

{Callaway Plant Unit 2

Combined License Application

Part 5: Callaway Plant Unit 2 Impact to Callaway Plant Unit 1 Emergency Preparedness Program Evaluation}

Revision 0
July, 2008

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1.0 PURPOSE

The purpose of this document is to evaluate whether the construction and operation of a new {Callaway Plant Unit 2} adversely impacts and affects the implemented {Callaway Plant Unit 1} Emergency Preparedness Program.

Specifically, it addresses items listed in Regulatory Guide 1.206, Section C.I.13.3.2, Emergency Plan Consideration for Multi-unit Sites.

2.0 STATEMENT OF INTENT

{AmerenUE} proposes to construct a U.S. Evolutionary Power Reactor (U.S. EPR) to be designated as {Callaway Plant Unit 2}. There will be two separate emergency plans for the {Callaway Plant site, one for Unit 1 (the current Callaway Plant emergency plan) and the other for Unit 2}. Combining the emergency plans will be considered at a later date following the licensing of {Unit 2} and will be accomplished through the 10 CFR 50.54(q) evaluation process. There will be one basic Emergency Response Organization (ERO) for both units. Some ERO positions may be duplicated where specific unit expertise is needed. Both units will share the Joint Technical Support Center/Operations Support Center (TSC), Emergency Operations Facility (EOF), Joint Public Information Center (JPIC), meteorological tower instrumentation and the Public Alert System (PAS).

3.0 MULTI-UNIT SITE CONSIDERATIONS

Note: Responses to the items cited in the Regulatory Guide are provided below each item.

If the new reactor is located on, or near, an operating reactor site with an existing emergency plan (i.e., multi-unit site), and the emergency plan for the new reactor includes various elements of the existing plan, the application should do the following:

- (1) Address the extent to which the existing site's emergency plan is credited for the new unit(s), including how the existing plan would be able to adequately accommodate an expansion to include one or more additional reactors and include any required modification of the existing emergency plan for staffing, training, emergency action levels, and the like.**

The Unit 1 emergency plan does not take credit for any Unit 2 equipment to provide support to the existing program.

The Unit 2 emergency plan will have separate Emergency Action Levels (EALs).

Both units will share the TSC, EOF, JPIC, meteorological monitoring system and PAS and personnel resources (ERO) where practicable. This will require modification to the Unit 1 emergency plan to reflect shared resources.

A human factors evaluation will be performed to ensure the shared systems used for event assessment are appropriately designed to distinguish Unit 1 from Unit 2.

A task analysis will be performed to ensure communications, accommodations and administrative resources in the TSC, EOF and JPIC are appropriately laid out to support Unit 2 response requirements and address any impact to the existing Unit 1 emergency plan.

Facility layout and furnishings will be evaluated and modified to the extent necessary to allow for combined use if concurrent events are declared at Unit 1 and Unit 2 and activation of the combined ERO is required.

A drill requiring mobilization and response activities of the ERO will be conducted prior to operation of Unit 2 to demonstrate the ability of all utility emergency facilities to support a concurrent event. This drill will evaluate the adequacy of space, furnishing, communications, monitoring systems and shared resources to ensure response functions for either unit are not degraded (in capability or timeliness) when responding to a concurrent event.

Shared use of the meteorological monitoring system and the PAS does not impact the Unit 1 emergency plan. Use of the meteorological tower indication is passive. The PAS applies to the EPZ based on the highest event declared at the site and is operated by offsite agencies.

- (2) Include a review of the proposed extension of the existing site's emergency plan pursuant to 10 CFR 50.54(q), to ensure that the addition of a new reactor(s) would not decrease the effectiveness of the existing plans and the plans, as changed, would continue to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50.**

See Sections 4 and 5 of this evaluation.

- (3) Describe any required updates to existing emergency facilities and equipment, including the alert notification system.**

Both units will share the TSC, EOF, JPIC, meteorological monitoring system and PAS. This will require modification to the Unit 1 emergency plan to reflect shared resources.

A human factors evaluation will be performed to ensure the shared systems used for event assessment are appropriately designed to distinguish Unit 2 from Unit 1.

A task analysis will be performed to ensure communications, accommodations and administrative resources in the TSC, EOF and JPIC are appropriately laid out to support Unit 2 response requirements and address any impact to the existing Unit 1 emergency plan.

