANNA  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			A review of the SAMG procedure collection effective dates determined a date range from January 1998 to February 2010 which demonstrates periodic procedure review and revision.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	Virginia Power administrative procedure, VPAP-2604, "Severe Accident Mitigation Guideline (SAMG) Program Administration," Revision 2, stipulates the requirements for procedure review and revisions in section 6.2, "Review," in accordance with VPAP-0502, "Procedure Process Control," Revision 54. The SAMGs are reviewed when required due to a station change initiated by modifications, Westinghouse Owners Group (WOG) guidance, etc. The inspector found no program that specified a review and revision on a regular periodic frequency, e.g., yearly.
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)	Y		VPAP-0301, "Design Change Process," Revision 30, stipulates a requirement for SAMG review and revision based on new modifications or design changes.
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).	Y		VPAP-2604, section 6.1, "Guidelines Development," states; "SAMGs are based upon the WOG generic SAMGs. Deviations from the WOG Generic SAMGs shall be

Letter or Number	Inspection Item	Yes	No	Response/Comments
	<p>Are the SAMGs consistent with the owner’s group guidance (if any) having been incorporated (Y/N/comments)?</p>			<p>documented and included as part of the initial set and any subsequent revision package. This documentation shall provide written justification to ensure the actions are consistent with the basis of the associated WOG SAMG. SAMGs will be written in accordance with SPAP-0504, Technical Procedure Writers Guide, and VPAP-0505, Writers Guide for Dual-Column Procedures, as determined by the Supervisor(s) Station Procedures. The cross references to NA&amp;F’s setpoint basis document should be maintained as part of the text. For processing purposes, Computational Aids (CAs) will be treated as distinct guidelines, even though they are supplemental information used in the performance of the guidelines. SAMGs are non-safety related.”</p> <p>The inspector performed a high level comparison between the Westinghouse Owners Group SAMG guidelines and verified that the licensee’s SAMGs compared favorably with the WOG guidelines.</p>
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			<p>VPAP-2604 provides the training requirements for initial training and periodic training that is conducted on a 3 year frequency. Each of the required positions, Decision Maker, Evaluator and Implementor, receive training as specified in section 6.5 of the procedure. Section 6.5.4 states, “SAMG training lessons and requirements are specified in accordance with guidance provided by the Westinghouse Owners Group.”</p>



Letter or Number	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:			The inspector performed interviews with selected licensee personnel.
	(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)	Y		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		VPAP-2604 section 6.5.6 states that all 3 positions, Decision Maker, Evaluator and Implementor will normally require refresher training every 3 years. The inspector confirmed that forthcoming training was scheduled for the week of May 25, 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)?	Y		VPAP-2604, section 6.5, states, "Based on a philosophy adopted from the WOG SAMG, personnel assigned to work with the SAMGs have been categorized into one of three positions. The Decision Maker and Evaluator positions will normally work out of the TSC. The Implementor works out of the Control Room." All of the personnel interviewed were able to articulate their responsibilities from a high level viewpoint.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		N	The licensee does not incorporate SAMGs in their normal emergency preparedness drills or exercises. Rather, the licensee performs training using the classroom setting for formal presentations and or table-top drills as specified by VPAP-2604, section 6.5. Table-top drills are used for initial training or may be used for validation of a SAMG guideline revision.

**OCONEE  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			January 7, 2008
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		Document Control listed one controlled copy in the TSC; however, three copies were found of which only one was the current revision. The other two copies were updated to reflect the current revision and the distribution list will be updated to identify the need for three copies in the TSC. This discrepancy was entered into the licensee's corrective action program (CAP).
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		N	Document Control did not distribute copies of the Oconee Severe Accident Guidelines (OSAG) to the EOF; however, a copy was in the EOF which was not the current revision. A current revision was placed in the EOF and the distribution list will be updated to identify the need for two controlled copies in the EOF. This discrepancy was entered into the licensee's CAP.
	Are controlled copies of the SAMG located in the control room? (Y/N)		N	The TSC & OSC at Oconee are within the Control Room envelope. The licensee determined that there was no need to stage additional controlled copies of the OSAG in the control room horseshoe area because the actual usage will take place in the TSC.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	The OSAGs are covered by the licensee's Document Control process which maintains the distribution list and ensures revisions are sent to all holders of controlled copies.

Letter or Number	Inspection Item	Yes	No	Response/Comments
				There was no requirement to periodically review the OSAGs to ensure they remained updated with the vendor SAMGs or that the guidance contained in the OSAG was valid based on changes to other plant procedures, equipment or structures. This issue was entered into the licensee's CAP for evaluation.
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)		N	<p>The OSAGs were not in the electronic document system (NEDL) which could complicate searching for components or other information when developing modifications or changes to the station. The OSAGs were not listed specifically in the Modification Process manual (EDM-601) as a document to be reviewed during the mod process as the 10 CFR 50.59 screening was conducted which introduced the potential for a mod to adversely affect the ability to perform specific actions called for in other procedures (OP, AP, EP, RP, EM, OSAG, etc.).</p> <p>The licensee entered this issue into the CAP and implemented interim actions to ensure the mod process reviews OSAGs for potential impacts or challenges to being able to perform specific actions.</p>
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		Oconee used the GSAGs for the majority of the OSAG development; however, based on some unique design features such as the standby shutdown facility and specific areas where the lack of train separation was a factor, these unique aspects were factored into the OSAG guidance. A high level review identified some differences, which were noted and communicated to the licensee. The licensee concurred

