NUCLEAR REGULATORY COMMISSION

Docket No. 50-285

Omaha Public Power District

Fort Calhoun Station, Unit No. 1

Exemption

I. Background

Omaha Public Power District (OPPD, the licensee) is the holder of Renewed Facility Operating License No. DPR-40 for Fort Calhoun Station, Unit No. 1 (FCS). The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC) now or hereafter in effect. The facility consists of a pressurized-water reactor located in Washington County, Nebraska.

By letter dated August 25, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16242A127), OPPD submitted a certification to the NRC indicating it would permanently cease power operations at FCS on October 24, 2016. On October 24, 2016, OPPD permanently ceased power operation at FCS. On November 13, 2016 (ADAMS Accession No. ML16319A254), OPPD certified that it had permanently defueled the FCS reactor vessel.

In accordance with § 50.82(a)(1)(i) and (ii), and § 50.82(a)(2) of Title 10 of the *Code of Federal Regulations* (10 CFR), the specific license for the facility no longer authorizes reactor operation, or emplacement or retention of fuel in the respective reactor vessel, after certifications of permanent cessation of operations and of permanent removal of fuel from the reactor vessel are docketed. The facility is still authorized to possess and store irradiated (i.e., spent) nuclear fuel. The spent fuel is currently being stored onsite in a spent fuel pool (SFP).

During normal power reactor operations, the forced flow of water through the reactor coolant system removes heat generated by the reactor. The reactor coolant system, operating at high temperatures and pressures, transfers this heat through the steam generator tubes converting non-radioactive feedwater to steam, which then flows to the main turbine generator to produce electricity. Many of the accident scenarios postulated in the updated safety analysis reports (USARs) for operating power reactors involve failures or malfunctions of systems, which could affect the fuel in the reactor core and, in the most severe postulated accidents, would involve the release of large quantities of fission products. With the permanent cessation of reactor operations at FCS and the permanent removal of the fuel from the reactor vessel, such accidents are no longer possible. The reactor, reactor coolant system, and supporting systems are no longer in operation and have no function related to the storage of the spent fuel. Therefore, emergency planning (EP) provisions for postulated accidents involving failure or malfunction of the reactor, reactor coolant system, or supporting systems are no longer applicable.

The EP requirements of 10 CFR 50.47, “Emergency plans,” and Appendix E to 10 CFR Part 50, “Emergency Planning and Preparedness for Production and Utilization Facilities,” continue to apply to nuclear power reactors that have permanently ceased operation and have removed all fuel from the reactor vessel. There are no explicit regulatory provisions distinguishing EP requirements for a power reactor that is permanently shut down and defueled from those for a reactor that is authorized to operate. To reduce or eliminate EP requirements that are no longer necessary due to the decommissioning status of the facility, OPPD must obtain exemptions from those EP regulations. Only then can OPPD modify the FCS emergency plan to reflect the reduced risk associated with the permanently shutdown and defueled condition of FCS.

II. Request/Action

By letter dated December 16, 2016 (ADAMS Accession No. ML16356A578), OPPD requested exemptions from certain EP requirements of 10 CFR Part 50 for FCS. More specifically, OPPD requested exemptions from certain planning standards in 10 CFR 50.47(b) regarding onsite and offsite radiological emergency plans for nuclear power reactors; from certain requirements in 10 CFR 50.47(c)(2) that require establishment of plume exposure and ingestion pathway emergency planning zones for nuclear power reactors; and from certain requirements in 10 CFR 50, Appendix E, Section IV, which establish the elements that make up the content of emergency plans. In letters dated February 10, April 14, and April 20, 2017 (ADAMS Accession Nos. ML17041A443, ML17104A191, and ML17111A857, respectively), OPPD provided responses to the NRC staff's requests for additional information concerning the proposed exemptions.

The information provided by OPPD included justifications for each exemption requested. The exemptions requested by OPPD would eliminate the requirements to maintain formal offsite radiological emergency plans, reviewed by the Federal Emergency Management Agency (FEMA) under the requirements of 44 CFR Part 350, and reduce the scope of onsite EP activities. The licensee stated that the application of all of the standards and requirements in 10 CFR 50.47(b), 10 CFR 50.47(c), and 10 CFR Part 50, Appendix E is not needed for adequate emergency response capability, based on the substantially lower onsite and offsite radiological consequences of accidents still possible at the permanently shutdown and defueled facility, as compared to an operating facility. If offsite protective actions were needed for a very unlikely accident that could challenge the safe storage of spent fuel at FCS, provisions exist for offsite agencies to take protective actions using a comprehensive emergency management plan (CEMP) under the National Preparedness System to protect the health and safety of the public. A CEMP in this context, also referred to as an emergency operations plan (EOP), is addressed

in FEMA's Comprehensive Preparedness Guide 101, "Developing and Maintaining Emergency Operations Plans," which is publicly available at http://www.fema.gov/pdf/about/divisions/npd/CPG_101_V2.pdf. Comprehensive Preparedness Guide 101 is the foundation for State, territorial, Tribal, and local EP in the United States. It promotes a common understanding of the fundamentals of risk-informed planning and decision-making and helps planners at all levels of government in their efforts to develop and maintain viable, all-hazards, all-threats emergency plans. An EOP is flexible enough for use in all emergencies. It describes how people and property will be protected; details who is responsible for carrying out specific actions; identifies the personnel, equipment, facilities, supplies and other resources available; and outlines how all actions will be coordinated. A CEMP is often referred to as a synonym for "all-hazards planning."

III. Discussion

In accordance with 10 CFR 50.12, "Specific exemptions," the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when: (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) any of the special circumstances listed in 10 CFR 50.12(a)(2) are present. These special circumstances include, among other things, that the application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.

As noted previously, the current EP regulations contained in 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50 apply to both operating and shutdown power reactors. The NRC has consistently acknowledged that the risk of an offsite radiological release at a power reactor that has permanently ceased operations and removed fuel from the reactor vessel is

significantly lower, and the types of possible accidents are significantly fewer, than at an operating power reactor. However, current EP regulations do not recognize that once a power reactor permanently ceases operation, the risk of a large radiological release from credible emergency accident scenarios is significantly reduced. The reduced risk for any significant offsite radiological release is based on two factors. One factor is the elimination of accidents applicable only to an operating power reactor, resulting in fewer credible accident scenarios. The second factor is the reduced short-lived radionuclide inventory and decay heat production due to radioactive decay. Due to the permanently defueled status of the reactor, no new spent fuel will be added to the SFP and the radionuclides in the current spent fuel will continue to decay as the spent fuel ages. The irradiated fuel will produce less heat due to radioactive decay, increasing the available time to mitigate the SFP inventory loss. The NRC's NUREG/CR-6451, "A Safety and Regulatory Assessment of Generic BWR [Boiling Water Reactor] and PWR [Pressurized Water Reactor] Permanently Shutdown Nuclear Power Plants," dated August 31, 1997 (ADAMS Accession No. ML082260098) and the NRC's NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants," February 2001 (ADAMS Accession No. ML010430066), confirmed that for permanently shutdown and defueled power reactors that are bounded by the assumptions and conditions in the report, the risk of offsite radiological release is significantly less than for an operating power reactor.

In the past, EP exemptions similar to those requested by FCS, have been granted to permanently shutdown and defueled power reactor licensees. However, the exemptions did not relieve the licensees of all EP requirements. Rather, the exemptions allowed the licensees to modify their emergency plans commensurate with the credible site-specific risks that were consistent with a permanently shutdown and defueled status. Specifically, the NRC's approval of these prior exemptions was based on the licensee's demonstration that: (1) the radiological consequences of design-basis accidents would not exceed the limits of the U.S. Environmental

Protection Agency's (EPA) Early Phase Protective Action Guides (PAGs) of one roentgen equivalent man (rem) at the exclusion area boundary; and (2) in the unlikely event of a beyond-design-basis accident resulting in a loss of all modes of heat transfer from the fuel stored in the SFP, there is sufficient time to initiate appropriate mitigating actions, and if needed, for offsite authorities to implement offsite protective actions using a CEMP approach to protect the health and safety of the public.

With respect to design-basis accidents at FCS, the licensee provided analysis demonstrating that 10 days following permanent shutdown, the radiological consequences of the only remaining design-basis accident with potential for offsite radiological release (the FHA in the Auxiliary Building, where the SFP is located) will not exceed the limits of the EPA PAGs at the exclusion area boundary. Therefore, because FCS has been permanently shutdown for approximately 13 months, there is no longer any design-basis accident that would warrant an offsite radiological emergency plan meeting the requirements of 10 CFR Part 50.

With respect to beyond design-basis accidents at FCS, the licensee analyzed a drain down of the spent fuel pool water that would effectively impede any decay heat removal. The analysis demonstrates that at 530 days (1 year, 165 days) after shutdown, there would be at least 10 hours after the assemblies have been uncovered until the limiting fuel assembly (for decay heat and adiabatic heatup analysis) reaches 900 degrees Celsius, the temperature used to assess the potential onset of fission product release. The analysis conservatively assumed the heat up time starts when the spent fuel pool has been completely drained, although it is likely that site personnel will start to respond to an incident when drain down starts. The analysis also does not consider the period of time from the initiating event causing loss of SFP water inventory until cooling is lost.

The NRC staff reviewed the licensee's justification for the requested exemptions against the criteria in 10 CFR 50.12(a) and determined, as described below, that the criteria in 10 CFR 50.12(a) are met, and that the exemptions should be granted. An assessment of the

OPPD EP exemptions is described in SECY-17-0080, "Request by the Omaha Public Power District for Exemptions from Certain Emergency Planning Requirements for the Fort Calhoun Station, Unit No. 1," dated August 10, 2017 (ADAMS Accession No. ML17116A430). The Commission approved the NRC staff's recommendation to grant the exemptions in the staff requirements memorandum to SECY-17-0080, dated October 25, 2017 (ADAMS Accession No. ML17298A976). Descriptions of the specific exemptions requested by OPPD and the NRC staff's basis for granting each exemption are provided in SECY-17-0080 and summarized in a table at the end of this document. The staff's detailed review and technical basis for the approval of the specific EP exemptions, requested by OPPD, are provided in the NRC staff's safety evaluation dated December 11, 2017 (ADAMS Accession No. ML17263B198).