Facility layout and furnishings will be evaluated and modified to the extent necessary to allow for combined use if concurrent events are declared at Unit 1 and Unit 2.

A drill requiring mobilization and response activities of the ERO will be conducted prior to operation of Unit 2 to demonstrate the ability of all utility emergency facilities to support a concurrent event. This drill will evaluate the adequacy of space, furnishing, communications, monitoring systems and shared resources to ensure response functions for either unit are not degraded (in capability or timeliness) when responding to a concurrent event.

Siting Unit 2 will not require modification of the Emergency Planning Zone (EPZ), therefore no changes to the PAS are necessary. The previous 12 months data for the Unit 1 PAS Reliability Performance Indicator will be reviewed prior to initial fuel loading to ensure system performance is sufficient for Unit 2.

(4) Incorporate any required changes to the existing onsite and offsite emergency response arrangements and capabilities with state and local authorities or private organizations.

Changes to the existing state and local offsite emergency response arrangements may be necessary if it is determined separate unit liaisons are required to be sent to the offsite agency EOCs in support of a concurrent event.

No other changes to the Unit 1 offsite emergency response arrangements or capabilities have been identified concerning the state and local or private organizations.

No changes to the existing state and local offsite emergency response arrangements or capabilities have been identified concerning private organizations.

Initial discussions for the construction of Unit 2 have been conducted with state and local authorities. As a result of these discussions, agreement letters were obtained from both state and local authorities with emergency planning responsibilities indicating a commitment to participate in further development of the emergency response plans for Unit 2, including any required training and field demonstrations, and working with the licensee to identify any needed changes to their current commitment to execute their responsibilities.

(5) Justify the applicability of the existing 10-mile plume exposure EPZ and 50-mile ingestion control EPZ.

The offsite radiological consequences for the Unit 2 design basis accident are below those of the Unit 1 design basis accident.

*The limiting dose at the 10-mile EPZ boundary for Unit 2, based on the worst case design basis accident, is **0.77** Rem TEDE. As such, the 10 mile EPZ and 50 mile Ingestion Control EPZ will be maintained and are applicable to Unit 2.*

(6) Address the applicability of the existing ETE or provide a revised ETE, if appropriate.

The current ETE study report conducted for the Callaway Plant Unit 1 dated July, 2002 and is sufficient for the operation of Unit 2.

A Traffic Impact Analysis was performed to assess the impact of construction of Unit 2 on the current transportation routes near the site. The results of this study were provided in the Callaway Plant Unit 2 Environmental Report Section 4.4.1.5 and concluded that additional mitigation during the construction period may be needed. The types of mitigation suggested to address the construction impact include both physical improvements and management measures. Thus, the impacts to the surrounding communities from construction traffic, although expected to be moderate, will be temporary and manageable with the additional mitigation.

Additionally, a special site evacuation scenario considering the Unit 2 construction workforce will be developed prior to Unit 2 construction to determine the potential impact on the existing ETE. If changes to the ETE are warranted based upon this analysis, the ETE study report will be revised.

(7) If applicable, address the exercise requirements for co-located licensees, in accordance with Section IV.F.2.c of Appendix E to 10 CFR Part 50, and the conduct of EP activities and interactions discussed in RG 1.101.

Both Unit 1 and Unit 2 emergency plans include discussion that the offsite plans specify a FEMA evaluated full participation exercise for the Callaway site be performed biennially.

Both Unit 1 and Unit 2 emergency plans require participation by each licensee to:

(1) Conduct an exercise biennially of its onsite emergency plan; and

(2) Participate in an offsite biennial full or partial participation exercise quadrennially.

Both units participate in emergency preparedness activities and interaction with offsite authorities during the period between exercises. Each unit's emergency plan administrative procedures will be written to compliment one another regarding the coordination and scheduling of the exercise schedule for the multi-unit site.

(8) If applicable, include ITAAC that will address any changes to the existing emergency plans, facilities and equipment, and programs that are to be implemented, along with a proposed schedule.

The Unit 2 emergency plan will have separate EALs.