Letter or Number	Inspection Item	Yes	No	Response/Comments
				that a detailed comparison between the two documents to identify differences and reconcile them had not been performed in a number of years and entered this into the CAP with the intent of developing both immediate corrective actions to perform the review and long-term actions to ensure the reviews were done periodically.
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			<p>The station's training department develops and provides the OSAG training to the various groups of personnel that would be involved in the implementation of the OSAG guidance. This includes Implementers (control room staff and OSC teams), Evaluators (STA, Reactor Engineers and Assistant Operations Superintendent) and Decision Makers (TSC Emergency Coordinator, Operations Superintendent and Engineering Manager). The training is given in two formats – classroom or computer based training (CBT). There was a table top drill that was used as part of the classroom training which was given during licensed operator requalification (LOR) on a biennial basis and was open to personnel other than those in the LOR crew; i.e., Evaluators and Decision Makers. The CBT module allowed people to obtain credit for the classroom portion; however, they still needed to take part in the table top drill/exercise to get full credit for the required training. The drill was a 5-year requirement while the classroom/CBT was a biennial requirement. Since the table top drill was done in conjunction with the classroom, those opting for the classroom/CBT received both every</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>classroom/CBT received both every two years.</p> <p>There was also one Emergency Preparedness drill each year which progressed into OSAG implementation. Credit was given to people that participated, evaluated or mentored others as a qualified Emergency Response Organization (ERO) member for this portion of the training requirements. All ERO personnel that were designated as being OSAG qualified needed this training every 5 years; however, in reviewing the training records for qualified individuals, most received the training through participation every two years or less.</p>
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 <b>initial</b> training on the SAMGs? (Y/N)	Y		All licensed personnel received the OSAG / B.5.b training during their initial license class before they were approved to stand watch. Other ERO members that were involved in the implementation of the OSAGs received initial training before they were designated as being able to fill a specific role in the ERO.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		The specifics of the training provided and the periodicity is described in Section (e) above.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs	Y		All of the personnel that were interviewed understood how the OSAG guidance would be implemented; i.e., who would develop the specific guidance based

Letter or Number	Inspection Item	Yes	No	Response/Comments
	(Y/N/document who would actually implement the licensee's SAMGs)?			on the specific plant conditions, the process to review the developed guidance, and then how the control room staff would be directed to perform the actions in the control room or OSC members directed to perform actions in the plant. See Section e for implementation of OSAGs.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	Y		<p>Training in the form of drills and table tops was conducted on a regular basis by the licensee. There was one OSAG drill each year which dovetailed into a normal ERO drill. In addition, there were table top drills provided to ERO personnel through the LOR cycles and the training was attended by personnel from all three groups in the TSC / control room structure.</p> <p>The Oconee training group also conducted training twice a year in Charlotte for personnel that would be staffing the EOF during an event. The training that was provided (including the table top drills) included the B.5.b strategies and allowed the personnel to determine how to use B.5.b equipment to provide cooling to the core, feed the steam generators or provide cooling to equipment or structures in the plant. This was also included in the training provided to the EOF staff.</p>

**ROBINSON  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			The most recent revision to a SAMG procedure was issued on 1/12/2011 (SACM-4, Control Containment Vacuum). The oldest revision to a SAMG procedure was issued on 11/13/2003 (SACRM-1, Severe Accident Control Room Management-Initial Response). The remaining SAMGs have been revised once since 2003. There is no programmatic periodic review of the SAMGs at Robinson.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		The Technical Support Center (TSC) contains controlled hard copies of SAMGs and the capability to view controlled copies via facility computers.
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		The Emergency Operations Facility (EOF) contains controlled hard copies of SAMGs and the capability to view controlled copies via facility computers.
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		The control room contains controlled hard copies of SAMGs and the capability to view controlled copies via facility computers.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	SAMGs are covered by the licensee procedure PRO-NGGC-0204, Procedure Review and Approval, rev. 19. Biennial reviews of all plant procedures were abandoned in 1994 and replaced with periodic self assessments that review a sample of the plant procedures that have not been revised in the last 2 years.
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)	Y		Licensee procedure EGR-NGGC-0005, Engineering Change, rev. 31 provides guidance on updating plant procedures including SAMGs to reflect design changes.

