POLICY ISSUE
(Notation Vote)

December 17, 2014 SECY-14-0144

FOR: The Commissioners

FROM: Mark A. Satorius
Executive Director for Operations

SUBJECT: REQUEST BY SOUTHERN CALIFORNIA EDISON FOR EXEMPTIONS FROM CERTAIN EMERGENCY PLANNING REQUIREMENTS

PURPOSE:

The purpose of this paper is to seek Commission approval for the staff to grant Southern California Edison's (SCE's) request for exemptions from certain emergency planning (EP) requirements of Part 50, "Domestic Licensing of Production and Utilization Facilities," of Title 10, "Energy," of the *Code of Federal Regulations* (10 CFR). SCE's proposed exemptions would result in elimination of the requirements placed by the U.S. Nuclear Regulatory Commission (NRC) on the licensee for formal offsite radiological emergency plans at the San Onofre Nuclear Generating Station (SONGS) site, but would require the maintenance of certain onsite capabilities to communicate and coordinate with offsite response authorities. This paper does not address any new commitments or resource implications.

SUMMARY:

The EP requirements of 10 CFR 50.47, "Emergency Plans," and Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50 continue to apply to a nuclear power reactor after permanent cessation of operations and removal of fuel from the reactor vessel. There are no explicit regulatory provisions distinguishing EP requirements for a power reactor that has been shut down from those for an operating power reactor.

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To modify their emergency plans to reflect the risk commensurate with power reactors that have been permanently shut down, power reactor licensees transitioning to decommissioning must seek exemptions from certain EP regulatory requirements before amending these plans.

The staff has reviewed the technical basis for SCE's requested exemptions and is recommending that the Commission approve the staff's proposal to grant the requested EP exemptions, as detailed in the enclosure.

BACKGROUND:

The regulations in 10 CFR 50.12(a)(2)(ii) provide that the NRC may, on application by a licensee or on its own initiative, grant exemptions from the requirements of the regulations in circumstances in which application of the regulation would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.[1] The risk of an offsite radiological release is significantly lower and the types of possible accidents are significantly fewer, at a nuclear power reactor that has permanently ceased operations and removed fuel from the reactor vessel than at an operating power reactor. On this basis, the NRC has previously granted similar exemptions from EP requirements for permanently shut down and defueled power reactor licensees. The staff provided an evaluation of an exemption request for the Kewaunee Power Station to the Commission in SECY-14-0066 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14072A257), which the Commission approved in the staff requirements memorandum (SRM) to SECY-14-0066 (ADAMS Accession No. ML14219A366).

Before the Kewaunee Power Station, the last approved exemption that eliminated the requirements for formal offsite radiological EP was for the Zion facility in 1999 (ADAMS Legacy Accession No. 9908260192). The underlying technical basis for the approval of the Zion facility's exemption was based on demonstrating that the radiological consequences of design-basis-accidents (DBAs) would not exceed the limits of the U.S. Environmental Protection Agency's (EPA's) Protective Action Guides (PAGs) at the exclusion area boundary and that the spent fuel stored in the spent fuel pool (SFP) would not reach the zirconium ignition temperature in fewer than 10 hours based on analysis that assumes no water or air cooling of the fuel. The staff concluded that if 10 hours were available to initiate mitigative actions or, if needed, to implement offsite protective actions using a comprehensive emergency management plan (CEMP),[2] formal offsite radiological emergency plans are not necessary for permanently defueled nuclear power reactor licensees. In addition to SONGS, Crystal River Unit 3 and Vermont Yankee Nuclear Power Station have also applied for exemptions from certain

[1] Notwithstanding the special circumstances of the exemption request, 10 CFR 50.12(a)(1) requires that the exemption must be authorized by law, not present an undue risk to the public health and safety, and be consistent with the common defense and security.

[2] A CEMP in this context, also referred to as an emergency operations plan (EOP), is addressed in the Federal Emergency Management Agency's (FEMA's) Comprehensive Preparedness Guide (CPG) 101, "Developing and Maintaining Emergency Operations Plans." CPG 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 decisionmaking 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."

EP requirements. The exemption requests by SONGS, as described in this paper, are consistent with those approved by the Commission for the Kewaunee Power Station in the SRM to SECY-14-0066.

