From: Thomas Alexion
To: LENGLAN@entergy.com
Date: 6/1/04 11:18AM
Subject: Fwd: Updated Entergy NEI 99-01 EALs

Les,

Joe reformatted the information to facilitate the call tomorrow.

See the attached to the attached.

Tom

Mail Envelope Properties (40BC9E45.58F : 0 : 20628)

Subject:	Fwd: Updated Entergy NEI 99-01 EALs
Creation Date:	6/1/04 11:18AM
From:	Thomas Alexion
Created By:	TWA@nrc.gov

Recipients	**Action**	**Date & Time**
entergy.com	Transferred	06/01/04 11:18AM
LENGLAN (LENGLAN@entergy.com)		

Post Office	**Delivered**	**Route**
		entergy.com

Files	**Size**	**Date & Time**
Mail		
MESSAGE	841	06/01/04 11:18AM

Options

Auto Delete:	No
Expiration Date:	None
Notify Recipients:	Yes
Priority:	Standard
Reply Requested:	No
Return Notification:	None
Concealed Subject:	No
Security:	Standard
To Be Delivered:	Immediate
Status Tracking:	Delivered & Opened

From: Joseph Anderson
To: Thomas Alexion
Date: 6/1/04 10:54AM
Subject: Updated Entergy NEI 99-01 EALs

Joseph D. Anderson
Emergency Preparedness Specialist
U.S. NRC (NRR / EPPO)
(301) 415-4114
jda1@nrc.gov

GENERAL COMMENTS

	ANO	GRAND GULF	RIVER BEND	WATERFORD 3
1		(FSAR Table 4-2) There appear to be changes to the DBA listing of accidents and associated classifications under the proposed EAL scheme. Provide a description of the review of these accidents to ensure that the classifications are correct as listed.		
2	10 CFR 50, Appendix E -- Section IV.B (Assessment Actions) states, "...emergency action levels shall be discussed and agreed on by the applicant [licensee] and State and local governmental authorities, and approved by NRC." Please provide documentation indicating that these discussion have occurred and that there is agreement with State and local governmental authorities on the implementation of the proposed EAL changes based on NEI 99-01, Revision 4.			10 CFR 50, Appendix E -- Section IV.B (Assessment Actions) states, "...emergency action levels shall be discussed and agreed on by the applicant [licensee] and State and local governmental authorities, and approved by NRC." In its submittal cover letter, the licensee states that "[t]hese changes have been reviewed and approved by...the State of Louisiana and local governmental authorities." Please provide documentation indicating that these discussion have occurred and that there is agreement with State and local governmental authorities on the implementation of the proposed EAL changes based on NEI 99-01, Revision 4. ***(W3 will provide evidence of review.)***

GENERAL COMMENTS

	ANO	GRAND GULF	RIVER BEND	WATERFORD 3
3		Referenced changes to the Grand Gulf FSAR, included in the proposed change package, do not include an evaluation and justification for the appropriateness for the proposed changes. As specific examples, old sections of the FSAR are deleted for a replaced section with NEI 99□01 methodology, but no documentation for the review and justification for the change is included. Similarly, Table 4□2 of the FSAR contains minor changes, but documentation of the review of the design bases accidents and corresponding classification levels is not included. ***(Why is 50.54q required?)***		In review of other Entergy submittals, an expected level of consistency (format, policy, exposure limits, etc.) does not appear evident. While exact consistency between sites is not a specific requirement for submittal, it was the intent of NEI, and the NRC endorsement of 99-01, that a standard methodology in emergency classification would result. In consideration for making changes as a result of these questions / comments, a common Entergy approach in response may expedite review by the NRC staff. ***(Can this question be removed from list? Appears to be subjective?)***
4		Specific definitions for differences and deviations do not appear to be consistently applied. Numerous examples, identified below, indicate that areas labeled "differences" appear to be "deviations". It is intended that NEI 99-01 is consistently used by licensees with a high degree of similarity in order to provide an industry-wide similarity in classifications of emergencies. Additionally, the endorsement by NRC in RG 1.101 of NEI 99-01 and the application of the methodology by the industry was intended (by NRC) to be at a high level of similarity. Differences for site-specific applications were identified within NEI 99□01. Any alteration of the initiating conditions, EALs, or basis was permitted, but expected to be identified as a deviation, with detailed evaluation of the alteration and justification to sufficiently support a "stand alone" determination for the change.		

GENERAL COMMENTS

	ANO	GRAND GULF	RIVER BEND	WATERFORD 3
5		This was discussed with Entergy and other EAL change packages (for other Entergy plants) were included (but not Grand Gulf, the first Entergy submittal). It is recommended that "differences" and "deviations" be specifically defined within the change package (as was done for the ANO EAL submittal) and followed.		
6		Referenced changes to the Grand Gulf Emergency Plan, included in the proposed change package, do not include an evaluation and justification for the appropriateness for the proposed changes. It is expected that all changes included in the package contain appropriate detailed evaluations and justifications for changes.		
7	Provide copy of calculations used to determine effluent monitor thresholds under **AG1, AS1, AA1 and AU1**, and specify any deviations from guidance in Appendix A to NEI 99-01 (Basis for Radiological Effluent Initiating Conditions). ***(ANO will provide additional information.)***			Provide copy of calculations used to determine effluent monitor thresholds under AG1, AS1, AA1 and AU1, and specify any deviations from guidance in NEI 99-01 (Basis for Radiological Effluent Initiating Conditions) and Appendix A. In addition, provide ranges for effluent monitor instrumentation referenced. ***(W3 will provide additional information.)***
8	Provide a simplified drawing or schematic illustrating unit auxiliary and start-up transformers and describe inter-relationship regarding conditions needed for a loss of off-site power and the ability of emergency diesel generators to supply on essential busses. ***(ANO will provide additional information.)***			Provide a simplified drawing or schematic illustrating unit auxiliary and start-up transformers and describe inter-relationship regarding conditions needed for a loss of off-site power and the ability of emergency diesel generators to supply on essential busses. ***(W3 will provide additional information.)***

	ANO	GRAND GULF	RIVER BEND	WATERFORD 3
9	Describe whether temporary RCS water level instrumentation is installed in Modes 5 and 6, and if installed, whether ANO-1 and ANO-2 instrumentation capabilities in Modes 5 and 6 would monitor water level at or below the bottom ID of the RCS loop and at the top of active fuel (TOAF) for either unit.			Licensee Basis (under CU3) states that "[t]emporary instrumentation and jumpers are maintained in service such that the operators are able to monitor RCS temperature and reactor vessel level...Redundant means of reactor vessel level indication are procedurally installed to assure that the ability to monitor level will not be interrupted." Describe instrument range of RPV water level indication in Modes 5 and 6, specifically ability to monitor level at the top of active fuel and the bottom ID of the RCS loop. In addition, identify any periods during mode transition when indication would not be available. In addition, provide reference to specific procedural requirements for installing temporary instrumentation, and describe means in place to preclude modification of this procedural requirement without concurrent evaluation and revision of EALs.
10	Clarify "deviation" example provided in Attachment 4 (ANO NEI EAL Deviations and Differences) to identify <u>any</u> deletions to NEI 99-01 Initiating Condition (IC) statements or example emergency action levels (EALs) criterion, or significant changes (other than nomenclature, simple terminology or system names, etc.) that may impact intent or thresholds established or guidance provided in NEI 99-01. In addition, evaluate changes proposed to NEI 99-01 guidance in submittal, reclassify appropriately as a deviations or differences and provide specific technical justification for any deviations and differences, as appropriate. (Specific examples listed under "Specific Comments".)			Evaluate changes proposed to NEI 99-01 guidance in submittal to ensure that any deletions to NEI 99-01 Initiating Condition (IC) statements or example EALs criterion, or significant changes (other than nomenclature, simple terminology or system names, etc.) that may impact intent or thresholds established or guidance provided in NEI 99-01, are listed as deviations. In addition, provide specific technical justification for any deviations, as appropriate. (Specific examples listed under "Specific Comments".) ***(W3 will clarify difference and deviations.)***

GENERAL COMMENTS

	ANO	GRAND GULF	RIVER BEND	WATERFORD 3
11	Discuss application of differences in design between systems, setpoints, instrumentation, etc. on ANO-1 (Babcock & Wilcox) and ANO-2 (Combustion Engineering), as they appropriately apply to EALs. Has any effort been made to coordinate EALs revision for ANO-2 with Entergy's Waterford 3 for consistency in application within Entergy and among Combustion Engineering designs? ***(What is needed?)***			
12	Provide rational for the inconsistent use of unit nomenclature "ANO-1 / ANO-2" versus "Unit 1 / Unit 2", or revise accordingly to ensure consistency in terminology. ***(ANO will correct documentation.)***			
13	**Section 6.2.1** (Downgrading the Emergency Classification) appears to allow for downgrading regardless of event class severity. Describe how the recommendation in NEI 99-01, Section 3.11 (Emergency Class Downgrading) is being addressed, which states in part that "[a] combination approach involving recovery from General Emergencies and some Site Area Emergencies and termination from NOUEs, Alerts and certain Site Area Emergencies causing no long-term plant damage..."			

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AU1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Licensee under AU1 Basis does not address NEI 99-01, AU1 Basis guidance, which states "...if an ongoing release is detected and the starting time for that release is unknown, the Emergency Director should, in the absence of data to the contrary, assume the release has exceeded 60 minutes." Statement is included under licensee AA1 Basis. Address deletion of Basis statement as either a deviation or difference under Attachment 3, and provide justification for deletion of Basis guidance and how EAL will be interpreted without guidance. ***(ACTION: ANO will modify wording.)***		99-01 EAL #1 applies to any effluent monitor. RBS applied #1 only to liquid releases (effluent monitors addressed in #2). Application for contamination in line causing monitor to continue to read high is acceptable. By applying to liquid only, does this disturb the logic for other EALs (see #2)? Explain why credit not applied for samples which correct monitor readings (as in #2 basis)?	EAL Basis (Attachment 4) provides a listing of applicable effluent radiation monitors. However, listing is not provided in EAL matrix (Attachment 3) for event classification purposes. Clarify justification for inconsistency between attachments, or provide listing of applicable effluent radiation monitors in EAL matrix. ***(ACTION: W3 to establish list.)***
EAL 2	Licensee inserted the statement "...during a discharge", which is not addressed under NEI 99-01, AU1 - Example EAL 2. However, statement was not used in licensee AA1, EAL 2. Address insertion of statement as either deviation or difference under Attachment 4, and provide justification for change and inconsistency with AA1, EAL 2. ***(ACTION: ANO will resolve wording.)***			Basis states that "[g]rab sample analysis of the circulation water discharge, IAW EAL#3, would be necessary to determine the appropriate action." Clarify, per NEI 99-01 guidance, that a grab sample is not required to declare an event per AU1 / EAL 2, based on effluent monitor threshold being exceeded for ≥ 60 minutes.
EAL 3				
EAL 4				

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AU1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 5	(EAL4) Licensee modified NEI 99-01, AU1 - Example EAL 5, under AU1 , EAL 4 to reflect "RDAC data indicating NUE ." Identify in EAL 4 the site-specific value, as required under NEI 99-01, AU1 - Example EAL 5, for event classification consistent with initiating condition criteria of two times the radiological ODCM limits. In addition, clarify that actual meteorology is used for RDAC calculations per guidance in NEI 99-01, AU1 Basis for Example EAL 5.			

