UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 12, 2012

EA-12-049

All Power Reactor Licensees and
Holders of Construction Permits in
Active or Deferred Status

SUBJECT: ISSUANCE OF ORDER TO MODIFY LICENSES WITH REGARD TO REQUIREMENTS FOR MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Order that modifies the current license for your facility. The Order requires provisions for mitigation strategies for beyond-design-basis external events, and applies to all addressees listed in Attachment 1 to the enclosed Order.

Following the earthquake and tsunami at the Fukushima Dai-ichi nuclear power plant in March 2011, the NRC established a senior-level task force referred to as the Near-Term Task Force (NTTF). The NTTF conducted a systematic and methodical review of the NRC regulations and processes to determine if the agency should make safety improvements in light of the events in Japan. As a result of this review, the NTTF issued SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan," Agencywide Documents Access and Management System (ADAMS) Accession No. ML11186A950. SECY-11-0124, "Recommended Actions to be Taken Without Delay from the Near-Term Task Force Report," ADAMS Accession No. ML112911571 and SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned," ADAMS Accession No.ML11272A111 were issued to establish the NRC staff's prioritization of the recommendations. Recommendation 4.2 concerning mitigation strategies was determined to be a high-priority action. This Order is based upon the NTTF recommendation.

The events at Fukushima Dai-ichi highlight the possibility that extreme natural phenomena could challenge the prevention, mitigation and emergency preparedness defense-in-depth layers. At Fukushima, limitations in time and unpredictable conditions associated with the accident significantly challenged attempts by the responders to preclude core damage and containment failure. During the events in Fukushima, the challenges faced by the operators were beyond any faced previously at a commercial nuclear reactor. It was determined that additional requirements must be imposed to mitigate beyond-design-basis external events. These additional requirements impose guidance and strategies to be available if the loss of power, motive force and normal access to the ultimate heat sink to prevent fuel damage in the reactor and spent fuel pool affected all units at a site simultaneously.

The NRC staff has determined that continued operation does not pose an imminent risk to public health and safety; however, the additional requirements outlined in this Order are necessary in light of insights gained from the events at Fukushima Dai-ichi. The requirements of this Order are immediately effective and are expected to remain in place until superseded by Order or rule.

Pursuant to Section 223 of the Atomic Energy Act of 1954, as amended, any person who willfully violates, attempts to violate, or conspires to violate, any provision of this Order shall be subject to criminal prosecution as set forth in that section. Violation of this order may also subject the person to civil monetary penalty.

The enclosed Order requires responses and actions within specified timeframes. Please contact your Licensing Project Manager or Mr. Steven Bloom, Mitigation Strategies Order Project Manager (301-415-2431), regarding any issues related to compliance with the requirements in the enclosed Order, or if you have other questions.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. The NRC also includes significant enforcement actions on its Web site at (http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/. The enclosed Order has been forwarded to the Office of the *Federal Register* for publication.

Sincerely,

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Michael R. Johnson, Director
Office of New Reactors

Enclosure:
Order (EA-12-049)

cc: Listserv

ORDER TO MODIFYING LICENSES WITH REGARD TO REQUIREMENTS FOR MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS
EA-12-049

Enclosure

7590-01-P

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
ALL POWER REACTOR	)	Docket Nos. (as shown in Attachment 1)
LICENSEES AND HOLDERS	)	License Nos. (as shown in Attachment 1) or
OF CONSTRUCTION PERMITS IN	)	Construction Permit Nos. (as shown in
ACTIVE OR DEFERRED STATUS	)	Attachment 1))
	)	
	)	EA-12-049

ORDER MODIFYING LICENSES WITH REGARD TO REQUIREMENTS FOR MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS (EFFECTIVE IMMEDIATELY)

I.

The Licensees and construction permits (CP) holders[1] identified in Attachment 1 to this Order hold licenses and CPs issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing operation and/or construction of nuclear power plants in accordance with the Atomic Energy Act of 1954, as amended, and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," and Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants."

II.

On March 11, 2011, a magnitude 9.0 earthquake struck off the coast of the Japanese island of Honshu. The earthquake resulted in a large tsunami, estimated to have exceeded 14 meters (45 feet) in height, that inundated the Fukushima Dai-ichi nuclear power plant site.