A. Authorized by Law

The licensee has proposed exemptions from certain EP requirements in 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR 50, Appendix E, Section IV, that would allow OPPD to revise the FCS Emergency Plan to reflect the permanently shutdown and defueled condition of the station. As stated above, in accordance with 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50. The NRC staff has determined that granting of the licensee's proposed exemptions will not result in a violation of the Atomic Energy Act of 1954, as amended, or the NRC's regulations. Therefore, the exemptions are authorized by law.

B. No Undue Risk to Public Health and Safety

As stated previously, OPPD provided analyses that show the radiological consequences of design-basis accidents will not exceed the limits of the EPA early phase PAGs at the exclusion area boundary. Therefore, formal offsite radiological emergency plans required under 10 CFR Part 50 are no longer needed for protection of the public beyond the exclusion area

boundary, based on the radiological consequences of design-basis accidents still possible at FCS.

Although very unlikely, there is one postulated beyond-design-basis accident that might result in significant offsite radiological releases. However, NUREG-1738 confirms that the risk of beyond-design-basis accidents is greatly reduced at permanently shutdown and defueled reactors. The NRC staff's analyses in NUREG-1738 concludes that the event sequences important to risk at permanently shutdown and defueled power reactors are limited to large earthquakes and cask drop events. For EP assessments, this is an important difference relative to operating power reactors, where typically a large number of different sequences make significant contributions to risk. As described in NUREG-1738, relaxation of offsite EP requirements in 10 CFR Part 50, a few months after shutdown resulted in only a small change in risk. The report further concludes that the change in risk due to relaxation of offsite EP requirements is small because the overall risk is low, and because even under current EP requirements for operating power reactors, EP was judged to have marginal impact on evacuation effectiveness in the severe earthquakes that dominate SFP risk. All other sequences including cask drops (for which offsite radiological emergency plans are expected to be more effective) are too low in likelihood to have a significant impact on risk.

Therefore, granting exemptions to eliminate the requirements of 10 CFR Part 50 to maintain offsite radiological emergency plans and to reduce the scope of onsite EP activities will not present an undue risk to the public health and safety.

C. Consistent with the Common Defense and Security

The requested exemptions by OPPD only involve EP requirements under 10 CFR Part 50 and will allow OPPD to revise the FCS Emergency Plan to reflect the permanently shutdown and defueled condition of the facility. Physical security measures at FCS are not affected by the requested EP exemptions. The discontinuation of formal offsite radiological

emergency plans and the reduction in scope of the onsite emergency planning activities at FCS will not adversely affect OPPD's ability to physically secure the site or protect special nuclear material. Therefore, the proposed exemptions are consistent with common defense and security.

D. Special Circumstances

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule. The underlying purpose of 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR Part 50, Appendix E, Section IV, is to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency, to establish plume exposure and ingestion pathway emergency planning zones for nuclear power plants, and to ensure that licensees maintain effective offsite and onsite radiological emergency plans. The standards and requirements in these regulations were developed by considering the risks associated with operation of a power reactor at its licensed full-power level. These risks include the potential for a reactor accident with offsite radiological dose consequences.

As discussed previously in Section III, because FCS is permanently shut down and defueled, there is no longer a risk of a significant offsite radiological release from a design-basis accident exceeding EPA early phase PAG at the exclusion area boundary and the risk of a significant offsite radiological release from a beyond-design-basis accident is greatly reduced when compared to an operating power reactor. The NRC staff has confirmed the reduced risks at FCS by comparing the generic risk assumptions in the analyses in NUREG-1738 to site-specific conditions at FCS and determined that the risk values in NUREG-1738 bound the risks presented by FCS. As indicated by the results of the research conducted for NUREG-1738 and more recently, for NUREG-2161, "Consequence Study of a Beyond-Design-Basis Earthquake

Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor" (ADAMS Accession No. ML14255A365), while other consequences can be extensive, accidents from SFPs with significant decay time have little potential to cause offsite early fatalities, even if the formal offsite radiological EP requirements were relaxed. The licensee's analysis of a beyond-design-basis accident involving a complete loss of SFP water inventory, based on an adiabatic heatup analysis of the limiting fuel assembly for decay heat, shows that within 530 days (1 year, 165 days) after shutdown, the time for the limiting fuel assembly to reach 900 °C is 10 hours after the assemblies have been uncovered assuming a loss of air cooling.

The only analyzed beyond-design-basis accident scenario that progresses to a condition where a significant offsite release might occur, involves the very unlikely event where the SFP drains in such a way that all modes of cooling or heat transfer are assumed to be unavailable, which is referred to as an adiabatic heatup of the spent fuel. The licensee's analysis of this beyond-design-basis accident shows that within 530 days (1 year, 165 days) after shutdown, more than 10 hours would be available between the time the fuel is initially uncovered (at which time adiabatic heatup is conservatively assumed to begin), until the fuel cladding reaches a temperature of 1652 degrees Fahrenheit (900 °C), which is the temperature associated with rapid cladding oxidation and the potential for a significant radiological release. This analysis conservatively does not include the period of time from the initiating event causing a loss of SFP water inventory until all cooling means are lost.

The NRC staff has verified OPPD's analyses and its calculations. The analyses provide reasonable assurance that in granting the requested exemptions to OPPD, there is no design-basis accident that will result in an offsite radiological release exceeding the EPA early phase PAGs at the exclusion area boundary. In the unlikely event of a beyond-design-basis accident affecting the SFP that results in a complete loss of heat removal via all modes of heat transfer, there will be well over 10 hours available before an offsite release might occur and, therefore, at

least 10 hours to initiate appropriate mitigating actions to restore a means of heat removal to the spent fuel. If a radiological release were projected to occur under this unlikely scenario, a minimum of 10 hours is considered sufficient time for offsite authorities to implement protective actions using a CEMP approach to protect the health and safety of the public.

Exemptions from the offsite EP requirements in 10 CFR Part 50 have previously been approved by the NRC when the site-specific analyses show that at least 10 hours is available following a loss of SFP coolant inventory accident with no air cooling (or other methods of removing decay heat) until cladding of the hottest fuel assembly reaches the zirconium rapid oxidation temperature. The NRC staff concluded in its previously granted exemptions, as it does with the OPPD requested EP exemptions, that if a minimum of 10 hours is available to initiate mitigative actions consistent with plant conditions, or if needed, for offsite authorities to implement protective actions using a CEMP approach, then formal offsite radiological emergency plans, required under 10 CFR Part 50, are not necessary at permanently shutdown and defueled facilities.

Additionally, FCS committed to maintaining SFP makeup strategies in its letter to the NRC dated December 16, 2016 (ADAMS Accession No. ML16356A578). The multiple strategies for providing makeup to the SFP include: using existing plant systems for inventory makeup; an internal strategy that relies on the fire protection system with redundant pumps (one diesel-driven and electric motor-driven); and onsite diesel fire truck that can take suction from the Missouri River. These strategies will continue to be required as license condition 3.G, "Mitigation Strategy License Condition." Considering the very low probability of beyond-design-basis accidents affecting the SFP, these diverse strategies provide multiple methods to obtain additional makeup or spray to the SFP before the onset of any postulated offsite radiological release.

For all the reasons stated above, the NRC staff finds that the licensee's requested exemptions to meet the underlying purpose of all of the standards in 10 CFR 50.47(b), and

requirements in 10 CFR 50.47(c)(2) and 10 CFR Part 50, Appendix E, acceptably satisfy the special circumstances in 10 CFR 50.12(a)(2)(ii) in view of the greatly reduced risk of offsite radiological consequences associated with the permanently shutdown and defueled state of the FCS facility.

The NRC staff has concluded that the exemptions being granted by this action will maintain an acceptable level of emergency preparedness at FCS and, if needed, that there is reasonable assurance that adequate offsite protective measures can and will be taken by State and local government agencies using a CEMP approach in the unlikely event of a radiological emergency at the FCS facility. Since the underlying purposes of the rules, as exempted, would continue to be achieved, even with the elimination of the requirements under 10 CFR Part 50 to maintain formal offsite radiological emergency plans and reduction in the scope of the onsite emergency planning activities at FCS, the special circumstances required by 10 CFR 50.12(a)(2)(ii) exist.

E. Environmental Considerations

In accordance with 10 CFR 51.31(a), the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment as discussed in the NRC staff's Finding of No Significant Impact and associated Environmental Assessment published November 27, 2017 (82 FR 56060).

IV. Conclusions

Accordingly, the Commission has determined, pursuant to 10 CFR 50.12(a), that OPPD's request for exemptions from certain EP requirements in 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR Part 50, Appendix E, Section IV, and as summarized in the table at the end of this document, are authorized by law, will not present an undue risk to the public health

and safety, and are consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants OPPD's exemptions from certain EP requirements of 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR Part 50, Appendix E, Section IV, as discussed and evaluated in detail in the staff's safety evaluation dated December 11, 2017. The exemptions are effective as of April 7, 2018.

Dated at Rockville, Maryland, this 11th day of December, 2017.

For the Nuclear Regulatory Commission.

/RA/

Kathryn M. Brock, Acting Director,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

Table of Exemptions Granted to Omaha Public Power District (OPPD).

