



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

May 27, 2011

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

FROM: Julio Lara */RA/*  
Team Leader, Technical Support Staff (TSS)  
Division of Reactor Projects (DRP)  
Region III

SUBJECT: COMPLETION OF TEMPORARY INSTRUCTION (TI) 2515/184,  
"AVAILABILITY AND READINESS INSPECTION OF SEVERE  
ACCIDENT MANAGEMENT GUIDELINES (SAMGs)" AT  
REGION III SITES

The enclosure to this Memorandum contains the responses to the specific questions asked in Section 03.01 of the TI. The completion of this TI will also be documented in the second quarter NRC Integrated Inspection Report for each site, 05000xxx/2011003.

Please contact me at 630-829-9731 if you have any questions.

Enclosure:  
As stated

DISTRIBUTION:  
See next page

CONTACT: Julio Lara, Team Leader, TSS  
DRP, Region III  
(630) 829-9731



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

May 27, 2011

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

FROM: Julio Lara /RA/  
Team Leader, Technical Support Staff (TSS)  
Division of Reactor Projects (DRP)  
Region III

SUBJECT: COMPLETION OF TEMPORARY INSTRUCTION (TI) 2515/184,  
"AVAILABILITY AND READINESS INSPECTION OF SEVERE  
ACCIDENT MANAGEMENT GUIDELINES (SAMGs)" AT  
REGION III SITES

The enclosure to this Memorandum contains the responses to the specific questions asked in Section 03.01 of the TI. The completion of this TI will also be documented in the second quarter NRC Integrated Inspection Report for each site, 05000xxx/2011003.

Please contact me at 630-829-9731 if you have any questions.

Enclosure:  
As stated

cc w/encl: Distribution via ListServe

DISTRIBUTION:

See next page

CONTACT: Julio Lara, Team Leader, TSS  
DRP, Region III  
(630) 829-9731

DOCUMENT NAME: G:\DRPIII\1-Secy\1-Work In Progress\RIII\_TI-184\_Completion\_Memo.docx

Publicly Available       Non-Publicly Available       Sensitive       Non-Sensitive

To receive a copy of this document, indicate in the concurrence box "C" = Copy without attach/encl

"E" = Copy with attach/encl "N" = No copy

OFFICE	RIII		RIII		RIII		RIII
NAME	JLara:cs						
DATE	05/27/11						

OFFICIAL RECORD COPY

Memo to T. Kobetz from J. Lara dated May 27, 2011

SUBJECT: COMPLETION OF TEMPORARY INSTRUCTION (TI) 2515/184, "AVAILABILITY AND READINESS INSPECTION OF SEVERE ACCIDENT MANAGEMENT GUIDELINES (SAMGs)" AT REGION III SITES

DISTRIBUTION:

cc w/encl:	M. Satorius, RIII	RidsNrrDorILpl3-1 Resource
	C. Pederson, RIII	RidsNrrDorILpl3-2 Resource
	A. Lewin, NRR	RidsNrrDirIrib Resource
	F. Brown, NRR	RidsNrrPMBraidwood Resource
	D. Merzke	RidsNrrPMByron Resource
	S. Orth	RidsNrrPMClinton Resource
	J. Heck	RidsNrrPMDCCook Resource
	A. Barker	RidsNrrPMDavisBesse Resource
	DRPIII	RidsNrrPMDresden Resource
	DRSIII	RidsNrrPMDuaneArnold Resource
	P. Buckley	RidsNrrPMFermi2 Resource
	T. Tomczak	RidsNrrPMKewaunee
		RidsNrrPMLaSalle
		RidsNrrPMMonticello
		RidsNrrPMPalisades Resource
		RidsNrrPMPerry Resource
		RidsNrrPMPointBeach
		RidsNrrPMPrairieIsland Resource
		RidsNrrPMQuadCities Resource

NRC TEMPORARY INSTRUCTION 2515/184

<u>Site</u>	<u>Page #</u>
BRAIDWOOD STATION, UNITS 1 AND 2 .....	1-2
BYRON STATION, UNITS 1 AND 2 .....	3-4
CLINTON POWER STATION .....	5-7
D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2 .....	8-12
DAVIS-BESSE NUCLEAR POWER STATION.....	13-15
DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 .....	16-18
DUANE ARNOLD ENERGY CENTER .....	19-24
FERMI POWER PLANT, UNIT 2 .....	25-27
KEWAUNEE POWER STATION .....	28-32
LASALLE COUNTY STATION, UNITS 1 AND 2 .....	33-35
MONTICELLO NUCLEAR GENERATING PLANT .....	36-40
PALISADES NUCLEAR PLANT .....	41-43
PERRY NUCLEAR POWER PLANT .....	44-45
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 .....	46-49
PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 .....	50-53
QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 .....	54-55

BRAIDWOOD STATION, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Various. Dates ranging from 2002 through 2011.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		X	The SAMG procedures were kept in an "Information Only" binder.
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		Yes, SAMGs are located in the control room but not all of them. The SAMGs related procedures located in the control room are: SACRG-1, "Severe Accident Control Room Guidelines Initial Response"; SACRG-2, "Severe Accident Control Room Guidelines for Transients after the TSC is Functional."
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)	X		Corporate level procedure CC-AA-102. If a configuration change has the potential to impact the SAMGs, then this procedure requires the creation of a station action tracking item to ensure the applicable procedures are revised.
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?		X	Revision 1 of the industry guidance was issued in October 2001 and have not been incorporated into the site's SAMGs.
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			The initial training is a review of the procedures and some tabletop exercises. Licensed operators, SROs, TSC Decision Makers and TSC Evaluators are trained periodically by an annual read and sign and through periodic exercise participation that involve SAMGs usage.

BRAIDWOOD STATION UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

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)	X		All received training.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	X		All received periodic training.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	X		
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	X		Periodic exercises involving SAMG usage are scheduled at a minimum of every 6 years.

BYRON STATION UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			1997
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		X	The SAMG procedures were kept in an "Information Only" binder.
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)	X		Corporate level procedure CC-AA-102. This procedure is not being followed.
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?		X	Revision 1 of the industry guidance was issued in October 2001 and have not been incorporated into the site's SAMGs.
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			The initial training is a review of the procedures and some tabletop exercises. Licensed operators, SROs, TSC Decision Makers and TSC Evaluators are trained. Periodic retraining is required every 6 years per corporate procedure EP-AA-122-1001.
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)	X		All received training.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	X		All received periodic training.

BYRON STATION UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

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)?	X		
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		X	



CLINTON POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			<ul style="list-style-type: none"> <li>• CPS 4701.01, "SAG-1 Primary Containment Flooding," Revision 4 on September 7, 2007</li> <li>• CPS 4702.01, "SAG-2 RPV [Reactor Pressure Vessel], Containment, and Radioactivity Release Control," Revision 4a on September 28, 2009</li> <li>• CPS 4750.01, "SAMG Team – Technical Support Guidelines (TSG)," Revision 0d on December 21, 2009</li> </ul>
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		X	<p>The SAMG procedures were kept in an "Information Only" binder along with the station's Emergency Operating Procedures (EOPs). Current controlled procedure copies except for CPS 4702.01, however, were available in the EOF from the licensee's computer database.</p> <p>CPS 4702.01 is undergoing revision and was not retrievable from the licensee's computer database during the inspection. The licensee wrote action request (AR) 01212213 to identify this problem with an action assigned to provide current copies of the SAMG and EOP flowcharts to the EOF. This action has been completed.</p>
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	<p>The SAMG procedures are covered under the licensee's procedure control and document management system; however, there is no requirement for periodic SAMG procedure reviews and revisions. The licensee captured this issue in CR 01212213.</p>