There will be a limited sharing of equipment in the TSC, EOF and JPIC. These shared resources will be reflected in the Unit 1 emergency plan and will be evaluated by the EP staff for programmatic impact using the 10 CFR 50.54(q) evaluation process.

A drill requiring mobilization and response activities of the ERO will be conducted prior to operation of Unit 2 to demonstrate the ability of all utility emergency facilities to support a concurrent event. This drill will evaluate the adequacy of space, furnishing, communications, monitoring systems and shared resources to ensure response functions for either unit are not degraded (in capability or timeliness) when responding to a concurrent event.

An addendum to the Unit 1 emergency plan will be developed and implemented prior to the start of Unit 2 construction to address temporary site impacts due to the presence of additional equipment, materials and personnel within the OCA during the construction phase. This addendum will be reviewed and approved using the 10 CFR 50.54(q) evaluation process for Unit 1.

Following construction and prior to operational testing, the addendum will be reviewed, evaluated, and retired. Prior to retiring the document, the Unit 1 emergency plan will be reviewed to address any permanent impact from the limited sharing of resources and operational logistics that are planned to occur when the new unit is licensed for operation.

No ITAAC is necessary to address changes to the existing Unit 1 emergency plan.

(9) Describe how emergency plans, to include security, are integrated and coordinated with emergency plans of adjacent sites.

The Unit 2 emergency plan assigns the Superintendent, Protective Services the responsibility to coordinate with the Emergency Preparedness Staff to ensure:

- ◆ Consistency in planning with offsite authorities.
- ◆ Consistency in providing emergency preparedness information to the public.
- ◆ Operations and maintenance of shared emergency plan equipment and facilities.
- ◆ State wide protective actions (notifications, assembly, evacuation, etc.) including Security's actions.
- ◆ Proper scheduling of full participation exercises.

4.0 PRELIMINARY 10 CFR 50.54(Q) EVALUATION

The preliminary evaluation analyzed the impact of Unit 2 construction and operation on the following Unit 1 planning standards by answering the question. Does the plan for the construction and operation of Unit 2 emergency plan impact any of the following?

Yes No

- ☐ ☒ 1. (50.47(b)(1)) Primary responsibilities of Callaway, offsite agencies or support organizations.
- OR
- The ability to respond initially or on a continuous basis.

Comments: The ERO, offsite agency response organizations or support organization responders primary responsibilities are not impacted. Since no changes are being made to the capability or timeliness of the responder's functions/responsibilities, Unit 2 will not impact this item.

From a staffing perspective, separate or combined Unit 1 and/or Unit 2 personnel can constitute the ERO. Given these combined resources, the ability to respond initially or on a continuous basis will not be impacted by Unit 2.

Offsite agency personnel located in the TSC, EOF and JPIC are not impacted as the facilities are to be shared by both units.

Support organization (such as law enforcement, fire and medical) function under an all hazards plan that utilizes the National Incident Management System (NIMS) process for unified and

forward command processes, and therefore the ability to respond initially or on a continuous basis will not be impacted by Unit 2.

Yes No

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2. (50.47(b)(2)) The assignment of responsibilities of personnel.

OR

Minimum staffing or timely augmentation.

OR

The interface between onsite and offsite support response activities.

Comments: An additional responsibility for Unit 1 onshift personnel is needed to ensure Unit 2 personnel are notified of an event at Unit 1.

Since there will be sharing of ERO personnel, responsibilities of these individuals will increase if a concurrent event occurs and a Site Emergency or above is declared. A position analysis will be performed to assure these additional responsibilities do not impact Unit 1 emergency preparedness. ERO staff will be augmented as necessary based on the results of the position analysis.

Unit 2 will not impact the number of Unit 1 personnel needed for a minimum staffing. However, timely augmentation of some duplicate Unit 1 ERO personnel may be potentially impacted if there is a concurrent or ongoing Unit 2 event. ERO personnel will review emergency plan procedures for entry into the Owner Controlled Area (OCA).

Unit 2 will not impact the Unit 1 interface with support organization (such as law enforcement, fire and medical).

Yes No

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3. (50.47(b)(3)) Arrangements for requesting and effectively using assistance or resources from offsite authorities.