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1 *CP holders, as used in this Order, includes CPs, in active or deferred status, as identified in Attachment 1 to this Order (i.e., Watts Bar, Unit 2; and Bellefonte, Units 1 and 2)*

The earthquake and tsunami produced widespread devastation across northeastern Japan and significantly affected the infrastructure and industry in the northeastern coastal areas of Japan.

When the earthquake occurred, Fukushima Dai-ichi Units 1, 2, and 3 were in operation and Units 4, 5, and 6 were shut down for routine refueling and maintenance activities. The Unit 4 reactor fuel was offloaded to the Unit 4 spent fuel pool (SFP). Following the earthquake, the three operating units automatically shut down and offsite power was lost to the entire facility. The emergency diesel generators (EDGs) started at all six units providing alternating current (ac) electrical power to critical systems at each unit. The facility response to the earthquake appears to have been normal.

Approximately 40 minutes following the earthquake and shutdown of the operating units, the first large tsunami wave inundated the site, followed by additional waves. The tsunami caused extensive damage to site facilities and resulted in a complete loss of all ac electrical power at Units 1 through 5, a condition known as station blackout. In addition, all direct current electrical power was lost early in the event on Units 1 and 2 and after some period of time at the other units. Unit 6 retained the function of one air-cooled EDG. Despite their actions, the operators lost the ability to cool the fuel in the Unit 1 reactor after several hours, in the Unit 2 reactor after about 70 hours, and in the Unit 3 reactor after about 36 hours, resulting in damage to the nuclear fuel shortly after the loss of cooling capabilities.

Following the events at the Fukushima Dai-ichi nuclear power plant, the NRC established a senior-level agency task force referred to as the Near-Term Task Force (NTTF). The NTTF was tasked with conducting a systematic and methodical review of the NRC regulations and processes and determining if the agency should make additional improvements to these programs in light of the events at Fukushima Dai-ichi. As a result of this review, the NTTF developed a comprehensive set of recommendations, documented in SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan,"

dated July 12, 2011. These recommendations were enhanced by the NRC staff following interactions with stakeholders. Documentation of the staff's efforts is contained in SECY-11-0124, "Recommended Actions to be Taken Without Delay From the Near-Term Task Force Report," dated September 9, 2011, and SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned," dated October 3, 2011.

As directed by the Commission's staff requirements memorandum (SRM) for SECY-11-0093, the NRC staff reviewed the NTTF recommendations within the context of the NRC's existing regulatory framework and considered the various regulatory vehicles available to the NRC to implement the recommendations. SECY-11-0124 and SECY-11-0137 established the staff's prioritization of the recommendations based upon the potential safety enhancements.

Since receiving the Commission's direction in SRM-SECY-11-0124 and SRM-SECY-11-0137, the NRC staff conducted public meetings to discuss enhanced mitigation strategies intended to maintain or restore core cooling, containment, and SFP cooling capabilities following beyond-design-basis external events. At these meetings, the industry described its proposal for a Diverse and Flexible Mitigation Capability (FLEX), as documented in the Nuclear Energy Institute's (NEI's) letter dated December 16, 2011 (Agency Documents Access and Management System (ADAMS) Accession No. ML11353A008). FLEX is proposed as a strategy to fulfill the key safety functions of core cooling, containment integrity, and spent fuel cooling. Stakeholder input influenced the staff to pursue a more performance-based approach to improve the safety of operating power reactors than envisioned in NTTF Recommendation 4.2, SECY-11-0124, and SECY-11-0137.

Current regulatory requirements and existing plant capabilities allow the NRC to conclude that a sequence of events such as the Fukushima Dai-ichi accident is unlikely to occur in the U.S. Therefore, continued operation and continued licensing activities do not pose an imminent threat to public health and safety. However, NRC's assessment of new insights from the events at

Fukushima Dai-ichi leads the staff to conclude that additional requirements must be imposed on Licensees or CP holders to increase the capability of nuclear power plants to mitigate beyond-design-basis external events. These additional requirements are needed to provide adequate protection to public health and safety, as set forth in Section III of this Order.

Guidance and strategies required by this Order would be available if the loss of power, motive force, and normal access to the ultimate heat sink to prevent fuel damage in the reactor and SFP, affected all units at a site simultaneously. This Order requires a three-phase approach for mitigating beyond-design-basis external events. The initial phase requires the use of installed equipment and resources to maintain or restore core cooling, containment, and SFP cooling. The transition phase requires providing sufficient, portable, onsite equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from off site. The final phase requires obtaining sufficient offsite resources to sustain those functions indefinitely.