CLINTON POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)	X		Procedural guidance for review of design changes to prompt updating SAMG procedures is contained in CC-AA-102, "Design Input and Configuration Change Input Screening."
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?	X		The licensee has incorporated appropriate changes to its SAMG procedures through Revision 3 of the BWR Owners' Group Emergency Procedure and Severe Accident Guidelines. A high-level comparison revealed many differences, but those differences appeared to be appropriate.
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			Initial training for designated Emergency Response Organization (ERO) staff and all licensed operators is conducted in classroom under the Licensed Operator Training Program. Designated ERO staff includes the Station Emergency Director, Operations Manager, Technical Manager, Mechanical Engineer, Core Thermal/Hydraulic Engineer, and Electrical Engineer. Refresher/periodic SAMG training is conducted for the above individuals in classroom under the Licensed Operator Requalification Program annually. ERO staff takes the same classroom training as the licensed operators.
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:			
	(3) Did they receive <b>initial</b> training on the SAMGs? (Y/N)	X		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	X		Refresher/periodic SAMG training is conducted in classroom under the Licensed Operator Requalification Program annually.
	(4) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	X		Designated ERO staff and all licensed operators would be involved in implementing the SAMG procedures. Designated ERO staff includes the Station Emergency Director, Operations Manager, Technical Manager,

CLINTON POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				Mechanical Engineer, Core Thermal/Hydraulic Engineer, and Electrical Engineer.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		X	<p>The licensee has an administrative requirement to conduct a drill that uses the SAMG procedures once every 6 years. A drill was performed at Clinton Power Station on June 15, 2005, and was therefore due again in 2011. The inspectors observed a drill on May 17, 2011, that was credited towards the 6-year licensee administrative requirement. However, the inspectors noted the following:</p> <ul style="list-style-type: none"> <li>• A drill involves only one of the five ERO duty teams. Although the same drill may be used for training more than one of the ERO duty teams during the year, all individuals who are qualified for implementing the SAMG procedures during an emergency are not necessarily included in a periodic exercise/drill that uses the SAMG procedures every 6 years. The licensee's ERO training and qualification procedure does not require all of the above designated ERO staff and licensed operators to participate in a drill that uses the SAMG procedures.</li> <li>• The drill observed on May 17<sup>th</sup> involved only ERO staff in the TSC. It did not include licensed operators in the plant simulator.</li> </ul>

D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION  
2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			<p>There has not been any full scale updates or revisions to the SAMGs and they have not been updated to incorporate Westinghouse Owners Group (WOG) Severe Accident Management Guidance, Revision 1, dated October 2001.</p> <p>However, various procedures have been updated based on licensed operator feedback during training or for other minor issues (i.e., formatting or typographical errors). Four guidelines are at Revision 4, which were issued on April 8, 2009:</p> <ul style="list-style-type: none"> <li>• Severe Accident Control Room Guidelines, SACRG-1, "Initial Response" and SACRG-2, "Transients After the TSC is Functional"; and</li> <li>• 2 Severe Accident Guidelines, SAG-1, "Feeding the Steam Generators" and SAG-2, "Depressurize the RCS."</li> </ul> <p>Regarding the other guidelines, 11 have been revised once; 3 have been revised twice; 2 have been revised 3 times; and 12 have never been revised.</p>
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		<p>The inspectors verified that controlled copies of the SAMGs were located in the TSC.</p> <p>However, several discrepancies were noted:</p> <ul style="list-style-type: none"> <li>• Two revisions of SACRG-2 (Revision 3 and Revision 4) were located in the TSC with Revision 3 filed in the guideline binder and Revision 4 filed behind SACRG-1 in the SACRG-1 guideline binder;</li> </ul>

D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION  
2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<ul style="list-style-type: none"> <li>• Two guidelines were missing from the TSC (SAG-7-2, "Prevent Hydrogen Burn;" SAG-7-3, "Operate Hydrogen Recombiners"); and</li> <li>• One guideline (SAG-5, "Reduce Fission Product Releases") in the TSC was the wrong revision (Revision 0 instead of Revision 1).</li> </ul>
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		This information is based on reviewing documents from the licensee's Nuclear Document Management group that indicated a controlled copy of all the SAMGs was located in the EOF.
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		Controlled copies of control room specific guidelines, Severe Accident Control Room Guidelines (SACRG-1 and SACRG-2), as well as the computational aids (CA) were located in each unit's control room. In addition, controlled copies of all the SAMGs were located in the Shift Manager Office, which is located just outside the control rooms.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	<p>SAMGs are controlled documents and therefore are required to be audited each year in accordance with PMP-2030-DOC-001, "Document Control," to verify that they are up-to-date.</p> <p>However, the inspectors concluded that the audits were not effective because several guidelines in the TSC were missing or outdated; the audits were random samples and therefore did not review all the procedures; and, operations department could not find records for the last completed audit.</p> <p>Also, nothing in the licensee's document management system requires the SAMGs to be reviewed or revised on a periodic basis.</p>

D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION  
2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)		X	<p>Nothing in the licensee's configuration control and change management systems specifically requires the SAMGs to be reviewed for impact from plant modifications.</p> <p>However, there was evidence that the SAMGs would get revised if setpoints in emergency operating procedures changed. Specifically, SAG-0, "TSC Diagnostic Guide," was revised when the reference temperature for degraded core cooling, as specified in OHP-4023-FR-C.2, "Degraded Core Cooling," was changed from 700F to 757F in February 2007.</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 owners group guidance (if any) having been incorporated (Y/N/comments)?	X		<p>The licensee's guidelines' format and high level steps are generally consistent with the WOG guidance.</p> <p>However, the SAMGs have not been revised to incorporate the WOG, Revision 1, guidance, which impacted 17 guidelines. This issue has been entered into the licensee's corrective action program.</p> <p>Also, the inspectors noted some differences with respect to the content and number of attachments contained in the WOG guidance as compared to the licensee's specific procedures; and the licensee developed separate guidelines for some guidelines whereas the WOG guidance had separate sections within a single guideline.</p> <p>For example, the WOG guidance contained three sections within SAG-5, "Reduce Fission Product Releases," to address releases from containment, the steam generators, and the auxiliary building, while the licensee developed SAG-5-1, SAG-5-2, and SAG-5-3 to address the 3 release paths.</p>

D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION  
2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
e	<p>How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?</p>			<p>Training is generally conducted as classroom training. However, some operators have been trained using tabletop scenarios utilizing the procedures.</p> <p>Initial license candidates receive SAMG training during their qualification process.</p> <p>Licensed operators get refresher training on the SAMGs every 3-years.</p> <p>The Site Emergency Coordinator (SEC-TSC), SEC Assistant (TSC), Plant Evaluation Team (PET) - Operations and PET-Training emergency response (ERO) personnel get training on SAMGs and refresher training every 3 years.</p> <p>However, the licensee had previously identified that SAMG training for ERO personnel was not conducted in 2010 as scheduled, which was entered into their corrective action program.</p> <p>The inspectors noted that training for ERO personnel in the TSC is not required for initial qualifications but is required within 1 year of qualifying. Also, SAMG training for any ERO personnel in the EOF is not required by the training procedures.</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>	X		See "e" above for details.
	<p>Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?</p>	X		See "e" above for details.

D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION  
2515/184

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)?	X		<p>Yes, all interviewees could generally describe how the SAMG network would be implemented and what their specific role would be.</p> <p>The SEC-TSC would be the primary decision maker with support from PET-Ops and PET-Training when determining which mitigation strategy within the SAMGs to implement. The developed mitigation strategy would then be delivered to the control room and discussed with the Shift Manager prior to implementing. The Shift Manager would discuss the strategy with the Unit Supervisor (SRO) who would then direct the ROs and other crew members to implement the strategy.</p>
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		X	There have not been any emergency preparedness exercise or drill scenarios that would require the SAMGs to be utilized. Training has primarily been lesson plans taught in the classroom with a limited amount of tabletop scenarios that walked through how to implement the guidelines.