OR

The accommodations for federal, state, and/or local staff at the EOF

Comments: Unit 2 will not impact the current arrangements in place for Unit 1 to request and effectively use assistance or resources from offsite authorities. The scope of resources used is based primarily of offsite actions such as notification, evacuation and monitoring and therefore do not change with the addition of Unit 2 to the station. Unit 2 will not impact arrangements involving the need for law enforcement, fire or medical support.

Although no impacts on arrangement for requesting and effectively using assistance or resources from offsite authorities have been identified at this time, planning efforts for Callaway Plant Unit 2 included agreement letters from state and local offsite authorities indicating their commitment to work with AmerenUE to identify any needed changes to the current arrangements with the Callaway Plant site as the process continues.

The accommodations for offsite agencies in the EOF have been taken into consideration if an event is declared at Unit 1 and Unit 2, with the need to activate the combined ERO. A combined drill involving activation of the combined ERO will be conducted prior to Unit 2 operation to

ensure the adequacy of emergency facilities to support concurrent events. The drill will evaluate the adequacy of space, furnishing, communications and monitoring systems and coordination of shared resources. This will also be used to verify that there would be sufficient space and resources for local agency and federal staff at the shared facility or facilities.

Yes No

- ☐ ☒ 4. (50.47(b)(4)) Emergency Action Levels.

Comments: No changes to the Unit 1 EALs are required due to the addition of Unit 2.

Yes No

- ☒ ☐ 5. (50.47(b)(5)) Notification procedures to either the ERO, local, state, or federal entities.

OR

The content of initial and follow-up messages.

Comments: A requirement to notify Unit 2 of an event at Unit 1 will be added to the Unit 1 emergency plan. The EP staff will work with the state and local entities on the inclusion of Unit 2 in both the initial or follow-up information forms.

Yes No

- ☐ ☒ 6. (50.47(b)(6)) Communications capability among principal response organizations to emergency personnel or the public.

Comments: Current Unit 1 communications capability among principle response organizations to emergency personnel or the public will not change. The Unit 2 emergency plan will have a combined ERO and shared communications equipment, augmented as needed for the potential of concurrent events, thus not requiring any modifications to the Unit 1 emergency plan.

Yes No

- ☒ ☐ 7. (50.47(b)(7)) Dissemination of coordinated information to the general or transient public including periodic information dissemination (brochures).

Comments: The EP Staff will coordinate dissemination of emergency planning information to the public. The information will be updated to reflect the addition of Unit 2 prior to full power operation.

Yes No

- ☒ ☐ 8. (50.47(b)(8)) Provisions for or maintenance of emergency facilities and equipment.

OR

The periodicity of communications and emergency equipment tests.

Comments: Sharing the TSC, EOF, JPIC, meteorological tower and PAS will require coordination of administrative procedures for maintenance and testing of those facilities and equipment.

This will ensure that tests are conducted at required periodicities but not necessarily duplicated.

Yes No

- ☐ ☒ 9. (50.47(b)(9)) Methods, systems and/or equipment for the assessment and monitoring of actual or potential offsite radiological consequences.

Comments: Data from the existing meteorological tower will be transmitted to the applicable Unit 2 Emergency Response Facilities assessment and monitoring equipment. This will not impact the ability of the Unit 1 Emergency Response Facilities assessment and monitoring equipment to receive meteorological data.

A Unit 2-specific Dose Assessment program will be utilized. Therefore, the existing Unit 1 dose assessment program will not be affected.

Yes No

- ☒ ☐ 10. (50.47(b)(10)) Protective Actions developed for either the Plume or Ingestion Exposure Pathways including onsite protective actions.

Comments: Onsite evacuation routes and assembly areas will be evaluated to ensure construction and/or operation of the new unit does not reduce the level of safety for plant workers. Protective Action Recommendations to offsite authorities will be consistent from both Callaway units.

Yes No

- ☐ ☒ 11. (50.47(b)(11)) Means for controlling emergency worker radiation exposures consistent with the guidelines established by the EPA.

Comments: Unit 1 current means for controlling emergency worker radiation exposures are not impacted by Unit 2. Unit 2 means will be essentially identical thus not requiring any modifications to the Unit 1 emergency plan and procedures.

Yes No

- ☐ ☒ 12. (50.47(b)(12)) Arrangements for medical services for contaminated injured individuals.