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AU2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Licensee does not address the "fuel transfer canal", which is identified under NEI 99-01, AU2 - Example EAL 1 . Identify deletion as either deviation or difference under Attachment 4 and provide justification for change, or provide proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO will clarify terminology.)***		This EAL specifically applies to areas around spent fuel. The value of (1000) is not intended to apply here and could result in very high radiation areas. Explain this deviation. NEI 99-01 IC does not apply X1000 throughout EALs for this IC. ***(ACTION: RBS to align with fleet.)***	Address site-specific indication of uncontrolled water level decrease in EAL per NEI 99-01 guidance. ***(ACTION: W3 does not have fuel pool levl indication.)***
EAL 2			This EAL is acceptable except for the omission of "unplanned", but the IC is changed, and is a deviation from 99-01. Explain the omission of this deviation, and why this is not identifiled. Explain use of valid versus unplanned. ***(ACTION: RBS to clarify wording.)***	

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AA1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1		Deviation, appears acceptable (Is TRM & ODCM limit the same? If so, shouldn't this be 400X if 50% of TRM limit?) Compare to other Entergy EAL submittals.	Same issue as in AU1. #1 addresses liquid only, #2 effluent and not radiation Monitors.	EAL Basis (Attachment 4) provides a listing of applicable effluent radiation monitors. However, listing is not provided in EAL matrix (Attachment 3) for event classification purposes. Clarify justification for inconsistency between attachments, or provide listing of applicable effluent radiation monitors in EAL matrix. ***(ACTION: W3 to establish list.)***
				Basis states that [f]or this IC *[initiating condition]*, it is expected that PIG monitors on the release pathway will be over-ranged." Identify the specific monitors in question, and clarify whether designated monitor thresholds will be on-scale. If off-scale, provide further justification for use of designated monitor threshold vs. off-scale high. ***(ACTION: W3 will identify monitors and designated thresholds.)***
				Basis states, "...effluent radiation monitor readings that exceed 200 times the Technical Specification limit..." This is inconsistent with licensee EAL criterion and NEI 99-01 guidance, which specifies "...effluent radiation monitor readings that exceed 200 times the alarm setpoint established by the radioactivity discharge permit." Provide justification for inconsistency, or provide the proposed change to comply with NEI 99-01 guidance. ***(ACTION: W3 will resolve inconsistency.)***

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AA1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 2			99-01 EAL #2 applies to radiation monitors, effluent monitors were addressed in #1. Why did you separate liquid from effluent (#1 and #2) monitors? Are there conditions where gaseous effluent Monitors can continue to read following term of releases as in #1? Explain why rad monitors are not included in EALs and why this deviation was not identified.	Basis states that "[g]rab sample analysis of the circulation water discharge, IAW EAL#3, would be necessary to determine the appropriate action." Clarify, per NEI 99-01 guidance, that a grab sample is not required to declare an event per AU1 / EAL 2, based on effluent monitor threshold being exceeded for ≥ 15 minutes.
			Same issue as in AU1. #1 addresses liquid only, #2 effluent and not radiation Monitors.	Correct inconsistency in instrument number between EAL matrix and Basis for the Fuel Handling Building Exhaust ERGM (e.g., PRM-*IRE*-3032). ***(ACTION: W3 to correct instrument numbering.)***
EAL 3			Explain why wording differs from 99-01. ***(ACTION: RBS will revise wording.)***	Provide listing of applicable, site-specific technical specification references for gaseous and liquid releases per NEI 99-01 guidance. ***(ACTION: W3 will provide list.)***
			Explain difference between use of confirmed versus unplanned. Explain difference in wording, in general. ***(ACTION: RBS to modify wording.)***	
EAL 4				Basis lists the deletion of EAL 4 as a difference. While deletion is technically justified, provide further clarification why change does not constitute a deviation, based on the elimination of specific NEI 99-01 example EAL criteria, or provide change listing deletion as a deviation.

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AA1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 5	(EAL4) Licensee modified NEI 99-01, AA1 - Example EAL 5, under AA1, EAL 4 to reflect "RDAC data indicating Alert." Identify in EAL 4 the site-specific value, as required under NEI 99-01, AA1 - Example EAL 5, for event classification consistent with initiating condition criteria of two times the radiological ODCM limits. In addition, clarify that actual meteorology is used for RDAC calculations per guidance in NEI 99-01, AA1 Basis for Example EAL 5.			Basis lists the deletion of EAL 5 as a difference. While deletion is technically justified, provide further clarification why change does not constitute a deviation, based on the elimination of specific NEI 99-01 example EAL criteria, or provide change listing deletion as a deviation.

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AA2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition	Initiating Condition (IC) statement under Index of EALs, contained in Attachment 1 to EAL classification procedure, does not contain statement "outside the reactor vessel", as reflected in NEI 99-01, AA2 and Attachments 2 and 3 of the proposed EAL classification procedure. Provide change to reflect NEI 99-01, AA2 guidance or justify difference from guidance and AA2 IC statement in remainder of procedure. ***(ACTION: ANO to provide clarification.)***			(BASIS) Licensee inserted the qualifier: "...for this IC to apply the event must have radiological consequences - high radiation monitor alarm for this classification to apply." This statement is applicable to EAL 1 only, and not EAL 2 per NEI guidance, which is declared based on the actual or likely uncovery of irradiated fuel outside the reactor vessel. Provide further justification for Basis qualification statement, or provide changes to comply with NEI 99-01, AA2 / EAL 2 guidance. ***(ACTION: W3 will modify to match NEI 99-01.)***
EAL 1				Provide a correlation between site-specific radiation monitors designated licensee EAL 1 and those listed in NEI 99-01, AA2 / EAL 1. In addition, specifically address the lack of Refuel Bridge Area Radiation Monitor per NEI 99-01 guidance. ***(ACTION: W3 to provide correlation.)***
	Licensee does not address the "fuel transfer canal", which is identified under NEI 99-01, AA2 - Example EAL 2. Identify deletion as either deviation or difference under Attachment 4 and provide justification for change, or provide proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO will clarify terminology.)***	Provide more detailed justification that 80 R/hr is procedurally referenced in 05□S□01□EP□4 as the dose rate limit for unrestricted (normal occupational limits) dose controls. Typically, the limit in this EAL is the dose rate where additional dose authorization is necessary to permit entry into a high radiation area. ***(ACTION: W3 has lead; RP to provide fleet value.)***		Licensee lists the deletion of site-specific water level indication as a difference, rather than a deviation. While deletion is technically justified, provide further clarification why change does not constitute a deviation, based on the elimination of specific NEI 99-01 example EAL criteria, or provide change listing deletion as a deviation. ***(ACTION: W3 to provide additional justification.)***

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AA2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 2		Typo under difference explanation. Look for comparison with other Entergy plants for reference to a site specific level for cavity. Typically, a method is available in refueling outages where level can be monitored, even with alarm capability. ***(ACTION: GGNS does not have water level instrumentation.)***		Licensee inserted the qualifier: "For this event, by definition, the loss of water inventory would have to exceed makeup capacity." This statement may be misleading, since EAL is applicable if irradiated fuel is uncovered, regardless of make-up capacity. For example, sufficient make-up capacity may have been available, but not initiated in a timely manner to prevent the uncovery of irradiated fuel. Provide further clarification of basis qualifying statement. ***(ACTION: W3 does not have level instrumentation.)***
			Combining EALs 99-01 AA2 #1 and #2 appears to result in two different conditions being combined and causing deviations in EALs. Explain rationale for 9500 mr/hr before declaring Alert (explanation is in basis, and used distance from TOF for spent fuel). Explain why deviating from #2 by use of AND /OR and not including pool level value. ***(ACTION: RBS will break out into 2 EALs; W3 has lead on developing common fleet RP values.)***	

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AA3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Differences listed in Attachment 4 state that "[f]or EAL #1...of the ANO's EALs, a site-specific list is not provided since the possible plant conditions and configurations are very diverse." However, the licensee does provide a listing of site-specific areas under AA3-EAL 1, contrary to the statement made in Attachment 4. In addition, the site-specific listing under AA3, EAL 1 in Attachment 2 (EAL Matrix) states "Control Room, TSC...", while Attachment 3 (EAL Basis) states "Control Room/TSC...". Clarify the use of a site-specific listing under AA3, EAL 1. Also, clarify the inconsistency between the EAL Matrix and Basis regarding whether the TSC from the Control Room, and whether the TSC is a continuously occupied area as specified in Basis. ***(ACTION: ANO will provide site-specific list.)***			Licensee deviates from NEI 99-01 guidance by using "radiation survey" vs. site-specific radiation monitor reading. Licensee's justification is that Control Room radiation monitor is not safety-qualified, and therefore, would be validated by survey. Per NEI 99-01 guidance, the term "VALID" is used in conjunction with radiation monitor to address this contingency. The radiation monitor is used to provide prompt assessment of accident conditions, and considered VALID unless proven otherwise per definition. If radiation monitor is unavailable or determined to be invalid, then the use of direct survey readings would apply under EALs, in lieu of specific radiation monitors. This interpretation is consistent with licensee Basis, which states that "[t]he radiation levels in the EALs for this IC may be identified by a radiation monitor value or direct survey. Revise EAL 1 to address NEI 99-01, AA3 / EAL 1 criterion and inconsistency between proposed EAL 1 and Basis statement. In addition, provide further clarification, if not restored to NEI 99-01 EAL 1 criterion, why change does not constitute a deviation, based on the revision of specific NEI 99-01 example EAL criterion, or provide change listing deletion as a deviation.

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AA3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
				NEI 99-01, AA3 / EAL 1 requires licensee to identify site-specific areas requiring continuous occupancy to maintain plant safety functions, and specifically references under Basis the Control Room, Radwaste Control Room and Central Alarm Station (CAS). Licensee only addresses the Control Room, and does not reflect changes as deviations from NEI 99-01 EAL 1 criterion. Describe evaluation performed for determining areas requiring continuous occupancy to maintain plant safety functions and basis for elimination of the Radwaste Control Room and CAS from consideration. In addition, provide justification for any deviations from NEI 99-01, AA3 / EAL 1 guidance. ***(ACTION: W3 will identify site-specific areas.)***
	Licensee states in Attachment 4 that "[f]or EAL...#2 of the ANO's EALs, a site-specific list is not provided since the possible plant conditions and configurations are very diverse." However, the licensee states in Basis (last paragraph) that "[a]pplicable areas requiring infrequent access are identified in the site's Abnormal Operating Procedures, Emergency Operating Procedures, the 10 CFR 50 Appendix R analysis, and/or analyses performed in response to Section 2.1.6b of NUREG-0578..." Provide further justification why the referenced documents cannot be used to identify areas containing safe shutdown equipment, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to provide site-specific list.)***			Licensee has expanded EAL 2 criteria to add qualifier: "and access is required for safe plant operation, but is impeded due to radiation dose rates." As revised, criteria establishes that dose exceeds 20 R/hr and access is impeded due to an undefined radiation dose rate. Clarify EAL 2 criteria to specifically address that reaching > 20 R/hr in areas requiring access, per Basis guidance, is threshold for impeding area access, and provide justification for any deviations from NEI 99-01, AA3 / EAL 2 guidance. In addition, do common Entergy radiation protection procedures exist that would provide for a consistent dose rate threshold among Entergy plants? ***(ACTION: W3 has lead to determine fleet value.)***

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AA3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 2	Licensee inserted the qualifier: "and access is required for safe plant operation, but is impeded due to radiation dose rates", which is not part of criterion in NEI 99-01 AA3 - Example EAL 2. Identify change as a deviation or difference under Attachment 3, and provide justification for proposed change based on NEI 99-01 example EAL criterion and basis. ***(ACTION: W3 has lead to determine fleet value.)***			Describe Max safe ops values in more detail. Does this apply to equip. or personnel? ***(ACTION: W3 has lead; develop fleet wording.)***
	Licensee specifies a threshold of 5000 mR/hr. Describe whether the station's normal occupational exposure guidelines and limits would impede (delay) access to areas, i.e., the need for administrative approvals and briefings prior to entry, as discussed in NEI 99-01, AA3 Basis. If so, provide further justification or proposed change to dose rate threshold that would ensure unimpeded access during an emergency. ***(ACTION: W3 has lead to determine fleet value.)***			

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AS1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1		Provide additional discussion on the deviation (correctly listed) for not listing default monitor set points for NEI 99-01 AS1. Other Entergy plants have included (ex. River Bend) monitor readings. Additional discussion to justify the provision for prompt dose assessment in the control room (in less than 15 minutes) and the procedural/commitment related hooks in place to prevent this capability from being removed in the future are not discussed. Specifically discuss the locations where dose asmt. Computers are located, which have back up battery power or EDG backup power. In AS1 EALs #1 and #2, explain the deviation from the NEI 99-01 AS1 IC reference to "for more than 1 hour". ***(ACTION: GGNS to provide list of monitors.)***		
EAL 2			Explain deviation for using dose/hr values versus the 99-01 total dose criteria. ***(ACTION: RBS will eliminate table and place values within EALs.)***	(EALs 2 & 3) Licensee proposes to consolidate dose assessment and filed survey data EAL criteria under a common EAL for TEDE (whole body) and thyroid CDE. However, while identifying the threshold dose at or beyond the site boundary, the **proposed AS1 / EALs 2 and 3** do not address specific NEI 99-01 EAL criteria for interpreting field survey data. NEI 99-01 EAL 4 criteria states that "[f]ield survey results indicate *closed window dose rates* exceeding 100 mR/hr *expected to continue for more than one hour*; or analysis of field survey samples indicate thyroid CDE of 500 mR *for one hour of inhalation*, at or beyond the site boundary." Provide further justification for the deletion of criteria from EAL statements, or provide change to comply with NEI 99-01 guidance. ***(ACTION: NEI wording is confusing222)***
EAL 3				
EAL 4				

