[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-271; NRC-2015-0111]

Entergy Nuclear Operations, Inc.;

Vermont Yankee Nuclear Power Station

AGENCY: Nuclear Regulatory Commission.

ACTION: Exemption; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is granting exemptions in response to a request from Entergy Nuclear Operations, Inc. (ENO or the licensee) regarding certain emergency planning (EP) requirements. The exemptions will eliminate the requirements to maintain formal offsite radiological emergency plans and reduce the scope of the onsite EP activities at the Vermont Yankee Nuclear Power Station (VY), based on the reduced risks of accidents that could result in an offsite radiological release at the decommissioning nuclear power reactor. Provisions would still exist for offsite agencies to take protective actions, using a comprehensive emergency management plan (CEMP) to protect public health and safety, if protective actions were needed in the event of a very unlikely accident that could challenge the safe storage of spent fuel.

ADDRESSES: Please refer to Docket ID **NRC-2015-0111** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2015-0111**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: James Kim, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-4125; e-mail: James.Kim@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Background

The VY facility is a decommissioning power reactor located in the town of Vernon, Windham County, Vermont. The licensee, ENO, is the holder of Renewed Facility Operating License No. DPR-28 for VY. The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the NRC now or hereafter in effect.

By letter dated January 12, 2015 (ADAMS Accession No. ML15013A426), ENO submitted, to the NRC, a certification in accordance with sections 50.82(a)(1)(i) and 50.82(a)(1)(ii) of title 10 of the *Code of Federal Regulations* (10 CFR), indicating that it had permanently ceased power operations at VY and had permanently defueled the VY reactor vessel, respectively. The licensee has not operated the VY plant since December 29, 2014. As a permanently shutdown and defueled facility, and pursuant to 10 CFR 50.82(a)(2), ENO is no longer authorized to operate the VY reactor or emplace fuel into the VY reactor vessel, but is still authorized to possess and store irradiated nuclear fuel at the site. Irradiated fuel is currently stored onsite at VY in a spent fuel pool (SFP) and in an independent spent fuel storage installation.

During normal power reactor operations, the forced flow of water through the reactor coolant system (RCS) removes heat generated by the reactor by generating steam. The steam system, operating at high temperatures and pressures, transfers this heat to the main turbine generator to produce electricity. Many of the accident scenarios postulated in the updated safety analysis reports for operating power reactors involve failures or malfunctions of systems, which could affect the fuel in the reactor core, which in the most severe postulated accidents,

would involve the release of large quantities of fission products. With the permanent cessation of reactor operations at VY and the permanent removal of the fuel from the reactor vessel, such accidents are no longer possible. The reactor, RCS, steam system, turbine generator, and supporting systems are no longer in operation and have no function related to the storage of the spent fuel. Therefore, EP provisions for postulated accidents involving failure or malfunction of the reactor, RCS, steam system, turbine generator, or supporting systems are no longer applicable.

Since VY is permanently shutdown and defueled, the only design basis accident that could potentially result in an offsite radiological release at VY is the fuel handling accident (FHA). Analysis performed by ENO showed that 17 days after shutdown, the radiological consequence of the FHA would not exceed the limits established by the U.S. Environmental Protection Agency's (EPA's) Protective Action Guidelines (PAGs) at the exclusion area boundary. Based on the time that VY has been permanently shutdown (approximately 11 months), there is no longer any possibility of an offsite radiological release from a design basis accident that could exceed the EPA PAGs.

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, ENO must obtain exemptions from those EP regulations. Only then can ENO modify the VY emergency plan to

reflect the reduced risk associated with the permanently shutdown and defueled condition of VY.

II. Request/Action

By letter dated March 14, 2014 (ADAMS Accession No. ML14080A141), "Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR part 50, appendix E," ENO requested exemptions from certain EP requirements of 10 CFR part 50 for VY. More specifically, ENO 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 part 50, appendix E, section IV, which establish the elements that make up the content of emergency plans. In letters dated August 29, 2014 and October 21, 2014 (ADAMS Accession Nos. ML14246A176, and ML14297A159, respectively), ENO provided responses to the NRC staff's requests for additional information concerning the proposed exemptions.

The information provided by ENO included justifications for each exemption requested. The exemptions requested by ENO 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 VY, provisions exist for offsite agencies to take protective actions using a 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." 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 a credible emergency accident scenario is reduced. The reduced risk is largely the result of the low frequency of credible events that could challenge the SFP structure, and the reduced decay heat and reduced short-lived radionuclide inventory due to decay. 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 NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants," dated February 28, 2001 (ADAMS Accession No. ML010430066), confirmed that for permanently shutdown and defueled power reactors that are bounded by the assumptions and conditions in the reports, the risk of offsite radiological release is significantly less than that for an operating power reactor.