The NRC requires a level of licensee EP commensurate with the potential consequences to public health and safety and common defense and security at the licensee's site. Under the current safety analysis in NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants" (ADAMS Accession No. ML010430066), the event sequences important to risk at a decommissioning power reactor are limited to a large earthquake and cask-drop events. This is an important difference from an operating power reactor where typically a large number of different initiating events make significant contributions to risk. Additionally, physical security for special nuclear material at fixed sites, including decommissioning power reactors, is required by 10 CFR Part 73, "Physical Protection of Plants and Materials." Decommissioning power reactor licensees are required by 10 CFR 73.55(f) to develop target sets for use in the development and implementation of security strategies that protect against spent fuel sabotage. While both operating and decommissioning power reactors are required to develop target sets, the number of target sets at a decommissioning reactor is significantly reduced. Implementation of the protective strategy at a decommissioning reactor takes into account this reduction in target sets. With the significant reduction in radiological risk for a power reactor undergoing decommissioning, the NRC has historically approved exemptions from EP and security requirements based on site-specific evaluations and the objectives of the regulations.

The NRC prepared NUREG-1738 to provide a technical basis for SECY-00-0145, "Integrated Rulemaking Plan for Nuclear Power Plant Decommissioning" (ADAMS Accession No. ML003721626). The proposed rulemaking was later deferred in light of higher priority work after the terrorist attacks of September 11, 2001. Nonetheless, NUREG-1738 provides insights that the staff continues to find helpful for the evaluation of exemption requests regarding EP requirements. Specifically, NUREG-1738 identified a zirconium fire resulting from a substantial loss-of-water inventory in the SFP as the only postulated scenario at a decommissioning power reactor that, while highly unlikely, might result in a significant offsite release.

Previously granted exemptions from EP regulations reduced EP requirements for decommissioning power reactors to those consistent with these standards: (1) 10 CFR 50.47(d), which states the requirements for a license authorizing fuel loading and low power testing only; and (2) 10 CFR 72.32(a), which establishes the information required in an emergency plan for an independent spent fuel storage installation (ISFSI). Examples of previously granted exemptions from EP regulations for decommissioning power reactors include: setting the highest emergency plan classification as an "Alert"; extending the timing requirements for notification of offsite authorities; requiring only onsite exercises with the opportunity for offsite response organization participation; and only maintaining arrangements for offsite response organizations (i.e., law enforcement, fire and medical services) that might respond to onsite emergencies. The existence of formal offsite radiological emergency plans is no longer a binding requirement on the licensee.

While the staff considers the exemptions from certain EP requirements, as requested by SCE and described above, to be reasonable for a power reactor that has been permanently shut down and defueled, the resulting set of EP requirements could be viewed as a reduction in effectiveness when compared to the operating reactor emergency plan currently in effect at

SONGS. In the SRM to SECY-08-0024, "Delegation of Commission Authority to Staff to Approve or Deny Emergency Plan Changes That Represent a Decrease in Effectiveness," dated May 19, 2008 (ADAMS Accession No. ML081400510), the Commission directed that the staff should request Commission approval for any reduction in effectiveness of a licensee's emergency plan that requires an exemption from the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. In a manner consistent with the SRM's direction, this paper seeks Commission approval for the staff to process and grant, as appropriate, SCE's requested exemptions from the EP requirements as detailed in the enclosure, which provides a summary of SCE's exemption request and a brief description of the staff's basis for recommending approval.

DISCUSSION:

SCE is the holder of Renewed Facility Operating Licenses No. NFP-10 (for SONGS Unit 2) and NFP-15 (for SONGS Unit 3), issued under the Atomic Energy Act of 1954, as amended, and 10 CFR Part 50, which authorizes the licensee to possess and store spent nuclear fuel and greater-than-Class C radioactive waste at the SONGS facility. SONGS Unit 1 was permanently shut down on November 30, 1992, all fuel assemblies were removed from the reactor on March 6, 1993, and the unit is in the decommissioning phase. SONGS Units 2 and 3 have been permanently shut down since January 2012. After the reactors were shut down, all fuel assemblies were removed from the reactor vessels and placed in the SFP (on October 15, 2012, at Unit 3 and on July 18, 2013, at Unit 2). Spent fuel is currently stored on site in an SFP and in an ISFSI dry-cask storage facility.