DAVIS-BESSE NUCLEAR POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Revision 00 of the Davis-Besse SAMGs are dated 12/10/1997. The SAMGs have not been updated; Revision 00 is still in use.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		Two controlled copies and bases documents are located in the TSC.
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		X	They do not keep a copy in the EOF, however, there are copies nearby, located across the hall in the TSC.
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		One controlled copy and bases document is kept in the control room. In addition, one copy is kept for senior reactor operators at the work control center desk, located in the same vicinity as the outage control center.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	X		<p>The SAMGs are controlled documents. The administrative procedure NG-EN-00550, "Severe Accident Management," covers the revision, review and approval process to revise the Davis-Besse SAMGs. This procedure does not provide a periodicity for the review process of the SAMGs. The SAMGs have not been revised since issuance in 1997.</p> <p>Procedure RA-EP-02320, Emergency Technical Assessment, provides methodology for estimating core damage and describes engineering assessment activities during an emergency response to a major off-normal event. This procedure refers to SAMGs and is covered by the procedure control and document management process. Procedure NG-NS-00500, Nuclear Emergency Response, requires an annual review of RA-EP-02320.</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)		X	SAMGs cover a regime that the licensee has considered to be outside the licensing basis and are not described in the USAR or technical specifications. Therefore, the SAMGs are not considered in part of the design change or 50.59 process.

DAVIS-BESSE NUCLEAR POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				In addition, the licensee's administrative procedure NG-EN-00550, "Severe Accident Management," determined that the 50.59 review process is not applicable to the implementation or modification of the Davis-Besse SAMGs.
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?	X		The Davis-Besse SAMGs are consistent with B&W Owners Group Generic Severe Accident Guidelines (GSAG) dated March 11, 1994. A list of material changed, added to, or removed from the GSAG is documented in an appendix to the Davis-Besse SAMG. Some variations from the guidance documents have been made to accommodate site specific plant design differences. The changes do not significantly affect the outcome of the SAMGs.
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			SAMG initial training is conducted as a computer based training course. SAMG requalification training is a computer based training course required every two years. Training is required for the Emergency Assistant Plant Manager, Shift Manager, Shift Engineer, Unit Supervisor, Emergency Director, Core Thermal Hydraulic Engineer, Emergency Plant Manager, SAM Engineer, and TSC Engineering Manager.
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)	X		The senior reactor operators, certain TSC staff, and TSC managers have received initial training on the SAMGs.  Reactor operators are not required to be trained on the SAMGs.

DAVIS-BESSE NUCLEAR POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
	<p>Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?</p>	X		<p>SAMG requalification training is a computer based training course required every two years.</p> <p>Reactor operators are not required to be trained on the SAMGs.</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>	X		<p>The TSC engineers and managers are responsible for analyzing the specific plant conditions and evaluating the potential to use the guidelines in the SAMGs. The TSC is responsible for providing their recommendation to the control room staff. The operating crew would be responsible for implementing the SAMGs. Senior reactor operators are responsible for giving direction to reactor operators and other available personnel to perform the required tasks.</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>		X	<p>Davis-Besse does not design Emergency Preparedness Drill/Exercise scenarios that would purposely drive the plant to the use of SAMGs.</p> <p>The Operations training department indicated that SAMG tabletop drills are conducted on years when the computer based training is not offered. Tabletop training documentation was not able to be provided to the inspectors and could not be verified.</p>

DRESDEN NUCLEAR POWER STATION UNITS 2 AND 3 - NRC TEMPORARY INSTRUCTION  
2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			August 16, 2009
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	SAMGs are controlled by Dresden Administrative Procedure DAP 09-04, "Control of Dresden Emergency Operating Procedures," Revision 18. There was no administrative requirement 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)	X		Licensee procedure CC-AA-102, "Design Input and Configuration Change Impact Screening," Revision 20, requires a review of the SAMGs before a design change.
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?	X		The major headings of the SAMGs correspond to the BWROG Emergency Procedure and Severe Accident Guidelines, Appendix B: Technical Basis, Volume 2, Revision 2, March 2001.
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			Licensed Operators and select members of the licensee's Emergency Response Organization. Initial training is conducted in the classroom. Requalification training is annual and consists of a read and sign of three lesson plans. The inspectors reviewed licensee lesson plan Severe Accident Management Phenomenology, Revision 3, August 2009. The course material stated: "External cooling of the reactor pressure vessel may not be possible if the pressure vessel has a support skirt without holes of sufficient size to vent the steam generated from the boiling process. If steam is not vented, a steam blanket is formed around

DRESDEN NUCLEAR POWER STATION UNITS 2 AND 3 - NRC TEMPORARY INSTRUCTION  
2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>the lower vessel head, displacing water from the region and impeding the heat removal process. At Dresden there is only one inspection hole in the skirt, and it is approximately 3 feet below the vessel bottom head. Therefore there is no vent path for the steam above this elevation.”</p> <p>The inspectors questioned this material. The licensee provided drawing M-1175D-5, Revision A, which showed that the center of the inspection port was actually 1.5 feet above the vessel bottom head. The licensee documented this in Issue Report 1215029.</p> <p>A potential generic issue was identified during this review as discussed below:</p> <p>The inspectors reviewed NUREG/CR-5869, “Identification and Assessment of BWR In-Vessel Severe Accident Mitigation Strategies.” The inspectors interpreted NUREG/CR-5869 to mean that due to the location of the inspection port, and the absence of any other vents, there would still be a steam void below the reactor vessel head, and that the flooding of the containment would not prevent eventual failure of the reactor vessel bottom head.</p> <p>The inspectors reviewed the BWR Owners Group Emergency Procedure and Severe Accident Guidelines, Appendix B: Technical Basis, Volume 2, Revision 2, which stated:</p> <p>“Flooding the containment to above the elevation of core debris inside the RPV [reactor pressure vessel] also provides some cooling to the debris, even if the water cannot enter the RPV, by heat transfer through the vessel wall. Most RPV skirts are not vented, however, and trapped</p>

DRESDEN NUCLEAR POWER STATION UNITS 2 AND 3 - NRC TEMPORARY INSTRUCTION  
2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				noncondensibles can prevent water in the drywell from contacting parts of the lower head. The external cooling provided by flooding is therefore insufficient to ensure that core debris will be retained in the RPV, but may delay vessel failure by several hours and precludes in-core instrument thimble failures.”
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)	X		Yes, all those interviewed remember receiving initial SAMG training.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	X		The members of the ERO remembered that they receive an e-mail once per year that asks them to perform a read and sign of three lesson plans.  The operators recalled periodic training in the past but not in the last 4 or 5 years. The Shift Managers get the read and sign e-mail every year also, but when it was shown to them, they could not recall it.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee’s SAMGs)?	X		
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		X	The training for operators does not include a practical exercise of walking through the SAMGs. Simulator exercises proceed to the point of recognition that entry into the SAMGs is necessary and the exercise is then terminated. The Emergency Response Organization training includes a SAMG walk through once every 6 years.