Letter or Number	Inspection Item	Yes	No	Response/Comments
d	<p>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 owner's group guidance (if any) having been incorporated (Y/N/comments)?</p>	Y		<p>Westinghouse Owners Group (WOG) SAMG rev. 1 has not been incorporated at Robinson. Robinson SAMG procedures and Computational Aids are based on WOG SAMG rev. 0, which was issued in 1994. The current SAMGs are consistent with rev. 0. The licensee has initiated actions to update current SAMG procedures to reflect the guidance in rev. 1. Robinson has concluded that the use of the existing SAMGs will not result in any inappropriate diagnosis or recommendation of strategy implementation.</p>
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			<p><b>Reactor Operator/ Senior Reactor Operator:</b> Initial training on the use of SAMGs is given during initial license operator qualification training. Operators are given additional training every two years during license operator requalification training (LORT). All training is given through classroom instruction.</p> <p><b>TSC Managers/TSC Staff:</b> Initial qualification for a Severe Accident Management (SAM) position consists of successful completion of Emergency Response Organization (ERO) training and participation in one tabletop or drill exercise. All ERO personnel participate in a SAMG tabletop or drill except for Damage Control Team members and on-shift operations personnel. Damage Control Team members and on-shift operations staff are excluded from table tops or drills because they are performing the same tasks as their regular Emergency Preparedness duties. After initial qualification, SAM</p>



Letter or Number	Inspection Item	Yes	No	Response/Comments
				positions must participate in a SAMG tabletop or drill every 2 years to maintain qualification.
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 <b>initial</b> training on the SAMGs? (Y/N)	Y		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		Operations and TSC personnel receive training on SAMGs every two 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)?	Y		Control Room operators and Operational Support Center (OSC) Damage Control Teams will implement the actions recommended by TSC staff (Accident Assessment Team, Plant Operations Director and Technical Analysis Director) and approved by the Site Emergency Coordinator or Emergency Response Manager to mitigate the accident.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	Y		The licensee conducts approximately five SAMG table top or drill exercises each year.

**SEQUOYAH  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			The licensee SAMG procedures consist of 26 individual procedures, each of which is separately maintained and updated as necessary. The most recently updated procedures were revised on March 21, 2011. The procedures having the oldest current revisions were dated December 29, 1998.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		The inspectors physically verified these copies.
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		The inspectors physically verified these copies.
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		The inspectors physically verified these copies.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	<p>The inspectors reviewed NPG-SPP-18.3.1, Severe Accident Management Guideline (SAMG) Program Administration, revision 0, as well as NPG-SPP-01.2, Administration of Site Technical Procedures, revision 1, which include the SAMG revision process. The SAMGs procedures (controlled hard copies and electronic versions) are maintained via the licensee's procedure control program and electronic business support library (BSL).</p> <p>The above procedures do not specifically require periodic review of technical procedures (including SAMGs). SAMGs are periodically reviewed by way of their use during recurring licensed operator requalification training and annual training drills. SAMGs are reviewed for impact as part of the site's design</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				change process, and indicated below.
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)	Y		The inspectors reviewed NPG-SPP-09.3, Plant Modifications and Engineering Change Control, revision 4, which includes consideration of SAMG impact during the change development and review processes.
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		Yes, the licensee's SAMG procedures are consistent with the applicable owners' group guidance. The inspectors reviewed the Westinghouse Owner's Group (WOG) guidelines, as well as licensee procedure SPM-SAMG-0, Deviation Document for Severe Accident Management Guidelines, revision 0. The licensee's SAMG procedures contain only minor site-specific deviations from the WOG guidelines, with the exception that the licensee procedures do not include one of the guideline procedures: SAG-8, Flood Containment. The licensee performed an evaluation to demonstrate that SAG-8 is unnecessary given the specific containment characteristics of the plant.
e	How is training conducted on the SAMGs?  Who is trained on the SAMGs?  What is the periodicity of training?			The inspectors reviewed licensee procedure TRN-34, Severe Accident Management Training, revision 5. Initial SAMG training is conducted for personnel assigned to SAMG positions via classroom sessions or by self study, followed by the administration of an exam. An annual training session and table top drill is conducted annually, with individuals participating in at least one drill every four years. The licensee's program defines three

Letter or Number	Inspection Item	Yes	No	Response/Comments
				types of SAMG positions (Implementors, Decision Makers, and Evaluators) as well as a list of emergency response positions and their corresponding SAMG position and training requirements.
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 <b>initial</b> training on the SAMGs? (Y/N)  Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?  (2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	Y		Through interviews, the inspectors determined that the required positions and individuals have had initial and periodic training on the SAMGs in accordance with the licensee's SAMG training program.  Some TSC staff members who were interviewed have not had the SAMG training, which is allowed per the licensee's procedure since not all TSC positions are designated as being in one of the three applicable SAMG position categories.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	Y		Licensed Operators assume the duties of implementers during SAMG performance. SAMG training is incorporated into the Licensed Operator Requalification training program every 2 years. Drill exercises are also held on an annual basis for refresher training for all SAMG roles (i.e. Implementors, Decision Makers, and Evaluators). The site requirement is that each individual assigned to a SAMG position participate in a drill exercise at least once every four years.