AS1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
				In NEI EAL Differences Document, under General Comments, the licensee states that "...the Emergency Plan Exclusion Area Boundary is the site boundary." However, the term Exclusion Area Boundary is not defined for user reference in EAL matrix or EAL Basis definitions. Define term "Exclusion Area Boundary" in EAL AG1/AS1 Bases or under Definitions consistent with that provided under General Comments in the NEI EAL Differences Document. ***(ACTION: W3 will add definition.)***

AS1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
				NEI 99-01 AS1/AG1 Bases guidance states that the meteorology and source term used should be the same as those used for determining the monitor reading EALs in ICs AU1 and AA1. However, the licensee's Basis states that a methodology consistent with AU1 and AA1 was not used for AS1/AG1. Rather, licensee appears to determine AS1/AG1 thresholds based on a ratio from AU1 dose rates. NEI 99-01 Basis and Appendix A state that thresholds for AU1 and AA1 are developed using ODCM methodology, and AS1 and AG1 using dose assessment method. Provide calculations for AS1 EAL 1 monitor readings based on meteorology and source term used in AU1 and AA1 using station dose assessment model, versus ODCM calculational methodology, for comparison with proposed licensee AS1/AG1 EAL monitor readings. In addition, provide justification under NEI EAL Differences Document for deviation from NEI 99-01 guidance. ***(ACTION: W3 to modify wording.)***

CATEGORY A: ABNORMAL RADIOLOGICAL CONDITIONS

AG1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1		Under NEI 99-01, example typo (100 mR/hr). Same as AS1 EALs #1 and #2, explain the deviation from the NEI 99-01 AS1 IC reference to "for more than 1 hour".		EAL Basis (Attachment 4) provides a listing of applicable effluent radiation monitors. However, listing is not provided in EAL matrix (Attachment 3) for event classification purposes. Clarify justification for inconsistency between attachments, or provide listing of applicable effluent radiation monitors in EAL matrix. ***(ACTION: W3 to establish list.)***
EAL 2			Explain use of dose/hr values for field team readings, which may be higher than total dose values.	(EALs 2 & 3) Licensee proposes to consolidate dose assessment and filed survey data EAL criteria under a common EAL for TEDE (whole body) and thyroid CDE. However, while identifying the threshold dose at or beyond the site boundary, the **proposed AS1 / EALs 2 and 3** do not address specific NEI 99-01 EAL criteria for interpreting field survey data. NEI 99-01 EAL 4 criteria states that "[f]ield survey results indicate *closed window dose rates* exceeding 100 mR/hr *expected to continue for more than one hour*; or analysis of field survey samples indicate thyroid CDE of 500 mR *for one hour of inhalation*, at or beyond the site boundary." Provide further justification for the deletion of criteria from EAL statements, or provide change to comply with NEI 99-01 guidance. ***(ACTION: NEI wording is confusing???)***
EAL 3				
EAL 4				

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Initating Condition (IC) Statements	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
	Licensee Basis states that "Waterford 3 uses Safety Function Status Checks developed by the Combustion Engineering Owners Group (CEOG) which are based on the logic similar to that used for CSFSTs *[Critical Safety Function Status Trees]* developed for Westinghouse PWR *[Pressurized Water Reactor]*. Clarify whether technical equivalency can be identified related to the following critical safety function statuses identified in NEI 99-01, Table 5-F-4: Core Cooling – Red; Core Cooling – Orange; RCS Integrity – Red; Heat Sink – Red; Containment – Red. ***(ACTION: W3 to provide copy of CEOG document.)***

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Fuel Clad Barrier #1 -- Critical Safety Function Status	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Fuel Clad Barrier #2 -- Primary Coolant Activity Level	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Fuel Clad Barrier #3 -- Core Exit Thermocouple Reading	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Fuel Clad Barrier #4 -- Reactor Vessel Water Level	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Fuel Clad Barrier #5 -- Containment Radiation Monitoring	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Fuel Clad Barrier #6 -- Other (Site-Specific) Indications	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
	Provide evaluation of other site-specific indications of a loss or potential loss of the Fuel Clad Barrier per NEI 99-01 guidance, including indications from containment air monitors or other site-specific instrumentation. ***(ACTION: W3 will provide additional justification.)***

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Fuel Clad Barrier #7 -- Emergency Director Judment	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Reactor Coolant System Barrier #1 -- Critical Safety Function Status	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Reactor Coolant System Barrier #2 – RCS Leak Rate	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
	(RCB2/Potential Loss) Provide justification for establishing a specific RCS leak rate versus NEI 99-01 guidance criterion statement of "...exceeding the capacity of one charging pump in the normal charging mode", since pump discharge rate may vary based on plant conditions, or provide change to comply with NEI 99-01 Table 5-F-4 criterion. ***(ACTION: W3 will provide additional information – has positive displacement pump.)***

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Reactor Coolant System Barrier #3 -- SG Tube Rupture	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Reactor Coolant System Barrier #4 -- Containment Radiation Monitoring	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
(RCB4) Provide basis for 60 uCi/gm dose equivalent I-131, consistent with NEI 99-01 guidance.	
(RCB4) Indications for an RCS Barrier LOSS, based on Containment Radiation Monitoring, were omitted from EAL Matrix in Attachment 2. Revise EAL Matrix to reflect RCB4 indications as outlined in EAL Basis (Attachment 3). ***(ACTION: ANO to correct EAL Matrix.)***	

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Reactor Coolant System Barrier #5 -- Other (Site-Specific) Indications

ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Reactor Coolant System Barrier #6 – Emergency Director Judgment	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Containment Barrier #1 – Critical Safety Function Status	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Containment Barrier #2 -- Containment Pressure	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
(CNB1/2nd Loss) Licensee states "Containment pressure not consistent with event response". This is inconsistent with NEI 99-01 criterion, which states "Containment pressure or sump level not consistent with LOCA conditions". Change was not identified by licensee as a deviation or difference under Attachment 4. Identify as a deviation or difference and provide technical justification, or provide proposed change to comply with NEI 99-01 guidance. ***(ACTION: ANO will provide clarification.)***	(CNB1 / Potential Loss) Clarify whether safety analysis report or other site-specific accident analyses identify a site-specific explosive mixture that would represent a challenge to containment, equivalent to at least the lower deflagration limit. If not, discuss why explosive mixture, equivalent to at least the lower deflagration limit, could not be determined based on Industry and owners group guidance. In addition, discuss basis for Containment hydrogen threshold under Basis for CNB1.
(CNB1/1st Potential Loss) EAL criteria statement in Attachment 4 is worded, "Design pressure and increasing hydrogen concentration > 4%". This is inconsistent with NEI 99-01 guidance, which states "(Site-specific) PSIG and increasing **OR** Explosive mixture exists". Revise POTENTIAL LOSS criteria in Attachment 4 to reflect consistency with NEI 99-01 guidance.	
(CNB1/2nd Potential Loss) NEI 99-01 guidance establishes criterion, "Explosive mixture exists", which per the NEI 99-01 Basis means a hydrogen and oxygen concentration of at least the lower deflagration limit curve exists. The licensee's criterion only states "Containment Hydrogen Concentration greater than 4%", and does not address oxygen component. Provide hydrogen and oxygen concentrations reflective of the lower deflagration limit for ANO1 and ANO 2 containment structures, or provide further justification why oxygen concentration is not applicable to ANO1 and 2. In addition, revise criteria identified for an "explosive mixture inside containment" under CG1 - EAL 3 to ensure consistency with threshold in CNB1. ***(ACTION: ANO to provide additional discussion on 4% concentration.)***	

CATEGORY F: FISSION PRODUCT BARRIERS

TABLE 5-F-4: Containment Barrier #3 -- Core Exit Thermocouple Reading	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
(CNB2/Potential Loss) NEI 99-01 guidance defines a POTENTIAL LOSS as "core exist thermocouples in excess of 1200 degrees and restoration procedures not effective within 15 minutes." Licensee has revised NEI 99-01 statement for ANO-1 to state, "Significant ICC exists as evidenced by CETs indicating superheated conditions...", but does identify change as a deviation or difference. Identify as deviation or difference and provide justification, as applicable to ANO-1, for or provide proposed change to comply with NEI 99-01 guidance. ***(ACTION: ANO to provide additional justification.)***	
(CNB2/Potential Loss) NEI 99-01 guidance also defines a POTENTIAL LOSS as "core exit thermocouples in excess of 700 degrees with reactor vessel level below top of active fuel and restoration procedures not effective within 15 minutes." Licensee states that this criterion is not considered since RVLMS is used as an indication of potential core uncovery only if core exit thermocouple (CET) indication is unavailable. Provide further technical justification for deviation consistent with response to Specific Comment #23. ***(ACTION: ANO to provide additional justification.)***	

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Containment Barrier #4 – SG Secondary Side Release with Primary-to-Secondary Leakage	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
(CNB3/Loss) Licensee considers NEI 99-01 criterion, "RUPTURED S/G is also faulted outside of containment", as redundant, and therefore, does not address or provide further justification. NEI 99-01 Basis (3rd paragraph) acknowledges that "[u]sers should realize that the two "loss" EALs described above could be considered redundant." Per NEI 99-01 Section 5.4, this criteria is defines as preliminary-to-secondary leakage of sufficient leakage to require or cause a scram and safety injection (RUPTURED) AND results in uncontrolled S/G pressure or S/G being drained completely. This differs from Containment Barrier Example EAL 4 (2nd criterion) which reflects a non-isolable (prolonged) release path to the environment from the affected S/G. Provide further technical justification for deviation or proposed change to comply with NEI 99-01 guidance.	(CNB3/Loss) Provide EAL corresponding to NEI 99-01 criterion for a "RUPTURED S/G [steam generator] is also FAULTED outside the containment," per Basis definitions, or provide specific technical justification for deviation from NEI 99-01 guidance.

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Containment Barrier #5 – CNTMT Isolation Valves Status After CNTMT Isolation	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
(CNB4/Loss) Licensee criterion states, Unisolable breach of containment with a direct release path to the environment following containment isolation actuation." This is inconsistent with NEI guidance, which states "Valve(s) not closed AND downstream pathway to the environment exists." In addition, licensee chose not to incorporate NEI 99-01 Basis discussion into CNB4 Basis. Identify changes as deviation or difference, and provide justification for change in EAL wording. Also, provide rational for the failure to address NEI 99-01 Basis guidance. ***(ACTION: ANO to evaluate addition of new wording.)***	(CNB4/Loss) Provide justification for addition of qualifier, "...following containment isolation actuation." ***(ACTION: W3 is considering modifying wording.)***

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Containment Barrier #6 -- Significant Radioactive Inventory in Containment	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
(CNB5/Potential Loss) Clarify in licensee Basis that Containment high range radiation monitor reading of 4,000 R/hr corresponds to 20% fuel clad damage, or other site-specific analysis value, per the guidance in NEI 99-01 Basis.	

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Containment Barrier #7 -- Other (Site-Specific) Indications	
ARKANSAS NUCLEAR ONE	**WATERFORD 3**
(CNB6) NEI 99-01 Basis states this EAL should cover other site-specific indications, including: area or ventilation monitors in containment annulus or other contiguous buildings that may unambiguously indicate a loss or potential loss of the containment barrier, or venting of containment per site emergency operating procedures. Provide rational in licensee Basis why these criteria are not considered applicable to ANO-1 and/or ANO-2 Containment structures, or proposed wording to comply with NEI 99-01 Basis guidance. ***(ACTION: W3 has lead to contact NEI in advance of NRC meeting.)***	Provide evaluation of other site-specific indications of a loss or potential loss of the Containment Barrier per NEI 99-01 guidance, including indications from area or ventilation monitors in containment annulus or other contiguous buildings, or the intentional venting of containment per emergency operating procedures to prevent a catastrophic failure.
(CNB6) Licensee chose to include "at least 20% fuel damage failure as determined from core damage assessment" as a POTENTIAL LOSS of containment, based on basis for CNB5 (Significant Radioactive Inventory in Containment). In CNB6 Basis, licensee justifies EAL by stating that "[r]regardless of whether containment is challenged, this amount of activity in containment, if released, could have such severe consequences that it is prudent to treat this as a potential loss of containment." Describe why the licensee believes that this concern is not adequately address under CNB5, based on containment radiation monitor readings, since this is intent as outlined in NEI 99-01 Table 5-F-4, Containment Barrier Example EAL 6 Basis. ***(ACTION: ANO will provide additinal justification of approach.)***	

CATEGORY F: PWR FISSION PRODUCT BARRIERS

TABLE 5-F-4: Containment Barrier #8 -- Emergency Director Judgment	
ARKANSAS NUCLEAR ONE	WATERFORD 3

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Initating Condition (IC) Statements	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
(FA1) Typo for font in IC "reactor pressure boundary" (ACTION: GGNS to correct typo.)	