DUANE ARNOLD ENERGY CENTER - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			<p>Duane Arnold's SAMGs are primarily governed by the following Severe Accident Guideline (SAG) flowcharts.</p> <p>SAG-1; Primary Containment Flooding; Revision 5; August 22, 2010</p> <p>SAG-2; RPV, Containment &amp; Rad Release Control; Revision 6; August 22, 2010</p> <p>SAG-3; Hydrogen Control; Revision 5; January 11, 2011</p> <p>Note that the SAG flowcharts are supported by several other procedures: SAG bases documents, the SAG Plant Specific Technical Guidelines (PSTG), the SAG Implementation Guide, and Severe Accident Management Procedures (SAMPs). All SAG support documents have last been revised between August, 2010, and April, 2011.</p>
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	X		<p>The DAEC SAGs are considered controlled documents in accordance with the licensee's Document Management System.</p> <p>Following issuance of TI 2515/184, but prior to NRC inspection of the TI, the licensee identified three items related to this inspection subsection:</p> <p>Administrative Control Procedure (ACP) 1406.7, Emergency Operating Procedure Maintenance Program, covers programmatic controls for the Emergency Operating Procedures (EOP) program. The licensee</p>

DUANE ARNOLD ENERGY CENTER - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>identified that ACP 1406.7 did not include the SAG flowcharts and related procedures. As an enhancement, the licensee initiated CR 01650497 to include the SAG procedures with ACP 1406.7.</p> <p>The licensee identified that periodic reviews were not required to be performed for the SAGs and SAMPs. The licensee initiated Routine Work Task (RWT) 01651253 to require periodic reviews of the SAG flowcharts and support procedures.</p> <p>The licensee identified that the DAEC Quality Assurance Topical Report only required periodic reviews of EOPs, Abnormal Operating Procedures (AOPs), and Emergency Plan procedures once every two years. The licensee initiated Condition Report (CR) 01651247 to require periodic review of the SAGs.</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)	X		<p>Procedure ACP 1203.52, Assessment of Potential Impact on EOPs/SAGs, covers review of SAG and SAG-related procedures with respect to any design modifications at the site.</p> <p>The licensee also utilizes an EOP/SAG impact checklist that is used during modification package screening to determine if there would be any impact on SAMG procedures. Following issuance of TI 2515/184, but prior to NRC inspection of the TI, the licensee identified some editorial changes within ACP 1203.52 and initiated Procedure Change Request (PCR) 01651263 to revise the procedure.</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 owners group guidance (if any) having been incorporated (Y/N/comments)?	X		<p>The DAEC SAG flowcharts are based on Revision 2 of the BWR Owners' Group Emergency Procedure and Severe Accident Guidelines. The licensee developed and maintains a differences document between the SAGs and the PSTG.</p>



DUANE ARNOLD ENERGY CENTER - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>The inspectors performed an independent high-level comparison of the SAGs with the BWR Owners' Group Guidelines, identified some differences, and verified that the licensee had captured them in the site's SAG/PSTG differences document. The inspectors concluded that the DAEC SAGs were consistent with the BWR Owners' Group Guidelines and that the licensee had identified noteworthy differences.</p>
e	<p>How is training conducted on the SAMGs?                      Who is trained on the SAMGs?                      What is the periodicity of training?</p>			<p>Training on SAGs at DAEC is outlined in Emergency Planning Department Manual (EPDM) 1014, Severe Accident Management Training Guidelines and Matrices. Severe Accident Guideline training is required for emergency response organization (ERO) personnel designated as performing an evaluator, decision maker, or implementer roles with respect to the SAGs.</p> <p>Training for SAGs consists of detailed training for decision maker and evaluator positions, and overview training for implementer positions. All SAG evaluators, decision makers, and implementers are required to complete initial training through classroom study, self-study or computer-based instruction, and tabletop drills. Refresher training is also required to be completed on a biennial (every two years) basis for all SAG-related positions. This training consists of classroom review and tabletop exercises.</p> <p>The normal ERO-designated SAG decision makers consist of the Technical Support Center (TSC) Operations Supervisors, typically consisting of current or past senior licensed operators.</p> <p>The normal ERO-designated SAG evaluators are members of the TSC Accident Management Team (AMT). The AMT consists of the individuals qualified as TSC Operations Liaisons,</p>

DUANE ARNOLD ENERGY CENTER - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>Reactor Engineers, and Technical Analysis Engineers.</p> <p>The normal ERO-designated SAG implementers consist of control room licensed and non-licensed operators. Following issuance of TI 2515/184, but prior to NRC inspection of the TI, the licensee identified that qualification cards for SAG training allowed for completion of SAG training within 6 months of being qualified as a SAG decision maker or evaluator. The licensee generated CR 01651230 to remove this 6 month exception and require SAG qualification prior to assuming duty as a decision maker or evaluator.</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:			The inspectors interviewed two licensed reactor operators and two licensed senior reactor operators (SAG implementers), two AMT evaluators (one TSC Reactor Engineer, and one TSC Operations Liaison), and two TSC Operations Supervisors (decision makers).
	(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)	X		All individuals interviewed stated that they had received initial training on the SAG program and procedures.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	X		All individuals interviewed stated that they had received periodic training on a biennial basis. All individuals interviewed stated that the periodic refresher training was tailored to their specific assigned SAG roles and responsibilities.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	X		All individuals interviewed were able to articulate their general responsibilities with respect to their decision making, evaluating, or implementing roles. All individuals that were interviewed understood what the other SAG roles were and how their specific roles and responsibilities were related. Depending on when refresher training was last taken, the level of detail regarding the individuals' specific responsibilities varied. However, all individuals were, at a minimum, aware of their fundamental

DUANE ARNOLD ENERGY CENTER - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				responsibilities with respect to use of the SAGs.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	X		<p>Per EPDM 1014, one ERO response drill or exercise is required to include use of the SAGs on a biennial basis. This allows for a periodic exercise on use of the SAGs by a decision maker, and evaluators and implementers scheduled for the drill or exercise being conducted that day.</p> <p>Participation in an ERO response drill or exercise that uses SAGs is not a requirement for maintaining qualification as a decision maker, evaluator, or implementer, so not all SAG-qualified individuals have participated in an ERO response drill or exercise where SAGs were used. However, SAG-qualified individuals are required to participate in tabletop exercises every two years during refresher training.</p> <p>The inspectors requested a paper copy of the most recently performed ERO response drill that included use of the SAGs as part of their review. Following this request, the licensee identified two issues:</p> <p>ERO response drills or exercised with SAG use were conducted when the SAGs were first implemented in 1998. These drills were performed on a yearly basis (at a greater frequency than EPDM 1014 required) from 1999 through 2002, and 2005 through 2009. An ERO response drill or exercise with SAG use was not conducted in calendar year 2004.</p> <p>Although EPDM 1014 requires an ERO response drill or exercise with SAG use on a biennial basis, Emergency Plan Implementing Procedure (EPIP) 6.1, Drill and Exercise Program, and EPDM Form EP-035, Drill/Exercise Objective &amp; Evaluation Process, stated that the facility should perform an ERO</p>

DUANE ARNOLD ENERGY CENTER - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>response drill or exercise with SAG use on an annual basis.</p> <p>Based on these discrepancies, the licensee initiated CR 01652552 to revise EPIP 6.1 and EP-025 to reflect the biennial requirements of EPDM 1014. The licensee concluded that although an ERO response drill or exercise with SAG use was not conducted in calendar year 2004, there were no current concerns with the ability of the ERO SAG decision makers, evaluators, and implementers to use the SAGs since all individuals had maintained required SAG qualifications.</p>

FERMI POWER PLANT, UNIT 2, NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Revision 2 was issued in March 2003 for Severe Accident Guides (Control Room). The Severe Accident Technical Guides (TSC), Revision 1, were revised in September 2009.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		The TSC staff is responsible for implementing the SAMGs. There are controlled copies of the SAMGs for each of the required TSC staff members.
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)		X	The EOF staff does not implement SAMGs. Copies are available in the EOF through the electronic document system.
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		The Control Room crew initiates the SAMGs. There are two sets of the Severe Accident Guides and one set of Severe Accident Technical Guides in the Control Room.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	<p>The SAMGs are not controlled under the licensee's procedure control and document management system. The SAMGs are controlled as part of the Radiological Emergency Response Preparedness (RERP) plan, not a procedure. The SAMGs are controlled through General Administration Conduct Manual MGA14 (Severe Accident Management Program).</p> <p>The MGA does not contain a requirement for a periodic review.</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)	X		The 50.59 applicability determination process, Section 2.3.1, requires a review of RERP plans (see Section 'b') during the engineer design change process. However, there is no specific item which indicates a review of SAMGs should be done.
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?	X		<p>The licensee's SAMGs are consistent with the latest industry guidance and differences are well documented. The differences make the SAMGs plant specific.</p> <p>The SAMG strategy to fill the drywell to provide ex-vessel cooling maybe</p>