**ST. LUCIE  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			SAMG-01 (Phase 1 - Diagnostic) was last updated in January 2011.  SAMG-02 (Phase 2 - Verification of Diagnosis) was last updated in June 2006.  SAMG-03 series & SAMG-04 (Phase 3 and Restorative SAMGs) were all last updated in March 2011.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		Found one out of date revision of one of the controlled copies of the SAMG procedures in the EOF. AR 01651884 was initiated.
	Are controlled copies of the SAMG located in the control room? (Y/N)		N	Copies of the SAMGs were not located in the Unit 1 or Unit 2 Control Rooms. However, controlled copies were located in the TSC, which is adjacent to the Unit 1 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)	Y		Covered by licensee's Administrative Procedure ADM-11.11 (Severe Accident Management Guidelines Program Administration) and FPL Nuclear Fleet Procedure AD-AA-100-1004 (Preparation, Revision, Review/Approval of Procedures). Periodic reviews of SAMG's are to be completed once every 3 years per ADM-11.11.
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)	Y		Updates to the SAMGs are controlled by the normal procedure control process per AD-AA-100-1004.
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).	Y		Site SAMG's are consistent with the owner's group guidance (1995 Combustion Engineering Owner's Group)

Enclosure

Letter or Number	Inspection Item	Yes	No	Response/Comments
	Are the SAMGs consistent with the owner's group guidance (if any) having been incorporated (Y/N/comments)?			
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			<p>1. SAMG training is classroom and tabletop.</p> <p>2. Plant staff assigned to work with SAMGs are assigned to specific Emergency Response Organization (ERO) position titles. These positions are: Licensed Emergency Coordinator (EC), Technical Support Center (TSC) Reactor Engineer, TSC Electrical Problem Solving Team (PST) Representative, TSC Mechanical PST Rep, TSC Operations Coordinator, TSC PST Leader, TSC I&amp;C PST Rep, TSC SRO PST Rep, TSC EC Assistant/Logkeeper, and Emergency Offsite Facility (EOF) Nuclear Fuels Engineer. They receive initial and continuing training on SAMGs in accordance with ADM-11.11 (Severe Accident Management Guidelines Program Administration).</p> <p>ADM 11.11 describes the training requirements as follows:</p> <p><u>Initial</u></p> <ul style="list-style-type: none"> <li>• Implementers – SAMG process training, including SAMG entry criteria</li> <li>• Decision Makers – SAMG process training, including SAMG entry criteria; in-depth training in all the SAMG</li> </ul>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<ul style="list-style-type: none"> <li>• series procedures; post-accident plant response; and EOP use &amp; contents</li> <li>• Evaluators – Use of the Calculation Aids</li> <li>• Implementers, Decision-Makers, and Evaluators – table top drill or specialized coaching activity to ensure understanding of principles and techniques of SAMG Functional Roles.</li> </ul> <p>Continuing training for Decision Makers, Evaluators, and Implementers is required at least every three calendar years per ADM-11.11.</p>
f	<p>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:</p> <p>(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)</p> <p>Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?</p> <p>(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?</p>	Y	Y	<p>Personnel Interviewed:</p> <ul style="list-style-type: none"> <li>• 2 SROs</li> <li>• 2 ROs</li> <li>• 2 TSC Evaluators (Problem Solving Team members)</li> <li>• 2 TSC Emergency Coordinators</li> </ul> <p>All individuals interviewed stated that they had received initial training in a classroom format including tabletops.</p> <p>All individuals interviewed stated that they received periodic training either table top, classroom, or combination of both.</p> <p>All individuals interviewed could articulate their responsibilities. The main implementers would be those in the TSC, with operators in the Control Room providing a supporting role.</p>

Letter or Number	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)?	Y		<p>Three of the last seven Emergency Preparedness Drills have included the use of the SAMG-01, Phase 1 Diagnostic (on 2/24/10, 10/7/09, and 3/11/09). There is no set periodicity.</p> <p>Two TSC Problem Solving Team Table Top Exercises were performed on 3/19/11, which involved the use of SAMGs. Two b.5.b drills were performed on 3/19/11, which utilized SAMG-03J Appendix 4, Manually Depressurize Steam Generators and Use Portable Diesel Fire Pump, and SAMG-03J Appendix 6, Containment Flooding with the Portable Diesel Fire Pump. These b.5.b drills involved hooking up and routing b.5.b hoses. The activities performed on 3/18 and 3/19/11 were done in response to INPO IER 11-1.</p>



**SUMMER  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			The licensee's plant specific, i.e., "Summer SAMG" document, was titled "Severe Accident Management Guideline (SAMG) Scope, Training, User's Guide and Guidelines," Revision 0D, dated 6/30/2003. While the document was last updated 6/30/2003, it was still based on the generic Westinghouse Owner's Group (WOG) SAMG version MUHP-2313, dated 9/13/1996. The licensee incorporated the WOG SAMG into this plant specific document and included not only the WOG guidelines, but also station developed background and guidance for the training and "rules of usage" on the SAMGs.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		The inspectors obtained from the licensee's document control management system, a listing of where each controlled copy of the Summer SAMG document was supposed to be located. The inspectors verified the location of the controlled copies and found that, of the five controlled copies that were designated to be in the TSC, only one copy was found. This copy was found in the TSC Engineering support group area in an unmarked overhead storage cubicle. Two of the designated TSC copies were subsequently found in another building located in the Emergency Services Unit (i.e., Emergency Preparedness department) area. Also, the inspectors identified that the controlled copy of the Summer SAMG designated for the Operations Support Center (OSC) and the copy designated for the plant simulator