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Fuel Clad Barrier #1 -- Primary Coolant Activity Level	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
Provide justification that compares the listed 5% clad failure with "300 uci/ml" value in NEI 99-01. To be consistent with 99-01, the EAL for clad failure should be 300 uci/ml.	Explain use of 300 uci/gm, versus the use of 4 uci/gm for this EAL at other Entergy BWRs. In justification, provide evidence that the 300 uci/gm activity would correspond to less than 5% fuel failure, as referenced in NEI 99-01. ***(ACTION: 4 uci/gm?)***

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Fuel Clad Barrier #2 -- Reactor Vessel Water Level	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
Is the use of "-192 in" a typo in the difference explanation? Provide more detailed discussion on the use of either level indication justification (as referenced in 99-01, TOAF or 2/3 coverage of active fuel) and identify which value is used for this EAL. ***(ACTION: GGNS to provide additional clarification.)***	

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Fuel Clad Barrier #3 -- Drywell Radiation Monitoring	
GRAND GULF (GGNS)	RIVER BEND (RBS)

CATEFORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Fuel Clad Barrier #4 -- Other (Site-Specific) Indications	
GRAND GULF (GGNS)	RIVER BEND (RBS)

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Fuel Clad Barrier #5 -- Emergency Director Judment	
GRAND GULF (GGNS)	RIVER BEND (RBS)

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Reactor Coolant System Barrier #1 – Drywell Pressure	
GRAND GULF (GGNS)	RIVER BEND (RBS)

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Reactor Coolant System Barrier #2 -- Reactor Vessel Water Level	
GRAND GULF (GGNS)	RIVER BEND (RBS)

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Reactor Coolant System Barrier #3 -- RCS Leak Rate	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
NEI 99-01 EAL #2 (potential loss outside drywell) is missing. Discuss the deviation and provide justification for omitting or include in EAL scheme. ***(ACTION: GGNS will change to agree with RBS.)***	
Justify the omission of "inside the drywell" for the potential loss for greater than 50gpm RPB leakage. ***(ACTION: GGNS will change to agree with RBS.)***	

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Reactor Coolant System Barrier #4 -- Drywell Radiation Monitoring	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
This EAL is omitted form the GG EALs. This is listed as a difference due to location of monitors. The explanation is not sufficient to justify the omission. Provide more justification why this EAL should be omitted or add NEI 99□01 EAL to the scheme. ***(ACTION: GGNS will align with RBS.)***	NEI 99-01 discusses the inclusion of shine dose in this EAL, and expects that a differentiation be applied to determine the presence of either a single barrier of 2 barriers (clad and RCS) lost. It does not appear that the deviation is acceptable justification to omit this EAL. Provide specific information for this EAL, consistent with other Entergy sites if possible, to include within this scheme. ***(ACTION: RBS and GGNS should have common approach.)***

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Reactor Coolant System Barrier #5 -- Other (Site-Specific) Indications	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
	Additional information may be warranted for this EAL, beyond simply a stuck open relief valve. As example, also increases in suppression pool bulk temperature greater than TS limit.

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Reactor Coolant System Barrier #6 – Emergency Director Judgment	
GRAND GULF (GGNS)	RIVER BEND (RBS)

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Containment Barrier #1 -- Drywell Pressure	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
NEI 99-01 also discusses O2 levels, which are omitted in the GG EAL. Justify your omission of the oxygen concentration and comparison to the lower deflagration limit.	

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Containment Barrier #2 -- Reactor Vessel Water Level	
GRAND GULF (GGNS)	RIVER BEND (RBS)

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Containment Barrier #3 -- CNTMT Isolation Failure or Bypass	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
Define "SAPs". Justify the deviation from declaring a loss from CTMT venting per EOPs, which is referenced in NEI 99-01. (This is incorrectly listed as a difference.)	

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Containment Barrier #4 -- Significant Radioactive Inventory in Containment	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
Justify the value (> 11,500 R/hr) in regard to being representative of 20% fuel clad damage. ***(ACTION: GGNS to evaluate use of RBS approach.)***	(PC#3) Explain use of 9500 mr/hr justification for id of CTMT leakage. Value appears quite high to be associated with leak path (in that there would have to also be some core damage). ***(ACTION: RBS to coordinate response with GGNS.)***

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Containment Barrier #5 -- Other (Site-Specific) Indications	
GRAND GULF (GGNS)	**RIVER BEND (RBS)**
	**Look at other sites for comparison. Appears to be some additional conditions that should be referenced here.

CATEGORY F: BWR FISSION PRODUCT BARRIERS

TABLE 5-F-2: Containment Barrier #6 -- Emergency Director Judgment	
GRAND GULF (GGNS)	RIVER BEND (RBS)

CATEGORY S: SYSTEM MALFUNCTIONS

SU2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				

CATYEGORY S: SYSTEM MALFUNCTIONS

SU3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Provide description in Basis, and technical justification as a deviation to NEI 99-01 guidance, for the use of "50% of Control Room annunciators" for Unit 1, versus the definition of "most" as 75% per NEI 99-01 SU3 Basis. ***(ACTION: ANO will provide additional information.)***			Describe logic for referencing Reg. Guide 1.97, rather than listing specific Control Room indicator panels containing safety system instrumentation per Table 3 to Reg. Guide 1.97. In addition, clarify how operators are trained to promptly recognize and quantify a loss of Reg. Guide 1.97 instrumentation or if specific measures are in place to label instrumentation to allow for the prompt classification of event. ***(ACTION: W3 to research in more detail and add additional information as applicable.)***
	Provide a description of the number of Control Room annunciator panels in Unit 2 (ANO-2) and what systems / functions (in general terms) are provided on each panel. In addition, describe how the loss of 9 panels in Units 2 (ANO-2) constitutes a loss of most (75%) of annunciators. ***(ACTION: ANO will provide additional information.)***			
	Licensee has chosen to insert the qualifier "Loss of AC and DC" as reason for annunciator loss. Describe what percentage of annunciators are powered by either an AC or DC power source, or combination of both. In addition, describe any credible scenarios, other the loss of AC and DC power, that would resulting a significant loss of Control Room annunciators. ***(ACTION: ANO will provide additional information.)***			

CATEGORY S: SYSTEM MALFUNCTIONS

SU4	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition		(SU10) Justify the deviation (not difference) for including modes 1, 2, and 3 in this IC. ***(ACTION: GGNS to separate cold shutdown EALs.)***		
EAL 1	(SU9) Licensee states that "ANO uses the letdown radiation monitor (if available) as a qualitative measure of potential fuel clad degradation", but does not provide monitor per NEI 99-01, CU5 - EAL 1. Provide the alarm setpoint(s) for the letdown radiation monitor in ANO-1 and ANO-2, and describe how the setpoint(s) correlate to Technical Specification allowable limits. If alarm setpoint does correspond to Technical Specification allowable limits, provide further technical justification for deviation from NEI 99-01 guidance.			
EAL 2				

CATEGORY S: SYSTEM MALFUNCTIONS

SU5	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1		Deviation appears justified, however, NEI 99□01 still lists the 10 gpm limit in the EAL, which could be observed in some situations using remotely installed equipment (as in refueling outages). Recommend that the 10 gpm be left in, and the inclusion of level also included. Additional justification is necessary for the omission of the 10 gpm. Identification of A0" A is missing from the discussion. Is 0" at the reactor head flange? Compare to other Entergy plant EALs. ***(ACTION: No practical way to measure.)***		
EAL 2		NEI 99□01 lists 25gpm as the EAL for identified leakage. In the GG basis, 35 gpm is discussed as the minimum limit for detection for unidentified leakage, but is the identified leak rate limit in the EAL. 10 gpm is the unidentified limit. Correct the references in the basis, and justify the deviation for using 35 gpm as the identified leak rate, versus 25 gpm in 99□01. This is listed as a difference instead of a deviation. ***(ACTION: GGNS will add additional information.)***	(SU2 / EAL2) Explain why 35 gpm is used instead of 30, which is the TS limit at RBS. Site the specific TS references to justify this deviation (and classify in section correctly.)	(SU7) Provide justification for Basis statement, "[a]t Waterford 3, steam generator leakage is considered to be identified leakage." In addition, clarify why this statement would also not be applicable during cold shutdown mode per CU1. ***(ACTION: W3 to modify statement.)***

CATEGORY S: SYSTEM MALFUNCTIONS

SU6	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition		(SU9 Dev.Diff. document) Justify the deviation (not difference) for including modes 1, 2, and 3 in this IC. ***(ACTION: GGNS to separate cold shutdown EALs.)***		
EAL1				
EALs 1 & 2	(SU6 / Tables M1 & M2) Licensee includes portable cellular telephones under onsite and offsite communications capability. Clarify whether implementing procedures address the use of cellular phones as a means of onsite communications and offsite notification for consideration under these EALs, and that cellular phone will function effectively within or in close proximity to plant structures. ***(ACTION: ANO clarify.)***			(SU8 / Tables M1 & M2) Licensee includes cellular telephones under onsite and offsite communications capability. Clarify whether implementing procedures address the use of cellular phones as a means of offsite communications for consideration under these EALs, and that cellular phones will function effectively within or in close proximity to plant structures to be considered a means of onsite and/or offsite communications. ***(ACTION: W3 clarify.)***
EAL 2	(SU6 / Table M2) Licensee includes the Station Radio System under offsite communications capability. Clarify whether implementing procedures address the use of the Station Radio System as a means of offsite notification purpose for consideration under these EALs. ***(ACTION: ANO clarify.)***			(SU8 / Table M2) Licensee lists civil defense radios under offsite communications equipment, but NEI 99-01 CU6 Basis lists radio transmissions as an extraordinary means of offsite communications. Clarify whether implementing procedures address the use of civil defense radios as a back-up means of offsite communications. ***(ACTION: W3 procedure includes civil defense radios – Plan?)***

CATEGORY S: SYSTEM MALFUNCTIONS

SU8	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				(Su10) Clarify use of terms "extended" vs. "sustained" for consistency with EAL thresholds and use of terms in licensee SU10 and CU7 Bases. ***(ACTION: W3 to clarify wording.)***
EAL 2	Describe in Basis the rational for Unit 1 (ANO-1) and Unit 2 (ANO-2) EAL thresholds established by licensee, and justification for inclusion of site-specific thresholds for inadvertent criticality in SU8 (Modes 3 / 4), but not under CU8 (Modes 5 / 6). ***(ACTION: ANO to add additional information.)***			

CATEGORY S: SYSTEM MALFUNCTIONS

SA2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				Clarify whether rod withdrawal would occur in hot standby (Mode 3), as part of a plant start-up, prior to entering Mode 2. If rod withdrawal would initiate in hot standby, prior to entering Mode 2 (Start-up), then address Mode 3 applicability per NEI 99-01 guidance. ***(ACTION: W3 to clarify wording.)***
EAL 1	Licensee has revised EAL wording in EAL Basis (Attachment 3) to include qualifier "...and a successful manual trip ***or DSS trip*** occurred." This change is not consistent with NEI 99-01 guidance, nor the wording contained in EAL Matrix (Attachment 2). Resolve inconsistency between EAL Matrix and Basis, and if retained, identify change as a deviation and provide justification to support revision to NEI 99-01 guidance. ***(ACTION: ANO to add additional information.)***			
Basis	Under examples of what constitutes a "manual trip", licensee inserted example: "de-energizing rod drive mechanism". Clarify that, based on NEI 99-01 guidance, the rod drive mechanism can be de-energized from main control rod panels, and does not require action in other adjacent Control Room auxiliary (side or back) panels (i.e., pulling fuses) or actions outside of control room, which are not to be considered under a manual scram. ***(ACTION: ANO to provide additional information.)***	In the basis, the allowance for ARI as one of the successful means for a manual scram is referenced. Discuss the ability (in terms of time and operator actions (ie. Manual actions or control room actions) to use ARI as a means to A rapidly@ manually shut down the reactor.		Intent of the NEI 99-01 IC is to address the failure of an automatic shutdown, whenever an automatic reactor trip is initiated. While steam generator high level per the Waterford 3 Technical Specifications does not correspond to a safety limit, its functional capability at the specified trip setting is required to enhance the overall reliability of the Reactor Protection System (RPS), and therefore, should be applicable to this IC. This is also applicable to RCS flow-low. Provide further justification why not to address the failure to initiate or complete a reactor trip whenever any automatic reactor trip signal is initiated which would potentially create an Anticipated Transient Without Scram (ATWS) event, or provide change to comply with intent of NEI 99-01 guidance. ***(ACTION: W3 to modify***