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
10 CFR 50.47(b): The onsite ~~and, except as provided in paragraph (d) of this section, offsite~~ emergency response plans for nuclear power reactors must meet the following standards:
Staff's Evaluation: The NRC requires a level of licensee emergency preparedness commensurate with the potential consequences to public health and safety, and common defense and security at the licensee's site. The licensee's exemption request included radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of remaining applicable design basis accidents would not exceed the limits of the EPA early phase PAGs at the EAB. The licensee also concluded and the staff confirmed, as of 530 days (1 year, 165 days) after the final reactor shutdown, in the unlikely event of a loss of SFP integrity, due to a beyond design basis event, resulting in all cooling is lost to the spent fuel and a heat up under adiabatic conditions resulted, at least 10 hours would be available before the hottest fuel assembly reached 900 °C to take mitigative actions. The NUREG-1738, and enhancements put into place as a result of the events of September 11, 2001, and Fukushima Dai-ichi Accident, support staff assumptions that: only a highly unlikely, beyond design basis event (e.g., extreme earthquake or large aircraft impact) could result in an SFP fire. In addition, there would be a significant amount of time between the initiating event and the possible onset of conditions that could result in an SFP zirconium cladding fire. This time provides a substantial opportunity for event mitigation. Licensees are required to maintain effective strategies, sufficient resources and adequately trained personnel to mitigate such an event. If State or local governmental officials determine that offsite protective actions are warranted, then sufficient time and capability would be available for OROs to implement these measures using a CEMP, "all hazards," approach. Considering the very low probability of beyond design basis events affecting SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not necessary for a permanently shut down and defueled nuclear power reactor. Based on the above analysis, the NRC staff concludes that the exempted language from 10 CFR 50.47(b) above is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(b)(1): Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations ~~within the Emergency Planning Zones~~ have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Staff's Evaluation: In NUREG-0396, the NRC provided that emergency response plans should be useful for responding to any accident that would produce offsite radiological doses in excess of the EPA PAGs. Additionally, NUREG-0396 introduced the concept of generic plume exposure pathway zones as a basis for the planning of response actions, which would result in dose savings in the environs of nuclear facilities in the event of a serious power reactor accident. In addition, reactor core melt (Class 9) scenarios, which were also considered in NUREG-0396, are no longer applicable to a permanently shut down and defueled power reactor. In the Statement of Consideration (SOC) for the Final Rule for EP requirements for ISFSIs and for monitored retrievable storage (MRS) facilities (60 FR 32430; June 22, 1995), the Commission responded to comments concerning an EPZ for an ISFSI and MRS, and concluded that, "…based on the potential inventory of radioactive material, potential driving forces for distributing that amount of radioactive material, and the probability of the initiation of these events, the Commission concludes that the offsite consequences of potential accidents at an ISFSI or a MRS would not warrant establishing Emergency Planning Zones." The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, designated plume exposure and ingestion pathway EPZs are no longer needed. Based on the above analysis, the NRC staff concludes that the exempted language from 10 CFR 50.47(b)(1), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(b)(3): Arrangements for requesting and effectively using assistance resources have been made, ~~arrangements to accommodate State and local staff at the licensee's Emergency Operations Facility have been made,~~ and other organizations capable of augmenting the planned response have been identified.
Staff's Evaluation: With the termination of reactor power operations at FCS and the permanent removal of the fuel from the reactor vessel to the SFP, most of the accident scenarios postulated for operating reactors are no longer possible. The spent fuel is now stored in the SFP and the ISFSI, and will remain onsite until it can be moved offsite for long term storage or disposal. The reactor, reactor coolant system and secondary system are no longer in operation and have no function related to the storage of the spent fuel. Therefore, postulated accidents involving failure or malfunction or the reactor, reactor coolant system, or supporting systems are no longer applicable. During reactor decommissioning, the principal public safety concerns involve the radiological risks associated with the storage of spent fuel onsite.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
The emergency operations facility (EOF) is a support facility for the purpose of managing the overall licensee emergency response (including coordination with Federal, State, and local officials), coordination of radiological and environmental assessments, and determination of recommended public protective actions. The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, an EOF would not be needed to coordinate these types of assessments for determining public protective actions. Onsite operations staff will continue to maintain and provide for communication and coordination capabilities with offsite authorities and OROs for the purpose of notification and for the level of support required for remaining design basis accidents and the prompt implementation of mitigative actions in response to a SFP accident. Based on the above analysis and the analysis of 10 CFR 50.47(b), the NRC staff concludes that the exempted language from 10 CFR 50.47(b)(3), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(b)(4): A standard emergency classification and action level scheme, the basis of which include facility system and effluent parameters, is in use by the nuclear facility licensee~~, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures~~.
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement for minimum initial offsite response measures is not required. Based on the above analysis and the analysis of 10 CFR 50.47(b), the NRC staff concludes that the exempted language from 10 CFR 50.47(b)(4), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(b)(5): Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow up messages to response organizations ~~and the public~~ has been established~~; and means to provide early notification and clear instruction to~~

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
~~the populace within the plume exposure pathway Emergency Planning Zone have been established~~.
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, a means to provide early notification and clear instruction to the populace within a designated plume exposure pathway EPZ is no longer required. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(1), the NRC staff concludes that the exempted language from 10 CFR 50.47(b)(5), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(b)(6): Provisions exist for prompt communications among principal response organizations to emergency personnel~~ and to the public~~.
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement to provide prompt communication to the public within a designated plume exposure pathway EPZ in regards to initial or pre-determined protective actions is no longer needed. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(1), the NRC staff concludes that the exempted language from 10 CFR 50.47(b)(6), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(b)(7): ~~Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors),~~ [T]he principal points of contact with the news media for dissemination of information during an emergency~~ (including the physical location or locations)~~ are established in advance, and procedures for coordinated dissemination of information to the public are established.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement to provide periodic information to the public within a designated plume exposure pathway EPZ on how they will be notified, what their initial or predetermined protective actions should be in an emergency and the physical location or locations for dissemination of information is not needed. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(1), the NRC staff concludes that the exempted language from 10 CFR 50.47(b)(7), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(b)(9): Adequate methods, systems, and equipment for assessing and monitoring actual or potential ~~offsite~~ consequences of a radiological emergency condition are in use.
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement for assessing or monitoring offsite consequences beyond the EAB is not needed. Based on the above analysis and the analysis provided of 10 CFR 10 CFR 50.47(b), the NRC staff concludes that the exempted language from 10 CFR 50.47(b)(9), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(b)(10): A range of protective actions has been developed for ~~the plume exposure pathway EPZ for~~ emergency workers and the public. ~~In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.~~

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Staff's Evaluation: The Commission provided its view on evacuation planning for an ISFSI (not at an operating reactor site) in its SOC for the Final Rule for EP requirements for an ISFSI and an MRS (60 FR 32430; June 22, 1995) stating: "The Commission does not agree that as a general matter emergency plans for an ISFSI must include evacuation planning." The NRC staff has determined that no credible events within the design basis would result in doses to the public that would exceed the EPA early phase PAGs at the EAB. Therefore, EPZs beyond the EAB and the associated protective actions developed from evacuation time estimates (ETEs) are no longer required. Additionally, in the unlikely event of an SFP accident, the iodine isotopes, which contribute to an offsite dose from an operating reactor power accident, are not present, so KI distribution would no longer serve as an effective or necessary supplemental protective action. As such, the staff concludes that OPPD provides for an acceptable level of emergency planning at FCS in its permanently shutdown and defueled condition, and also provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at FCS. Although formal offsite REP plans (in accordance with 44 CFR Part 350) have typically been exempted for decommissioning sites, OROs will continue to be relied upon for firefighting, law enforcement, ambulance and medical services in support of the licensee's (onsite) emergency plan. The licensee is responsible for providing protective measures for any emergency workers responding onsite. Additionally, the licensee is responsible for control of activities within the EAB, including public access. The licensee actions that are necessary to protect the health and safety of members of the public who are in the EAB may include, but are not limited to, evacuation, sheltering and decontamination in the unlikely event of a release of radioactive materials. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(1), the NRC staff concludes that the exempted language from 10 CFR 50.47(b)(10), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR 50.47(c)(2): ~~Generally, the plume exposure pathway EPZ for nuclear power plants shall consist of an area about 10 miles (16 km) in radius and the ingestion pathway EPZ shall consist of an area about 50 miles (80 km) in radius. The exact size and configuration of the EPZs surrounding a particular nuclear power reactor shall be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries.~~ The size of the EPZs ~~also~~ may be determined on a case-by-case basis for gas-cooled nuclear reactors and for reactors with an authorized power level less than 250 MW thermal. ~~The plans for the ingestion pathway shall focus on such actions as are appropriate to protect the food ingestion pathway.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement for an EPZ is not required. Section 50.47(c)(2) and footnote 1 to Appendix E to 10 CFR Part 50 both state, in part: "The size of the EPZs also may be determined on a case by case basis for gas cooled nuclear reactors and for reactors with an authorized power level less than 250 MW [megawatt] thermal." This is not applicable to FCS and, therefore, requires no exemption. Based on the above analysis and the analysis of 10 CFR 50.47(b)(10), the NRC staff concludes that the exempted language from 10 CFR 50.47(c)(2), above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provision of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.1: The applicant's emergency plans shall contain, but not necessarily be limited to, information needed to demonstrate compliance with the elements set forth below, i.e., organization for coping with radiological emergencies, assessment actions, activation of emergency organization, notification procedures, emergency facilities and equipment, training, maintaining emergency preparedness, and recovery~~, and onsite protective actions during hostile action~~. In addition, the emergency response plans submitted by an applicant for a nuclear power reactor operating license under this Part, or for an early site permit (as applicable) or combined license under 10 CFR Part 52, shall contain information needed to demonstrate compliance with the standards described in § 50.47(b), and they will be evaluated against those standards.