By letter dated June 12, 2013, "Certification of Permanent Cessation of Power Operations, San Onofre Nuclear Generating Station Units 2 and 3" (ADAMS Accession No. ML131640201), SCE submitted a certification to the NRC indicating its intention to permanently cease power operations at SONGS under 10 CFR 50.82(a)(1)(i). By letter dated June 28, 2013, "Permanent Removal of Fuel from the Reactor Vessel, San Onofre Nuclear Generating Station Unit 3" (ADAMS Accession No. ML13183A391), SCE submitted a certification of permanent removal of fuel from the reactor vessel for SONGS Unit 3. By letter dated July 22, 2013, "Permanent Removal of Fuel from the Reactor Vessel, San Onofre Nuclear Generating Station Unit 2" (ADAMS Accession No. ML13204A304), SCE submitted a certification of permanent removal of fuel from the reactor vessel for SONGS Unit 2, under 10 CFR 50.82(a)(1)(ii). Upon the docketing of these certifications, the 10 CFR Part 50 licenses for SONGS no longer authorized operation of the reactors, or emplacement or retention of fuel into the reactor vessels, as specified in 10 CFR 50.82(a)(2).

By letter dated March 31, 2014, "Emergency Planning Exemption Request" (ADAMS Accession No. ML14092A332), SCE requested exemptions from specific EP requirements of 10 CFR Part 50 for SONGS. The staff issued a request for additional information (RAI) in a letter dated August 27, 2014, "San Onofre Nuclear Generating Station, Units 1, 2, and 3 – Request for Additional Information Re: Emergency Planning Exemption Request" (ADAMS Accession No. ML14209A005). In a letter dated September 9, 2014, "Response to Request for Additional Information Regarding Emergency Planning Exemption Request San Onofre Nuclear Generating Station, Units 1, 2, 3 and ISFSI" (ADAMS Accession No. ML14258A003), SCE provided responses to the RAI.

The staff issued a supplemental RAI to the licensee in an e-mail dated September 10, 2014, "Draft RAI RE: Emergency Planning Exemption Request (TAC Nos. MF 3835, MF 3836, and MF 3837)" (ADAMS Accession No. ML14274A210). In a letter dated October 2, 2014, "Response to Request for Additional Information Regarding Emergency Planning Exemption Request" (ADAMS Accession No. ML14280A265), SCE provided responses to the RAI, which contained information applicable to the radiological dose consequences of potential DBAs and beyond DBAs.

The staff also transmitted a supplemental RAI to the licensee in an e-mail dated September 22, 2014, "San Onofre Nuclear Generating Station, Units 2 and 3, Draft Request for Additional Information" (ADAMS Accession No. ML14274A213). In a letter dated October 6, 2014, "Response to Request for Additional Information Proposed Exemptions from Certain Portions of 10 CFR 50.47 and Appendix E" (ADAMS Accession No. ML14282A021), SCE provided responses to the RAI, which contained information applicable to the SFP inventory makeup strategies for mitigating the loss-of-water inventory. The information provided by SCE included justifications for each requested exemption. Note that this document is withheld from public release as it contains security-related information.

By letter dated October 7, 2014, "Response to Request for Additional Information Regarding Emergency Planning Exemption Request" (ADAMS Accession No. ML14287A228), the licensee corrected a factual error in its October 2, 2014, RAI response. The licensee stated that the error did not change the conclusions stated in the relevant paragraph of the October 2, 2014, RAI response.

In an e-mail dated October 8, 2014, "Request for Clarification of October 6, 2014 RAI Response Concerning Proposed Exemption from Certain EP Requirements (TAC Nos. MF 3835, MF 3836, and MF 3837)" (ADAMS Accession No. ML14296A469), the staff requested a clarification of the two items in the licensee's October 6, 2014, RAI response. By letter dated October 27, 2014, "Response to Request for Clarification of October 6, 2014 RAI Responses Concerning Emergency Planning Exemption Request San Onofre Generating Station, Units 1, 2, 3 and ISFSI" (ADAMS Accession No. ML14303A257), SCE provided a response, which contained additional information applicable to their SFP makeup and spray strategies.

In Enclosure 1 to the March 31, 2014, letter, SCE provided the accident analyses associated with DBAs and beyond DBAs as a basis for justifying the request for approval of the SONGS Permanently Defueled Emergency Plan. SCE's exemption request included radiological analyses to show that the radiological consequences of DBAs will not exceed the limits of the EPA PAGs at the exclusion area boundary. Additionally, SCE performed analyses for loss of SFP inventory events, including an event that has uncovered spent fuel with no cooling. In the unlikely event that no cooling of the spent fuel is possible, the analysis showed that more than 10 hours would be available from the time the fuel is uncovered until it reaches a temperature of 900 degrees Celsius (C) to initiate mitigative actions consistent with plant conditions and, if necessary, for offsite authorities to employ their CEMP to take protective actions.