CATEGORY S: SYSTEM MALFUNCTIONS

SA4	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Define what constitutes a loss of most or all Indicators, consistent with licensee's SU3-EAL 2, or identify as a deviation and provide justification from NEI 99-01 guidance. ***(ACTION: ANO to provide additional information.)***			Describe logic for referencing Reg. Guide 1.97, rather than listing specific Control Room Indicator panels containing safety system instrumentation per Table 3 to Reg. Guide 1.97. In addition, clarify how operators are trained to promptly recognize and quantify a loss of Reg. Guide 1.97 instrumentation or if specific measures are in place to label instrumentation to allow for the prompt classification of event. ***(ACTION: W3 to research in more detail and add additional information as applicable.)***
	Licensee uses term "Plant Transient", which is defined differently than a "Significant Transient" per Sections 4.34 and 4.39, and NEI 99-01, Section 5.4. Please identify as deviation or difference, as appropriate, and provide technical justification supporting change from NEI 99-01 guidance regarding a "Significant Transient", or provide proposed change to comply with NEI 99-01 guidance. ***(ACTION: ANO to provide additional information.)***			

CATEGORY S: SYSTEM MALFUNCTIONS

SA5	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				
Basis				Licensee Basis takes credit for temporary emergency diesels that may be used to supplement onsite AC power in the event emergency diesels are lost. Provide technical justification for deviation from NEI 99-01 CA3 / EAL 1.b criterion, which requires licensee to list site-specific emergency diesel generators that are part of plant design and safety analysis, or provide change to comply with NEI 99-01 guidance. In addition, clarify specific reference to where credit is taken for temporary diesel generators in safety analysis report accident analyses or station blackout coping analysis. ***(ACTION: W3 to provide additional information.)***

CATEGORY S: SYSTEM MALFUNCTIONS

SS1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition	ICs for NEI 99-01 for CA3 and SS1 states, "Loss of All Offsite Power and Loss of All Onsite Power to Essential Busses." Licensee defines "essential busses" as "required 4.16 KV busses" under CA3 IC and "vital 4.16 busses" under SS1 IC. Licensee also uses term "emergency busses" in CA1 EAL criterion, which is consistent with NEI 99-01 guidance, but uses the term "vital busses" in SS1 EAL criterion. In addition, NEI 99-01 example EAL criterion for CA3 and SS1 are identical, with the exception of mode applicability, but licensee criteria under CA3 and SS1 are not consistent. Licensee criterion under SS1 would not allow credit for the restoration of offsite power to an essential bus, but only from an emergency diesel generator. Provide justification for deviation in term definition and interpretation of EAL criterion between licensee CA3 and SS1, and the apparent failure to address a restoration of offsite power to an essential bus within 15 minutes under SS1.			
EAL 1			EAL for status of EDGs is missing from this IC. Provide EAL consistent with 99-01 or justify why this EAL is omitted. ***(ACTION: RBS to provide additional reference to diesel generator.)***	

CATEGORY S: SYSTEM MALFUNCTIONS

SS1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Basis				Licensee Basis takes credit for temporary emergency diesels that may be used to supplement onsite AC power in the event emergency diesels are lost. Provide technical justification for deviation from NEI 99-01 CA3 / EAL 1.b criterion, which requires licensee to list site-specific emergency diesel generators that are part of plant design and safety analysis, or provide change to comply with NEI 99-01 guidance. In addition, clarify specific reference to where credit is taken for temporary diesel generators in safety analysis report accident analyses or station blackout coping analysis. **(ACTION: W3 to provide additional information.)**

CATEGORY S: SYSTEM MALFUNCTIONS

SS2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				
Basis		In NEI 99□01 Basis discussion of SS2, there is a specific reference to operator actions away from the reactor control console which define a NOT SUCCESSFUL manual shutdown. That specific caution is missing from the GG Basis. Justify the omission of the caution, or correct the Basis to specifically include the caution. As in item 32, justify the use of ARI as a rapid insertion of rods. ***(ACTION: GGNS to provide additional wording in basis document.)***		

CATEGORY S: SYSTEM MALFUNCTIONS

SS3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Describe rational for listing of unit-specific busses in SS3 (Modes 1_4), but not in CU7 (Modes 5 / 6). In addition, confirm that nomenclature for Unit 1 (ANO-1) DC busses is D01 and D02, versus use of unit designator 1D01 and 2D02. ***(ACTION: ANO will provide additional information.)***		Modes are different than in 99-01. Explain this deviation from 99-01. ***(ACTION: RBS to provide justification for hot shutdown in deviation document.)***	

CATEGORY S: SYSTEM MALFUNCTIONS

SS4	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				(SS5) Licensee inserted qualifier, "...necessary to reach Hot Shutdown", in IC statement. However, per NEI 99-01 Basis and licensee criteria provided, this IC reflects capabilities to reach or maintain hot shutdown. Revise licensee proposed IC statement to reflect intent of NEI 99-01 guidance. ***(ACTION: ANO will modify the wording.)***
EAL 1	While not required per NEI 99-01 guidance, licensee has chosen to insert specific system availability to provide core cooling and heat sink. Describe in Basis rational for the selection of Criteria 1.a, 1.b and 1.c. ***(ACTION: ANO will provide additional information.)***			

CATEGORY S: SYSTEM MALFUNCTIONS

SS6	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Licensee uses term "Transient" in IC and EAL 1.d, which is not consistent with the use of "Plant Transient" by licensee in SA4 or the use of term "Significant Transient" under NEI 99-01 guidance. Identify as deviation or difference, as appropriate, and provide technical justification supporting change from NEI 99-01 guidance and inconsistency with SA4, or provide proposed change to comply with NEI 99-01 guidance. ***(ACTION: Ano to clarify wording.)***	Use of word "unplanned" appears to indicate that if planned, this would be acceptable. Provide detailed justification why this deviation is acceptable, as written. ***(ACTION: GGNS will modify wording.)***		Describe logic for referencing Reg. Guide 1.97, rather than listing specific Control Room indicator panels containing safety system instrumentation per Table 3 to Reg. Guide 1.97. In addition, clarify how operators are trained to promptly recognize and quantify a loss of Reg. Guide 1.97 instrumentation or if specific measures are in place to label instrumentation to allow for the prompt classification of event. ***(ACTION: W3 to research in more detail and add additional information as applicable.)***
	NEI 99-01 criterion states, "Indications needed to monitor (site-specific) safety functions are unavailable". However, licensee has established a threshold of a "loss of 75% of indicators associated with safety systems." This is not consistent with NEI 99-01 guidance, which is intended to reflect that indication is not available to monitor a listing of site-specific safety functions. Identify as a deviation or difference, as appropriate, and provide justification supporting changes and listing of site-specific safety functions, or provide proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to provide further evaluation.)***			NEI 99-01 does not require that all Reg. Guide 1.97 indication be lost as reflected in licensee EAL criteria, but rather that indication is not available to monitor a required safety function(s). Provide further justification or change to comply with NEI 99-01 guidance. (ACTION: W3 to modify wording and coordinate with ANO.)

CATEGORY S: SYSTEM MALFUNCTIONS

SG1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	NEI 99-01 guidance states, "Site-specific) indication of continuing degradation of core cooling based on Fission Product Barrier monitoring." Licensee has designated criterion, "FA1 entry conditions met." Designate Fuel Clad Barrier criteria from Fission Product Barrier Matrix, contained in Attachment 2, which specifically indicate a continuing degradation of core cooling.		No reference for EDGs. If EDGs are operable, then busses would be powered. Provide justification using site drawings and electrical logic diagrams to discuss the power-related EALs. ***(ACTION: RBS to add reference to diesel generator.)***	
Basis				Licensee Basis takes credit for temporary emergency diesels that may be used to supplement onsite AC power in the event emergency diesels are lost. Provide technical justification for deviation from NEI 99-01 CA3 / EAL 1.b criterion, which requires licensee to list site-specific emergency diesel generators that are part of plant design and safety analysis, or provide change to comply with NEI 99-01 guidance. In addition, clarify specific reference to where credit is taken for temporary diesel generators in safety analysis report accident analyses or station blackout coping analysis. ***(ACTION: W3 to provide additional information.)***

CATEGORY S: SYSTEM MALFUNCTIONS

SG2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(1.a) Describe the correlation and technical basis between the unit-specific thresholds indicating core cooling is extremely challenged (EAL 1.a), with the NEI 99-01 Basis guidance of "core exit temperatures are at or approaching 1200 degrees or that the reactor vessel water level is below the top of active fuel." ***(ACTION: ANO to evaluate further and provide consistency.)***	Justify the use of ARI as "rapid" insertion of rods. -- Also in deviation/differences document.		*(EAL2) NEI 99-01 Basis guidance and that provided in licensee Basis state that an indication that heat removal is extremely challenged is "if emergency feedwater flow is insufficient to remove the amount of heat required by design from at least one steam generator." However, licensee EAL criterion 2 states that "heat removal is extremely challenges by* ***BOTH*** *steam generators < 50% Wide Range* ***and*** *not feedwater available." Clarify inconsistency between licensee EAL criterion and justification in NEI 99-01 and licensee Bases, or provide changes to EAL criterion to comply with NEI 99-01 guidance.*
	(1.b) Describe the correlation and technical basis between the thresholds indicating heat removal is extremely challenged (EAL 1.b), with the NEI 99-01 Basis guidance of "emergency feedwater flow is insufficient to remove the amount of heat required by design from at least one steam generator."			

CATEGORY C: SHUTDOWN CONDITIONS

CU1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				Provide further technical justification for proposed modification to Mode 6 applicability by adding qualifier "with reactor vessel water level below the reactor vessel flange," which deviates from NEI 99-01 mode definitions, criteria guidance. ***(ACTION: W3 will revise to match NEI 99-01.)***
EAL 1			(CU1 / EAL1) In deviation justification, explain relevance on 9.7 in. in relation to vessel level. ***(Action: RBS to provide more justification in Basis)***	
EAL 2				Provide justification for Basis statement, "[a]t Waterford 3, steam generator leakage is considered to be identified leakage." In addition, clarify why this statement would also not be applicable during cold shutdown mode per CU1. ***(ACTION: W3 to modify statement.)***

CATEGORY C: SHUTDOWN CONDITIONS

CU2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition	Licensee IC statement in Attachment 4) is inconsistent with that listed in Attachment 1 (Index of EALs), Attachment 2 (EAL Matrix) and under NEI 99-01 CU2. Correct inconsistency between IC statements. ***(ACTION: ANO to correct inconsistency.)***			(CU1) Initiating condition (IC) title under NEI EAL Differences Document does not reflect IC statement reflected under NEI 99-01 CU2. Provide justification for difference, or provide change to comply with NEI 99-01 IC statement wording. ***(ACTION: W3 to correct inconsistency)***
EAL 1				Combined with CU1
EAL 2	(CU2 / EAL1)Licensee states "UNPLANNED RCS level drop below the reactor vessel flange greater than 15 minutes," rather than NEI 99-01, CU2 - Example EAL 1 criterion of "[greater than or equal to] ≥ 15 minutes." Provide justification for deviation, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to change to match NEI 99-01.)***		(CU2 / EAL2) Why reverse order of EALs? ***(ACTION: RBS will reverse EALs to match NEI 99-01.)***	Combined with CU1

CATEGORY C: SHUTDOWN CONDITIONS

CU3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition	Licensee has chosen to make IC applicable for modes 5 (Cold Shutdown), 6 (Refueling) and D (Defueled). NEI 99-01 CU3 guidance lists applicability to Cold Shutdown and Refueling only. Basis merely states that licensee chose to add Defueling to mode applicability. Provide technical justification for deviation regarding applicability to Defueled mode, or proposed change to comply with NEI 99-01 guidance. ***(ACTION: ANO to modify to comply with NEI 99-01.)***		(CU4 / EAL1) Explain why condition of EDGs is not included. Discussion says "implied that EDGs are operable" but not in EAL. Recommend including as in 99-01. Difference does not appear to be correct in logic on loss of EDGs as well as offsite power. (Implies that UE for 15 min. then higher classification, which is incorrect.)	
EAL 1	(CU3 / EAL1) NEI 99-01 IC statements and Example EALs for both CU3 and SU1, with the exception of mode applicability, are identical. However, listing of offsite power sources and criteria use for threshold 1.b, "At least (site-specific) emergency generators are supplying power to emergency busses," are inconsistent between licensee CU3 and SU1, EAL 1. Provide justification for inconsistencies between criteria in CU3 and SU1 based on common NEI 99-01 guidance, or proposed changes to eliminate inconsistency. ***(ACTION: ANO to eliminate inconsistency.)***			