Comments: Unit 2 will not impact Unit 1 current arrangements with medical services. Unit 2 has obtained agreement letters from the same Unit 1 medical services for contaminated individuals indicating their commitment to participate in any further development of the emergency response plans and to work with AmerenUE to identify any needed changes to the current Letter of Agreement with the Callaway Plant site if applicable.

Yes No

- ☒ ☐ 13. (50.47(b)(13)) Plans for plant reentry and/or recovery organization operations.

Comments: While the organization will not change, Unit 1 reentry and recovery plans will be revised to reflect additional considerations as a result of Unit 2; such as whether Unit 2 personnel may reenter the site to continue Unit 2 operation.

Yes No

- ☒ ☐ 14. (50.47(b)(14)) Periodicity of drills and/or exercises as well as deficiency resolution.

Comments: There are no required changes to the Unit 1 emergency plan due to the addition of Unit 2. Regulatory Guide 1.101 addresses exercise requirements for multi-units at a single location with dual-licensees.

Yes No

- ☒ ☐ 15. (50.47(b)(15)) Training requirements for ERO or local site support personnel.

Comments: Training will be provided to ensure each ERO position can complete their assigned duties for either unit. Current training requirements for Unit 1 ERO will change to include training requirements associated with Unit 2 for those ERO personnel considered common to both units. A position analysis will be performed to identify ERO positions requiring duplication. Once identified, a position-specific training program will be developed combining required training for both units as needed.

Training of local support personnel will be the same as for Unit 1 augmented for those agencies needing EAL training on both units. Unit 2 has obtained agreement letters from the same Unit 1 state and local support agencies indicating their commitment to participate in any required training and field demonstrations.

Yes No

- ☐ ☒ 16. (50.47(b)(16)) Responsibilities for Emergency Plan development, maintenance, and review as well as training requirements for personnel maintaining the plan.

Comments: Unit 1 current responsibilities for emergency plan development, maintenance and review as well as training requirements for personnel maintaining the plan will require expansion to include Unit 2. While the effort will increase, much of the EP Staff effort and training will remain similar, if not the same, as for Unit 1 resulting in little impact from the addition of Unit 2. A task analysis will be performed to identify necessary staffing additions.

Yes No

- ☒ ☐ 17. Implementation of other federal regulations (primarily Appendix E to 10 CFR Part 50) and requirements or formal commitments related to the Callaway Plant Emergency Preparedness Program.

Comments: Section IV.E.8 of Appendix E to 10 CFR Part 50 states the licensee shall include: "A licensee onsite technical support center and a licensee near-site emergency operations facility from which effective direction can be given and effective control can be exercised during an emergency."

Both units at Callaway plant will share a single TSC and EOF. This will affect Unit 1 emergency response if an event is declared for Unit 2 at the same time.

A human factors evaluation will be performed to ensure the shared systems used for event assessment are appropriately designed to distinguish Unit 2 from Unit 1.

Facility layout and furnishings will be evaluated and modified to the extent necessary to allow for combined use if concurrent events are declared at Unit 1 and Unit 2 and activation of the combined ERO is required.

A drill monitoring mobilization and response activities of the combined ERO will be conducted prior to operation of Unit 2 to demonstrate the ability of all utility emergency facilities to support a concurrent event. This drill will evaluate the adequacy of space, furnishing, communications, monitoring systems and shared resources to ensure response functions for either unit are not degraded (in capability or timeliness) when responding to a concurrent event.

5.0 DETAILED 10 CFR 50.54(Q) EVALUATION

Further discussion of any planning standard marked as “yes” in Section 4.

◆ PLANNING STANDARD #2

The impact on Planning Standard #2 is classified as a difference. Communication between each unit’s control rooms would need to be established for notification and information dissemination should an event occur at either unit. A requirement to notify Unit 2 of an event at Unit 1 will be added to the Unit 1 emergency plan. Unit 1 emergency plan procedures will be revised to ensure Unit 2 Control Room personnel are notified of a declaration of an event occurring at Unit 1. This will not reduce the effectiveness of the unit 1 emergency plan as it does not change commitments to current requirements and does not reduce any ERO capabilities. The addition to notify Unit 2 will not negatively impact the control room staff or delay the completion of currently assigned operations and emergency plan tasks.