In the past, EP exemptions similar to those requested by ENO, have been granted to licensees of permanently shutdown and defueled power reactors. 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, for previous

permanently shutdown and defueled power reactors, the basis for the NRC staff's approval of the exemptions from certain EP requirements 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) PAGs 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 VY, the licensee provided analysis demonstrating that 17 days following permanent shutdown, the radiological consequences of the only remaining design-basis accident with potential for offsite radiological release (the FHA) will not exceed the limits of the EPA PAGs at the exclusion area boundary. Therefore, because VY has been permanently shutdown for approximately 11 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 VY, 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 15.4 months 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.

Based on precedent exemptions, the site-specific analysis should show that there is sufficient time following a loss of SFP coolant inventory until the onset of fuel damage to implement onsite mitigation of the loss of SFP coolant inventory and if necessary, to implement offsite protective actions. To meet this criterion, the staff accepted, in precedent exemptions, that the time should exceed 10 hours from the loss of coolant until the fuel temperature reaches 900 degrees Celsius (°C), assuming no air cooling.

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 ENO EP exemptions is described in SECY-14-0125, "Request by Entergy Nuclear Operations, Inc. for Exemptions from Certain Emergency Planning Requirements," dated November 14, 2014 (ADAMS Accession No. ML14227A711). The Commission approved the NRC staff's recommendation to grant the exemptions in the staff requirements memorandum to SECY-14-0125, dated March 2, 2015 (ADAMS Accession No. ML15061A516). Descriptions of the specific exemptions requested by ENO and the NRC staff's basis for granting each exemption are provided in SECY-14-0125 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 ENO, are provided in the NRC staff's safety evaluation, which is enclosed in an NRC letter dated December 10, 2015 (ADAMS Accession No. ML15180A054).

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 part 50, appendix E, section IV, which would allow ENO to revise the VY 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

ENO provided analyses that show the radiological consequences of design-basis accidents will not exceed the limits of the EPA 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 that are still possible at VY.

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 conclude 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. Per NUREG-1738, relaxation of offsite EP requirements, under

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 ENO only involve EP requirements under 10 CFR part 50 and will allow ENO to revise the VY Emergency Plan to reflect the permanently shutdown and defueled condition of the facility. Physical security measures at VY are not affected by the requested EP exemptions. The discontinuation of formal offsite radiological emergency plans and the reduction in scope of the onsite EP activities at VY will not adversely affect ENO's ability to physically secure the site or protect special nuclear material. Therefore, the proposed exemptions are consistent with the 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 purposes of 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR part 50, appendix E, section IV, are 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 the 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 of this document, because VY is permanently shutdown and defueled, there is no longer a risk of offsite radiological release from a design-basis accident; and the risk of a significant offsite radiological release from a beyond-design-basis accident is greatly reduced, when compared to the risk at an operating power reactor. The NRC staff has confirmed the reduced risks at VY, by comparing the generic risk assumptions in the analyses in NUREG-1738 to site-specific conditions at VY; and has determined that the risk values in NUREG-1738 bound the risks presented by VY. 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 15.4 months after shutdown, the time for the limiting fuel assembly to reach 900 degrees Celsius is 10 hours after the assemblies have been uncovered.

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 postulated to result in an adiabatic heatup of the spent fuel. The licensee's analysis of this beyond-design-basis accident shows that within 15.4 months 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 degrees 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 ENO's analyses and its calculations. The analyses provide reasonable assurance that in granting the requested exemptions to ENO, there is no design-basis accident that will result in an offsite radiological release exceeding the EPA 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 are 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 ENO-requested EP exemptions, that if a minimum of 10 hours are 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 power reactors.

Additionally, in its letter to the NRC dated March 14, 2014, ENO described the SFP makeup strategies that could be used in the event of a catastrophic loss of SFP inventory. The multiple strategies for providing makeup water to the SFP include: using existing plant systems for inventory makeup; an internal strategy that relies on installed fire water pumps (one motor-driven and one diesel-driven) and service water; or an external strategy that uses an engine-driven emergency makeup pump to provide makeup to the SFP from the Cooling Tower No. 2 deep basin. ENO further provides that designated on-shift staff is trained to implement such strategies and they have plans in place to mitigate the consequences of an event involving a catastrophic loss-of-water inventory concurrently from the VY SFP. ENO will maintain its License Condition 3.N, "Mitigation Strategy License Condition," for VY. This license condition requires VY to maintain its SFP inventory makeup strategies as discussed above. Considering the very low probability of beyond-design-basis accidents affecting the SFP, these diverse strategies provide defense-in-depth and time to provide additional makeup or spray water to the SFP before the onset of any postulated offsite radiological release.

For all the reasons stated above, the NRC staff concludes that application of certain requirements in 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR part 50, appendix E, as summarized in the table at the end of this document, is not necessary to achieve the underlying

purpose of these regulations and, therefore, satisfies the special circumstances in 10 CFR 50.12(a)(2)(ii). The staff further concludes that the exemptions granted by this action will maintain an acceptable level of emergency preparedness at VY and provide reasonable assurance that adequate offsite protective measures, if needed, 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 VY 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 the reduction in the scope of the onsite EP activities at VY, 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 Environmental Assessment and Finding of No Significant Impact, which was published on August 10, 2015 (80 FR 47960).