CATEGORY C: SHUTDOWN CONDITIONS

CU4	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(CU4 / EAL1) Licensee has chosen to insert "200□F", in lieu of NEI 99-01 guidance statement of "Technical Specification cold shutdown limit." Per guidance established by licensee, this difference should be listed and justified as equivalent to the Technical Specification cold shutdown limit in Attachment 4. Identify difference, and provide justification as equivalent to the Technical Specification cold shutdown limit per NEI 99-01 guidance.			(CU4 / EAL1) Licensee has chosen to insert "200°F", in lieu of NEI 99-01 guidance statement of "Technical Specification cold shutdown limit." Per guidance established by licensee, this difference should be listed and justified as equivalent to the Technical Specification cold shutdown limit. Please identify difference, and provide justification as equivalent to the Technical Specification cold shutdown limit per NEI 99-01 guidance.
EAL 2				

CATEGORY C: SHUTDOWN CONDITIONS

CU5	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(CU5 / EAL1) Licensee states that "ANO uses the letdown radiation monitor (if available) as a qualitative measure of potential fuel clad degradation", but does not provide monitor per NEI 99-01, CU5 - EAL 1. Provide the alarm setpoint(s) for the letdown radiation monitor in ANO-1 and ANO-2, and describe how the setpoint(s) correlate to Technical Specification allowable limits. If alarm setpoint does correspond to Technical Specification allowable limits, provide further technical justification for deviation from NEI 99-01 guidance. ***(ACTION: ANO to provide alarm set point.)***		(CU5 / EAL1) Explain why RBS does not provide a consistent method for detecting this IC, similar to other Entergy plants (such as GG use of offgas monitor readings resulting in isolation). Further justification for deviating from this EAL is necessary.	(CU4) Clarify whether letdown monitor is currently disabled, and identify whether other radiation monitors would be available to monitor fuel clad degradation based on Technical Specification allowable limits. In addition, provide justification for identifying elimination of radiation monitor criterion as a difference versus a deviation, since proposed change eliminates a specific EAL criterion listed in NEI 99-01 guidance.
EAL 2			Explain why RBS does not provide a consistent method for detecting this IC, similar to other Entergy plants (such as GG use of offgas monitor readings resulting in isolation). Further justification for deviating from this EAL is necessary.	

CATEGORY C: SHUTDOWN CONDITIONS

CU6	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(CU6 / Tables C1 & C2) Licensee includes portable cellular telephones under onsite and offsite communications capability. Clarify whether implementing procedures address the use of cellular phones as a means of onsite communications and offsite notification for consideration under these EALs, and that cellular phone will function effectively within or in close proximity to plant structures. ***(ACTION: ANO clarify.)***		(CU6 / EAL1) Compare w/ GG, why did GG include mode 3 -- typo? ***(ACTION: GGNS will break out cold shutdown EALs.)***	(CU5 / EALs1&2) Licensee includes cellular telephones under onsite and offsite communications capability. Clarify whether implementing procedures address the use of cellular phones as a means of offsite communications for consideration under these EALs, and that cellular phones will function effectively within or in close proximity to plant structures to be considered a means of onsite and/or offsite communications. ***(ACTION: W3 clarify.)***
EAL 2	(CU6 / Table C2) Licensee includes the Station Radio System under offsite communications capability. Clarify whether implementing procedures address the use of the Station Radio System as a means of offsite notification purpose for consideration under these EALs. ***(ACTION: ANO clarify.)***		(CU6 / EAL2) Possible typo: offsite instead of onsite? ***(ACTION: RBS will resolve.)***	(CU5 / Table C2) Licensee lists civil defense radios under offsite communications equipment, but NEI 99-01 CU6 Basis lists radio transmissions as an extraordinary means of offsite communications. Clarify whether implementing procedures address the use of civil defense radios as a back-up means of offsite communications. ***(ACTION: W3 procedure includes civil defense radio. -- Plan?)***

CATEGORY C: SHUTDOWN CONDITIONS

CU7	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Describe rational for listing of unit-specific busses in SS3 (Modes 1_4), but not in CU7 (Modes 5 / 6). In addition, confirm that nomenclature for Unit 1 (ANO-1) DC busses is D01 and D02, versus use of unit designator 1D01 and 2D02. ***(ACTION: ANO will provide additional information.)***			(CU6) Revise DC voltage indication to reflect nomenclature used to address voltages less than 108 VDC and to reflect that used in SS4 and remainder of EALs (i.e., < 108 VDC vs. "of" 108 VDC). ***(ACTION: W3 will provide additional information.)***

CATEGORY C: SHUTDOWN CONDITIONS

CU8	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition		Justify the deviation (not difference) for including mode 3 in this IC. Note NEI 99□01 wording, in that fuel clad degradation is not considered a precursor because of the mode 4 or 5 condition, and if in mode 3, different considerations would be present. ***(ACTION: GGNS to breakout shutdown EALs.)***		
EAL 1				(CU7) Clarify use of terms "extended" vs. "sustained" for consistency with EAL thresholds and use of terms in licensee SU10 and CU7 Bases. ***(ACTION: W3 to clarify wording.)***
EAL 2	Describe in Basis the rational for Unit 1 (ANO-1) and Unit 2 (ANO-2) EAL thresholds established by licensee, and justification for inclusion of site-specific thresholds for inadvertent criticality in SU8 (Modes 3 / 4), but not under CU8 (Modes 5 / 6). ***(ACTION: ANO to add additional information.)***			

CATEGORY C: SHUTDOWN CONDITIONS

CA1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				Provide further technical justification for proposed modification to Mode 6 applicability by adding qualifier "with reactor vessel water level below the reactor vessel flange," which deviates from NEI 99-01 mode definitions, criteria guidance. ***(ACTION: W3 will revise to match NEI 99-01.)***
EAL 1	(CA1 / EAL1) Licensee states that NEI 99-01 criterion: "Loss of RCS inventory as indicated by RPV level less than the bottom ID of the RCS loop", was not considered since RVLMS will not monitor level below the bottom ID of the RCS loop. However, CA1 and CA2 Basis discussions state that RCS level indication ***may be lost*** below the bottom ID of the RCS loop, rather than is not available. If instrument design may allow for RPV level indication under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to provide explanation.)***		(CA1 / EALs1&2) Why is EAL reversed, changes meaning? May be possible to not get sump reading and by EAL, no call. IF this was intentional, then provide justification why deviating from the NEI EAL. (ACTION: RBS to use NEI 99-01 wording.)	(CA1) Licensee Basis states that the Bottom ID of the RCS loop is 11.8 ft. MSL, and that level monitoring systems in Modes 5 and 6 provide indication to 12.0 ft. Provide further technical justification why the conservative use of 12.0 ft MSL or indication off-scale low would not be appropriate, rather than proposed deletion of EAL criterion, since level difference between the Bottom ID of the RCS loop and the lowest indication is only 0.2 ft. ***(ACTION: W3 to use NEI 99-01 wording.)***
EAL 2				
Basis	Licensee incorrectly included discussion regarding refueling mode from CA2 Basis in CA1 Basis (3rd paragraph), rather than discussion on cold shutdown provided in NEI 99-01 CA1 Basis. Licensee Basis also incorrectly references CA2 and CS2 due to this error, and in 1st paragraph states "a loss of heat removal" versus NEI 99-01 discussion of "a loss of ability to adequately cool the core." Provide changes to Basis to address cold shutdown guidance in NEI 99-01 CA1 Basis, or justification for differences. ***(ACTION: ANO needs to clarify wording.)***			

CATEGORY C: SHUTDOWN CONDITIONS

CA2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(CA2 / EAL1) Licensee states that NEI 99-01 criterion: "Loss of RCS inventory as indicated by RPV level less than the bottom ID of the RCS loop", was not considered since RVLMS will not monitor level below the bottom ID of the RCS loop. However, CA1 and CA2 Basis discussions state that RCS level indication ***may be lost*** below the bottom ID of the RCS loop, rather than is not available. If instrument design may allow for RPV level indication under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to provide explanation.)***		Combined with CA1?	Combined with CA1?
EAL 2				

CATEGORY C: SHUTDOWN CONDITIONS

CA3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition	ICs for NEI 99-01 for CA3 and SS1 states, "Loss of All Offsite Power and Loss of All Onsite Power to Essential Busses." Licensee defines "essential busses" as "required 4.16 KV busses" under CA3 IC and "vital 4.16 busses" under SS1 IC. Licensee also uses term "emergency busses" in CA1 EAL criterion, which is consistent with NEI 99-01 guidance, but uses the term "vital busses" in SS1 EAL criterion. In addition, NEI 99-01 example EAL criterion for CA3 and SS1 are identical, with the exception of mode applicability, but licensee criteria under CA3 and SS1 are not consistent. Licensee criterion under SS1 would not allow credit for the restoration of offsite power to an essential bus, but only from an emergency diesel generator. Provide justification for deviation in term definition and interpretation of EAL criterion between licensee CA3 and SS1, and the apparent failure to address a restoration of offsite power to an essential bus within 15 minutes under SS1. ***(ACTION: ANO needs to clarify wording.)***			
EAL 1			(CA3 / EAL1) RBS EAL is not including status of EDGs, which is critical to this EAL. Use of "unplanned" implies that if intentionally performed then EAL is not applicable. This is a deviation. If that is your intend, then provide detailed justification for this deviation. ***(ACTION: RBS to provide additional information.)***	

CATEGORY C: SHUTDOWN CONDITIONS

CA3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Basis				(CA2) Licensee Basis takes credit for temporary emergency diesels that may be used to supplement onsite AC power in the event emergency diesels are lost. Provide technical justification for deviation from NEI 99-01 CA3 / EAL 1.b criterion, which requires licensee to list site-specific emergency diesel generators that are part of plant design and safety analysis, or provide change to comply with NEI 99-01 guidance. In addition, clarify specific reference to where credit is taken for temporary diesel generators in safety analysis report accident analyses or station blackout coping analysis. ***(ACTION: W3 to provide additional information.)***
				(CA2) Licensee in Basis discussion substitutes the term "available" in lieu of NEI 99-01 term "operable", which is defined per technical specifications. Use of the term "available" is also inconsistent with licensee SS1 Basis, which uses term "operable". Provide further technical justification for deviation from NEI 99-01 guidance and define "available" in relation to technical specifications under Basis definitions, or provide changes to comply with NEI 99-01 guidance. ***(ACTION: W3 to clarify wording.)***

CATEGORY C: SHUTDOWN CONDITIONS

CA4	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(CA4 / EALs1, 2 & 3) Licensee has chosen to insert "200□F", in lieu of NEI 99-01 guidance statement of "Technical Specification cold shutdown limit." Per guidance established by licensee, this difference should be listed and justified as equivalent to the Technical Specification cold shutdown limit in Attachment 4. Identify difference, and provide justification as equivalent to the Technical Specification cold shutdown limit per NEI 99-01 guidance.		(CA4 / EALs 1, 2 &3) Compare w/ GG, RBS format may be better. ***(ACTION: GGNS/RBS standardize wording and format.)***	(CA4 / EALs1, 2 & 3) Licensee has chosen to insert "200°F", in lieu of NEI 99-01 guidance statement of "Technical Specification cold shutdown limit." Per guidance established by licensee, this difference should be listed and justified as equivalent to the Technical Specification cold shutdown limit. Please identify difference, and provide justification as equivalent to the Technical Specification cold shutdown limit per NEI 99-01 guidance.
EAL 2		CA4 / EAL2) Provide better justification why no reference to RCS reduced inventory. It was included for River Bend (BWR). ***(ACTION: GGNS/RBS standardize wording and format.)***		
EAL 3				(CA3 / EAL3) Provide justification that the 20 psig is the lowest RCS pressure that can be read on installed Control Room Instrumentation (that is equal to or greater than 10 psig) per guidance in NEI 99-01 Basis for EAL 3. In addition, provide justification in NEI EAL Differences Document for including qualifier, "...due to reactor vessel inventory temperature increase", in EAL 3 criterion. ***(ACTION: W3 to evaluate set point.)***