The staff requested further clarification for the adiabatic heatup time in its September 22, 2014, RAI request, specifically for SCE to provide the actual time to heat up to 900 degrees C relative to a specific date after the reactors were shut down. In its October 6, 2014, RAI response, SCE provided the following further analysis of uncovered spent fuel with no cooling through 2016:

DATE	Decay Time (months)	Heat-up Time to 565°C (hours)	Heat-up Time to 900°C (hours)
October 12, 2014	33	10.7	17.8
February 12, 2015	37	12.0	20.0
June 12, 2015	41	13.4	22.3
December 12, 2015	47	15.4	25.6
June 12, 2016	53	17.3	28.7
December 12, 2016	59	19.0	31.6

These results show the time to reach 565 degrees C, which is the lowest temperature at which incipient cladding failure may occur and is below the temperature at which exothermic cladding oxidation may begin adding significant heat, is already also greater than 10 hours. Therefore, the results also demonstrate that, in the event ample air is available for cladding oxidation, the extra heat produced by cladding oxidation could not result in heat up times to 900 degrees C of less than 10 hours.

In addition, the significant decay of short-lived radionuclides that has occurred since the January 2012 shutdown provides assurance in other ways. As indicated by the results of 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.

As noted above, SCE furnished information concerning its SFP inventory makeup strategies to supplement its exemption request. The multiple strategies for providing makeup to the SFP include: using existing plant systems for inventory makeup; an internal strategy that relies on installed fire water pumps (two motor-driven and one diesel-driven) and service and firewater storage tanks; or an external strategy that uses portable pumps to initiate makeup flow into the SFPs through a seismic standpipe and standard fire hoses routed either over the SFP’s edge or to a spray nozzle. The portable pumps consist of a skid-mounted pump that is capable of delivering 500 gallons per minute (GPM) and a trailer-mounted pump capable of delivering 2,500 GPM. SCE further provides that designated on-shift personnel are trained to implement such strategies and that they have plans in place to mitigate the consequences of an event involving a catastrophic loss-of-water inventory concurrently from the SFPs of both Units 2 and 3. SCE estimates that it would take approximately 55 minutes to deliver flow to one pool, with an additional 35 minutes to provide water to the second pool without relocation of the trailer-mounted pump. Relocation of the trailer-mounted pump, if required, would take approximately 30 additional minutes.

In a letter dated October 1, 2014, “Docket Nos. 50-361 and 50-362 Supplement I to Amendment Applications 266 and 251 Permanently Defueled Technical Specifications San Onofre Nuclear Generating Station, Units 2 and 3” (ADAMS Accession No. ML14280A264), SCE withdrew the proposed changes to the Mitigating Strategies License Condition for Units 2 and 3 (2.C(26) for

Unit 2 and 2.C(27) for Unit 3). This license condition requires SONGS to maintain its SFP inventory-makeup strategies as discussed above. SCE states that these diverse strategies provide for defense-in-depth and can be used to provide sufficient makeup or spray to the SFPs before the onset of zirconium cladding ignition. In the unlikely situation that a radiological release is expected, elements of the revised emergency plan would make it easier for offsite authorities to take protective actions under a CEMP. The licensee must still maintain an ability to determine whether a radiological release is occurring and if a release is occurring or expected to occur, promptly communicate that information to offsite authorities. SONGS uses commercial telephone lines or mobile communications devices, including cell and satellite phones, to notify the State and County agencies of a declared emergency. Section E, "Notification Methods and Procedures," of the proposed SONGS Permanently Defueled Emergency Plan (ADAMS Accession No. ML14354A338) states that SONGS, in cooperation with State and local authorities, has established mutually agreeable methods and procedures for notification of offsite response organizations. These procedures include the specific content and format of the initial notification message to be transmitted during an emergency, along with methods of transmission. The following offsite agencies, at a minimum, will receive the initial notification messages:

- the State of California,
- Orange County,
- San Diego County, and
- Marine Corps Base, Camp Pendleton.

The staff found the exemption application complete and found that the licensee's associated technical justification provides a basis for the Commission's consideration of the requested exemption. Chapter 15 of the SONGS Updated Final Safety Analysis Report (UFSAR) (ADAMS Accession No. ML13182A288), revised May 2013, described the DBAs that were applicable to SONGS during power operation. Many of the UFSAR accident scenarios involved failures or malfunctions of systems that could affect the reactor core. By letter dated September 17, 2014 (ADAMS Accession No. ML14265A144), SCE submitted the revised UFSAR Chapter 15 analysis, which summarizes the evaluation of the current DBAs that remain applicable to the permanently shutdown and defueled condition of SONGS.