IV. Conclusions

Accordingly, the Commission has determined, pursuant to 10 CFR 50.12(a), that ENO'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 ENO 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 10, 2015. The exemptions are effective as of April 15, 2016.

Dated at Rockville, Maryland, this 10th day of December, 2015.

For the Nuclear Regulatory Commission.

George A. Wilson, Deputy Director,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

Table of Exemptions Granted to Entergy Nuclear Operations, Inc.

10 CFR 50.47	NRC Staff Basis for Exemption
10 CFR 50.47(b). The U.S. Nuclear Regulatory Commission (NRC) is granting exemption from portions of the rule language that would otherwise require offsite emergency response plans.	In the Statement of Considerations (SOC) for the final rule for emergency planning (EP) requirements for independent spent fuel storage installations (ISFSIs) and for monitor retrievable storage (MRS) facilities (60 FR 32430; June 22, 1995), the Commission responded to comments concerning offsite EP for ISFSIs or an MRS and concluded that, "the offsite consequences of potential accidents at an ISFSI or an MRS would not warrant establishing Emergency Planning Zones." In a nuclear power reactor's permanently defueled state, the accident risks are more similar to an ISFSI or an MRS than an operating nuclear power plant. The EP program would be similar to that required for an ISFSI under section 72.32(a) of Title 10 of the *Code of Federal Regulations* (10 CFR) when fuel stored in the spent fuel pool (SFP) has more than 5 years of decay time and would not change substantially when all the fuel is transferred from the SFP to an onsite ISFSI. Exemptions from offsite EP requirements have previously been approved when the site-specific analyses show that at least 10 hours are available from a partial drain-down event where cooling of the spent fuel is not effective until the hottest fuel assembly reaches the zirconium ignition temperature of 900 degrees Celsius (°C). The technical basis that underlies the approval of the exemption request is based partly on the analysis of a time period in which spent fuel stored in the SFP is unlikely to reach the zirconium ignition temperature in less than 10 hours. This time period is based on a heatup calculation, which uses several simplifying assumptions. Some of these assumptions are conservative (adiabatic conditions), while others are non-conservative (no oxidation below 900 °C). Weighing the conservatisms and non-conservatisms, the NRC staff judges that this calculation reasonably represents conditions that may occur in the event of an

10 CFR 50.47	NRC Staff Basis for Exemption
	SFP accident.
10 CFR 50.47	**NRC Staff Basis for Exemption**
	The NRC staff concluded that if 10 hours were available to initiate mitigative actions, or if needed, offsite protective actions using a comprehensive emergency management plan (CEMP), formal offsite radiological emergency plans are not necessary for these permanently defueled nuclear power reactor licensees. As supported by the licensee's SFP analysis, the NRC staff believes an exemption from the requirements for formal offsite radiological emergency plans is justified for a zirconium fire scenario, considering the low likelihood of this event together with time available to take mitigative or protective actions between the initiating event and before the onset of a postulated fire. The Entergy Nuclear Operations, Inc. (ENO or the licensee) analysis has demonstrated that 17 days after shutdown the radiological consequences of design-basis-accidents (DBAs) will not exceed the limits of the U.S. Environmental Protection Agency's (EPA's) Protective Action Guides (PAGs) at the exclusion area boundary. This analysis also shows that 15.4 months after shutdown for an unlikely event of a beyond-DBA where the hottest fuel assembly adiabatic heatup occurs, 10 hours are available to take mitigative or, if needed, offsite protective actions, using a CEMP from the time the fuel is uncovered until it reaches the auto-ignition temperature of 900 °C. ENO furnished information concerning its SFP inventory makeup strategies. Several sources of makeup to the pool are available, such as the service water (SW) system, which has redundant pumping capability and power supplies to ensure alternative fuel pool makeup function. The SW system runs continuously, thus allowing for constant monitoring. Additionally, there are electric-

10 CFR 50.47	NRC Staff Basis for Exemption
	driven and diesel-driven fire pumps that can supply makeup water to the SFP via the SW system or the fire water system. All sources discussed above take suction from the Connecticut River. The Vermont Yankee Nuclear Power Station (VY) also has an engine-driven emergency makeup pump capable of taking suction from the Cooling Tower No. 2 deep basin to provide an alternate source of makeup water to the SFP. ENO further provides that designated on-shift staff is trained to implement such strategies and they have plans in place to mitigate the consequences of an event involving a catastrophic loss-of-water inventory concurrently from the VY SFP. ENO will maintain its License Condition 3.N, "Mitigation Strategy License Condition," for VY. This license condition requires VY to maintain its SFP inventory makeup strategies as discussed above.
10 CFR 50.47(b)(1). The NRC is granting exemption from portions of the rule language that would otherwise require the need for Emergency Planning Zones (EPZs).	Refer to basis for 10 CFR 50.47(b).
10 CFR 50.47(b)(3). The NRC is granting exemption from portions of the rule language that would otherwise require the need for an emergency operations facility (EOF).	Decommissioning power reactors present a low likelihood of any credible accident resulting in a radiological release together with the time available to take mitigative or, if needed, offsite protective actions using a CEMP between the initiating event and before the onset of a postulated fire. As such, an EOF would not be required. The "nuclear island," control room, or other onsite location can provide for the communication and coordination with offsite organizations for the level of support required. Also refer to basis for 10 CFR 50.47(b).