CATEGORY C: SHUTDOWN CONDITIONS

CS1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				Provide further technical justification for proposed modification to Mode 6 applicability by adding qualifier "with reactor vessel water level below the reactor vessel flange," which deviates from NEI 99-01 mode definitions, criteria guidance. ***(ACTION: W3 will revise to match NEI 99-01.)***
EAL 1	(CS1 / EAL1) Licensee states that NEI 99-01 criterion: "Loss of RCS inventory as indicated by RPV level less than the bottom ID of the RCS loop", was not considered since RVLMS will not monitor level below the bottom ID of the RCS loop. However, CA1 and CA2 Basis discussions state that RCS level indication ***may be lost*** below the bottom ID of the RCS loop, rather than is not available. If instrument design may allow for RPV level indication under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to provide explanation.)***		(CS1 / EAL1) 1c does not appear to be correct w/ CTMT not Established. (direct to environ.) This appears to be consistent with GG1. Review this EAL, and correct to be consistent with NEI EAL guidance.	Licensee does not address NEI 99-01 criterion associated with RPV level corresponding to the TOAF. This is inconsistent with FCB3, Potential Loss of the Fuel Clad Barrier, and licensee SG12 which defines TOAF as "RVLMS upper plenum level $\leq$ 20%." Provide further technical justification for the deletion of TOAF criterion, based on use of criterion in FCB3, or provide changes in CS1 and CG1 to comply with NEI 99-01 guidance. ***(ACTION: W3 make numbering agree.)***

CATEGORY C: SHUTDOWN CONDITIONS

CS1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 2	(CS1 / EAL2) Licensee does not address NEI 99-01 criterion: "(RPV inventory as indicated by) RPV level less than TOAF *[top of active fuel]*", based on justification that RVLMS will not monitor level below the bottom of ID of the RCS loop. Provide further technical justification, based on both ANO-1 and ANO-2 instrumentation capabilities, for omission of NEI 99-01 criterion consistent with response to Specific Comment #20. If instrument design may allow for RPV level indication at TOAF under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to clarify wording.)***			Per NEI guidance, with CONTAINMENT CLOSURE established, the inability to monitor RPV level for > 30 minutes with EITHER an unexplained sump and tank level increases OR erratic source range monitor indication would require classification. Describe how in Mode 5 (cold shutdown) with CONTAINMENT CLOSURE established, NEI 99-01 CS1 / EAL 2.b criterion for erratic source range monitor indication with the inability to monitor RPV level for > 30 minutes, is met. ***(ACTION: W3 will split out EALs.)***

CATEGORY C: SHUTDOWN CONDITIONS

CS2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				Combined with CS1?
EAL 1	(CS2 / EAL1) Licensee states that NEI 99-01 criterion: "Loss of RCS inventory as indicated by RPV level less than the bottom ID of the RCS loop", was not considered since RVLMS will not monitor level below the bottom ID of the RCS loop. However, CA1 and CA2 Basis discussions state that RCS level indication ***may be lost*** below the bottom ID of the RCS loop, rather than is not available. If instrument design may allow for RPV level indication under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to provide explanation.)***			(CS1) Licensee provides a valid high alarm on the Containment High Range Radiation Monitor, rather than exceeding a site-specific setpoint as established under NEI 99-01 guidance. Licensees justification for this deviation is that this value was not calculated due to the range of unknowns involved, including time after shutdown and reactor vessel head installation status and installation of external structures. However, NEI 99-01 in Basis guidance states that calculations should be performed to conservatively estimate a dose rate indicative of core uncovery (i.e., level at TOAF), and in specifically required monitor reading for both CONTAINMENT CLOSURE established and not established to account for reactor vessel head installation status and installation of external structures. Provide site-specific setpoints for Containment High Range Radiation Monitor readings within indicate core uncovery based on NEI 99-01 guidance for CONTAINMENT CLOSURE established and not established. ***(ACTION: W3 provide***
				(CS3) Provide justification for the designation "Core Exit Thermocouple > 700°F" as a site-specific indication of core uncovery. ***(ACTION: W3 will provide additional justification.)***

CATEGORY C: SHUTDOWN CONDITIONS

CS2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EALs 1 & 2	(CS2 / EAL2) NEI 99-01 guidance establishes "Containment High Range Radiation Monitor reading > [site-specific] setpoint" as a criterion as evidence that RPV level cannot be monitored with indication of core uncovery. Licensee does not consider this criterion because ANO's monitors have not been analyzed for this setpoint. However, the intent of this "site-specific" criterion is for the licensee to perform calculation which should be performed at TOAF for both Containment Closure established and not established configurations. In addition, criterion "RPV level cannot be monitored with indication of core uncovery" is not reflected in licensee criteria. Provide site-specific Containment High Range Radiation Monitor setpoints (readings) or further justification why setpoint (reading) cannot be calculated per NEI 99-01 guidance. Also, address NEI 99-01 statement "RPV level cannot be monitored with indication of core uncovery", or provide further justification why statement was not considered. ***(ACTION: ANO to perform calculation.)***	Additional justification for RVP levels and their representations, to compare with NEI 99□01 levels. No EAL for sump/tank levels or for source range monitor increases. Justify deviation for not including in EAL. ***(ACTION: GGNS will provide additional justification and will coordinate response with RBS.)***		

CATEGORY C: SHUTDOWN CONDITIONS

CS2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 2	(CS2 / EAL2) Licensee does not address NEI 99-01 criterion: "(RPV inventory as indicated by) RPV level less than TOAF [top of active fuel]", based on justification that RVLMS will not monitor level below the bottom of ID of the RCS loop. Provide further technical justification, based on both ANO-1 and ANO-2 instrumentation capabilities, for omission of NEI 99-01 criterion consistent with response to Specific Comment #20. If instrument design may allow for RPV level indication at TOAF under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to clarify wording.)***	Is "***not*** established" a typo in SS4 EAL #2, as NEI 99□01 CS2, EAL #2 is "established".		Licensee does not address NEI 99-01 criterion associated with RPV level corresponding to the TOAF. This is inconsistent with FCB3, Potential Loss of the Fuel Clad Barrier, and licensee SG12 which defines TOAF as "RVLMS upper plenum level < 20%." Provide further technical justification for the deletion of TOAF criterion, based on use of criterion in FCB3, or provide changes in CS1 and CG1 to comply with NEI 99-01 guidance. ***(ACTION: W3 make numbering agree.)***
	Licensee EAL 1.a criteria is not consistent with NEI 99-01 guidance, but rather duplicates that in Example EALs 2.b (with the exception of SRM and CTE indication). In addition, the criterion "Reactor vessel level cannot be monitored for greater than 30 minutes", was inserted under licensee **CS2 - EAL 1.b and 2.b**; however, this criterion is not provided under NEI 99-01 CS2 example EALs or basis, nor are deviations adequately justified by licensee. Provide further technical justification for deviations, or proposed change to comply with NEI 99-01 guidance. ***(ACTION: ANO will perform additional research.)***			

CATEGORY C: SHUTDOWN CONDITIONS

CG1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				
	(CG1 / EAL2) Licensee does not address NEI 99-01 criterion: "(RPV inventory as indicated by) RPV level less than TOAF [top of active fuel]", based on justification that RVLMS will not monitor level below the bottom of ID of the RCS loop. Provide further technical justification, based on both ANO-1 and ANO-2 instrumentation capabilities, for omission of NEI 99-01 criterion consistent with response to Specific Comment #20. If instrument design may allow for RPV level indication at TOAF under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance. ***(ACTION: ANO to clarify wording.)***			Licensee does not address NEI 99-01 criterion associated with RPV level corresponding to the TOAF. This is inconsistent with FCB3, Potential Loss of the Fuel Clad Barrier, and licensee SG12 which defines TOAF as "RVLMS upper plenum level < 20%." Provide further technical justification for the deletion of TOAF criterion, based on use of criterion in FCB3, or provide changes in CS1 and CG1 to comply with NEI 99-01 guidance. (ACTION: W3 make numbering agree.)

CATEGORY C: SHUTDOWN CONDITIONS

EAL 2	(CG1 / EAL2) NEI 99-01 guidance establishes "Containment High Range Radiation Monitor reading > [site-specific] setpoint" as a criterion as evidence that RPV level cannot be monitored with indication of core uncovery. Licensee does not consider this criterion because ANO's monitors have not been analyzed for this setpoint. However, the intent of this "site-specific" criterion is for the licensee to perform calculation which should be performed at TOAF for both Containment Closure established and not established configurations. In addition, criterion "RPV level cannot be monitored with indication of core uncovery" is not reflected in licensee criteria. Provide site-specific Containment High Range Radiation Monitor setpoints (readings) or further justification why setpoint (reading) cannot be calculated per NEI 99-01 guidance. Also, address NEI 99-01 statement "RPV level cannot be monitored with indication of core uncovery", or provide further justification why statement was not considered. ***(ACTION: ANO to perform calculation.)***			Provide site-specific setpoint for Containment High Range Radiation Monitor reading within indicate core uncovery based on NEI 99-01 guidance for CONTAINMENT CLOSURE established. ***(ACTION: W3 will add number and provide calculation.)***

CATEGORY C: SHUTDOWN CONDITIONS

EAL 3	(CNB1/2nd Potential Loss) NEI 99-01 guidance establishes criterion, "Explosive mixture exists", which per the NEI 99-01 Basis means a hydrogen and oxygen concentration of at least the lower deflagration limit curve exists. The licensee's criterion only states "Containment Hydrogen Concentration greater than 4%", and does not address oxygen component. Provide hydrogen and oxygen concentrations reflective of the lower deflagration limit for ANO1 and ANO 2 containment structures, or provide further justification why oxygen concentration is not applicable to ANO1 and 2. In addition, revise criteria identified for an "explosive mixture inside containment" under CG1 - EAL 3 to ensure consistency with threshold in CNB1. ***(ACTION: ANO to provide additional discussion on 4% concentration.)***			Clarify whether safety analysis report or other site-specific accident analyses identify a site-specific explosive mixture that would represent a challenge to containment, equivalent to at least the lower deflagration limit. If not, discuss why explosive mixture, equivalent to at least the lower deflagration limit, could not be determined based on Industry and owners group guidance. In addition, discuss basis for Containment hydrogen threshold under Basis for CNB1.

CATEGORY H: HAZARDS

HU1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				
EAL 2	(HU6 / EAL2) Please provide specific references to safety analysis report (SAR) for Units 1 and 2 high winds design basis under Reference Document listing in Attachment 3 (Basis). ***(ACTION: ANO to provide additional information.)***	(HU3 / EAL2) Wind speed limits are not included in the EAL (as in NEI 99□01, HU1, #2). Justify the deviation from listing wind speeds in the EAL. (This is incorrectly listed as a difference.) In the HU1 Deviation/Difference document, the justification is that hurricane force winds have never been recorded. Severe winds from very strong storms can occur (greater than minimal hurricane force) as can hurricanes. (There is ample evidence of hurricanes existing for several hundred miles inland.) Typically, wind loading analysis is included in FSARs. Recommend providing wind limit to EAL or providing detailed justification for this deviation. ***(ACTION: GGNS will coordinate response with RBS.)***		
EAL 3			(HU4 / EAL3) Additional clarification should be provided to ensure that the operator understands that actual resulting damage is not a prior basis for classification. ***(ACTION: NOUE vs. Alert.)***	
EAL 4				
EAL 5				

CATEGORY H: HAZARDS

HU1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 6	Provide site-specific listing, as specified by NEI 99-01 guidance, of areas of the plant where uncontrolled flooding has the potential to affect safety-related equipment. ***(ACTION: ANO to provide plant specific list.)***	(HU3) More justification is necessary to justify omission of this EAL. Considerations for more than river flooding should be discussed, such as storm drain overflow, water main piping flooding, etc. This is incorrectly listed as a difference, instead of a deviation. Consider adding EAL to scheme, or provide detailed justification for this deviation. ***(ACTION: GGNS to evaluate flooding.)***		(HU6 / EAL6) Clarify inconsistency between HU6 / EAL 6 and HA6 / EAL 5,regarding site-specific areas containing systems required for the safe shutdown of the plant, that are not designed to be wetted or submerged, that would be impacted by internal flooding per NEI 99-01 guidance (e.g., HU6 states -35 elevation areas vs. HA6 which states Reactor Auxiliary Building). In addition, identify the basis used for determining these areas (i.e., IPEEE, etc.). ***(ACTION: W3 to clarify and make EAL more specific.)***
EAL 7	(HU6 / EALs7&8) Describe technical basis for low and high lake water level and provide reference to basis under Reference Documents in Attachment 3 (Basis). ***(ACTION: ANO to provide reference.)***			
	Describe whether the ANO site is subject to other site-specific phenomena, such as hurricanes, or subject to severe weather as defined in the NUMARC station blackout initiative (i.e., activation of severe weather mitigation procedures) per guidance in NEI 99-01 Basis. If applicable, include site-specific EALs.			