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>impacted by the design of the vessel support skirt. This information was originally provided by GE. The lower support skirt assembly is manufactured by Combustion Engineering and has four inspection holes around the skirt. The holes are covered and will not allow steam or water flow in the area of the bottom of the vessel after flood-up of the drywell. The licensee has the BWR owners group guidelines stating that the skirt did not provide a vent path to keep water on the bottom of the vessel and that this could be a potential issue during the use of the SAMG procedures. The licensee captured the issue as a missed opportunity in CARD 11-24978.</p>
e	<p>How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?</p>			<p>Training is performed in the classroom and TSC through procedural discussions and self-study. The licensed operator positions receive initial and requalification (every 4 years) training on SAMG procedures. This includes the Control Room crew and the Technical Engineer in the TSC. The Emergency Director, I&amp;C Engineer, Thermal/Hydraulic Engineer, and System Engineers receive initial training only.</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>X</p>	<p>X</p>	<p>Interviewed 4 licensed operators, 2 TSC managers, and 2 of each of the separate TSC engineering positions.</p> <p>For non-licensed personnel, SAMG training only included self-study (read and sign).</p> <p>Licensed operators receive requalification training every 4 years.</p> <p>The non-licensed TSC staff does not receive periodic training.</p> <p>Of the personnel interviewed, all but one could articulate their responsibilities.</p> <p>One person interviewed did not recognize that the system engineer</p>

FERMI POWER PLANT, UNIT 2, NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>position, a position the person is qualified for in the TSC, was responsible for part of SAMGs.</p> <p>SAMGs are implemented by the control room staff through the Emergency Operating Procedure Flowcharts.</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>		X	<p>The licensed operators receive classroom training every 4 years. This does not include implementation of the SAMGs in the simulator.</p> <p>The 6 year EP (Emergency Planning) matrix, including SAMGs, only requires one SAMG drill during the 6 year period. Therefore, only the team that is playing in the drill and the controllers participate. One drill every 6 years does not cover all TSC ERO (Emergency Response Organization) members.</p>

KEWAUNEE POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Fifteen of the 25 SAMG-related procedures were last revised on October 3, 2000. The remaining 10 were subsequently revised at various dates through the licensee's configuration control and change management programs.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		Controlled copies of the SAMGs were available as hard copies and electronically.
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		Controlled copies of the SAMGs were available as hard copies and electronically.
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		Controlled copies of the SAMGs were available as hard copies and electronically.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	<p>SAMGs were covered by the licensee's procedure control and document management program, including requirements for periodic review and revision; however, the inspectors identified that the periodic reviews required by station procedure were not recently performed or documented. The inspectors determined that the last periodic review for the SAMGs was completed in 2005.</p> <p>The licensee concurred with the inspectors' observations and initiated condition report (CR) CR427092. The inspectors also noted that in April 2011 the licensee wrote CR 419676, which documented the periodic review of SAMGs were not adequate based on the number of guideline issues identified during a licensee review.</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)	X		<p>Procedure DNES-AA-GN-1002, "Nuclear Engineering Standard – Document Impact Summary," Revision 5, required a review of the SAMGs when changes were being made to the plant.</p> <p>The inspectors reviewed several recent design changes and verified that the SAMGs had been updated.</p>



KEWAUNEE POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

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 owners group guidance (if any) having been incorporated (Y/N/comments)?		X	<p>The SAMGs were consistent with the Westinghouse Owners Group (WOG), "Severe Accident Management Guidance," Revision 0, dated June 1994, with the exception of SAG-3, "Inject Into The RCS," Revision C and SAG-6, "Control Containment Conditions," Revision C.</p> <p>In addition, the inspectors determined that the licensee did not currently implement the background documents for all the SAMGs in the electronic procedures program. The licensee concurred with the inspectors' observations and initiated CR 426999 to evaluate the issue. The inspectors also determined that the latest revision of the WOG document (Revision 1, dated October 2001) had not been incorporated into the SAMGs. The inspectors determined that the licensee committed to periodic reviews of the SAMGs, per Section 5 of NEI 91-04, "Severe Accident Issue Closure Guidelines," in a letter to the NRC dated January 30, 1995. Section 5.1 of licensee procedure NAD-14.06, "Severe Accident Management Program Maintenance and Control," dated October 6, 2009, required that the engineering group review new correspondence from industry and regulatory agencies to determine the potential impact on the existing SAMGs and associated basis documents. The inspectors determined that the licensee had not reviewed the impact of Revision 1 of the WOG guidance on the SAMGs nor conducted any self-assessments of the SAMGs. The inspectors identified that 17 of the licensee's SAMGs could be affected by WOG Revision 1.</p> <p>The licensee concurred with the inspectors' observations and initiated CR 426999 for this issue.</p>

KEWAUNEE POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
e	<p>How is training conducted on the SAMGs?                      Who is trained on the SAMGs?                      What is the periodicity of training?</p>			<p><u>Operators</u></p> <p>All licensed operators received training on SAMGs as part of their initial license class and then biennially. Training generally consisted of a combination of the following methods: classroom lecture; tabletop drills; simulator/frozen simulator scenarios; read and sign; and some self-study. The initial training consisted of completion of SAMG-specific lesson plans for the shift manager, control room supervisor, shift technical advisor, and reactor operator positions.</p> <p>Non-licensed auxiliary and equipment operators did not receive any SAMG training. The licensee concurred with the inspectors' observation and initiated CR 423711 and CR 423733 for this issue.</p> <p><u>Other Emergency Response Organization (ERO) Members</u></p> <p>The other positions in the ERO that received initial SAMG training were the Emergency Director, Severe Accident Management (SAM) Team Leader, SAM Core Hydraulics Engineer, and SAM Operations Lead.</p> <p>The training methods for these members generally consisted of a combination of the following methods: classroom lecture; tabletop drills; read and sign; and some self-study. The inspectors noted that the overview training for the Emergency Director did not cover all the specific actions contained in the SAMGs and that increased training in this area may be warranted for this position. The licensee concurred with the inspectors' observations and initiated CR 427900 for this issue.</p>

KEWAUNEE POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>The inspectors determined that no continuing training requirement existed in the training program for these other ERO members.</p> <p>In addition, the inspectors noted that certain key positions in the ERO that included additional decision makers, evaluators, and implementers (e.g., TSC Director, Engineering Coordinator, Event Operations Director, maintenance personnel) did not receive either initial or continuing training. The licensee concurred with the inspectors' observations and initiated CR 424870 and CR 427517 for these issues.</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>	X		<p>The level and detail of training varied for the different emergency response positions.</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>		X	<p>As described in Section 'e,' licensed operators receive periodic re-training on SAMGs; however, other ERO members did not because a continuing training program was not established for those positions with respect to SAMGs.</p> <p>All interviewees expressed that additional training through static simulator walkthroughs or periodic drills/exercises would be beneficial.</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>	X		
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>		X	<p>The inspectors determined there were no exercises on SAMG use since August 18, 1998, when a plant-wide drill was conducted as part of initial implementation of the SAMGs at Kewaunee. The only exception to this observation was licensed operators who received</p>

KEWAUNEE POWER STATION - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>SAMG requalification training biennially.</p> <p>The licensee agreed with the inspectors' observations and initiated CR 427519 for this issue.</p>

LASALLE COUNTY STATION, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			LSAMG-101 Primary Containment Flooding (Unit 1), Revision 6, March 2, 2011;  LSAMG-102 RPV, Containment, and Radioactive Release Control (Unit 1), Revision 6, March 2, 2011;  LSAMG-201 Primary Containment Flooding (Unit 2), Revision 6, March 2, 2011;  LSAMG-202 RPV, Containment, and Radioactive Release Control (Unit 2), Revision 6, March 2, 2011;  LSAMG-003 Technical Support Guidelines, Revision 0, May 1, 2000.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	X		
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)	X		
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?	X		
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			Initial training consisted of a classroom tabletop session comprising a walkthrough of the SAMG procedures, and scenario examples.