Additional details on an acceptable approach for complying with this Order will be contained in final Interim Staff Guidance (ISG) scheduled to be issued by the NRC in August 2012. This guidance will also include a template to be used for the plan that will be submitted in accordance with Section IV, Condition C.1 below.

III.

Reasonable assurance of adequate protection of the public health and safety and assurance of the common defense and security are the fundamental NRC regulatory objectives. Compliance with NRC requirements plays a critical role in giving the NRC confidence that Licensees or CP holders are maintaining an adequate level of public health and safety and common defense and security. While compliance with NRC requirements presumptively assures adequate protection, new information may reveal that additional requirements are

warranted. In such situations, the Commission may act in accordance with its statutory authority under Section 161 of the Atomic Energy Act of 1954, as amended, to require Licensees or CP holders to take action in order to protect health and safety and common defense and security.

To protect public health and safety from the inadvertent release of radioactive materials, the NRC's defense-in-depth strategy includes multiple layers of protection: (1) prevention of accidents by virtue of the design, construction, and operation of the plant; (2) mitigation features to prevent radioactive releases should an accident occur; and (3) emergency preparedness programs that include measures such as sheltering and evacuation. The defense-in-depth strategy also provides for multiple physical barriers to contain the radioactive materials in the event of an accident. The barriers are the fuel cladding, the reactor coolant pressure boundary, and the containment. These defense-in-depth features are embodied in the existing regulatory requirements and thereby provide adequate protection of the public health and safety.

Following the events of September 11, 2001, the NRC issued Order EA-02-026, dated February 25, 2002, which required Licensees to develop mitigating strategies related to the key safety functions of core cooling, containment, and SFP cooling. NEI Document 06-12, "B.5.b Phase 2 & 3 Submittal Guideline" (ADAMS Accession No. ML070090060) provides guidelines that describe the necessary mitigating strategies. The NRC endorsed these guidelines in a letter dated December 22, 2006, designated as Official Use Only. Those mitigating strategies were developed in the context of a localized event that was envisioned to challenge portions of a single unit. The events at Fukushima, however, demonstrate that beyond-design-basis external events may adversely affect: (1) more than one unit at a site with two or more units, and (2) multiple safety functions at each of several units located on the same site.

The events at Fukushima further highlight the possibility that extreme natural phenomena could challenge the prevention, mitigation, and emergency preparedness defense-in-depth layers. To address the uncertainties associated with beyond-design-basis external events, the

NRC is requiring additional defense-in-depth measures at licensed nuclear power reactors so that the NRC can continue to have reasonable assurance of adequate protection of public health and safety in mitigating the consequences of a beyond-design-basis external event.

The strategies and guidance developed and implemented by Licensees or CP holders in response to the requirements imposed by this Order will provide the necessary capabilities to supplement those of the permanently installed plant structures, systems, and components that could become unavailable following beyond-design-basis external events. These strategies and guidance will enhance the safety and preparedness capabilities established following September 11, 2001, and codified as 10 CFR 50.54(hh)(2). In order to address the potential for more widespread effects of beyond design basis external events, this Order requires strategies with increased capacity to implement protective actions concurrently at multiple units at a site. The strategies shall be developed to add multiple ways to maintain or restore core cooling, containment and SFP cooling capabilities in order to improve the defense-in-depth of licensed nuclear power reactors.

The Commission has determined that ensuring adequate protection of public health and safety requires that power reactor Licensees and CP holders develop, implement and maintain guidance and strategies to restore or maintain core cooling, containment, and SFP cooling capabilities in the event of a beyond-design-basis external event. These new requirements provide a greater mitigation capability consistent with the overall defense-in-depth philosophy, and, therefore, greater assurance that the challenges posed by beyond-design-basis external events to power reactors do not pose an undue risk to public health and safety. In order to provide reasonable assurance of adequate protection of public health and safety, all operating reactor licenses and CPs under Part 50 identified in Attachment 1 to this Order shall be modified to include the requirements identified in Attachment 2 to this Order. All combined licenses

(COLs) under 10 CFR Part 52 identified in Attachment 1 to this Order shall be modified to include the requirements identified in Attachment 3 to this Order.