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Staff's Evaluation:

After the terrorist attacks of September 11, 2001, the NRC evaluated the EP planning basis to ensure it continued to protect the public health and safety in the current threat environment. In 2002, the NRC issued Orders requiring compensatory measures, which include nuclear security and EP. The NRC staff determined that the EP planning basis continues to protect public health and safety; however, the NRC staff recognized that enhancements were desirable to ensure effective plan implementation during security related events at nuclear power reactors (e.g., more timely NRC notification; additional onsite protective action considerations, and revision of emergency action levels to identify security related emergencies more succinctly).

The NRC issued NRC Bulletin (BL) 2005-02, "Emergency Preparedness and Response Actions for Security Based Events," dated July 18, 2005, to obtain information from licensees on progress in implementing security event related EP program enhancements. The 2011 EP Final Rule, "Enhancements to Emergency Preparedness Regulations" (76 FR 72560; November 23, 2011), made generically applicable the security based response elements of NRC BL 2005-02. The enhancements of NRC BL 2005-02 were not applicable to holders of operating licenses for power reactors that had permanently ceased operations and had certified that fuel had been removed from the reactor vessel. The licensee has certified that it has permanently ceased operations at FCS and that all fuel has been removed from the reactor vessel. Therefore, the enhancements for hostile actions, as required by the 2011 EP Final Rule, are not necessary for FCS in its permanently shutdown and defueled status.

Additionally, the NRC excluded non-power reactors from the definition of "hostile action" at the time of the 2011 EP Final Rule because, as defined in 10 CFR 50.2, a non-power reactor is not considered a nuclear power reactor and a regulatory basis had not been developed to support the inclusion of non-power reactors in the definition of "hostile action." Similarly, a decommissioning power reactor or ISFSI is not a "nuclear reactor" as defined in the NRC's regulations. Like a non-power reactor, a decommissioning nuclear reactor also has a lower likelihood of a credible accident resulting in radiological releases requiring offsite protective measures than does an operating nuclear reactor. For all of the above reasons, the NRC staff concludes that a decommissioning nuclear power reactor is not a facility that falls within the definition of "hostile action."

Although this analysis provides a justification for exempting FCS from "hostile action" related requirements, some EP requirements for security based events are maintained. The classification of security based events, notification of offsite authorities, and coordination with offsite agencies are still required.

Based on the above analysis, the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.1, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).

10 CFR Part 50, Appendix E, Section IV.2: ~~This nuclear power reactor license applicant shall also provide an analysis of the time required to evacuate various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations, using the most~~

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
~~recent U.S. Census Bureau data as of the date the applicant submits its application to the NRC.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirements for an EPZ and ETEs are not required. Based on the above analysis and the analysis of 10 CFR 50.47(b)(10), the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.2, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.3: ~~Nuclear power reactor licensees shall use NRC approved evacuation time estimates (ETEs) and updates to the ETEs in the formulation of protective action recommendations and shall provide the ETEs and ETE updates to State and local governmental authorities for use in developing offsite protective action strategies.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Since formal offsite REP plans are not needed, the requirement to have an ETE and to perform an update to the ETE is not needed. Based on the above analysis and the analyses provided in Sections 4.2.2 of this safety evaluation, the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.3, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii). Based on the above analysis and the analysis of 10 CFR Part 50, Appendix E, Section IV.2, the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.3, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
10 CFR Part 50, Appendix E, Section IV.4: ~~Within 365 days of the later of the date of the availability of the most recent decennial census data from the U.S. Census Bureau or December 23, 2011, nuclear power reactor licensees shall develop an ETE analysis using this decennial data and submit it under § 50.4 to the NRC. These licensees shall submit this ETE analysis to the NRC at least 180 days before using it to form protective action recommendations and providing it to State and local governmental authorities for use in developing offsite protective action strategies.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Since formal offsite REP plans are not needed, the requirement to have an ETE and to perform an update to the ETE is not needed. Based on the above analysis and the analysis of 10 CFR Part 50, Appendix E, Section IV.2, the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.4, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.5: ~~During the years between decennial censuses, nuclear power reactor licensees shall estimate EPZ permanent resident population changes once a year, but no later than 365 days from the date of the previous estimate, using the most recent U.S. Census Bureau annual resident population estimate and State/local government population data, if available. These licensees shall maintain these estimates so that they are available for NRC inspection during the period between decennial censuses and shall submit these estimates to the NRC with any updated ETE analysis.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Since formal offsite REP plans are not needed, the requirement to have an ETE and to perform an update to the ETE is not needed. Based on the above analysis and the analysis of 10 CFR Part 50, Appendix E, Section IV.2, the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.5, above, is not necessary to achieve the underlying purpose of this requirement as

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.6: ~~If at any time during the decennial period, the EPZ permanent resident population increases such that it causes the longest ETE value for the 2-mile zone or 5-mile zone, including all affected Emergency Response Planning Areas, or for the entire 10-mile EPZ to increase by 25 percent or 30 minutes, whichever is less, from the nuclear power reactor licensee's currently NRC approved or updated ETE, the licensee shall update the ETE analysis to reflect the impact of that population increase. The licensee shall submit the updated ETE analysis to the NRC under § 50.4 no later than 365 days after the licensee's determination that the criteria for updating the ETE have been met and at least 180 days before using it to form protective action recommendations and providing it to State and local governmental authorities for use in developing offsite protective action strategies.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Since formal offsite REP plans are not needed, the requirement to have an ETE and to perform an update to the ETE is not needed. Based on the above analysis and the analysis of 10 CFR Part 50, Appendix E, Section IV.2, the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.6, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.A.1: A description of the normal plant ~~operating~~ organization.
Staff's Evaluation: Upon docketing of the certifications of permanent ceasing of operations and permanent removal of fuel from the reactor vessel, the 10 CFR Part 50 license for FCS was amended and no longer authorizes operation of the FCS reactor, or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Because the licensee is no longer authorized to operate the reactor, the licensee does not have a plant "operating" organization. A description of the plant organization, as it relates to the requirements in Section IV.A.1 to Appendix E of 10 CFR Part 50 is still required. Based on the above analysis, the NRC staff concludes that the exempted language from Section IV.A.1 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).

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10 CFR Part 50, Appendix E, Section IV.A.3: ~~A description, by position and function to be performed, of the licensee's headquarters personnel who will be sent to the plant site to augment the onsite emergency organization.~~
Staff's Evaluation The number of staff at decommissioning sites is generally small, but is commensurate with the need to safely store spent fuel at the facility in a manner that is protective of public health and safety. OPPD furnished information concerning its SFP inventory makeup strategies that could be used in the event of a catastrophic loss of SFP water inventory and stated that designated on shift personnel are trained to implement such strategies with equipment maintained onsite. OPPD has site personnel designated to respond within two hours of the Alert classification to assist the on shift staff. As such, designation of specific licensee headquarters personnel is not necessary for the augmentation of the on shift staffing and, therefore, is not described. Based on the above analysis and the analysis of 10 CFR 50.47(b), the NRC staff concludes that the exempted language from Section IV.A.3 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.A.4: Identification, by position and function to be performed, of persons within the licensee organization who will be responsible for making ~~offsite~~ dose projections, and a description of how these projections will be made and the results transmitted to State and local authorities, NRC, and other appropriate governmental entities.
Staff's Evaluation: The licensee's analysis demonstrated that, as of 10 days after the final reactor shutdown, no design basis accidents result in doses in excess of the EPA early phase PAGs to the public beyond the EAB. While it is unlikely that a beyond design basis event would result in doses in excess of the EPA early phase PAGs to the public beyond the EAB, the licensee still must be able to determine if a radiological release is occurring, thereby achieving the underlying purpose of the rule. If a release is occurring, then the licensee's staff are still required to communicate that information to offsite authorities for their consideration. The offsite authorities are responsible for deciding what, if any, protective actions should be taken that they consider appropriate to protect public health and safety. The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement for offsite dose projections is not required.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Based on above analysis and the analysis of 10 CFR 50.47(b), the NRC staff concludes that the exempted language from Section IV.A.4 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.A.5: ~~Identification, by position and function to be performed, of other employees of the licensee with special qualifications for coping with emergency conditions that may arise. Other persons with special qualifications, such as consultants, who are not employees of the licensee and who may be called upon for assistance for emergencies shall also be identified. The special qualifications of these persons shall be described.~~
Staff's Evaluation: The number of licensee staff at decommissioning sites is generally smaller than that for an operating power reactor, but is still commensurate with the need to operate the facility in a manner that is protective of public health and safety. The NRC staff considered the similarity between the staffing levels at a permanently shut down and defueled reactor, and staffing levels at an operating power reactor site, since the spectrum of accidents at a decommissioning facility is greatly reduced requiring less specialized qualifications. The limited number of systems and equipment needed to maintain the spent fuel in a safe condition in the SFP or in an ISFSI requires only minimal personnel, which is governed by the FCS Technical Specifications. The licensee furnished information concerning its SFP inventory makeup strategies that could be used in the event of a catastrophic loss of SFP water inventory and stated that designated on shift personnel are trained to implement such strategies with equipment maintained onsite. The licensee has site personnel designated to respond within 2 hours of the Alert classification to assist the on shift staff. As such, additional employees or other persons with special qualifications are not anticipated. Considering the very low-probability of beyond-design-basis events affecting the SFP, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel and before the onset of a postulated fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement for personnel with special qualifications, as directed in 10 CFR Part 50, Appendix E, Section IV.A.5, is not required. Based on above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR Part 50, Appendix E, Section IV.A.3, the NRC staff concludes that the exempted language from Section IV.A.5 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.A.7: ~~By June 23, 2014,~~ identification of~~, and a description of the~~ assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies, including ~~hostile action at the site. For purposes of this appendix, "hostile action" is defined as~~ an act directed toward a nuclear power plant or its personnel that include the use of violent force to destroy equipment, take hostages,