10 CFR 50.47	NRC Staff Basis for Exemption
10 CFR 50.47(b)(4). The NRC is granting exemption from portions of the rule language that would otherwise require reference to formal offsite radiological emergency response plans.	Decommissioning power reactors present a low likelihood of any credible accident resulting in a radiological release together with the time available to take mitigative or, if needed, offsite protective actions using a CEMP between the initiating event and before the onset of a postulated fire. As such, formal offsite radiological emergency response plans are not required. The Nuclear Energy Institute (NEI) document NEI 99-01, "Development of Emergency Action Levels for Non-Passive Reactors" (Revision 6), was found to be an acceptable method for development of emergency action levels (EALs) and was endorsed by the NRC in a letter dated March 28, 2013 (ADAMS Accession No. ML12346A463). NEI 99-01 provides EALs for non-passive operating nuclear power reactors, permanently defueled reactors and ISFSIs. The ENO requested a license amendment to revise its EAL scheme to NEI 99-01, Revision 6 in a letter dated June 12, 2014, "Vermont Yankee Permanently Defueled Emergency Plan and Emergency Action Level Scheme" (ADAMS Accession No. ML14168A302). Also refer to basis for 10 CFR 50.47(b).
10 CFR 50.47(b)(5). The NRC is granting exemption from portions of the rule language that would otherwise require early notification of the public and a means to provide instructions to the public within the plume exposure pathway EPZ.	Refer to basis for 10 CFR 50.47(b).
10 CFR 50.47(b)(6). The NRC is granting exemption from portions of the rule language that would otherwise require prompt communications with the public.	Refer to basis for 10 CFR 50.47(b).

10 CFR 50.47	NRC Staff Basis for Exemption
10 CFR 50.47(b)(7). The NRC is granting exemption from portions of the rule language that would otherwise require information to be made available to the public on a periodic basis about how they will be notified and what their initial protective actions should be.	Refer to basis for 10 CFR 50.47(b).
10 CFR 50.47(b)(9). The NRC is granting exemption from portions of the rule language that would otherwise require the capability for monitoring offsite consequences.	Refer to basis for 10 CFR 50.47(b).
10 CFR 50.47(b)(10) The NRC is granting exemption from portions of the rule language that would reduce the range of protective actions developed for emergency workers and the public. Consideration of evacuation, sheltering, or the use of potassium iodide will no longer be necessary. Evacuation time estimates (ETEs) will no longer need to be developed or updated. Protective actions for the ingestion exposure pathway EPZ will not need to be developed.	In the unlikely event of a SFP accident, the iodine isotopes, which contribute to an offsite dose from an operating reactor accident, are not present, so potassium iodide distribution would no longer serve as an effective or necessary supplemental protective action. In the SOC for the final rule for EP requirements for ISFSIs and for MRS facilities (60 FR 32430), the Commission responded to comments concerning site-specific EP that includes evacuation of surrounding population for an ISFSI not at a reactor site, and concluded, “The Commission does not agree that as a general matter emergency plans for an ISFSI must include evacuation planning.” The Commission also concluded that, “the offsite consequences of potential accidents at an ISFSI or an MRS would not warrant establishing Emergency Planning Zones.” (60 FR 32435) Also refer to basis for 10 CFR 50.47(b).
10 CFR 50.47(c)(2). The NRC is granting exemption from portions of the rule language that would otherwise require the establishment of a 10-mile radius plume exposure pathway EPZ and a 50-mile radius ingestion pathway EPZ.	Refer to basis for 10 CFR 50.47(b)(10).

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.1. The NRC is granting exemption from portions of the rule language that would otherwise require onsite protective actions during hostile action.	The EP rule published in the *Federal Register* (76 FR 72560; November 23, 2011) amended certain requirements in 10 CFR part 50. Among the changes, the definition of "hostile action" was added as an act directed toward a nuclear power plant or its personnel. This definition is based on the definition of "hostile action" provided in NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events," dated July 18, 2005 (ADAMS Accession No. ML051740058). NRC Bulletin 2005-02 is not applicable to nuclear power reactors that have permanently ceased operations and have certified that fuel has been removed from the reactor vessel. ENO certified that it had permanently ceased operations at VY and that all fuel had been removed from the reactor vessel. Therefore, the enhancements for hostile actions required by the 2011 EP Final Rule are not necessary for VY 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 rulemaking 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 power reactor also has a lower likelihood of a credible accident resulting in radiological releases requiring offsite protective measures, than does an operating reactor. Although this analysis provides a justification for exempting VY 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