The staff reviewed SCE's exemption request against the requirements in 10 CFR 50.47, Appendix E to 10 CFR Part 50 and 10 CFR 72.32, "Emergency Plan." The review considered the status of the facility, which is permanently shut down and defueled, and the low likelihood of any credible accident resulting in radiological releases requiring offsite protective measures. The staff based its evaluation of the SCE request for exemptions from EP requirements on the site-specific analyses provided by SCE. The staff verified SCE's analyses and its calculations. The analysis provides reasonable assurance that in granting the requested exemption to SCE: (1) an offsite radiological release will not exceed the EPA PAGs at the site boundary for a DBA; and; (2) in the unlikely event of a beyond DBA resulting in a loss of all SFP cooling, there is sufficient time to initiate appropriate mitigating actions and, if a release is projected to occur, there is sufficient time for offsite agencies to take protective actions using a CEMP to protect the health and safety of the public.

Consistent with the June 17, 1993, memorandum of understanding between the NRC and the Federal Emergency Management Agency (FEMA), contained in Appendix A, "Memorandum of

Understanding Between Federal Emergency Management Agency and Nuclear Regulatory Commission," to 44 CFR Part 353, "Fee for Services in Support, Review and Approval of State and Local Government or Licensee Radiological Emergency Plans and Preparedness," the staff has discussed and coordinated its review of requests for exemptions from EP regulations with FEMA. As part of the staff's evaluation of the recent EP exemption request for the Kewaunee Power Station, the staff provided FEMA with a copy of SECY-14-0066 and the opportunity to ask questions, obtain clarification, and comment on the paper before the Commission received it for review. FEMA provided the following comments in response to the EP exemption proposed in SECY-14-0066:

> FEMA is not taking a position on the technical arguments presented by the licensee or the NRC's assessments. FEMA recognizes the NRC's role to analyze the possibility of incidents that could result in offsite dose impacts. FEMA acknowledges that individual states and local governments have the primary authority and responsibility to protect their citizens and respond to disasters and emergencies. The exemption, if issued, could create a transitional environment for off-site emergency planners in how they consider radiological hazards. FEMA will continue to support offsite organizations as they adjust their plans, capabilities, and resources to the changing radiological threat. Among the resources available to support FEMA stakeholders during the transition process include, but are not limited to, the National Preparedness System guidance materials, the Federal Radiological Preparedness Coordinating Committee, and assistance from FEMA Headquarters and Regional Staff.

The NRC staff considered FEMA's comments as part of SECY-14-0066 and believes that the technical and safety basis for the exemption demonstrates reasonable assurance in the two areas mentioned above.

FEMA was offered the opportunity to comment on this draft SONGS SECY paper. In response, FEMA indicated that it had no further comments other than the inclusion of the statement above from SECY-14-0066.

The SONGS decommissioning facility, at the time the exemption is granted, would pose significantly less of a radiological risk to public health and safety than an operating power reactor, which should result in a straightforward transition to a more streamlined CEMP. Aspects of existing offsite radiological emergency preparedness plans may remain in place, at the State's discretion, before completion of any adjustments to State and local CEMPs that are appropriate for the reduced radiological risk and can be adopted to minimize burden on the State and local governments. SCE will still be required to maintain an onsite emergency plan, which would provide for the notification of, and coordination with, offsite organizations, to an extent commensurate with the approved exemptions.

The staff's exemption recommendation, if approved by the Commission, would not affect the authority that FEMA has under its regulations in 44 CFR Chapter I, "Federal Emergency Management Agency," for overall emergency management and assistance to State and local response organizations, nor would it affect the responsibilities of State and local governments to establish and maintain CEMPs. The NRC would base its finding of reasonable assurance on its review of licensee onsite emergency preparedness and would not require a finding from FEMA on the adequacy of State and local CEMPs. Under its role as described in the National Response Framework, the NRC remains ready to support FEMA by providing it and State and

local governments with technical advice related to the safety and security of operations at the plant.

Though not considered as part of the staff's reasonable assurance determination, the staff is informing the Commission of ongoing efforts between SCE and the SONGS Interjurisdictional Planning Committee (IPC)[3]:

- In a letter dated June 3, 2014 (ADAMS Accession No. ML14282A021), SCE stated that it intended to fully comply with the nuclear power plant funding provisions of California Government Code Section 8610.5, that it would continue to provide funding for EP, until that section expires in July 2019, and that it will not seek changes to funding levels without prior consultation with the IPC.