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.
Staff's Evaluation: In the 2011 EP Final Rule, the Commission defined "hostile action" as, in part, "an act directed toward a nuclear power plant or its personnel." The 2011 EP Final Rule made generically applicable, the security based response elements of NRC BL 2005-02. The enhancements from NRC BL 2005-02 were applicable to all holders of operating licenses for nuclear power reactors, except those who have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. With the certifications of 10 CFR 50.82(a)(1)(ii), the 10 CFR Part 50 license for FCS no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, the enhancements for hostile actions required by the 2011 EP Final Rule are not applicable for FCS in its permanently shutdown and defueled status. Although the "hostile action" enhancements in the 2011 EP Final Rule are not applicable to a decommissioning reactor, the licensee's physical security plan must continue to provide high assurance against a potential security event impacting a designated target set. Therefore, some EP requirements for security based events are maintained, such as the classification of security based events, notification of offsite authorities, and coordination for the response of OROs (i.e., law enforcement, firefighting, medical assistance) onsite. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR Part 50, Appendix E, Section IV.1, the NRC staff concludes that the exempted language from Section IV.A.7 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.A.8: ~~Identification of the State and/or local officials responsible for planning for, ordering and controlling appropriate protective actions, including evacuations when necessary.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, identification of the State and/or local officials responsible for detailed pre planning for, ordering and controlling appropriate offsite protective actions, including evacuations when necessary, is no longer required as part of the FCS emergency plan. If deemed warranted by governmental officials, offsite protective actions would be implemented under a CEMP, or all hazards, process.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(1), the NRC staff concludes that the exempted language from Section IV.A.8 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.A.9 ~~By December 24, 2012, for nuclear power reactor licensees, a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.~~
Staff's Evaluation: The number of staff required at decommissioning sites is significantly reduced commensurate with the need to safely store spent fuel at the facility in a manner that is protective of public health and safety. The duties of the on shift personnel at a decommissioning reactor facility are not as complicated and diverse as those for an operating power reactor. The systems and equipment needed to maintain the spent fuel in a safe condition in an SFP or in an ISFSI requires minimal personnel and are governed under the FCS Technical Specifications. In the 2011 EP Final Rule, the NRC required nuclear power plant licensees to provide a detailed analysis to show that on shift personnel assigned emergency plan implementation functions were not assigned any responsibilities that would prevent them from performing their assigned emergency plan functions. As part of the 2011 EP Final Rule, the NRC concluded that the staffing analysis requirement was not necessary for non-power reactor licensees due to the small staffing levels required to operate the facility. Therefore, based on similarities of non-power reactors and decommissioning reactors with regard to staffing, and as discussed in Section 4.2.1, a detailed staffing analysis is not needed for a decommissioning reactor. Based on the above analysis, the NRC staff concludes that the exempted language from Section IV.A.9 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of the rule as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.B.1: The means to be used for determining the magnitude of, and for continually assessing the impact of, the release of radioactive materials shall be described, including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies, and the emergency action levels that are to be used for determining when and what type of protective measures should be considered within ~~and outside~~ the site boundary to protect health and safety. The emergency action levels shall be based on in-plant conditions and instrumentation in addition to onsite ~~and offsite~~ monitoring. ~~By June 20, 2012, for nuclear power reactor licensees, these action levels must include hostile action that may adversely affect the nuclear power plant.~~ The initial emergency action levels shall be discussed and agreed on by the applicant or licensee and State and local governmental authorities, and approved by the NRC. Thereafter, emergency action levels shall be reviewed with the State and local governmental authorities on an annual basis.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Staff's Evaluation: Since a radiological release from any remaining applicable design basis accident is not estimated to exceed EPA early phase PAGs beyond the EAB, event classification above the Alert level is no longer required, which is consistent with exemptions for previous decommissioning power reactors. The licensee will still be required to maintain EALs for the classification of security based events to the Alert level, which was requested by OPPD in a letter dated December 16, 2016. In the EP Final Rule, the Commission defined "hostile action" as, in part, "an act directed toward a nuclear power plant or its personnel." The 2011 EP Final Rule made generically applicable the security based response elements of NRC BL 2005-02, which provided numerous enhancements to licensee emergency plans including security based EALs. The NRC staff is maintaining the requirement for security based EALs similar to power reactors as they were required by NRC Order EA-02-026, "Fort Calhoun Station, Unit 1 - Issuance of Order for Interim Safeguards and Compensatory Security Measures," dated February 25, 2002. Exemption from hostile action enhancements for decommissioning reactors was also previously discussed in Section 4.2.1 of this safety evaluation. The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, a decommissioning reactor is not required to have EALs to determine protective measures offsite. With respect to EALs for hostile action, refer to basis for 10 CFR Part 50, Appendix E, Section IV.1. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR Part 50, Appendix E, Section IV.1, the NRC staff concludes that the exempted language from Section IV.B.1 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.C.1: The entire spectrum of emergency conditions that involve the alerting or activating of progressively larger segments of the total emergency organization shall be described. The communication steps to be taken to alert or activate emergency personnel under each class of emergency shall be described. Emergency action levels (based not only on onsite ~~and offsite~~ radiation monitoring information but also on readings from a number of sensors that indicate a potential emergency, ~~such as the pressure in containment and the response of the Emergency Core Cooling System~~) for notification of offsite agencies shall be described. The existence, but not the details, of a message authentication scheme shall be noted for such agencies. The emergency classes defined shall include: (1) notification of unusual events, (2) alert, ~~(3) site area emergency, and (4) general emergency~~. These classes are further discussed in NUREG-0654/FEMA-REP-1.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Staff's Evaluation: Containment and emergency core cooling system parameters no longer provide an indication of a potential emergency for a permanently shut down and defueled power reactor, and emergency core cooling systems are no longer required. Other available indications, such as SFP level, SFP temperature, and area radiation monitors, will remain at FCS and will continue to provide indicate the conditions of spent fuel stored in the SFP. In the SOC for the Final Rule for EP requirements for ISFSIs and for MRS facilities (60 FR 32430; June 22, 1995), the Commission responded to comments concerning a general emergency at an ISFSI and MRS, and concluded, "An essential element of a General Emergency is that [a] release can be reasonably expected to exceed EPA Protective Action Guidelines exposure levels off site for more than the immediate site area. As previously discussed, NRC studies have concluded that the maximum offsite dose would be less than 1 rem which is within the EPA Protective Action Guides." It further provides a response to comments concerning an EPZ for an ISFSI and MRS: "[B]ased on the potential inventory of radioactive material, potential driving forces for distributing that amount of radioactive material, and the probability of the initiation of these events, the Commission concludes that the offsite consequences of potential accidents at an ISFSI or a MRS would not warrant establishing Emergency Planning Zones." The licensee's analysis demonstrates that no remaining applicable design basis accident would reach the dose criteria for the declaration of a Site Area Emergency or a General Emergency. As discussed previously in Section 4.2.14, the probability of a beyond design basis accident condition that could reach emergency classifications of a Site Area Emergency or a General Emergency is very low. In the unlikely event of a beyond design basis event resulting in the loss of all cooling to spent fuel stored in the SFP, as of 530 days (1 year, 165 days) after the final reactor shutdown, it would take 10 hours from the time the fuel is uncovered until it reaches a temperature of 900 °C. During this time, the licensee is required to maintain the capability to initiate prompt mitigative actions consistent with plant conditions. Considering the very low probability of beyond design basis events occurring that would affect SFP structural integrity, as well as the time available to initiate SFP mitigative measures before the onset of a postulated zirconium cladding fire, the need for an event classification level above an Alert is no longer required. Based on the above analysis and the analysis of 10 CFR 50.47(b), the NRC staff concludes that the exempted language from Section IV.C.1 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.C.2: ~~By June 20, 2012, nuclear power reactor~~ licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition ~~within 15 minutes~~ after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an emergency action level that has been exceeded. Licensees shall not construe these criteria as preventing