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
	coordination with offsite agencies under a CEMP concept are still required.
10 CFR part 50, appendix E, section IV.2. The NRC is granting exemption from portions of the rule language concerning the evacuation time analyses within the plume exposure pathway EPZ for the licensee's initial application.	Refer to basis for 10 CFR 50.47(b)(10).
10 CFR part 50, appendix E, section IV.3. The NRC is granting exemption from portions of the rule language that would otherwise require use of NRC-approved ETEs and updates to State and local governments when developing protective action strategies.	Refer to basis for 10 CFR part 50, appendix E, section IV.2.
10 CFR part 50, appendix E, section IV.4. The NRC is granting exemption from portions of the rule language that would otherwise require licensees to update ETEs based on the most recent census data and submit the ETE analysis to the NRC prior to providing it to State and local governments for developing protective action strategies.	Refer to basis for 10 CFR part 50, appendix E, section IV.2.
10 CFR part 50, appendix E, section IV.5. The NRC is granting exemption from portions of the rule language that would otherwise require licensees to estimate the EPZ permanent resident population changes once a year between decennial censuses.	Refer to basis for 10 CFR part 50, appendix E, section IV.2.
10 CFR part 50, appendix E, section IV.6. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to submit an updated ETE analysis to the NRC based on changes in the resident population that result in exceeding specific evacuation time increase criteria.	Refer to basis for 10 CFR part 50, appendix E, section IV.2.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.A.1. The NRC is granting exemption from the word "operating" in the requirement to describe the normal plant organization.	Based on the permanently shutdown and defueled status of the VY reactor, a decommissioning reactor is not authorized to operate under 10 CFR 50.82(a). Because the licensee cannot operate the reactor, the licensee does not have a "plant operating organization."
10 CFR part 50, appendix E, section IV.A.3. The NRC is granting exemption from the requirement to describe the licensee's headquarters personnel sent to the site to augment the onsite emergency response organization.	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. Decommissioning sites typically have a level of emergency response that does not require response by the licensee's headquarters personnel.
10 CFR part 50, appendix E, section IV.A.4. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to identify a position and function within its organization, which will carry the responsibility for making offsite dose projections.	Although the likelihood of events that would result in doses in excess of the EPA PAGs to the public beyond the exclusion area boundary is extremely low based on the permanently shutdown and defueled status of the reactor, the licensee is still required to determine if a radiological release is occurring. If a release is occurring, then the licensee staff should promptly communicate that information to offsite authorities for their consideration. The offsite organizations are responsible for deciding what, if any, protective actions should be taken based on a CEMP. Also refer to basis for 10 CFR 50.47(b).
10 CFR part 50, appendix E, section IV.A.5. The NRC is granting exemption from the requirement for the licensee to identify individuals with special qualifications, both licensee employees and non-employees, for coping with emergencies.	VY has performed an on-shift staffing analysis, addressing SFP mitigating strategies, including review of collateral duties. The specific event scenario utilized for the staffing analysis involves a catastrophic loss-of-water inventory in the SFP. Also refer to basis for 10 CFR 50.47(b).
10 CFR part 50, appendix E, section IV.A.7. The NRC is granting exemption from portions of the rule language that would otherwise require a description of the assistance expected from State, local, and Federal agencies for coping with a hostile action.	Refer to basis for 10 CFR part 50, appendix E, section IV.1.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.A.8. The NRC is granting exemption from the requirement to identify the State and local officials for ordering protective actions and evacuations.	Offsite emergency measures are limited to support provided by local police, fire departments, and ambulance and hospital services, as appropriate. Due to the low probability of DBAs or other credible events to exceed the EPA PAGs, protective actions such as evacuation should not be required, but could be implemented at the discretion of offsite authorities using a CEMP. Also refer to basis for 10 CFR 50.47(b)(10).
10 CFR part 50, appendix E, section IV.A.9. The NRC is granting exemption from the requirement for the licensee to provide an analysis demonstrating that on-shift personnel are not assigned responsibilities that would prevent performance of their assigned emergency plan functions.	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. Responsibilities should be well defined in the emergency plan and procedures, regularly tested through drills and exercises audited and inspected by the licensee and the NRC. The NRC staff considered the similarity between the staffing levels at a permanently shutdown and defueled reactor and staffing levels at an operating power reactor site. The minimal systems and equipment needed to maintain the spent nuclear fuel in the SFP or in a dry cask storage system in a safe condition require minimal personnel and is governed by Technical Specifications. In the EP final rule published in the *Federal Register* (76 FR 72560; November 23, 2011), 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. The NRC staff also examined the actions required to mitigate the very low probability of beyond-design-basis events for the SFP. In a letter dated April 24, 2014, “Technical Specification Proposed Changes No. 309, Defueled Technical Specifications and Revised License Conditions for Permanently Defueled Condition – Supplement 1” (ADAMS Accession No. ML14119A101), ENO withdrew the proposed changes to the Mitigating