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>control room were not in their intended locations.</p> <p>The inspectors reviewed licensee procedure Emergency Plan Procedure (EPP)-103, "Emergency Equipment Checklist," Revision 9E, dated 12/20/2010, which contains a listing of equipment (including procedures) designated for each emergency response facility location. The inspectors noted that EPP-103 did not include explicit direction that the Summer SAMG document be in any of the emergency response locations even though other emergency response procedures were listed.</p> <p>The licensee initiated a condition report (i.e., CR-11-02600) to document these control copy discrepancy observations, as well as other general Summer SAMG implementation issues noted by the inspectors.</p>
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		No comments
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		No comments
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	Y		<p>The inspectors noted that the Summer SAMG document states that it was a guide and not a procedure, it was not intended to delineate administrative or safety-related requirements and the document was not considered a procedure subject to the station procedure review and approval control program, nor governed under 10CFR50.59 requirements, nor required to be reviewed by the station onsite safety</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>review group (i.e., Plant Safety Review Committee).</p> <p>The inspectors noted that Section 2.4, "Assessment of SAMGs" of the Summer SAMG document stated that the ESU department will conduct an assessment of the SAMG biennially which would be based on SAMG table top training results, training attendance, and input from SAMG feedback forms. The inspectors found that ESU was performing a limited assessment annually, however, this assessment was only on the SAMG guideline itself. Also, only a few SAMG feedback forms had been submitted over the past years, with the date of the last one in 2003.</p>
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)		N	<p>The inspectors noted that Section 2.3, "Guideline Development, Review and Approval," of the Summer SAMG document stated the following:</p> <p>"A committee with members from Operations Procedure Group, Design Engineering and ESU will review SAMG setpoints and calculation aids for changes required due to modifications, etc. This will be performed annually during the calendar year, typically in the first quarter. The committee will initiate a SAMG feedback form if required."</p> <p>Based on interviews with licensee personnel in the ESU department and from operations and design engineering, the inspectors found that currently, there was no committee officially operating that was implementing the activities as intended in Section 2.3. The licensee included this observation in</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				CR-11-02600. The inspectors also reviewed the station modification program procedures and found no formal expectation that the Summer SAMG be reviewed for impact as part the process for making plant design modification changes.
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?		N	As previously discussed in Section a. of this table, the current revision of the licensee's SAMG was based on version MUHP-2313, dated 9/13/1996, of the generic WOG SAMG. The inspectors determined that the latest WOG SAMG is version MUHP-2315, dated October 2001. The licensee acknowledged that they had not updated their Summer SAMG document with the latest WOG version and planned to evaluate this as part of their evaluation in CR-11-02600.
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			The Summer SAMG document contained a detailed description of the SAMG training programs. The training program was based on three categories of personnel that would be involved with implementing the SAMGs, i.e., decision makers, evaluators (or assistant evaluators), and implementors. The position title of decision maker was given to individuals assigned as either the Emergency Director positions or Interim Emergency Director positions of the emergency response organization. Evaluators were designated as TSC Operations Engineers or TSC Engineering positions. Implementors were designated as the control room staff personnel (i.e., senior reactor and reactor operator positions). Specific initial and continuing training programs were setup for each of

Letter or Number	Inspection Item	Yes	No	Response/Comments
				these three groups. For initial training, training modules were developed for each SAMG guideline document and the training requirements included either classroom table-top training, or self-study read and sign of the SAMGs. Continuing training requirements included similar training activities that were required to be completed every two years. The inspectors reviewed training records for the three positions and determined that continuing training was being conducted at the prescribed frequency; however, the training was limited to personnel read and sign of the SAMGs versus classroom training or the use of table top instructional training aids. The last SAMG table top conducted was found to have taken place in 2003.
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:			The inspectors interviewed two senior reactor operators, two reactor operators, two TSC engineering staff, and two TSC managers assigned to apply the SAMGs during an emergency.
	(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)	Y		No comments
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		See (e) above
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	Y		See (e) above

Letter or Number	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)?		N	The inspectors noted that Section 4.7, "Table Top Drills," of the Summer SAMG states that "one TSC table top drill will normally be conducted each calendar year" and "the decision makers and evaluators from all teams will participate in a SAMG table top drill once every five years." However, based on interviews with the ESU Manager, a table top drill had not been conducted since 2003. The ESU Manager indicated that plans were being developed to start implementing table tops in the near future.

**SURRY  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			April 12, 2011 based on changes recommended after walkdowns performed as a response to INPO IER L1 11-1.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		<p>VPAP-2604, "Severe Accident Management Guideline (SAMG) Program Administration", step 6.6.2 requires copies of all SAMGs to be kept in the TSC, local EOF (LEOF), and corporate EOF (CEOF).</p> <p>However, the inspector found that uncontrolled binders of SAMG procedures, none of which were the current revision, were being stored in the TSC, MCR, and LEOF. The uncontrolled binders were marked "SAMG Procedures" while the controlled binder was marked "B.5.b Procedures" and also included B.5.b material. The binder markings caused multiple licensee personnel to erroneously identify the out of date SAMGs as being the correct copies. The licensee has removed the uncontrolled procedures and updated the marking on the controlled procedure binder. This issue has been entered into the licensee's CAP as CR 427889.</p>
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		See above.
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		VPAP-2604, "Severe Accident Management Guideline (SAMG) Program Administration", Step 6.6.1 requires copies of SACRGs only, to be kept in the MCR and simulator. See the discrepancy noted above.