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
implementation of response actions deemed by the licensee to be necessary to protect public health and safety provided that any delay in declaration does not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.
Staff's Evaluation: In the 2011 EP Final Rule (76 FR 72560; November 23, 2011), nuclear power reactor licensees were required to assess, classify and declare an emergency condition within 15 minutes. Non-power reactors do not have the same potential impact on public health and safety as do power reactors, and as such, non-power reactor licensees do not require complex offsite emergency response activities and are not required to assess, classify and declare an emergency condition within 15 minutes. Similarly, a decommissioning power reactor has a lower likelihood of a credible accident resulting in radiological releases requiring offsite protective measures than does an operating power reactor. Unlike operating reactor accident sequences potentially leading to large early releases, accident scenarios at decommissioning plants' SFPs evolve much more slowly than a power reactor and provide a longer time period to initiate SFP mitigative actions or, if warranted by governmental officials, appropriate offsite protective actions for the public. Because a decommissioning power reactor, like a non-power reactor, does not have the same potential radiological impact on public health and safety as a power reactor, the NRC staff concludes that a decommissioning power reactor should not be required to assess, classify and declare an emergency condition within 15 minutes. The licensee proposes in its exemption requests to assess, classify, and declare an emergency condition within 30 minutes. The States of Nebraska and Iowa have agreed that this emergency declaration time is appropriate. Based on the above analysis, the NRC staff concludes that the exempted language from Section IV.C.2 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.D.1: Administrative and physical means for notifying local, State, and Federal officials and agencies ~~and agreements reached with these officials and agencies for the prompt notification of the public and for public evacuation or other protective measures, should they become necessary,~~ shall be described. This description shall include identification ~~of the appropriate officials, by title and agency,~~ of the State and local government agencies ~~within the EPZs~~.
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement for prompt notification of the public and an EPZ are not needed.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Based on the above analysis and the analyses of 10 CFR 50.47(b), 10 CFR 50.47(b)(1), and 10 CFR 50.47(b)(5), the NRC staff concludes that the exempted language from Section IV.D.1 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.D.2: ~~Provisions shall be described for yearly dissemination to the public within the plume exposure pathway EPZ of basic emergency planning information, such as the methods and times required for public notification and the protective actions planned if an accident occurs, general information as to the nature and effects of radiation, and a listing of local broadcast stations that will be used for dissemination of information during an emergency. Signs or other measures shall also be used to disseminate to any transient population within the plume exposure pathway EPZ appropriate information that would be helpful if an accident occurs.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement for dissemination of emergency planning information to the public and an EPZ are not needed. Based on the above analysis and the analyses of 10 CFR 50.47(b), 10 CFR 50.47(b)(1), and 10 CFR 50.47(b)(5), the NRC staff concludes that the exempted language from Section IV.D.2 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.D.3: A licensee shall have the capability to notify responsible State and local governmental agencies ~~within 15 minutes~~ after declaring an emergency. ~~The licensee shall demonstrate that the appropriate governmental authorities have the capability to make a public alerting and notification decision promptly on being informed by the licensee of an emergency condition. Prior to initial operation greater than 5 percent of rated thermal power of the first reactor at the site, each nuclear power reactor licensee shall demonstrate that administrative and physical means have been established for alerting and providing prompt instructions to the public with the plume exposure pathway EPZ. The design objective of the prompt public alert and notification system shall be to have the capability to essentially complete the initial alerting and notification of the public within the plume exposure pathway EPZ within about 15 minutes. The use of this alerting and notification capability will range from immediate alerting and notification of the public (within 15 minutes of the time that State and local officials are notified that a situation exists requiring urgent action) to the more likely events where there is substantial time available for the appropriate governmental authorities to make a judgment whether or not to activate the public alert and notification system. The alerting and notification capability shall additionally include administrative and physical means for a backup method of public alerting and notification~~

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
~~capable of being used in the event the primary method of alerting and notification is unavailable during an emergency to alert or notify all or portions of the plume exposure pathway EPZ population. The backup method shall have the capability to alert and notify the public within the plume exposure pathway EPZ, but does not need to meet the 15 minute design objective for the primary prompt public alert and notification system. When there is a decision to activate the alert and notification system, the appropriate governmental authorities will determine whether to activate the entire alert and notification system simultaneously or in a graduated or staged manner. The responsibility for activating such a public alert and notification system shall remain with the appropriate governmental authorities.~~
Staff's Evaluation: In the permanently shutdown and defueled condition of the reactor, the rapidly developing scenarios associated with events initiated during reactor power operation are no longer credible. The slow progression of SFP events allows greater time for the licensee to successfully mitigate the accidents and, if necessary, for offsite authorities to implement appropriate protective measures using a CEMP, "all hazards," approach protect the health and safety of the public. The licensee proposes in its exemption requests to complete emergency notifications within 60 minutes after an emergency declaration or a change in emergency classification level. Although FCS is a general licensed ISFSI and the FCS Emergency Plan is based on 10 CFR Part 50, the NRC staff considered the requirements in 10 CFR 72.32(a) to ensure consistency between general and specific licensed ISFSIs. The 60 minute notification timeliness is consistent with the notification time requirements for emergency plans based on the requirements in 10 CFR 72.32. Information will be disseminated to the public and media in accordance with State and local plans. In the SOC for the Final Rule for EP requirements for ISFSIs and for MRS facilities (60 FR 32430; June 22, 1995), the Commission responded to comments concerning a notification time of 15 minutes, and concluded that, "[t]he Commission has established a reasonable time limit for notification which has proven to be adequate in the past. 'The licensee shall also commit to notify the NRC operations center immediately after notifications of the appropriate offsite response organizations and not later than one hour after the licensee declares an emergency.'" The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, decommissioning reactors are not required to notify State and governmental agencies within 15 minutes. Additionally, the requirement for prompt notification of the public and an EPZ is not needed.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(1), the NRC staff concludes that the exempted language from Section IV.D.3 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.D.4: ~~If FEMA has approved a nuclear power reactor site's alert and notification design report, including the backup alert and notification capability, as of December 23, 2011, then the backup alert and notification capability requirements in Section IV.D.3 must be implemented by December 24, 2012. If the alert and notification design report does not include a backup alert and notification capability or needs revision to ensure adequate backup alert and notification capability, then a revision of the alert and notification design report must be submitted to FEMA for review by June 24, 2013, and the FEMA-approved backup alert and notification means must be implemented within 365 days after FEMA approval. However, the total time period to implement a FEMA-approved backup alert and notification means must not exceed June 22, 2015.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement for prompt notification of the public and an EPZ, including backup alert and notification capabilities, are not needed. Based on the above analysis and the analysis of 10 CFR Part 50, Appendix E, Section IV.D.3, the NRC staff concludes that the exempted language from Section IV.D.4 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.8.a.(i): A licensee ~~onsite technical support center and an emergency operations~~ facility from which effective direction can be given and effective control can be exercised during an emergency;
Staff's Evaluation: The guidance in NUREG-0696, "Functional Criteria for Emergency Response Facilities," February 1981, provides that the technical support center (TSC) is an onsite facility located close to the control room that shall provide plant management and technical support to the reactor operating personnel located in the control room during emergency conditions. As there are no remaining applicable design basis accidents or beyond design basis accidents that would exceed the EPA early phase PAGs at the EAB, and the available time to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel and before the onset of a postulated zirconium cladding fire, a TSC

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
and EOF are no longer required to meet its original purpose during an emergency, nor to support initial SFP mitigation actions if needed. Coordination with offsite authorities and response organizations can be coordinated from the control room or another onsite location. In addition, onsite actions may be directed from the control room or other onsite location, without the requirements imposed on a TSC. Due to the reduced size of on shift and emergency response organization (ERO) staff for a permanently shut down and defueled power reactor, separate facilities to accommodate emergency response staff are no longer required. As such, greater efficiency and coordination is gained by locating staff in a central onsite facility. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(3), the NRC staff concludes that the exempted language from Section IV.E.8.a(i) to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.8.a.(ii): ~~For nuclear power reactor licensees, a licensee onsite operational support center;~~
Staff's Evaluation: The operational support center (OSC) is an onsite area separate from the control room and the TSC where licensee operations support personnel will assemble in an emergency. The OSC should provide a location where plant logistic support can be coordinated during an emergency and restrict control room access to those support personnel specifically requested by the shift supervisor. The licensee provides that the control room is where plant systems and equipment parameters are monitored. The control room is the onsite center for emergency command and control. Control room personnel assess plant conditions, evaluate the magnitude and potential consequences of abnormal conditions, initiate preventative, mitigating and corrective actions and perform notifications. With the permanently shutdown and defueled status of the FCS reactor and the storage of the spent fuel in the SFP and the ISFSI, an OSC is no longer required to meet its original purpose during an emergency, nor to support initial SFP mitigation actions if needed. When activated, the ERO reports to the Emergency Director to assist the on shift staff in the assessment, mitigation and response to an emergency and to support the dispatch of emergency teams. An onsite facility will continue to be maintained, from which effective direction can be given and effective control may be exercised during an emergency. Based on the above analysis and the analysis of 10 CFR Part 50, Appendix E, Section IV.E.8.a(i), the NRC staff concludes that the exempted language from Section IV.E.8.a(ii) to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.8.b: ~~For a nuclear power reactor licensee's emergency operations facility required by paragraph 8.a of this section, either a facility located between 10 miles and 25 miles of the nuclear power reactor site(s), or a primary facility located less than 10 miles from the nuclear power reactor site(s) and a backup facility located~~

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
~~between 10 miles and 25 miles of the nuclear power reactor site(s). An emergency operations facility may serve more than one nuclear power reactor site. A licensee desiring to locate an emergency operations facility more than 25 miles from a nuclear power reactor site shall request prior Commission approval by submitting an application for an amendment to its license. For an emergency operations facility located more than 25 miles from a nuclear power reactor site, provisions must be made for locating NRC and offsite responders closer to the nuclear power reactor site so that NRC and offsite responders can interact face-to-face with emergency response personnel entering and leaving the nuclear power reactor site. Provisions for locating NRC and offsite responders closer to a nuclear power reactor site that is more than 25 miles from the emergency operations facility must include the following:~~ ~~(1) Space for members of an NRC site team and Federal, State, and local responders;~~ ~~(2) Additional space for conducting briefings with emergency response personnel;~~ ~~(3) Communication with other licensee and offsite emergency response facilities;~~ ~~(4) Access to plant data and radiological information; and~~ ~~(5) Access to copying equipment and office supplies;~~
Staff's Evaluation: Based on the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(3), the NRC staff concludes that the exempted language from Section IV.E.8.b to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.8.c: ~~By June 20, 2012, for a nuclear power reactor licensee's emergency operations facility required by paragraph 8.a of this section, a facility having the following capabilities:~~ ~~(1) The capability for obtaining and displaying plant data and radiological information for each reactor at a nuclear power reactor site and for each nuclear power reactor site that the facility serves;~~ ~~(2) The capability to analyze plant technical information and provide technical briefings on event conditions and prognosis to licensee and offsite response organizations for each reactor at a nuclear power reactor site and for each nuclear power reactor site that the facility serves; and~~ ~~(3) The capability to support response to events occurring simultaneously at more than one nuclear power reactor site if the emergency operations facility serves more than one site; and~~
Staff's Evaluation: Based on the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(3), the NRC staff concludes that the exempted language from Section IV.E.8.c to Appendix E of 10 CFR Part 50 is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.8.d: ~~For nuclear power reactor licensees, an alternative facility (or facilities) that would be accessible even if the site is under threat of or experiencing hostile action, to function as a staging area for augmentation of emergency response staff and collectively having the following characteristics: the capability for communication with the emergency operations facility, control room, and plant security; the capability to perform offsite notifications; and the capability for engineering assessment activities, including damage control team planning and preparation, for use when onsite~~