Since there will be sharing of ERO personnel, responsibilities of these individuals will increase if a concurrent event occurs and a Site Emergency or above is declared. A position analysis will be performed to assure these additional responsibilities do not impact Unit 1 emergency preparedness. The position analysis will identify those ERO personnel that occupy positions where synergies are such that combining both unit responsibilities into a single position is justified. Other ERO positions may require unit specific personnel. ERO staff will be augmented as necessary based on the results of the position analysis.

The timely augmentation of Unit 1 ERO personnel may be potentially impacted in the unlikely event of a concurrent or ongoing Unit 2 event. Unit 1 ERO personnel responding to the event may be slowed at the OCA main entrance due to processing on Unit 2 personnel. Therefore, the Unit 1 emergency plan procedures will be reviewed and evaluated for potential entry impediments into the OCA by ERO personnel to ensure there is no decrease in Unit 1 program effectiveness.

◆ PLANNING STANDARD #3

The impact of Planning Standard #3 for accommodations for federal, state and/or local staff at the EOF could be different only during concurrent events and the event is classified at a Site Emergency or higher (full response by offsite agencies). Emergency plan procedures will be modified to address joint activation of the shared facilities. Some modification (additional furniture, communications systems, etc.) to the shared facilities will be made to maintain current capabilities and effectiveness. These modifications will be based upon the performance results of the human factors evaluation on the shared systems used for event assessment at the TSC and EOF and the task analysis on communications, accommodations and administrative resources in the TSC, EOF and JPIC.

A combined drill requiring mobilization and response activities of the ERO will be conducted prior to operation of Unit 2 to ensure the adequacy of all utility emergency facilities to support concurrent events for both Callaway Plant units. The drill will evaluate the adequacy of space, furnishing, communications, monitoring systems and coordination of shared resources to ensure response functions for either unit are not a decrease in program effectiveness.

◆ PLANNING STANDARD #5

The impact on Planning Standard #5 is classified as a difference. Communication between each unit's control rooms would need to be established for notification and information dissemination should an event occur at either unit. A requirement to notify Unit 2 of an event at Unit 1 will be added to the Unit 1 emergency plan. Unit 1 emergency plan procedures will be revised to ensure Unit 2 Control Room personnel are notified of a declaration of an event occurring at Unit 1. This will not reduce the effectiveness of the Unit 1 Emergency Plan efforts as it does not change commitments to current requirements and does not reduce any ERO capabilities. The addition to notify Unit 2 will not negatively impact the control room staff or delay the completion of currently assigned operations and emergency plan tasks.

The format and content of the initial and follow-up information forms will change to include a designator position for an emergency at Unit 2. The EP staff will work with the state and locals to determine how best to add Unit 2 to both the initial and follow-up information forms.

◆ PLANNING STANDARD #7

The impact of Planning Standard #7 does not affect the ability to respond to an emergency. The impact is on the provision of emergency preparedness information to the general public (prior to an actual declared emergency) in a consistent manner. This will be addressed in the emergency preparedness administrative procedures to ensure appropriate Unit 1 and Unit 2 information is generated and routinely disseminated. This effort will ensure there is no decrease in effectiveness of planning efforts.

◆ PLANNING STANDARD #8

The differences impacting Planning Standard #8 is a difference and will be addressed in the emergency preparedness administrative procedures. The EP staff will ensure all shared facilities, meteorological tower and PAS are properly maintained. This effort will ensure there is no decrease in the current effectiveness of planning efforts.

◆ PLANNING STANDARD #10

The impact on Planning Standard #10 would be a deviation. Onsite evacuation routes and assembly areas will be evaluated to ensure construction and/or operation of the new unit does not reduce the level of safety for plant workers. During the construction phase of Unit 2, the Callaway Plant Unit 1 Security Plan will incorporate NEI 03-12, Appendix E, "Additional Security Measures for Operating Reactors during Construction of New Reactor Plants within the Owner Controlled Area" through the 10 CFR 50.54(p) process. Section 2.6 of Appendix E addresses evacuation routes for Unit 1 remaining open during the construction phase of Unit 2. As such, current primary and secondary egress capabilities will be maintained to ensure the health and safety of site personnel.