- In accordance with an email dated October 22, 2014 (ADAMS Accession No. ML14297A489), the members of the SONGS IPC have committed to maintaining emergency response capabilities related to nuclear preparedness throughout the SONGS decommissioning process and to continuing a multi-agency partnership to accomplish this goal. As a part of ongoing EP efforts, the IPC will retain the ability to receive information, independently monitor and assess conditions, and take actions to protect residents, visitors, and emergency workers. Although plans will vary by agency, these public safety capabilities include law enforcement, fire and medical services, radiological monitoring, multi-agency coordination, and public information. While most of these capabilities are applicable to a variety of hazards, the IPC will preserve a specific focus on nuclear power plants as a part of their continuing preparedness efforts for as long as necessary.

In separate letters dated March 31, 2014, "Permanently Defueled Emergency Plan, San Onofre Nuclear Generating Station, Units 1, 2, and 3, Respectively, and Independent Spent Fuel Storage Installation" (ADAMS Accession No. ML14092A314) and "Permanently Defueled Emergency Action Level Scheme, San Onofre Nuclear Generating Station, Units 1, 2, and 3, Respectively, and Independent Spent Fuel Storage Installation" (ADAMS Accession No. ML14029A249), SCE also requested license amendments to approve its emergency plan, implementing changes that reflect the permanently shutdown and defueled status of SONGS. The revised emergency plan also includes changes consistent with the proposed exemptions discussed in this paper. The staff is awaiting a decision on this paper before issuing a decision on the amendment requests.

CONCLUSION:

The NRC staff concludes that granting the exemption request, as provided in the enclosure, would provide: (1) an adequate basis for an acceptable state of emergency preparedness; and (2) in conjunction with arrangements made with offsite response agencies, reasonable

[3] The IPC was formed in 1982 to address the EP requirements within the emergency planning zone for SONGS. The IPC is composed of representatives from: City of San Clemente, City of Dana Point, City of San Juan Capistrano, Orange County, San Diego County, Marine Corps Base Camp Pendleton, California State Parks, and Southern California Edison. The mission of this group is to integrate emergency plans, coordinate decisionmaking for SONGS-related activities and educate the public. (Source: http://www.songscommunity.com/partnerships.asp, accessed November 3, 2014.)

assurance that adequate protective measures can and will be taken in the event of a radiological emergency at SONGS.

The NRC staff has determined that pursuant to 10 CFR 50.12, “Specific Exemptions”, the exemptions described in the enclosure are authorized by law, will not present an undue risk to the public health and safety, and will be consistent with the common defense and security, and special circumstances are present.

RECOMMENDATION:

The exemption request is consistent with previously granted exemptions and SECY-14-0066 for the Kewaunee Power Station, and is commensurate with the risk associated with the facility. The changes in regulatory requirements are appropriate because the traditional accident sequences that dominate operating reactor risk are no longer applicable. Continued application of the regulations to the licensee, to maintain its current level of EP, is not necessary to achieve the underlying purpose of the regulation. Therefore, the staff recommends that the Commission:

> Approve: The staff’s proposal to grant SCE’s requested EP exemptions from certain requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50 consistent with the discussion above.

COORDINATION:

The Office of the General Counsel reviewed this paper and has no legal objection.

/RA/

Mark A. Satorius
Executive Director
for Operations

Enclosure:
Exemptions to Rule Language

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/RA/

Mark A. Satorius
Executive Director
for Operations

Enclosure:
Exemptions to Rule Language

ADAMS ACCESSION No.: ML14251A554 *** via email** |

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Exemptions to Rule Language

~~Strikethrough~~ text indicates requested exemptions to rule language.

10 CFR 50.47	Staff Review of Licensee Justification
(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:	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 [*Federal Register*] 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 is available from a partial drain-down event where cooling of the spent fuel is not effective until the hottest fuel assembly reaches 900°C. The technical basis that underlied the approval of the exemption request is based partly on the analysis of a time period that 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 heat-up 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 staff judges that this calculation reasonably represents conditions that may occur in the event of an SFP accident.

10 CFR 50.47	Staff Review of Licensee Justification
	The 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 staff believes an exemption to 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 Southern California Edison (SCE) analysis has demonstrated that 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. These analyses also show that as of October 12, 2014, in the unlikely event of a beyond DBA where the hottest fuel assembly adiabatic heat up occurs, 17.8 hours is 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. SCE furnished information to supplement its exemption request concerning its SFP inventory makeup strategies. The multiple strategies for providing makeup to the SFP include: using existing plant systems for inventory makeup; an internal strategy that relies on installed fire water pumps (two motor-driven and one diesel-driven) and service and firewater storage tanks; or an external strategy that uses portable pumps to initiate make-up flow into the pools through a seismic standpipe and standard fire water hoses routed either over the pools' edges or to spray nozzles. SCE further provides that designated on-shift staff is trained to implement such