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
~~emergency facilities cannot be safely accessed during hostile action. The requirements in this paragraph 8.d must be implemented no later than December 23, 2014, with the exception of the capability for staging emergency response organization personnel at the alternative facility (or facilities) and the capability for communications with the emergency operations facility, control room, and plant security, which must be implemented no later than June 20, 2012.~~
Staff's Evaluation: Based on the analyses of 10 CFR 50.47(b), 10 CFR 50.47(b)(1), and 10 CFR Part 50, Appendix E, Section IV.A.7, the NRC staff concludes that the exempted language from Section IV.E.8.d to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.8.e: ~~A licensee shall not be subject to the requirements of paragraph 8.b of this section for an existing emergency operations facility approved as of December 23, 2011;~~
Staff's Evaluation: Based on the analyses of 10 CFR 50.47(b)(3) and 10 CFR Part 50, Appendix E, Section IV.E.8.a(i), the NRC staff concludes that the exempted language from Section IV.E.8.e to Appendix E of 10 CFR Part 50, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.9.a: Provisions for communications with contiguous State/local governments ~~within the plume exposure pathway EPZ~~. Such communication shall be tested monthly.
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, provisions for communications with contiguous State/local governments within the plume exposure pathway EPZ is not needed. The licensee proposes in its exemption requests to complete emergency notifications within 60 minutes after an emergency declaration or a change in emergency classification level. Communications systems will be maintained and tested monthly. FCS will maintain communications with the States of Nebraska and Iowa, and the NRC. The States of Nebraska and Iowa will provide notifications of an emergency declaration to Washington County (Nebraska) and Harrison County (Iowa). FCS will use the commercial telephone network as the primary means to notify State agencies with wireless communications as a backup mean of communications. These systems are used on a frequent basis with exceeds the monthly testing requirements.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(1), the NRC staff concludes that the exempted language from Section IV.E.9 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.9.c: ~~Provision for communications among the nuclear power reactor control room, the onsite technical support center, and the emergency operations facility; and among the nuclear facility, the principal State and local emergency operations centers, and the field assessment teams. Such communications systems shall be tested annually.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, as discussed previously for 10 CFR Part 50, Appendix E, Sections IV.E.8.a.(i) and IV.8.a.(ii), there is no need for a TSC, EOF, or offsite field assessment teams to meet the underlying purpose of the rule. With the elimination of the requirements for a TSC, EOF, and the field assessment teams, the requirements to perform annual testing is no longer required. Communications with State and local governments will continue to be tested monthly under 10 CFR Part 50, Appendix E, Section IV.E.9.a. Based on the above analysis and the analyses of 10 CFR Part 50, Appendix E, Section IV.E.8.a(i) and 10 CFR Part 50, Appendix E, Section IV.E.8.a(ii), the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.E.9.c, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.E.9.d: Provisions for communications by the licensee with NRC Headquarters and the appropriate NRC Regional Office Operations Center from the ~~nuclear power reactor control room, the onsite technical support center, and the emergency operations~~ facility. Such communications shall be tested monthly.
Staff's Evaluation: As discussed previously for 10 CFR Part 50, Appendix E, Sections IV.E.8.a.(i) and IV.8.a.(ii), the need for a separate TSC and EOF no longer exists given the smaller facility staffing and the greatly reduced required interaction with State and local emergency response facilities. Therefore, the NRC staff concludes that the functions of the control room, EOF, TSC, and the OSC may be combined into one or more locations. As a result, communications between the EOF and TSC, and the NRC, and monthly testing of these capabilities are no longer needed. Communications with NRC Headquarters and the appropriate NRC Regional Office Operations Center will continue to be tested monthly.

Table 1 **Evaluation of Specific Exemptions to EP Requirements**
Based on the above analysis and the analyses of 10 CFR Part 50, Appendix E, Section IV.E.8.a(i) and 10 CFR Part 50, Appendix E, Section IV.E.8.a(ii), the NRC staff concludes that the exempted language from Section IV.E.9.d to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.1: The program to provide for: (a) The training of employees and exercising, by periodic drills, of radiation emergency plans to ensure that employees of the licensee are familiar with their specific emergency response duties, and (b) The participation in the training and drills by other persons whose assistance may be needed in the event of a radiation emergency shall be described. This shall include a description of specialized initial training and periodic retraining programs to be provided to each of the following categories of emergency personnel: i. Directors and/or coordinators of the plant emergency organization; ii. Personnel responsible for accident assessment, including control room shift personnel; iii. Radiological monitoring teams; iv. Fire control teams (fire brigades); v. Repair and damage control teams; vi. First aid and rescue teams; vii. Medical support personnel; viii. ~~Licensee's headquarters support personnel;~~ ix. Security personnel. In addition, a radiological orientation training program shall be made available to local services personnel; e.g., local emergency services~~/Civil Defense~~, local law enforcement personnel~~, local news media persons~~.
Staff's Evaluation: The number of staff required at decommissioning sites is generally small, but is commensurate with the need to safely store spent fuel at the facility in a manner that ensures public health and safety. Decommissioning sites typically have a level of emergency response that does not require additional response by licensee headquarters personnel, therefore training of these personnel is not needed. Training for licensee personnel responding from company locations offsite will still be required to be trained based on ERO positions specified above. "Civil Defense" is an outdated term and no longer used. The category of offsite responders, which could be expected to respond onsite, is captured under "local emergency services" and "local law enforcement." Local news media are not included in the category of local services personnel requiring periodic radiological orientation training. The OPPD Corporate Crisis Communication Plan provides guidance for the dissemination of information during an event at FCS. Principal points of contact with news media are also determined per the OPPD Corporate Crisis Communication Plan. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR Part 50, Appendix E, Section IV.A.3, the NRC staff concludes that the exempted language from Section IV.F.1 to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the

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underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2: The plan shall describe provisions for the conduct of emergency preparedness exercises as follows: Exercises shall test the adequacy of timing and content of implementing procedures and methods, test emergency equipment and communications networks, ~~test the public alert and notification system,~~ and ensure that emergency organization personnel are familiar with their duties.
Staff's Evaluation: Based on the analyses of 10 CFR 50.47(b) and 10 CFR Part 50 Appendix E, Section IV.D.3, the NRC staff concludes that the exempted language from 10 CFR Part 50, Appendix E, Section IV.F.2, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2.a: ~~A full participation exercise which tests as much of the licensee, State, and local emergency plans as is reasonably achievable without mandatory public participation shall be conducted for each site at which a power reactor is located. Nuclear power reactor licensees shall submit exercise scenarios under § 50.4 at least 60 days before use in a full participation exercise required by this paragraph 2.a.~~ [**F.2.a.(i), (ii), and (iii)** are not applicable.]
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement to conduct a full participation exercise with State and local agencies is not needed. The licensee proposes in its exemption requests to continue to invite the State of Nebraska and Washington County to participate in the periodic drills and exercise conducted at FCS. The licensee would be exempt from 10 CFR Part 50, Appendix E, Section IV.F.2.a.(i)-(iii) because the licensee would be exempt from the umbrella provision of 10 CFR Part 50, Appendix E, Section IV.F.2.a. Based on above analysis and the analysis of 10 CFR 50.47(b), the NRC staff concludes that the exempted language from Section IV.F.2.a to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2.b: Each licensee at each site shall conduct a subsequent exercise of its onsite emergency plan every 2 years. ~~Nuclear power reactor licensees shall submit exercise scenarios under § 50.4 at least 60 days before use in an exercise required by this paragraph 2.b. The exercise may be included in the full participation biennial exercise required by paragraph 2.c. of this section.~~ In addition, the licensee shall take

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actions necessary to ensure that adequate emergency response capabilities are maintained during the interval between biennial exercises by conducting drills, including at least one drill involving a combination of some of the principal functional areas of the licensee's onsite emergency response capabilities. The principal functional areas of emergency response include activities such as management and coordination of emergency response, accident assessment, event classification, notification of offsite authorities, and assessment of the onsite ~~and offsite~~ impact of radiological releases, ~~protective action recommendation development, protective action decision making, plant~~ system repair and mitigative action implementation. During these drills, activation of all of the licensee's emergency response facilities ~~(Technical Support Center (TSC), Operations Support Center (OSC), and the Emergency Operations Facility (EOF))~~ would not be necessary, licensees would have the opportunity to consider accident management strategies, supervised instruction would be permitted, operating staff in all participating facilities would have the opportunity to resolve problems (success paths) rather than have controllers intervene, and the drills may focus on the onsite exercise training objectives.
Staff's Evaluation: The intent of submitting exercise scenarios at an operating power reactor site in advance is to check that licensees utilize different scenarios in order to prevent the preconditioning of responders at power reactors. For decommissioning power reactor sites, there are limited events that could occur, and as such, the submittal of exercise scenarios for the purpose of ensuring that responders do not get preconditioned to certain scenarios is not necessary to achieve the underlying purpose of the rule. The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, drills involving principle functional areas associated with formal offsite REP are not needed. As discussed previously in Sections for 10 CFR Part 50, Appendix E, Sections IV.E.8.a.(i) and IV.8.a.(ii), there is no need for an OSC, TSC, or EOF to meet the underlying purpose of the rule. Based on the above analysis and the analyses of 10 CFR 50.47(b), 10 CFR Part 50, Appendix E, Section IV.E.a(i), 10 CFR Part 50, Appendix E, Section IV.E.8.a(ii), and 10 CFR Part 50, Appendix E, Section IV.F.2.a, the NRC staff concludes that the exempted language from Section IV.F.2.b to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2.c: ~~Offsite plans for each site shall be exercised biennially with full participation by each offsite authority having a role under the radiological response plan. Where the offsite authority has a role under a radiological response plan for more than one site, it shall fully participate in one exercise every two years and shall, at least, partially participate in other offsite plan exercises in this period. If two different licensees each~~