Letter or Number	Inspection Item	Yes	No	Response/Comments
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	VPAP-2604, "Severe Accident Management Guideline (SAMG) Program Administration", provides instructions for development, revision, approval, training, and distribution of SAMG procedures. VPAP-2604, Section 6.2, "Review," requires SAMGs to conform with VPAP-0502, "Procedure Process Control," which does not require a periodic review for non safety related procedures. The SAMGs are not safety related. The inspector found no program that specified a review and revision on a regular periodic frequency, e.g., yearly.
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)	Y		SAMG procedures are included in the scoping for revision as a result of design changes. These changes are typically made to coincide with changes to SM-1497, "Severe Accident Management Guidelines (SAMG) Setpoints and Computational Aids, Surry Power Station Unit 1 and Unit 2", which is developed by the Nuclear Safety Analysis group. Recent examples of updates due to design changes include: the GSI-191 Containment Sump Modifications and the Measurement Uncertainty Recapture (MUR) Power Upgrade. Westinghouse Owners Group Severe Accident Management Guideline, Revision 1, was incorporated with the MUR changes.



Letter or Number	Inspection Item	Yes	No	Response/Comments
d	<p>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 owner's group guidance (if any) having been incorporated (Y/N/comments)?</p>	Y		<p>The Surry SAMGs are consistent with the latest revision WOG guidance and this is also required by VPAP-2604, "Severe Accident Management Guideline (SAMG) Program Administration", step 6.1.1, which also requires written justification for deviations from the WOG SAMGs.</p>
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			<p>Initial and refresher training requirements will include either classroom or self-study training followed by participation in a table top drill. Recently, due to advances in simulator modeling of advanced accident phenomenology, the licensee has started instituting simulator training on the SAMGs for both initial and refresher training, although the use of the simulator for SAMG training is not a requirement. [VPAP 2604, steps 6.5.5, 6.5.6]</p> <p>The licensee's procedures define three designated SAMG positions, which are based off of the WOG SAMGs: Decision Maker, Implementer, and Evaluator. All licensed operators and STAs are at least Implementers, SROs with an ERO manager role also receive Decision Maker training. ERO team members with extensive engineering experience are trained as Evaluators and other top site managers with ERO management roles are Decision Maker trained. [VPAP 2604, steps 6.5.1, 6.5.2, 6.5.3]</p> <p>Personnel newly assigned to an ERO position are required to complete SAMG training within 6 months of their assignment. Refresher training is required once</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				every three calendar years. [VPAP 2604, steps 6.5.5, 6.5.6]
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 <b>initial</b> training on the SAMGs? (Y/N)	Y		IAW VPAP 2604, step 6.5.5 as described in part (e) above.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		IAW VPAP 2604, step 6.5.6 as described in part (e) above. With the exception that some individuals interviewed had been first licensed in the past 3 years and had not yet received their first 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)?	Y		To the various levels of detail given their experience, all individuals interviewed were able to express their responsibilities as they pertain to the SAMGs during an event.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	Y		The licensee does not incorporate SAMGs in their normal emergency preparedness drills or exercises. Rather, the licensee performs training using the classroom setting for formal presentations and or table-top drills as specified IAW VPAP 2604, step 6.5.6 as described in part (e) above, i.e. refresher training.

**TURKEY POINT  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			CA Computational Aids – 2009 DFC-TSC diagnostic flow chart-2002 SACRG-1 Severe Accident Control Room Guideline Initial Response-2011 SACRG-2 Severe Accident Control Room Guideline-2011 SAG-1 Injection into Steam Generators-2011 SAG-2 Depressurize the RCS-2011 SAG-3 Injection into the RCS-2002 SAG-4 Injection into Containment-2010 SAG-5 Reduce Fission Product Releases-2011 SAG-6 Control Containment conditions-2002 SAG-7 Reduce Containment Hydrogen-2002 SAG-8 Flood Containment-2011 SCG-1 Mitigate Fission Product Releases-2002 SCG-2 Depressurize Containment-2002 SCG-3 Control Hydrogen Flammability- 2002 SCG-4 Control Containment Vacuum-2002 SAEG-1 TSC Long Term Monitoring-2002 SAEG-2 SAMG Termination-2002 SCST-Severe Challenge Status Tree-2002
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		YES-all listed above
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		YES-all listed above

Letter or Number	Inspection Item	Yes	No	Response/Comments
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		Specifically SACRG-1, SACRG-2, CA Computational Aid. These are the only procedures of the SAMGs the control room uses and implements prior to TSC becoming functional. A complete set of SAMG procedures are located in the TSC and the EOF.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		N	SAMGs are controlled in accordance with Fleet standard procedure AD-AA-100-1004, Preparation, Revision/Approval of Procedures. There are no periodic review requirements as identified in the Quality Assurance Topical Report.
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)		N	No. A condition report has been written to address this issue, to include SAMG impact as part of modification process.
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		Yes, a comparison was performed between Westinghouse Owners Group SAMGs Rev. 0 reference documents (onsite) and the site SAMGs and they were found to be consistent with the WOG guidance.
e	How is training conducted on the SAMGs?  Who is trained on the SAMGs?  What is the periodicity of training?			All Operations (both licensed and non-licensed) and Engineering personnel receive SAGs training in their Initial Training Programs along with others as assigned by the Emergency Planning group. Licensed operators receive biennial training in their Continuing Training Program. Engineers receive biennial training on the SAGs. This training can be tabletop exercises, review of overall program, specific awareness training of various guidelines and tools or other training as delineated by their Training Review Committee. The engineers to be assigned to the