LASALLE COUNTY STATION, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>Reactor Operators, Senior Reactor Operators, and TSC Emergency Response Organization staff responsible for SAMG implementation.</p> <p>Training periodicity: All staff members with SAMG responsibilities receive initial training, described above. Periodic training differs by role: SROs cover ½ of the SAMG procedures yearly, such that all SAMGs will be covered every 2 years; TSC SAMG implementing staff receive annual power point refresher training packages.</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>		X	<p>Yes: RO1, RO2, SRO1, SRO2, TSC Staff 1, TSC Staff 2, TSC Mgr 2.</p> <p>No: TSC Mgr 1 (Station Emergency Director): Although this individual, who was a previously licensed SRO, received SAMG training as part of his licensed operator training, he had not received any initial SAMG training as part of his current TSC managerial role.</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>		X	<p>Yes: SRO2, TSC Staff 1.</p> <p>No:</p> <p>RO1: Could not recall any periodic SAMG training.</p> <p>RO2: Indicated that sporadically, SAMG scenarios would arise in annual training cycle; however, the SAMGs would not be executed. The scenario would end when the entry conditions were met for SAMG entry.</p> <p>SRO1: Individual had only been licensed for less than a year and was not yet aware of any periodic training.</p>

LASALLE COUNTY STATION, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>TSC Staff 2: Was unaware of any periodic training requirements but indicated that sporadically, SAMG scenarios would arise in EP drills/exercises.</p> <p>TSC Mgr 1: Individual could not recall any periodic training.</p> <p>TSC Mgr 2: Individual was not sure that periodic training requirements existed for his position of TSC Director.</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)?	X		
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	X		<p>Periodicity: Every 6 years on a limited scope basis for the positions of SAMG Evaluators/Decision Makers, and ERO TSC positions.</p> <p>For Operators, SAMG scenarios would sporadically arise in annual training cycle drills; however, the scenario would end when the entry conditions were met for SAMG entry.</p>

MONTICELLO NUCLEAR GENERATING PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			<p><b>SAMG Flow Charts</b></p> <p>A.7-SAMG-01—Primary Containment Flooding Revised 3/30/05</p> <p>A.7-SAMG-02—RPV, Containment, and Radioactivity Release Control Revised 2/16/07</p> <p>A.7-SAMG-03—Combustible Gas Control Revised 2/23/11</p> <p><b>Technical Support Guidelines</b></p> <p>A.7-TSG-01—Introduction; Revised 12/15/98</p> <p>A.7-TSG-02—Control Parameter Status Assessment; Revised 8/25/08</p> <p>A.7-TSG-03—Plant Status Assessment; Revised 3/17/08</p> <p>A.7-TSG-04—System Status Assessment; Revised 3/25/08</p> <p>A.7-TSG-05—EOP/SAMG Action Status Assessment; Revised 3/7/07</p> <p>A.7-TSG-06—Abnormal System Configuration; Revised 6/24/09</p> <p>Actions within the SAMGs are carried out via EOP support procedures, and these procedures are referenced within the SAMG procedures when necessary.</p>
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		



MONTICELLO NUCLEAR GENERATING PLANT - NRC TEMPORARY INSTRUCTION 2515/184

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)		X	These documents are classified as vital controlled documents, and are revised in accordance with the site's QA program. The inspectors marked "No" because the QA program does not specify a required review frequency for these 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)	X		
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?	X		
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			<p><u>Type of Training Conducted:</u> The site uses position-specific lesson plans and mentoring guides to train individuals on the SAMG procedures. For those Senior Reactor Operators (SROs) designated as the SAMG decision makers, these lesson plans are presented as a classroom training session.</p> <p>Individuals receiving evaluator training had initially received a onetime classroom training session in order to be considered qualified for this position. Over time, this one-time classroom training had transitioned to a computer based training course involving a review of the classroom lesson plans and slide shows. At the time of this inspection, the licensee was in the process of transitioning these training courses back to classroom trainings.</p> <p><u>People Trained on SAMGs:</u> Individuals qualified in the Emergency Response Organization (ERO) as Operations Group Leaders (OGLs), Emergency Directors (EDs), Emergency Managers (EMs), Engineering Group Leaders (EGLs),</p>

MONTICELLO NUCLEAR GENERATING PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>and the Reactor Operators (ROs) and SROs are provided training on the SAMGs. Other TSC staff designated to serve as SAMG evaluators on the SAMG Accident Management Team (AMT) receive training as well.</p> <p><u>Frequency of Training:</u> SROs and ROs receive biennial training on the SAMGs. TSC staff designated as evaluators, and certain TSC managers initially received onetime training, but were assigned biennial training requirements in November 2010, but they have not yet received any refresher training.</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:			<p>Interviewees included:</p> <ul style="list-style-type: none"> <li>• Two ROs (SAMG implementers);</li> <li>• Two SROs - one Control Room supervisor and one newly qualified SRO. (They would be SAMG implementers if on duty in the control room at the time of the event. They would be TSC Operations Group Leader (SAMG decision maker) or Assistant Operations Group Leader (evaluator) if they are on call at the time of the event);</li> <li>• Two TSC staff—a Nuclear Engineer and an Engineering Coordinator (both of these positions are designated as SAMG evaluators; other TSC staff positions that were not specifically designated as SAMG evaluators did not receive SAMG training and were not interviewed);</li> <li>• Two TSC managers designated to implement the SAMGs—at Monticello, off-duty Shift Managers (SMs) and Control Room Supervisors (CRSs) in their TSC positions as Operations Group Leaders are the managers designated as SAMG decision makers, and are responsible for</li> </ul>

MONTICELLO NUCLEAR GENERATING PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				directing SAMG implementation (all of them are also SROs).
	(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)	X		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?		X	<p>The inspectors marked "No" because the two TSC staff members interviewed (SAMG evaluators) said that they did not receive any formal periodic training on the SAMGs. Note that this has already been addressed by the licensee, in that the training program was updated in November 2010 to require biennial SAMG training for TSC evaluator positions.</p> <p>All other interviewees (all ROs and SROs) were receiving training on an approximate 2 year frequency, from what they could recall.</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)?		X	<p>Overall, interviewees were able to articulate their SAMG functions. SROs and ROs easily described their control room functions during SAMG implementation, and SROs that were SMs and CRSs also described most aspects of their TSC Manager SAMG responsibilities.</p> <p>However, the SMs and CRSs in their roles as the Ops Group Leaders (the TSC managers designated as the SAMG implementation "decision makers") did not identify themselves as the decision makers. They also did not discuss their role in the formation and direction of the Accident Management Team (the team formed upon transition into the SAMGs, charged with SAMG strategy implementation). The inspectors marked "No" because both of these are important leadership aspects of their TSC Manager SAMG roles.</p>
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		X	There was a tabletop exercise performed in 2000 for individuals that would implement the SAMGs during an emergency, but periodic exercises have not been performed. In 2008,

MONTICELLO NUCLEAR GENERATING PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>the licensee created a 6 year EP drill objective which would test the site's ability to implement the SAMGs, but this drill objective is due in 2013, and the site has yet to exercise this objective.</p> <p>In follow-up to the IER 11-1 evaluations performed by the licensee, a corrective action program action has been created to further evaluate SAMG training for improvements.</p>