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
	Strategies License Condition 3.N. This license condition requires VY to maintain its SFP inventory makeup strategies as discussed above. VY has performed an on-shift staffing analysis, addressing SFP mitigating strategies, including review of collateral duties. The specific event scenario utilized for the staffing analysis involves a catastrophic loss-of-water inventory in the SFP. Also refer to basis for 10 CFR part 50, appendix E, section IV.1.
10 CFR part 50, appendix E, section IV.B.1. The NRC is granting exemption from portions of the rule language that would otherwise require offsite EALs and offsite protective measures and associate offsite monitoring for the emergency conditions. In addition, the NRC is granting exemption from portions of the rule language that would otherwise require EALs based on hostile action.	NEI 99-01 was found to be an acceptable method for the development of EALs. No offsite protective actions are anticipated to be necessary, so classification above the alert level is no longer required, which is consistent with ISFSI facilities. As discussed previously, ENO requested a license amendment to revise its EAL scheme to NEI 99-01, Revision 6, in a letter dated June 12, 2014, “Vermont Yankee Permanently Defueled Emergency Plan and Emergency Action Level Scheme” (ADAMS Accession No. ML14168A302). Before ENO can amend its EAL scheme to reflect the risk commensurate with power reactor that has been permanently shut down and defueled, ENO needs an exemption from the requirement for the site area emergency and general emergency classifications. Also refer to basis for 10 CFR part 50, appendix E, section IV.1.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.C.1. The NRC is granting exemption from portions of the rule language that would otherwise require EALs based on operating reactor concerns, such as offsite radiation monitoring, pressure in containment, and the response of the emergency core cooling system. In addition, the NRC is striking language that would otherwise require offsite EALs of a site area emergency and a general emergency.	Containment parameters do not provide an indication of the conditions at a defueled facility and emergency core cooling systems are no longer required. Other indications, such as SFP level or temperature, can be used at site where there is spent fuel in the SFP. In the SOC for the final rule for EP requirements for ISFSIs and for MRS facilities (60 FR 32430), the Commission responded to comments concerning a general emergency at an ISFSI and MRS, and concluded that, "…an essential element of a General Emergency is that a release can be reasonably expected to exceed EPA PAGs exposure levels off site for more than the immediate site area." The probability of a condition at a defueled facility reaching the level above an emergency classification of alert is very low. In the event of an accident at a defueled facility that meets the conditions for exemption from formal EP requirements, there will be available time for event mitigation and, if necessary, implementation of offsite protective actions using a CEMP. NEI 99-01 was found to be an acceptable method for development of EALs. No offsite protective actions are anticipated to be necessary, so classification above the alert level is no longer required.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.C.2. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to assess, classify, and declare an emergency condition within 15 minutes.	In the EP rule published in the November 23, 2011, *Federal Register* (76 FR 72560), 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. An SFP and an ISFSI are also not nuclear power reactors, as defined in the NRC's regulations and do not have the same potential impact on public health and safety, as do power reactors. A decommissioning power reactor has a low likelihood of a credible accident resulting in radiological releases requiring offsite protective measures. For these reasons, the NRC staff concludes that a decommissioning power reactor should not be required to assess, classify and declare an emergency condition within 15 minutes.
10 CFR part 50, appendix E, section IV.D.1. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to reach agreement with local, State, and Federal officials and agencies for prompt notification of protective measures or evacuations. In addition, the NRC is granting exemption from identifying the associated titles of officials to be notified for each agency within the EPZs.	Refer to basis for 10 CFR 50.47(b) and 10 CFR 50.47(b)(10).
10 CFR part 50, appendix E, section IV.D.2. The NRC is granting exemption from the requirement for the licensee to annually disseminate general information on EP and evacuations within the plume exposure pathway EPZ. In addition, the NRC is granting exemption for	Refer to basis for 10 CFR part 50, appendix E, section IV.D.1.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
the need for signage or other measures to address transient populations in the event of an accident.	
10 CFR part 50, appendix E, section IV.D.3. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to have the capability to make notifications to State and local government agencies within 15 minutes of declaring an emergency.	While the capability needs to exist for the notification of offsite government agencies within a specified time period, previous exemptions have allowed for extending the State and local government agencies' notification time up to 60 minutes, based on the site-specific justification provided. ENO's license amendment request to approve its Permanently Defueled Emergency Plan (PDEP) dated June 12, 2014, (ADAMS Accession No. ML14168A302), provides that VY will make notifications to the State of Vermont within 60 minutes of declaration of an event. 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 or, if needed, for offsite authorities to implement appropriate protective measures using a CEMP (all-hazards) approach between the loss of both water and air cooling to the spent fuel and the onset of a postulated zirconium cladding fire, formal offsite radiological response plans are not needed. Therefore, decommissioning reactors are not required to notify State and local governmental agencies within 15 minutes. For similar reasons, the requirement for alerting and providing prompt instructions to the public within the plume exposure pathway EPZ using an alert and notification system is not required. Also refer to basis for 10 CFR 50.47(b) and 10 CFR 50.47(b)(10).
10 CFR part 50, appendix E, section IV.D.4. The NRC is granting exemption from the requirement for the licensee to obtain U.S. Federal Emergency Management Agency (FEMA) approval of its backup alert and notification capability.	Refer to basis for 10 CFR part 50, appendix E, section IV.D.3 regarding the alert and notification system requirements.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.E.8.a.(i). The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to have an onsite technical support center (TSC) and EOF.	Due to the low probability of DBAs or other credible events to exceed the EPA PAGs at the site boundary, the available time for event mitigation at a decommissioning power reactor and, if needed, to implement offsite protective actions using a CEMP, an EOF would not be required to support offsite agency response. In addition, an onsite TSC with part 50, appendix E requirements would not be needed. ENO proposes in its PDEP that onsite actions would be directed from the control room.
10 CFR part 50, appendix E, section IV.E.8.a.(ii). The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to have an onsite operational support center (OSC).	NUREG-0696, "Functional Criteria for Emergency Response Facilities," provides that the OSC is an onsite area separate from the control room and the TSC, where licensee operations support personnel will assemble in an emergency. For a decommissioning power reactor, an OSC is no longer required to meet its original purpose of an assembly area for plant logistical support during an emergency. The OSC function can be incorporated into the control room, as proposed by ENO.
10 CFR part 50, appendix E, section IV.E.8.b. and subpart sections IV.E.8.b.(1) - E.8.b.(5). The NRC is granting exemption from the requirements related to an offsite EOF location, space and size, communications capability, access to plant data and radiological information, and access to copying and office supplies.	Refer to basis for 10 CFR 50.47(b)(3).
10 CFR part 50, appendix E, section IV E.8.c. and sections IV E.8.c.(1) - E.8.c.(3). The NRC is granting exemption from the requirements to have an EOF with the capabilities to obtain and display plant data and radiological information; the capability to analyze technical information and provide briefings; and the capability to support events occurring at more than one site (if the emergency operations center supports more than one site).	Refer to basis for 10 CFR 50.47(b)(3).