Letter or Number	Inspection Item	Yes	No	Response/Comments
				TSC as SAG evaluator will receive direction from their manager to review and become familiar with all SAG tools they are required to use in the TSC. This must be done before they are assigned to the TSC by EP. Joint tabletops with evaluators, decision makers, and implementers have been performed to test the SAGs. A web based SAG overview training module was developed for annual training for assignment per EP to site personnel.
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:			<ul style="list-style-type: none"> <li>a. RO#1</li> <li>b. RO#2</li> <li>c. SRO#1 (Shift Manager)</li> <li>d. SRO#2 (Unit Supervisor)</li> <li>e. TSC Lead Engineer</li> <li>f. TSC Lead Engineer</li> <li>g. TSC Emergency Coordinator</li> <li>h. TSC Operations Manager</li> </ul>
	(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)	Y		Yes, with one exception: **RO #2 did not receive initial training on SAMGs
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		All personnel receive periodic training on SAMGs 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)?	Y		<p>All personnel interviewed were able to articulate their responsibilities; individual responsibilities are described below for each interviewee.</p> <ul style="list-style-type: none"> <li>a. Follow and implement SACRGs</li> <li>b. Follow and implement SACRGs</li> <li>c. Oversight, take recommendations from TSC and implement recommendations in the control room</li> </ul>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<ul style="list-style-type: none"> <li>d. Direct/implement the SACRGs and SAGs in the control room with the ROs</li> <li>e. Delegate to tech staff in TSC for recommendations, also review SAGs and SACRGs and make recommendations to Emergency Coordinator</li> <li>f. Make recommendations to Emergency Coordinator, provide oversight to engineering staff using SAGs and SACRGs</li> <li>g. Assume responsibility from control room EC and lead SAGs implementation in coordination with EOF and Operational Support Center</li> <li>h. Coordinate with TSC EC to make recommendations, request assistance from Operational Support Center as determined by procedure and plant conditions an implement SAMGs from TSC</li> </ul>
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		N	Emergency Preparedness Drills are terminated at or prior to SAMG entry.

**VOGTLE  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Procedures are reviewed on a biennial basis with revisions being made as required by site procedures. All procedures except one (SAEG-1) were verified within the two year periodicity for biennial update. SAEG-1 last updated in December 2007. CR 2011107234 initiated to document deficiency.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		N	Procedure 91900-C, Control and Use of Severe Accident Management Guidelines, section 4.3.2, required hardcopies to be in the EOF. Controlled hardcopies are not located in the EOF. Electronic versions are available on both 'Webtop' application and a stand-alone computer terminal. CR 2011107135 initiated to document deficiency.
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		Only SACRG-1 and SACRG-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)	Y		
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)	Y		Site procedure NMP-ES-022-F07, Impact Review Evaluation Form specifically lists SAMG procedures impact under section B: Operations Impact Review Evaluation.
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).	Y		

Letter or Number	Inspection Item	Yes	No	Response/Comments
	Are the SAMGs consistent with the owner's group guidance (if any) having been incorporated? (Y/N)			
e	How is training conducted on the SAMGs?  Who is trained on the SAMGs?  What is the periodicity of training?			Both initial and continuing SAMG training is provided to both licensed operators (Implementers) and designated TSC staff members (Evaluator/Decision Makers). All SRO candidates receive SAMG training as part of their initial license training program and then every two years during requalification training. All TSC Emergency Directors, TSC Managers, Operations Supervisors and Engineering Supervisors receive initial SAMG training through the ERO qualification process then every two years as 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 <b>initial</b> training on the SAMGs? (Y/N)	Y		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	Y		Every two 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)?	Y		Control room operators i.e. shift supervisor would implement SAMG procedures as directed by TSC 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)?	Y		Table top exercises are conducted annually during continuing training cycles. SAMG exercises are not performed during licensed operator requalification simulator scenarios and/or scheduled EP drills. CR 2011-107136 initiated to document deficiency.



**WATTS BAR  
TABLE OF RESULTS**

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Oldest update – 12/03/2010 Newest update – 02/02/2011 All other procedures in between these two dates.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	Y		All 25 SAMG procedures are in the TSC controlled copy # 000746
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	Y		All 25 SAMG procedures are in the CECC (EOF) controlled copy # 000846
	Are controlled copies of the SAMG located in the control room? (Y/N)	Y		All 25 SAMG procedures are in the Control Room controlled copy # 000747
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	Y		Controlled by NPG-SPP-18.3.1, Rev 0, Severe Accident Management Guideline (SAMG) Program Administration, Section 3.2, Guideline Revision, Review, and Approval
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)	Y		Controlled by NPG-SPP-09.3, Rev 4, Plant Modifications and Engineering Change Control, Section 3.1.4B, Design Development which directs preparer to Appendix D, Potential Effects on Design of this procedure, item 42, Severe Accident Management Guideline (SAMG) Program Impact (eg, change to ECCS setpoints, plant power)
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 owner's group guidance (if any) having been incorporated (Y/N/comments)?	Y		The site SAMG's are based on the generic owner's group reference plant configuration and generic IPE/PSA studies and insights. Site specific equipment and alignments, IPE insights, and capabilities are incorporated into the generic owner's group guidance in producing the site-specific SAMG's.