PALISADES NUCLEAR PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			The SAMGs were last updated in May 2004 with the exception of the phase 1 SAMG. Phase 1 was updated in September 2005. Although required to be updated by various documents, in 2008 the licensee identified that the SAMGs were not updated to reflect plant changes. The licensee has not updated SAMG's as of May 16, 2011.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		
	Are controlled copies of the SAMG located in the control room? (Y/N)		X	The TSC is located adjacent to the control room. Control room personnel can readily access the TSC copy. In addition, electronic versions of the SAMGs are available on the internal website. The inspectors concluded that the control room staff has adequate access to the SAMGs.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	<p>The SAMGs do not conform to the licensee's standard procedure format. The SAMG format is governed by the SAMG writer's guide. The licensee requires the SAMGs to be updated; however, the licensee has not revised the SAMGs since 2005. The licensee identified that the SAMGs included hydrogen recombiners that are no longer installed. The inspectors also identified that the SAMGs do not reflect changes made as part of sump strainer modifications (Generic Safety Issue, GSI-191). The SAMGs are controlled outside the normal document control process.</p> <p>The licensee does not have a periodic review requirement. The licensee Quality Assurance Program Manual states "...controls are in effect to ensure that</p>

PALISADES NUCLEAR PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				procedures are reviewed for possible revision upon identification of new or revised source material potentially affecting the intent of the procedures.” For SAMGs, the writers guide requires a periodic or biennial review. No documented review exists.
c	Does the licensee’s configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)		X	<p>The licensee’s configuration management procedure covers SAMGs. In addition, the implementing procedure (Engineering Change Process) identifies severe accident procedures (SAMGs) for evaluation for impact.</p> <p>However, there are examples (hydrogen recombiners and sump strainers) where the licensee did not update the SAMGs as required. Therefore, the inspectors concluded that the change management systems do not cause the SAMGs to be updated to reflect design changes.</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 owners group guidance (if any) having been incorporated (Y/N/comments)?	X		The inspectors compared the general layout and contents of the generic SAMGs with the site specific SAMGs. The inspectors concluded that the site’s guidance was consistent with the generic SAMGs.
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			The licensee trains all Shift Managers, control room shift communicator, the TSC manager and three other TSC positions on SAMGs. Each person receives initial SAMG training and is tested each year on SAMGs. Prior to the test, they have the option to take computer-based training on the SAMGs.
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:			

PALISADES NUCLEAR PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
	(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)		X	Reactor Operators are not trained on SAMGs. SRO and TSC staff and manager received initial training on the SAMGs.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?		X	Reactor Operators do not receive periodic training on the SAMGs. SRO and TSC staff and managers do receive periodic training on the SAMGs.
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?		X	Some responders had difficulty articulating who would order implementation of the SAMGs.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		X	The licensee does not conduct drills/exercises that use SAMGs. The licensee has initiated a condition report to address the issue at the fleet level.

PERRY NUCLEAR POWER PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			Bases – September 12, 2008 Flowcharts – January 23, 2005
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	X		
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)		X	Any changes to the plant (physical or procedural) as a result of SAMGs receive 50.59 screenings; however changes to the plant do not prompt a SAMG review.
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?	X		
e	How is training conducted on the SAMGs? Who is trained on the SAMGs? What is the periodicity of training?			All licensed individuals and those engineers qualified Core/hydraulic Engineer or System Analysis Engineer receive classroom training as part of the 2-year Licensed Operator Requalification training cycle. The classroom training is basically tabletop style, working through the flowchart.
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)	X		
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	X		There is no specific training for any position. All personnel receive the same training regardless of their assigned duties. Training is focused on overall understanding – seems



PERRY NUCLEAR POWER PLANT - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				targeted to Operations Advisor (implementer of SAMGs).
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	X		The SAMGs are implemented by the Operations Advisor, which is a qualified Senior Reactor Operator stationed in the TSC, when directed by the TSC Operations Manager.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?		X	As part of the 2-year training, the group does a tabletop exercise. The SAMGs are not exercised during EP drills/exercises.

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			The latest date of revision of the 26 SAMG-related procedures ranged from May 3, 2002, to April 11, 2011.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		The SAMGs are available as hard copies and electronically.
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		The EOF and alternate EOF each have one set of SAMG procedures.
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		The SAMGs are available as hard copies and electronically.
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)	X		The licensee has included SAMGs as part of the annual emergency preparedness procedure review required by 10 CFR 50.54(t). This requirement is referenced in licensee procedure EP 8.0, "Maintaining Emergency Preparedness," Revision 50.
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)	X		The licensee utilizes various procedures for controlling the different types of design changes. These procedures all require a review of related procedures and documentation to determine any procedures that are affected by the related activity, and, if so, direction is provided to revise the procedures.
d	Perform a high-level comparison of the site's SAMGs with available industry guidance (e.g., owner's group guidance document and other industry standards as applicable). Are the SAMGs consistent with the owners group guidance (if any) having been incorporated (Y/N/comments)?		X	The licensee's SAMG procedures generally followed the outline of Revision 0 of the Westinghouse Owners Group (WOG) "Severe Accident Management Guidance" document. The licensee performed a review of the steps outlined in Revision 0 of the WOG guidance and identified several differences. The licensee initiated condition reports CR 01652376, "SAMG Deltas Identified in Comparison with WOG SAMGs," and CR 01652400, "Background Documents for the Guidelines in PBNP's SAMG Set," to assess the lack of a basis for deviations from the guidance. The licensee has not incorporated Revision 1 of the WOG document into its procedures. The licensee wrote CR 01630510, "IER1 11-1 Evaluate Delta Between Rev. 0 and Rev. 1

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				WOG SAMGs,” to assess the failure to update the procedures when the guidance was revised.
e	<p>How is training conducted on the SAMGs?                      Who is trained on the SAMGs?                      What is the periodicity of training?</p>			<p>The schedule for initial and requalification training is governed by multiple procedures. In addition to the training elements discussed in this section, Section 'g' below contains additional information relevant to training requirements.</p> <p>Initial training methods vary depending on emergency response organization (ERO) position. Training methods generally consisted of a combination of the following methods: classroom lecture; tabletop drills; simulator/frozen simulator scenarios; read and sign; mini-drills; exercise participation under instruction; computer-based training, and some self-study. Training lesson plans and related ERO position qualification guides existed to support training of licensee staff filling the ERO duty roster.</p> <p>Procedure, Emergency Preparedness PBN EP TP, “Training Program Description,” Revision 10, Section 3.2 establishes the qualification requirements for initial training. However, this section is not clear on the integration of SAMG training. A specific requirement for initial SAMG training was not clearly delineated in the procedure; however, initial training requirements were established and each initial qualification guide contained a check-off for completion of SAMG training. The inspectors reviewed the training records for SAMG qualification and found that all emergency preparedness personnel had received initial training in SAMGs prior to being assigned an ERO position.</p>

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				Training periodicity is discussed in Section 'g' below.
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:			In addition to the required eight interviews, one non-licensed STA was interviewed. The responses of the nine staff members were consistent.
	(1) Did they receive <b>initial</b> training on the SAMGs? (Y/N)	X		Initial training used self-study, read & sign training, classroom training, tabletop exercise, and "frozen" simulator walkdowns. The level and detail of training varied by ERO positions and depended on which year (how long ago) the training was conducted.
	Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?	X		Seven of nine interviewees suggested enhancements or modifications to the training frequency or program content, especially for the events in Japan. The licensee initiated a condition report to conduct a training needs analysis relative to this observation (CR 01649793, "Consider Additional SAMG Training Frequency").
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	X		Interviewees were knowledgeable of different roles established for the implementation of the SAMGs. Roles included implementer, decision maker, and evaluator/advisors. Each person interviewed was able to articulate their role in support of SAMG implementation.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	X		Periodic retraining has been completed on SAMGs, however, the consistency, frequency, and documentation of the training could be improved.  Site procedures require a maximum retraining frequency of 6 years. Procedure EP 8.0, "Maintaining Emergency Preparedness," Revision 50, Section 3.3.1, requires that "The scenarios for drills and exercises will be varied such that all major elements of the emergency response plans and preparedness organizations are tested within a six year period." Procedure EPG 1.0, "Emergency Preparedness Drill