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~~have licensed facilities located either on the same site or on adjacent, contiguous sites, and share most of the elements defining co-located licensees, then each licensee shall:~~ (1) ~~Conduct an exercise biennially of its onsite emergency plan;~~ (2) ~~Participate quadrennially in an offsite biennial full or partial participation exercise;~~ (3) ~~Conduct emergency preparedness activities and interactions in the years between its participation in the offsite full or partial participation exercise with offsite authorities, to test and maintain interface among the affected State and local authorities and the licensee. Co-located licensees shall also participate in emergency preparedness activities and interaction with offsite authorities for the period between exercises;~~ (4) ~~Conduct a hostile action exercise of its onsite emergency plan in each exercise cycle; and~~ (5) ~~Participate in an offsite biennial full or partial participation hostile action exercise in alternating exercise cycles.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) are not needed. Therefore, the requirement to conduct a full participation exercise with State and local agencies is not needed. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR Part 50, Appendix E, Section IV.F.2.a, the NRC staff concludes that the exempted language from Section IV.F.2.c to Appendix E of 10 CFR Part 50, above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2.d: ~~Each State with responsibility for nuclear power reactor emergency preparedness should fully participate in the ingestion pathway portion of exercises at least once every exercise cycle. In States with more than one nuclear power reactor plume exposure pathway EPZ, the State should rotate this participation from site to site. Each State with responsibility for nuclear power reactor emergency preparedness should fully participate in a hostile action exercise at least once every cycle and should fully participate in one hostile action exercise by December 31, 2015. States with more than one nuclear power reactor plume exposure pathway EPZ should rotate this participation from site to site.~~
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in

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accordance with 44 CFR Part 350) are not needed. Therefore, the requirement to ensure the State fully participate in the ingestion pathway portion of the exercise is not needed. Additionally, the NRC excluded non-power reactors from the definition of "hostile action" at the time of the 2011 EP Final Rule because, as defined in 10 CFR 50.2, a non-power reactor is not considered a nuclear power reactor and a regulatory basis had not been developed to support the inclusion of non-power reactors in the definition of "hostile action." Similarly, a decommissioning power reactor or ISFSI is not a "nuclear reactor" as defined in the NRC's regulations. Like a non-power reactor, a decommissioning nuclear reactor also has a lower likelihood of a credible accident resulting in radiological releases requiring offsite protective measures than does an operating nuclear reactor. For all of the above reasons, the NRC staff concludes that a decommissioning nuclear power reactor is not a facility that falls within the definition of "hostile action." Based on the above analysis and the analyses of 10 CFR 50.47(b), 10 CFR Part 50, Appendix E, Section IV.1, and10 CFR Part 50, Appendix E, Section IV.F.2.a, the NRC staff concludes that the exempted language from Section IV.F.2.d to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2.e: Licensees shall enable any State or local Government ~~located within the plume exposure pathway EPZ~~ to participate in the licensee's drills when requested by such State or local government.
Staff's Evaluation: The licensee's exemption request provided radiological analyses to show that, as of 10 days after the final reactor shutdown, the radiological consequences of the only remaining applicable design basis accident would not exceed the limits of the EPA early phase PAGs to the public beyond the EAB. Considering the very low probability of beyond design basis events affecting the SFP integrity, and with the time available to initiate mitigative actions consistent with plant conditions, between the loss of both water and air cooling to the spent fuel, and before the onset of a postulated zirconium cladding fire, formal offsite REP plans (in accordance with 44 CFR Part 350) and their associated EPZs are not needed. Therefore, identifying State and local governments in relation to a plume exposure pathway EPZ that is no longer required is not needed. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR 50.47(b)(1) the NRC staff concludes that the exempted language from Section IV.F.2.e to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2.f: Remedial exercises will be required if the emergency plan is not satisfactorily tested during the biennial exercise, such that NRC, ~~in consultation with FEMA,~~ cannot (1) find reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency or (2) determine that the Emergency Response Organization (ERO) has maintained key skills specific to emergency response. ~~The extent of State and local participation in remedial exercises must be sufficient~~

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~~to show that appropriate corrective measures have been taken regarding the elements of the plan not properly tested in the previous exercises.~~
Staff's Evaluation: As discussed previously for 10 CFR Part 50, Appendix E, Section IV.F.2.a., the requirement to conduct a full participation exercise with State and local agencies is not needed. Since full participation emergency plan exercises are not required and FEMA does not have responsibilities related to onsite emergency preparedness, NRC consultation with FEMA is not necessary. Based on the above analysis and the analyses of 10 CFR 50.47(b) and 10 CFR Part 50, Appendix E, Section IV.F.2.a, the NRC staff concludes that the exempted language from Section IV.F.2.f to Appendix E of 10 CFR Part 50 above is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2.i: Licensees shall use drill and exercise scenarios that provide reasonable assurance that anticipatory responses will not result from preconditioning of participants. ~~Such scenarios for nuclear power reactor licensees must include a wide spectrum of radiological releases and events, including hostile action.~~ Exercise and drill scenarios as appropriate must emphasize coordination among onsite and offsite response organizations.
Staff's Evaluation: The NRC staff previously evaluated the issues of preconditioning drill scenarios and including hostile action scenarios at decommissioning plants for 10 CFR Part 50, Appendix E, Sections IV.F.2.a and IV.1, respectively, of this safety evaluation. In each instance, the NRC staff concluded that the exempted words were not needed to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii). Based on the above analysis and the analyses of 10 CFR 50.47(b) 10 CFR Part 50, Appendix E, Section IV.1 and 10 CFR Part 50, Appendix E, Section IVF.2.a, the NRC staff concludes that the exempted language from Section IV.F.2.i to Appendix A of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.F.2.j: ~~The exercises conducted under paragraph 2 of this section by nuclear power reactor licensees must provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to implement the principal functional areas of emergency response identified in paragraph 2.b of this section. Each exercise must provide the opportunity for the ERO to demonstrate key skills specific to emergency response duties in the control room, TSC, OSC, EOF, and joint information center. Additionally, in each eight calendar year exercise cycle, nuclear power reactor licensees shall vary the content of scenarios during exercises conducted under paragraph 2 of this section to provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to respond to the following scenario elements: hostile action directed at the plant site, no radiological release or an unplanned minimal radiological release that does not require public protective actions,~~

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~~an initial classification of or rapid escalation to a Site Area Emergency or General Emergency, implementation of strategies, procedures, and guidance developed under § 50.54(hh)(2), and integration of offsite resources with onsite~~ justification~~. The licensee shall maintain a record of exercises conducted during each eight year exercise cycle that documents the content of scenarios used to comply with the requirements of this paragraph. Each licensee shall conduct a hostile action exercise for each of its sites no later than December 31, 2015. The first eight-year exercise cycle for a site will begin in the calendar year in which the first hostile action exercise is conducted. For a site licensed under Part 52, the first eight-year exercise cycle begins in the calendar year of the initial exercise required by Section IV.F.2.a.~~
Staff's Evaluation: In the SOC for the 2011 EP Final Rule, the NRC discussed the addition of a new Section IV.F.2.j to Appendix E to require all nuclear power reactor licensees to provide an opportunity for the ERO to demonstrate proficiency in response to a wide spectrum of scenarios, including a "hostile action" and a loss of large areas of the plant due to fire or explosion. The NRC staff previously evaluated the need for hostile action enhancements previously for 10 CFR Part 50, Appendix E, Section IV. 1. Section IV.F.2.j further provides that the ERO must demonstrate key skills specific to emergency response duties in the control room, TSC, OSC, EOF and joint information center. The NRC staff previously concluded that the functions of the control room, EOF, TSC, and the OSC may be combined into one or more locations 10 CFR Part 50, Appendix E, Sections IV.E.8.a.(i), IV.E.8.a.(ii) and IV.E.9.d. A dedicated joint information center is also not needed based on the analysis previously for 10 CFR 50.47(b)(7). At a decommissioning site, where only the SFP and its related support systems, structures, and components remain, there are no other facilities in which ERO personnel could demonstrate proficiency. Based on the above analysis and the analyses of 10 CFR 50.47(b), 10 CFR Part 50, Appendix E, Section IV.1, 10 CFR Part 50, Appendix E, Section IV.E.8.a(i) 10 CFR Part 50, Appendix E, Section IV.E.8.a(ii), 10 CFR Part 50, Appendix E, Section IV.E.9.d, and 10 CFR Part 50, Appendix E, Section IV.F.2.b, the NRC staff concludes that the exempted language from Section IV.F.2.j to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).
10 CFR Part 50, Appendix E, Section IV.I: ~~By June 20, 2012, for nuclear power reactor licensees, a range of protective actions to protect onsite personnel during hostile action must be developed to ensure the continued ability of the licensee to safely shut down the reactor and perform the functions of the licensee's emergency plan.~~
Staff's Evaluation: Based on the analysis of 10 CFR Part 50, Appendix E, Section IV.1, the NRC staff concludes that the enhancements for hostile actions, as required by the 2011 EP Final Rule, are not necessary for FCS in its permanently shutdown and defueled status. Therefore, the exempted language from Section IV.I to Appendix E of 10 CFR Part 50 above, is not necessary to achieve the underlying purpose of this requirement as it applies to FCS and, therefore, meets the special circumstances provisions of 10 CFR 50.12(a)(2)(ii).