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				<p>A high level review by the residents determined that the above plant philosophy for procedure development had been implemented. Two exceptions in format are SACRG-1, Severe Accident Control Room Guideline Initial Response and SACRG-2, Severe Accident Control Room Guideline for Transients After the TSC is Functional which are written in a standard 2 column format for EOP/AOP's. The balance of the procedures are consistent w/ the WOG generic material. Inspectors expected the numbers to be less conservative than design basis numbers, but some of the numbers may not be realistic. For example; containment design pressure is 13.5 psig and SAMG pressure is 56 psig, containment design vacuum is -2 psig w/ - 4 psig in the SAMG. This will require follow-up and more time than is available for the TI. Also, one procedure was not utilized by the licensee, SAG-8, Flood Containment. They have a justification which looks reasonable, but not verified.</p> <p>**See item below table</p>
e	<p>How is training conducted on the SAMGs?</p> <p>Who is trained on the SAMGs?</p> <p>What is the periodicity of training?</p>			<p><b>How:</b> Training is conducted per TRN-34, Severe Accident Management Training.</p> <p><b>Who:</b> <i>Implementers</i> – Responsible for performing those steps necessary to accomplish the objectives of the strategies (e.g., hands-on control of valves, breakers, controller, and special equipment). (Control Room Staff and OPS Support Center Advisor) <i>Decision Makers</i> – Designated to assess and select the strategies to</p>

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				<p>be implemented. (Site Emergency Director)  <i>Evaluators</i> - Responsible for assessing plant symptoms in order to determine the plant damage conditions(s) of interest and potential strategies that may be utilized to mitigate an event. (Technical Assessment Team)            *See items listed below table  <b>Periodicity:</b> ≤ 4 years</p>
f	<p>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:</p> <p>(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)</p> <p>Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?</p> <p>(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?</p>	<p></p> <p>Y</p> <p>Y</p> <p>Y</p>	<p></p> <p></p> <p></p> <p></p>	<p></p> <p>Last training was received in 2009 for the technical staff. Operations initial training was some years ago. Interviews w/ some recently licensed RO and SRO's indicates that they received the training as part of 'gap' training. Gap is the difference between initial license training and requal.</p> <p>Operations and Engineering get SAMG at least once per 4 years. Most of the training is classroom and is more abstract w/ the relation to specific duties. Those that have participated in tabletop exercises receive a more practical concept of the relationship of training to duties</p> <p>The Engineers had an idea, but would most likely need some specific direction from the operational personnel in the TSC to focus them on the correct tasks. Operations appears to have a better understanding w/ regards to 50.54x and how the shift from EOP's to SAMG's occurs.</p>

Letter or Number	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)?	Y		Classroom training includes some tabletop exercises. Recently, March of 2011, a separate table top exercise was done w/ one of the Emergency Response Staff's. Inspectors were told by the EP Manager that he planned to make these type exercises periodic (no commitment).

\*PER 342222 Enhancement Recommendation: SAMG training is specified in TRN-34, Severe Accident Management, for certain responders to the Technical Support Center (TSC) and the Operations Support Center (OSC). However, this training requirement is not specified in TRN-30, Emergency Preparedness Training. This has led to 8 of 33 ERO members specified in TRN-34 to be assigned to their ERO position without the training or has allowed their SAMG qualifications to lapse.

NOTE: Included in the above, inspectors determined that 2 of the 4 Site Emergency Directors had not had SAMG training. The other two are SRO's or former SRO's who have had a history of training in the area. The two which have not had the training are the Training Manager and the Unit1/Unit2 Interface Manager.

\*PER 342322 TRN-34, Severe Accident Management Training, does not require any SAMG training for the TSC Ops Manager. TRN-34 does not require any SAMG training for the TSC Operations Manager. Consideration should be given to requiring that the TSC Operations Manager at all 3 sites be trained and qualified as a SAMG Decision Maker, since the only person in the TSC required to be trained and qualified as a decision maker is the SED. This arrangement leaves the SED in the TSC with no one trained and qualified to provide a peer check or independent verification for the SED when performing the SAMGs

\*\*PER 352687, The H2 Recombiners were removed from Technical Specifications, and there is a DCN in place to remove them from service. Surveillance Instructions are no longer being performed on the H2 Recombiners, and the PMs are not being maintained current. The U1 B-Train Recombiner has a ground on the heater that makes it non-functional. The recombiners are used as a strategy for controlling H2 in the context of the SAMGs. Specifically, procedures SAG-7 and SCG-1 address using the H2 recombiners during Severe Accident Scenarios.