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV E.8.d. The NRC is granting exemption from the requirements to have an alternate facility 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.	Refer to basis for 10 CFR part 50, appendix E, section IV.1 regarding hostile action.
10 CFR part 50, appendix E, section IV.E.8.e. The NRC is granting exemption from the requirement regarding the need for the licensee to comply with paragraph 8.b of this section.	Refer to basis for 10 CFR 50.47(b)(3).
10 CFR part 50, appendix E, section IV.E.9.a. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to have communications with contiguous State and local governments that are within the plume exposure pathway EPZ (which is no longer required by the exemption granted to 10 CFR 50.47(b)(10)).	Refer to basis for 10 CFR 50.47(b) and 10 CFR 50.47(b)(10). The State and the local governments in which the nuclear facility is located need to be informed of events and emergencies, therefore, lines of communication are required to be maintained.
10 CFR part 50, appendix E, section IV.E.9.c. The NRC is granting exemption from the requirements for communication and testing provisions between the control room, the onsite TSC, State/local emergency operations centers, and field assessment teams.	Because of the low probability of DBAs or other credible events that would be expected to exceed the EPA PAGs and the available time for event mitigation and, if needed, implementation of offsite protective actions using a CEMP, there is no need for the TSC, EOF, or offsite field assessment teams. Also refer to justification for 10 CFR 50.47(b)(3). Communication with State and local emergency operations centers is maintained to coordinate assistance on site if required.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.E.9.d. The NRC is granting exemption from portions of the rule language that would otherwise require provisions for communications from the control room, onsite TSC, and EOF with NRC Headquarters and appropriate Regional Operations Center.	The functions of the control room, EOF, TSC, and OSC may be combined into one or more locations at a permanently shutdown and defueled facility due to its smaller facility staff and the greatly reduced required interaction with State and local emergency response facilities, as compared to an operating reactor. Also refer to basis for 10 CFR 50.47(b).
10 CFR part 50, appendix E, section IV.F.1. and section IV F.1.viii. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to provide training and drills for the licensee's headquarters personnel, Civil Defense personnel, or local news media.	Decommissioning power reactor sites typically have a level of emergency response that does not require additional response by the licensee's headquarters personnel. Therefore, the NRC staff considers exempting licensee's headquarters personnel from training requirements to be reasonable. Due to the low probability of DBAs or other credible events to exceed the EPA PAGs, offsite emergency measures are limited to support provided by local police, fire departments, and ambulance and hospital services, as appropriate. Local news media personnel no longer need radiological orientation training since they will not be called upon to support the formal Joint Information Center. The term "Civil Defense" is no longer commonly used; references to this term in the examples provided in the regulation are, therefore, not needed.
10 CFR part 50, appendix E, section IV.F.2. The NRC is granting exemption from portions of the rule language that would otherwise require testing of a public alert and notification system.	Because of the low probability of DBAs or other credible events that would be expected to exceed the limits of EPA PAGs and the available time for event mitigation and, if necessary, offsite protective actions from a CEMP, the public alert and notification system will not be used and, therefore, requires no testing. Also refer to basis for 10 CFR 50.47(b).