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	strategies and they have plans in-place to mitigate the consequences of an event involving a catastrophic loss-of-water inventory concurrently from both Units 2 and 3 SFPs. It is estimated that it would take approximately 55 minutes to deliver flow to one pool, with an additional 35 minutes to provide water to the second pool without having to relocate the trailer-mounted pump. Relocation of the trailer-mounted pump, if required, would take approximately 30 additional minutes. In a letter dated October 1, 2014, "Docket Nos. 50-361 and 50-362 Supplement 1 to Amendment Applications 266 and 251 Permanently Defueled Technical Specifications San Onofre Nuclear Generating Station, Units 2 and 3" (ADAMS Accession No. ML14280A264), SCE withdrew its proposed changes to the Mitigating Strategies License Condition for Units 2 and 3 (2.C(26) for Unit 2 and 2.C(27) for Unit 3). These license conditions require the San Onofre Nuclear Generating Station (SONGS) to maintain its SFP inventory makeup strategies as discussed above.

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(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.	Refer to basis for 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.	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 emergency operations facility 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).
(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~~.	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 U.S. Nuclear Regulatory Commission (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. SCE requested a license amendment to revise its EAL scheme to NEI 99-01, Revision 6 in a letter

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	dated March 31, 2014, "Permanently Defueled Emergency Action Level Scheme, San Onofre Nuclear Generating Station, Units 1, 2, and 3, Respectively, and Independent Spent Fuel Storage Installation" (ADAMS Accession No. ML14029A249). Also refer to basis for 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 the populace within the plume exposure pathway Emergency Planning Zone have been established~~.	Refer to basis for 10 CFR 50.47(b).
(6) Provisions exist for prompt communications among principal response organizations to emergency personnel ~~and to the public~~.	Refer to basis for 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.	Refer to basis for 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.	Refer to basis for 10 CFR 50.47(b).

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(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.~~	In the unlikely event of an SFP accident, the iodine isotopes, which contribute to an off-site 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. The Commission responded to comments in its SOC for the final rule for EP requirements for ISFSIs and MRS facilities (60 FR 32435), and concluded that, "the offsite consequences of potential accidents at an ISFSI or an MRS would not warrant establishing Emergency Planning Zones." Additionally, 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 that, "The Commission does not agree that as a general matter emergency plans for an ISFSI must include evacuation planning." Also refer to basis for 10 CFR 50.47(b).
(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.~~	Refer to basis for 10 CFR 50.47(b)(10).

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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.	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." 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. The NRC excluded non-power reactors from the definition of "hostile action" at the time of the 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. A decommissioning power reactor also has a low likelihood of a credible accident resulting in radiological releases requiring offsite protective measures. For all of these reasons, the staff concludes that a decommissioning power reactor is not a facility that falls within the definition of "hostile action." Similarly, for security, risk insights can be used to determine which targets are important to protect against sabotage. A level of security commensurate with the consequences of a sabotage event is required and is evaluated on a site-specific basis. The severity of the consequences declines as fuel ages and, thereby, removes over time the underlying concern that a sabotage attack could cause offsite radiological consequences. Although this analysis provides a justification for exempting SONGS from "hostile action" related requirements, some EP requirements for security-based events are maintained. The classification of

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	security-based events, notification of offsite authorities and coordination with offsite agencies under a CEMP concept are still required.
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 recent U.S. Census Bureau data as of the date the applicant submits its application to the NRC.~~	Refer to basis for 10 CFR 50.47(b)(10).
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.~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.2.
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~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.2.
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~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.2.

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~~for NRC inspection during the period between decennial censuses and shall submit these estimates to the NRC with any updated ETE analysis.~~	
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.~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.2.
A.1. A description of the normal plant ~~operating~~ organization.	Based on the permanently shut down and defueled status of the reactor, a decommissioning reactor is not authorized to operate under 10 CFR 50.82(a). Because the licensee cannot operate the reactors, the licensee does not have a “plant operating organization.”
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.~~	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.
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	Although the likelihood of events that would result in doses in excess of the EPA PAGs to the public beyond the owner controlled area boundary based on the permanently shut down and defueled status of the reactor is extremely low, the licensee still

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these projections will be made and the results transmitted to State and local authorities, NRC, and other appropriate governmental entities.	must be able 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.
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.~~	SONGS 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 one SFP. In addition to the scenario described above, SONGS performed a separate case study to validate that the minimum on-shift staff can perform mitigation efforts in the event that the second SFP is also affected by a catastrophic loss-of-water inventory.
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, 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.	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.1.
A.8. ~~Identification of the State and/or local officials responsible for planning for, ordering and controlling appropriate protective actions, including evacuations when necessary.~~	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).