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>Guideline,” Revision, 17, Section I.7, “Severe Accident Management Guidelines,” states, “Demonstrate the ability to identify and implement appropriate SAG Strategies,” with a frequency of 6 years. Other station procedures discussed 2 and 3 year training requirements related to SAMGs.</p> <p>Records to support the 3-year tabletop drill refresher training requirement were available but incomplete. Specifically, training records were incomplete and for some licensee staff members tabletop drill training had not been performed within the 3-year required frequency.</p> <p>The licensee initiated CR 01651861, “Gaps in Training/Tabletop and Records for SAMG ERO,” to evaluate the inspectors’ observations.</p>

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			There are 24 SAMG procedures per unit. Nineteen of the 24 procedures are the original revision. The remaining five SAMG procedures are either Revision 1 or 2 which were approved between 2007 and 2009.
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	SAMGs are covered by the licensee's procedure control and document management system. However, a change to the Quality Assurance (QA) manual in 2005 eliminated the requirement for periodic review and revision of procedures. This change to the QA manual was approved by the NRC in a letter dated March 24, 2005.
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)	X		The SAMGs are not covered by the 50.59 process as the SAMGs are related to beyond design basis events. However, the licensee's modification process contains specific steps to ensure that potential impacts to SAMGs are considered as part of the modification review and approval 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 owners group guidance (if any) having been incorporated (Y/N/comments)?		X	All of the SAMG procedures reviewed by the inspectors were consistent with Revision 0 of the Westinghouse Owners Group (WOG) documents. However, the WOG issued Revision 1 to the SAMG guidance documents in 2001. Based upon the inspectors review and a discussion with the licensee's SAMG procedure writer, the inspectors found that the licensee had only partially incorporated the Revision 1 guidance. Specifically, some SAMGs contained the Rev. 1 guidance, but a majority did not. This issue is being evaluated since the licensee had a biennial procedure

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>review and revision requirement per the QA manual prior to March 2005. In addition, the licensee's failure to revise the SAMGs based upon the WOG's Revision 1 guidance appears to conflict with the licensee's current QA manual which states, "NSPM [Northern States Power – Minnesota] also establishes programmatic procedure preparation, review and usage controls that ensure procedures are technically and administratively correct. These controls ensure that procedures are reviewed when pertinent source material is revised, when unusual incidents occur, when plant modifications are made, and when significant deficiencies are identified. Procedures may also be reviewed because of industry experience reviews. Revisions are made as necessary."</p>
e	<p>How is training conducted on the SAMGs?            Who is trained on the SAMGs?            What is the periodicity of training?</p>			<p>SAMG training is predominantly conducted through the use of classroom training and self-study.</p> <p>The licensee has standards to provide both licensed operators and selected emergency response organization (ERO) members with initial SAMG training. Those ERO members include SAMG Decision Makers, SAMG Evaluators, and SAMG Implementers (licensed operators). While the licensed operators were provided with SAMG training every other year, no standard existed to provide continuing SAMG training to ERO personnel. The inspectors found that the licensee currently does not require the TSC Directors (lead individual in the TSC) to complete SAMG Decision Maker training as part of their qualifications. As a result, approximately half of the currently qualified TSC Directors had not received any initial SAMG training. In addition, those individuals qualified as SAMG Decision Makers</p>

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
				<p>and Evaluators were not assigned to specific ERO teams. Due to this weakness, there is a possibility that the licensee could be responding to a SAMG-related event without having a qualified SAMG Decision Maker or a SAMG Evaluator at the site.</p> <p>Further questioning of the licensee's EP training staff identified that the last initial SAMG training session for ERO staff members was completed in 2001.</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)		X	<p>The licensee's current EP structure does not require that the TSC managers or TSC staff members receive SAMG training as part of their qualifications. The licensee has established specific EP positions for SAMG decision makers and SAMG evaluators. However, the individuals that fill these positions are not assigned to a specific EP team. If these individuals are needed, the licensee would have to call them out and direct that they report to the TSC. The inspectors reviewed the licensee's current EP team roster to identify if any of the current TSC managers had received SAMG training. Of the seven individuals currently qualified as a TSC manager, only three had received SAMG initial training. The inspectors interviewed one TSC member and two SAMG evaluators. As expected, the inspectors found that the TSC member had not received initial SAMG training (because it was not required) while the SAMG evaluators had received initial SAMG training. The licensee wrote CR 1276003.</p> <p>All licensed operators interviewed had received initial SAMG training.</p>



PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 - NRC TEMPORARY INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
	<p>Did they receive <b>periodic</b> training (Y/N/document periodicity) on the SAMGs and how they relate to their assigned duties?</p>		X	<p>This training occurs shortly after the operators receive their NRC licenses.</p> <p>In general, the licensee does not provide periodic SAMG training to TSC personnel nor do they provide it to their qualified SAMG decision makers or SAMG evaluators. However, two of the three TSC managers discussed above had received periodic SAMG training because these individuals were also licensed operators.</p> <p>The licensee conducts periodic SAMG training (both classroom and self-study) for all licensed operators every other year.</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>	X		
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>	X		<p>The licensee performs one SAMG-related drill or exercise during each six year cycle. The last SAMG drill/exercise was conducted in April 2005. The current six year cycle began in 2006. The licensee plans to complete a SAMG-related drill or exercise prior to the end of the current six year cycle (December 2012). Of note, the SAMG drill/exercise that is performed only allows one out of the licensee's four EP teams to receive the training. As a result, it may be many years for each EP team member to participate in a SAMG-related drill or exercise.</p>

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 - NRC TEMPORARY  
INSTRUCTION 2515/184

Letter or Number	Inspection Item	Yes	No	Response/Comments
a	When were the SAMGs last updated?			December 2007
	Are controlled copies of the SAMG located in the technical support center (TSC)? (Y/N)	X		
	Are controlled copies of the SAMG located in the emergency operations facility (EOF)? (Y/N)	X		
	Are controlled copies of the SAMG located in the control room? (Y/N)	X		
b	Are SAMGs covered by the licensee's procedure control and document management system, including the requirements for periodic review and revision? (Y/N)		X	SAMGs are covered by the document control program. SAMGs do not have a periodic review independent of reviews based on changes to the plant, procedures, and related documents.
c	Does the licensee's configuration control and change management systems cause the licensee to update SAMGs to reflect design changes? (Y/N/Partially-describe)	X		Required reviews for potential revisions to the EOPs and SAMGs based on changes to the plant, procedures, and related 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 owners group guidance (if any) having been incorporated (Y/N/comments)?	X		Consistent with BWR Owners' Group EP/SAG Revision 2, March 2001.
e	How is training conducted on the SAMGs?  Who is trained on the SAMGs?  What is the periodicity of training?			SAMG training is conducted through EOP drills, hands on training, classroom lectures, and the simulator.  SROs/ROs/NLOs and SAMG qualified engineers receive initial and periodic training. SROs and engineers receive training on an annual basis. ROs and NLOs receive training during the 2-year training cycle.
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)	X		

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 - NRC TEMPORARY  
INSTRUCTION 2515/184

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?	X		Periodicity was consistent with comments from Section 'e.'
	(2) Can they articulate their responsibilities with respect to the use of SAMGs (Y/N/document who would actually implement the licensee's SAMGs)?	X		SROs/ROs/NLOs would fulfill the SAMG implementers and decision maker roles.  SAMG evaluator would be fulfilled by qualified engineers.
g	Have there been periodic exercises on the use of SAMGs by individuals who would implement them during an emergency (Y/N/document periodicity)?	X		Required SAMG drill every 6 years.