◆ PLANNING STANDARD #13

For Planning Standard #13, additional considerations by the Unit 1 recovery organization concerning the presence of Unit 2 would need to be reflected in the unit 1 recovery plans and is considered a difference. The potential impact to the continued safe operation and maintenance of Unit 2, from entry and recovery planning following a declared emergency at Unit 1 will have to be considered on an event by event basis. Should an event occur at Unit 1 that does not adversely impact Unit 2 operations, at a minimum the continued operation of Unit 2, including access to the site, would need to be considered. These additional considerations will be added to the unit 1 recovery plans and procedures to ensure there is no decrease in Unit 1 program effectiveness.

◆ PLANNING STANDARD #14

The impact on Planning Standard #14 would be a deviation. The exercise requirements for Unit 1 will be changed to be in full compliance with the requirements of 10 CFR 50, Appendix E and Regulatory Guide 1.101. This change is allowed by Appendix E to 10 CFR Part 50 and Regulatory Guide 1.101 and therefore does not negatively affect program effectiveness. The regulations and guidance states:

Co-located licensees are two different licensees whose licensed facilities are located either on the same site or on adjacent, contiguous sites, and that share most of the following emergency planning and siting elements:

- a. plume exposure and ingestion emergency planning zones,*
- b. offsite governmental authorities,*
- c. offsite emergency response organizations,*
- d. public notification system, and/or*
- e. emergency facilities.*

This regulatory guide provides guidance to co-located licensees and co-located applicants on methods that the staff of the U.S. Nuclear Regulatory Commission (NRC) considers acceptable for complying with the agency's regulations for emergency response plans and preparedness relative to conducting emergency response planning activities and interactions (A&I) in the years between participation in the offsite full or partial participation exercises with offsite authorities. This regulatory guide does not impose any new positions or requirements. Licensees

and applicants are not required to use the methods specified in the regulatory position set forth in this guide, and are free to propose other means to achieve compliance with the applicable regulations.

◆ PLANNING STANDARD #15

The impact on Planning Standard #15 is a difference. The responsibility for training offsite groups that support the Emergency Preparedness Program remains the same as for Unit 1 augmented with any necessary Unit 2 information and will be addressed in emergency preparedness administrative procedures. This effort will ensure there is no decrease in effectiveness of the current offsite support personnel training program elements.

Additionally, Unit 1 ERO personnel will be trained on the requirement to notify Unit 2 personnel of a classified event at Unit 1 as well as the potential impact of Unit 2 ERO with respect to shared facility space during co-declared events. This added training will not reduce the effectiveness of the Unit 1 emergency planning training program.

◆ PLANNING STANDARD #16

Both units will have a combined EP staff. Current Unit 1 EP staff responsibilities will increase to include Unit 2 plan development, maintenance and review. This will necessitate an increase in training requirements to include both units. While the effort will increase, much of the EP Staff effort and training will remain similar, if not the same, as for Unit 1 resulting in little impact from the addition of Unit 2. A position analysis will be performed and EP staff will be augmented based on the results of the analysis to ensure Unit 1 emergency preparedness is not adversely impacted.

◆ PLANNING STANDARD #17

The impact of Planning Standard #17 for accommodations for federal, state and/or local staff at the EOF, would be a difference only if concurrent events are declared and the event is classified at a Site Emergency or higher (full response by offsite agencies),. Emergency plan procedures will be modified to address joint activation of the shared facilities. Some modification (additional furniture, communications systems, etc.) to the shared facilities will be performed to maintain current capabilities and effectiveness. These modifications will be based upon the performance results of the human factors evaluation on the shared systems used for event assessment at the TSC and EOF and the task analysis on communications, accommodations and administrative resources in the TSC, EOF and JPIC.

A combined drill requiring mobilization and response activities of the Unit 1 and Unit 2 ERO will be conducted prior to operation of Unit 2 to ensure the adequacy of all utility emergency facilities to support concurrent events for both Callaway units. The drill will evaluate the adequacy of space, furnishing, communications, monitoring systems and coordination of shared resources to ensure response functions for either unit are not a decrease in program effectiveness.