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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.~~	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 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 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. 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 requires 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 staff also examined the actions required to mitigate the very low probability beyond design-basis events for the SFP. In a letter dated October 1, 2014, "Docket Nos. 50-361 and 50-362 Supplement 1 to Amendment Applications 266 and 251 Permanently Defueled Technical Specifications San Onofre Nuclear Generating Station, Units 2 and 3" (ADAMS Accession No. ML14280A264), SCE withdrew the proposed changes to the Mitigating Strategies License Condition for Units 2 and 3 (2.C(26) for Unit 2 and 2.C(27) for Unit 3). This license condition requires SONGS to maintain its SFP inventory makeup strategies as discussed above. SONGS 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 one SFP.

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	In addition to the scenario described above, SONGS performed a separate case study to validate that the minimum on-shift staff can perform mitigation efforts in the event that the second SFP is also affected by a catastrophic loss-of-water inventory. Also refer to basis for 10 CFR Part 50, Appendix E, Section IV.1.
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.	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, which is consistent with ISFSI facilities. As discussed previously, SCE requested a license amendment to revise its EAL scheme to NEI 99-01, Revision 6 in a letter dated March 31, 2014, "Permanently Defueled Emergency Action Level Scheme, San Onofre Nuclear Generating Station, Units 1, 2, and 3, respectively, and Independent Spent Fuel Storage Installation" (ADAMS Accession No. ML14029A249). Also refer to basis for 10 CFR Part 50, Appendix E, Section IV.1.
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	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 sites where there is spent fuel in the SFPs.

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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.	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 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.

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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 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.	In the EP rule published in the *Federal Register* (76 FR 72560), non-power reactor licensees were 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. A decommissioning power reactor has a low likelihood of a credible accident resulting in radiological releases requiring offsite protective measures. For these reasons, the staff concludes that a decommissioning power reactor should not be required to assess, classify and declare an emergency condition within 15 minutes.
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.~~	Refer to basis for 10 CFR 50.47(b) and 10 CFR 50.47(b)(10).

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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.~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.D.1.
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~~	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. SCE's exemption request provides that the SONGS will make notifications to the State of California, the local counties (Orange and San Diego), and Marine Corps Base, Camp Pendleton within 60 minutes of declaration of an event. In the permanently defueled condition of the reactor, the rapidly developing scenarios associated with events initiated during reactor power operation are no longer credible. Also refer to basis for 10 CFR 50.47(b) and 10 CFR 50.47(b)(10).

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~~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 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.~~	
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~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.D.3 regarding the alert and notification system requirements.

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~~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.~~	
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;	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 emergency operations facility (EOF) would not be required to support offsite agency response. Onsite actions may be directed from the control room or other location, without the requirements imposed on a technical support center (TSC).
E.8.a. (ii) ~~For nuclear power reactor licensees, a licensee onsite operational support center;~~	NUREG-0696, "Functional Criteria for Emergency Response Facilities," provides that 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. 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 another facility.
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 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~~	Refer to basis for 10 CFR 50.47(b)(3).

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~~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;~~	
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~~	Refer to basis for 10 CFR 50.47(b)(3).

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~~than one site; and~~	
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 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.~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.1 regarding hostile action.
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;~~	Refer to basis for 10 CFR 50.47(b)(3).
E.9.a. Provisions for communications with contiguous State/local governments ~~within the plume exposure pathway EPZ~~. Such communication shall be tested monthly.	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, so lines of communication must be maintained.

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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.~~	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.
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.	The functions of the control room, EOF, TSC, and OSC may be combined into one or more locations due to the smaller facility staff and the greatly reduced required interaction with State and local emergency response facilities. Also refer to basis for 10 CFR 50.47(b).

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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~~.	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 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

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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.	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).
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.	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 emergency plans are 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.
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 actions necessary to ensure that adequate emergency response capabilities are maintained during the interval between biennial	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.

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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.	
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 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:~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.F.2.a.

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(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.~~	
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.~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.2.
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.	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.2.

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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 to show that appropriate corrective measures have been taken regarding the elements of the plan not properly tested in the previous exercises.~~	The U.S. Federal Emergency Management Agency is responsible for evaluating the adequacy of offsite response during an exercise. 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.
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.	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.
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~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.F.2.

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~~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, 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.~~	
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.~~	Refer to basis for 10 CFR Part 50, Appendix E, Section IV.E.8.d.