CATEGORY H: HAZARDS

HU2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1		(HU4) IC is different in GG HU4, (protected area boundary versus power block). Further, in the basis, NEI 99□01 describes a more detailed generalization of areas in actual contact or immediately adjacent to plant vital areas, which are referenced but not defined in GG EALs. Justify the deviation from the IC and describe the areas in the plant that you intend to apply to this EAL. ***(ACTION: GGNS to add list of buildings.)***		

CATEGORY H: HAZARDS

HU3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(HU5 / EAL1) NEI 99-01 qualifier "...enter the site boundary area..." was replaced with "...enter normally occupied areas of the site". This interpretation is not consistent with NEI 99-01 guidance, which considers the impact of any toxic or flammable gases that has or could enter the site area boundary, and not just occupied areas, on normal plant operations (as defined in Section 5.4 to NEI 99-01). Identify change as a deviation or difference and provide justification for further consideration, or provide proposed change to comply with NEI 99-01 guidance. ***(ACTION: What is the site boundary?)***			
EAL 2		(HU5) EAL #2 is missing from the GG EALs. Justify your deviation from NEI 99□01 by omitting EAL #2. In the Deviation/Difference document, NEI 99□01 HU3 is omitted, with a difference listed that no industries are in the Grand Gulf area affecting evacuation or sheltering. This fails to consider river barges, tanker accidents (rail or roadway) or other possible toxic gas, smoke, etc. scenarios. Recommend adding EAL or providing detailed justification for the deviation to not include this EAL. ***(ACTION: GGNS to add EAL.)***		

CATEGORY H: HAZARDS

HU4	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				
EAL 2	(HU1 / EAL2) Licensee deleted the term "site-specific" from EAL wording and chose not to include the NEI Basis discussion, which states "Only the plant to which the specific threat is made need declare the Notification of an Unusual Event". Describe how EAL 2 would allow for the differentiation between a general (i.e., threat against company facilities / property) versus directed at station, since "site-specific" criteria was deleted from EAL wording and basis. In addition, identify changes as deviations or differences and provide justification for further consideration, or provide proposed change to comply with NEI 99-01 guidance. ***(ACTION: ANO to add additional wording.)***		(HU5 / EAL2) Explain additional wording in EAL , " expected to enter normally occupied areas". This appears to deviate from intent of EAL. If notified of evacuation, then it is expected that the site would perform some protective action, such as evacuating. The entry on toxic gas into normally occupied areas is not intended to be part of the criteria to declare per this EAL. ***(ACTION: What are normally occuples areas?)***	

CATEGORY H: HAZARDS

HU5	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1			(JU1 / EAL1) This EAL is a judgment EAL for a general emergency. Modify to meet NEI EALs. ***(ACTION: RBS to modify numbering.)***	

CATEGORY H: HAZARDS

HA1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(HA6 / EAL1) Provide description in EAL 1 Basis that supports the selection of 0.1g as indicative of an Operating Basis Earthquake (OBE), and reference to site-specific technical basis (i.e., SAR, etc.) under Reference Documents in Attachment 3. ***(ACTION: ANO to add reference.)***			
EAL 2	(HA6 / EAL2) Licensee does not include the "Turbine Building", since it does not contain a vital area. Clarify whether damage to equipment in the turbine building due to high winds could cause, either directly or indirectly, damage to safety functions and systems required for the safe shutdown of the plant per NEI 99-01, HA1 Basis. If so, provide proposed change to comply with NEI 99-01 guidance to include the Turbine Building in Table H-2.	(HA$ / EAL2) Wind speed limits are missing from the GG EAL, #2. Deviation/Difference document discusses highest recorded wind speed as 69 mph, but does not review FSAR wind loading analysis or a comparison of historical events in the southeast to determine if there are other examples of hurricane force winds extending several hundred miles inland. Reexamine UFSAR to ensure that wind loading is not included (not just hurricane). ***(ACTION: GGNS to modify wording.)***		
EAL 3	(HA6 / EAL3) Licensee Basis contains statement, "If the crash is confirmed to affect a plant vital area, escalation to ALERT is appropriate"; however, this statement is applicable to licensee HU6 Basis rather than HA6 Basis per NEI 99-01 guidance. Provide justification for including statement in HA6 Basis. ***(ACTION: ANO will provide additional justification.)***			

CATEGORY H: HAZARDS

HA1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 4	(HA6 / EAL4) License references Table H-2 areas rather than developing a site-specific listings of areas, containing safety functions and systems required for the safe shutdown of the plant, that could realistically be impacted by turbine failure-generated missiles. Provide justification for referencing Table H-2, rather that developing site-specific areas based on NEI 99-01 guidance.		(HA3) Specific areas are not listed. Explain deviation why those areas are not listed and or provide list. ***(ACTION: RBS will add EAL, and GGNS and RBS to work together for common approach.)***	
EAL 5	(HA6) Provide justification for the failure to identify site-specific areas, per NEI 99-01 guidance, which include areas that contain systems required for safe shutdown of the plant, that are not designed to be wetted or submerged. ***(ACTION: ANO will provide list.)***	(HA4) Provide justification for the deviations from 99-01. Correct in Deviation/Differences document to record as a deviation, with detailed justification why appropriate to eliminate. In justification, include analysis of other than "river flooding", as discussed previously. ***(ACTION: GGNS to address flooding.)***	(HA3) Specific areas are not listed. Explain deviation why those areas are not listed and or provide list. ***(ACTION: RBS will add EAL, and GGNS and RBS to work together for common approach.)***	(HA6 / EAL5) Clarify inconsistency between HU6 / EAL 6 and HA6 / EAL 5,regarding site-specific areas containing systems required for the safe shutdown of the plant, that are not designed to be wetted or submerged, that would be impacted by internal flooding per NEI 99-01 guidance (e.g., HU6 states -35 elevation areas vs. HA6 which states Reactor Auxiliary Building). In addition, identify the basis used for determining these areas (i.e., IPEEE, etc.). ***(ACTION: W3 to clarify and make EAL more specific.)***
EAL 6	(HA6) Provide reference to technical basis (i.e., SAR, etc.) for ALERT classification based on low lake level, and include reference to technical basis(es) under Reference Documents in Attachment 3. ***(ACTION: ANO will add additional information.)***	(HA4) Provide justification for the deviations from 99-01. Correct in Deviation/Differences document to record as a deviation, with detailed justification why appropriate to eliminate.		

CATEGORY H: HAZARDS

HA2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(HA4 / EAL1) Licensee Basis does not include 1st paragraph from NEI 99-01 guidance providing basis for selection of site-specific areas. Describe basis for the selection of Table H1 areas based on NEI 99-01 guidance (i.e., safe shutdown analysis, etc.). ***(ACTION: ANO to add additional information.)***	(HA4 / EAL4) Uses vital area instead of specific areas containing functions and systems necessary for safe shutdown (though may be the same). ***(ACTION: GGNS to modify wording.)***		(HA4) Identify the basis used for determining site-specific areas containing functions and systems required for the safe shutdown of the plant (i.e., site-specific safe shutdown analysis, etc.). ***(ACTION: W3 will provide additional information.)***
		(HA4 / EAL4) References "causing damage" as opposed to "affecting operability of" as in NEI 99-01, HA2. Change to match 99□01 EAL or provide detailed justification for this deviation. ***(ACTION: GGNS to modify wording.)***		

CATEGORY H: HAZARDS

HA3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(HA5 / EAL1) Licensee inserted the following qualifier in Basis: "Areas that require only temporary access that can be supported by the use of respiratory protection should not be considered as exceeding this threshold. However, this qualifier is not addressed under NEI 99-01 guidance. In addition, licensee fails to identify the addition of this qualifying Basis statement under Deviations in Attachment 4. Identify change as a deviation or difference, as appropriate, and provide justification, or provide proposed change to comply with NEI 99-01 guidance. ***(ACTION: ANO will provide additional information.)***			

CATEGORY H: HAZARDS

HA4	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				
EAL 2				

CATEGORY H: HAZARDS

HA5	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(HA3) Provide justification for use of qualifier, "in progress", rather than "has been initiated" as stated in IC, or provide proposed change to comply with IC statement. In addition, clarify that a site-specific procedure does not exist governing control room evacuation.			*(HA3) Provide site-specific procedure or equivalent objective measure, which upon entering procedure, initiating specific procedural step or action, or reaching criteria, would reflect requirement for control room evacuation. Entry into this procedure or meeting a designated procedural step or criteria is used under licensee HS3 to determine whether control of plant was established outside the control room within 15 minutes.* **(ACTION: W3 to provide procedure reference.)**

CATEGORY H: HAZARDS

HA6	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1			(JA1 / EAL1) This EAL is a judgment EAL for a general emergency. Modify to meet NEI EALs. ***(ACTION: RBS to modify numbering.)***	

CATEGORY H: HAZARDS

HS1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				
EAL 2		(HS1) NEI 99-01 HS1, EAL #2 is missing from GG EALs. GG EAL considers only an armed attack against the plant, versus the other considerations in 99-01 (insider destruction of equipment, sabotage, hostage/extortion). Justify the deviation from the 99-01 other considerations. Justify the ommision of EAL #2 from GG EALs. This is noted as a "difference", and appears to be a deviation. Provide more detailed justification why it is appropriate to omit this EAL. ***(ACTION: GGNS to modify justification.)***		

CATEGORY H: HAZARDS

HS2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	(HS3) Provide justification, based on site-specific analysis or assessments per NEI 99-01 guidance, as to how quickly control must be re-established to ensure that core uncovering and/or core damage will not occur with the 15 minute time threshold established. In addition, please identify as deviation or difference, as appropriate, and provide justification regarding the failure to include site-specific procedure reference for the transfer of plant control during a control room evacuation. ***(ACTION: ANO will provide aditional information.)***			(HS3) Provide site-specific procedure or equivalent objective measure, which upon entering procedure, initiating specific procedural step or action, or reaching criteria, would reflect requirement for control room evacuation. ***(ACTION: W3 to provide procedure reference.)***
				(HS3) Please provide justification, based on site-specific analysis or assessments per NEI 99-01 guidance, as to how quickly control must be re-established to ensure that core uncovering and/or core damage will not occur with the 15 minute time threshold established. ***(ACTION: W3 will provide additional information.)***

CATEGORY H: HAZARDS

HS3	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1			(JS1 / EAL1) This EAL is a judgment EAL for a general emergency. Modify to meet NEI EALs. ***(ACTION: RBS to modify numbering.)***	

CATEGORY H: HAZARDS

HG1	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1				
Basis		Loss of Spent Fuel Pool of control is not addressed in the EALs, as discussed in NEI 99□01 EAL basis. Justify the deviation from referencing SFP conditions in the EAL. ***(ACTION: GGNS to address in basis document.)***		

CATEGORY H: HAZARDS

HG2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
Initiating Condition				
EAL 1	Identify as a deviation or difference, as appropriate, and provide justification for change in EAL wording referring to exceeding EPA Protective Action Guideline exposure levels "beyond the exclusion area", rather than NEI 99-01 guidance, and that defined for a General Emergency by licensee under Section 4.10.4, of "offsite for more than immediate site area".			

CATEGORY E: ISFSI

E-HU1 E-HU2	Arkansas Nuclear One	Grand Gulf	River Bend	Waterford
EAL 1	Mode applicability is considered "not applicable" per NEI 99-01 guidance, since classification based on a ISFSI / dry storage-related event is not tied to plant operating mode. Licensee chose to list all operating modes, including Defueling. Provide justification for deviation from NEI 99-01 guidance. ***(ACTION: ANO to explain methodology.)***			
EAL 2	Thresholds for natural phenomena and accident conditions established by the licensee appear to provide insufficient detail. EAL user is required to use Basis to determine magnitude or consequence of event for classification purposes (e.g., high winds *resulting in a loss of shielding due to missile impact*, tornado resulting in a long-term loss of heat transfer due to blockage of air inlets, case drop *greater than X ft.*, etc. In addition, EALs do not address a tipped-over cask or a seismic event as listed in NEI 99-01 E-HU1 Basis and licensee Basis. Provide specific thresholds for identified natural phenomena and accident conditions listed, based on description in licensee Basis. In addition, provide a listing of natural phenomena and accident conditions considered in the results of the ISFSI Safety Analysis Report (SAR) per NUREG-1536 or SAR referenced in the cask's Certification of Compliance and related NRC Safety Evaluation Report. ***(ACTION: ANO to provide more detail.)***			