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.F.2.a. and sections IV.F.2.a.(i) through IV.F.2.a.(iii). The NRC is granting exemption from the requirements for full participation exercises and the submittal of the associated exercise scenarios to the NRC.	Due to the low probability of DBAs or other credible events that would be expected to exceed the limits of EPA PAGs, the available time for event mitigation and, if necessary, implementation of offsite protective actions using a CEMP, no formal offsite radiological response plans are required. Therefore, the need for the licensee to exercise onsite and offsite plans with full participation by each offsite authority having a role under the radiological response plan is not required. The intent of submitting exercise scenarios at an operating power reactor site 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 previously routine progression to general emergency in an operating power reactor site scenario is not applicable. 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.
10 CFR part 50, appendix E, section IV.F.2.b. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to submit scenarios for its biennial exercises of its onsite emergency plan. In addition, the NRC is granting exemption from portions of the rule language that requires assessment of offsite releases, protective action decision making, and references to the TSC, OSC, and EOF.	Refer to basis for 10 CFR part 50, appendix E, section IV.F.2.a. The low probability of DBAs or other credible events that would exceed the EPA PAGs, the available time for event mitigation and, if necessary, implementation of offsite protective actions using a CEMP, render a TSC, OSC, and EOF unnecessary. The principal functions required by regulation can be performed at an onsite location that does not meet the requirements of the TSC, OSC or EOF.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.F.2.c. and sections IV F.2.c.(1) through F.2.c.(5). The NRC is granting exemption from the requirements regarding the need for the licensee to exercise offsite plans biennially with full participation by each offsite authority having a role under the radiological response plan. The NRC is also granting exemptions from the conditions for conducting these exercises (including hostile action exercises) if two different licensees have facilities on the same site or on adjacent, contiguous sites, or share most of the elements defining co-located licensees.	Refer to basis for 10 CFR part 50, appendix E, section IV.F.2.a.
10 CFR part 50, appendix E, section IV.F.2.d. The NRC is granting exemption from the requirements to obtain State participation in an ingestion pathway exercise and a hostile action exercise, with each State that has responsibilities, at least once per exercise cycle.	Refer to basis for 10 CFR part 50, appendix E, section IV.2.
10 CFR part 50, appendix E, section IV.F.2.e. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to allow participation exercise in licensee drills by any State and local government in the plume exposure pathway EPZ when requested.	Refer to basis for 10 CFR part 50, appendix E, section IV.2.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
10 CFR part 50, appendix E, section IV.F.2.f. The NRC is granting exemption from portions of the rule language that would otherwise require FEMA to consult with the NRC on remedial exercises. The NRC is granting exemption from portions of the rule language that discuss the extent of State and local participation in remedial exercises.	FEMA is responsible for evaluating the adequacy of offsite response during an exercise. Because the NRC is granting exemptions from the requirements regarding the need for the licensee to exercise onsite and offsite plans with full participation by each offsite authority having a role under the radiological response plan, FEMA will no longer evaluate the adequacy of offsite response during remedial or other exercises. No action is expected from State or local government organizations in response to an event at a decommissioning power reactor site other than firefighting, law enforcement and ambulance/medical services support. A memorandum of understanding should be in place for those services. Offsite response organizations will continue to take actions on a comprehensive EP basis to protect the health and safety of the public as they would at any other industrial site.
10 CFR part 50, appendix E, section IV.F.2.i. The NRC is granting exemption from portions of the rule language that would otherwise require the licensee to drill and exercise scenarios that include a wide spectrum of radiological release events and hostile action.	Due to the low probability of DBAs or other credible events to exceed the EPA PAGs, the available time for event mitigation and, if needed, implementation of offsite protective actions using a CEMP, the previously routine progression to general emergency in power reactor site scenarios is not applicable to a decommissioning site. Therefore, the licensee is not expected to demonstrate response to a wide spectrum of events. Also refer to basis for 10 CFR part 50, appendix E, section IV.1 regarding hostile action.
10 CFR part 50, appendix E, section IV.F.2.j. The NRC is granting exemption from the requirements regarding the need for the licensee's emergency response organization to demonstrate proficiency in key skills in the principal functional areas of emergency response. In addition, the NRC is granting exemption	Refer to basis for 10 CFR part 50, appendix E, section IV.F.2.

10 CFR Part 50, Appendix E, Section IV	NRC Staff Basis for Exemption
during an eight calendar year exercise cycle, from demonstrating proficiency in the key skills necessary to respond to such scenarios as hostile actions, unplanned minimal radiological release, and scenarios involving rapid escalation to a site area emergency or general emergency.	
10 CFR part 50, appendix E, section IV.I The NRC is granting exemption from the requirements regarding the need for the licensee to develop a range of protective actions for onsite personnel during hostile actions.	Refer to basis for 10 CFR part 50, appendix E, section IV.E.8.d.

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