6.0 SUMMARY

Although there will be sharing of personnel in the Emergency Response Organization (ERO) and both units will share the Technical Support Facility (TSC), Emergency Operations Facility (EOF), Joint Public Information Center (JPIC), Meteorological Instrumentation and Public Alert System (PAS), the impact on Callaway Unit 1 emergency preparedness program will be minimal.

Accommodations will be made for inter-unit notifications, sharing of facilities and equipment, onsite protective actions and interfacing program maintenance items (public information, offsite interfaces, maintenance of shared facilities, etc.).

These changes either individually or in total will not reduce the current effectiveness of the Unit 1 emergency plan.

Summary of Action Items

1. A human factors evaluation will be performed to ensure the shared systems used for event assessment are appropriately designed to distinguish Unit 2 from Unit 1.
2. A task analysis will be performed to ensure communications, accommodations and administrative resources in the TSC, EOF and JPIC are appropriately laid out to support Unit 2 response requirements and address any impact to the existing Unit 1 emergency plan.
3. A drill requiring mobilization and response activities of the ERO will be conducted prior to operation of Unit 2 to demonstrate the ability of all utility emergency facilities to support a concurrent event. This drill will evaluate the adequacy of space, furnishing, communications, monitoring systems and shared resources to ensure response functions for either unit are not degraded (in capability or timeliness) when responding to a concurrent event. This drill is included as part of Unit 2 EP ITAAC.
4. Unit 1 and Unit 2 emergency plan implementing procedures will be modified to address joint activation of the shared facilities.
5. The previous 12 months data for the Unit 1 NRC ANS Alert and Notification System Reliability Performance Indicator (PI) will be reviewed to ensure system performance is sufficient for Unit 2. The PI was at 100% over the previous 12 months.
6. Changes to the existing state and local offsite emergency response arrangements may be necessary if plant-specific liaisons are sent to the offsite agency EOCs in support of an event.
7. A special site evacuation scenario considering the Unit 2 construction workforce will be developed to determine the potential impact on the existing ETE that could occur prior to Unit 2 construction.
8. Unit 1 and Unit 2 emergency plan administrative procedures will be written to complement one another regarding the coordination and scheduling of the exercise schedule for the multi-unit site.
9. An addendum to the Unit 1 emergency plan will be developed and implemented prior to the start of Unit 2 construction to address temporary site impacts due to the presence of additional equipment, materials and personnel within the OCA during the construction phase. This addendum will be reviewed and approved using the 10 CFR 50.54(q) evaluation process for Unit 1.

Following construction and prior to operational testing, the addendum will be reviewed, evaluated and retired. Prior to retiring the document, the Unit 1 emergency plan will be reviewed to address any permanent impact from the limited sharing of resources and operational logistics that are planned to occur when the new unit is licensed for operation.

1. Onsite evacuation routes and assembly areas will be evaluated to ensure construction and/or operation of the new unit does not reduce the level of safety for plant workers. Unit 1 emergency plan procedures will be reviewed and evaluated for potential entry impediments into the OCA by ERO personnel to ensure there is no decrease in Unit 1 program effectiveness.
2. ERO personnel will review emergency plan procedures for entry into the Owner Controlled Area (OCA) to address timely augmentation of Unit 1 ERO personnel if there is a concurrent or ongoing Unit 2 event.
3. A requirement to notify Unit 2 of an event at Unit 1 will be added to the Unit 1 emergency plan. Unit 1 emergency plan procedures will be revised to ensure Unit 2 Control Room personnel are notified of a declaration of an event occurring at Unit 1. This item is included as part of Unit 2 EP ITAAC.
4. Emergency preparedness administrative procedures will assure appropriate Unit 1 and Unit 2 information is generated and routinely disseminated.
5. Emergency preparedness administrative procedures will ensure all shared facilities, meteorological tower and PAS are properly maintained.
6. Unit 1 reentry and recovery plans will be revised to reflect additional considerations as a result of Unit 2.
7. Emergency preparedness administrative procedures will provide for required training of offsite support personnel to include Unit 1 and Unit 2 information as necessary.
8. ERO personnel will be trained on the requirement to notify Unit 2 personnel of a classified event at Unit 1 as well as the potential impact of Unit 2 ERO with respect to shared facility space during concurrent events.
9. The EP staff will work with the state and locals to determine how best to add Unit 2 to both the initial and follow-up information.