Accordingly, the NRC has concluded that these measures are necessary to ensure adequate protection of public health and safety under the provisions of the backfit rule, 10 CFR 50.109(a)(4)(ii), and is requiring Licensee or CP holder action. In addition, pursuant to 10 CFR 2.202, the NRC finds that the public health, safety and interest require that this Order be made immediately effective.

IV.

Accordingly, pursuant to Sections 161b, 161i, 161o, and 182 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202, and 10 CFR Parts 50 and 52, IT IS HEREBY ORDERED, EFFECTIVE IMMEDIATELY, THAT ALL LICENSES AND CONSTRUCTION PERMITS IDENTIFIED IN ATTACHMENT 1 TO THIS ORDER ARE MODIFIED AS FOLLOWS:

A. 1. All holders of CPs issued under Part 50 shall, notwithstanding the provisions of any Commission regulation or CPs to the contrary, comply with the requirements described in Attachment 2 to this Order except to the extent that a more stringent requirement is set forth in the CP. These CP holders shall complete full implementation **prior to issuance of an operating license.**

2. All holders of operating licenses issued under Part 50 shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 2 to this Order except to the extent that a more stringent requirement is set forth in the license. These Licensees shall promptly start implementation of the requirements in Attachment 2 to the Order and shall complete full implementation **no later than two (2) refueling cycles**

after submittal of the overall integrated plan, as required in Condition C.1.a, or December 31, 2016, whichever comes first.

3. All holders of COLs issued under Part 52 shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 3 to this Order except to the extent that a more stringent requirement is set forth in the license. These Licensees shall promptly start implementation of the requirements in Attachment 3 to the Order and shall complete full implementation prior to initial fuel load.

B. 1. All Licensees and CP holders shall, within **twenty (20) days** of the date of this Order, notify the Commission, (1) if they are unable to comply with any of the requirements described in Attachment 2 or Attachment 3, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause the Licensee or CP holder to be in violation of the provisions of any Commission regulation or the facility license. The notification shall provide the Licensee's or CP holder's justification for seeking relief from or variation of any specific requirement.

2. Any Licensee or CP holder that considers that implementation of any of the requirements described in Attachment 2 or Attachment 3 to this Order would adversely impact safe and secure operation of the facility must notify the Commission, within **twenty (20) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives specified in Attachment 2 or Attachment 3 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, the Licensee or CP holder must supplement its response to Condition B.1 of this Order

to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.

C. 1. a. All holders of operating licenses issued under Part 50 shall by **February 28, 2013**, submit to the Commission for review an overall integrated plan including a description of how compliance with the requirements described in Attachment 2 will be achieved.

b. All holders of CPs issued under Part 50 or COLs issued under Part 52 shall, within **one (1) year** after issuance of the final ISG, submit to the Commission for review an overall integrated plan including a description of how compliance with the requirements described in Attachment 2 or Attachment 3 will be achieved.

2. All Licensees and holders of CPs shall provide an initial status report **sixty (60) days** following issuance of the final ISG and at **six (6)-month** intervals following submittal of the overall integrated plan, as required in Condition C.1, which delineates progress made in implementing the requirements of this Order.

3. All Licensees and CP holders shall report to the Commission when full compliance with the requirements described in Attachment 2 or Attachment 3 is achieved.

Licensee or CP holders responses to Conditions B.1, B.2, C.1, C.2, and C.3, above shall be submitted in accordance with 10 CFR 50.4 and 10 CFR 52.3, as applicable.

As applicable, the Director, Office of Nuclear Reactor Regulation or the Director, Office of New Reactors may, in writing, relax or rescind any of the above conditions upon demonstration by the Licensee or CP holder of good cause.

V.

In accordance with 10 CFR 2.202, the Licensee or CP holder must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, **within 20 days** of the date of this Order. Where good cause is shown, consideration will be given to extending the time to answer or to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Reactor Regulation or to the Director, Office of New Reactors, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order.

If a hearing is requested by a Licensee, CP holder or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearings. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained. Pursuant to 10 CFR 2.202(c)(2)(i), the licensee, CP holder or any other person adversely affected by this Order, may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

All documents filed in NRC adjudicatory proceedings, including a request for hearing, a petition for leave to intervene, any motion or other document filed in the proceeding prior to the submission of a request for hearing or petition to intervene, and documents filed by interested governmental entities participating under 10 CFR 2.315(c), must be filed in accordance with the NRC E-Filing rule (72 FR 49139, August 28, 2007). The E-Filing process requires participants to submit and serve all adjudicatory documents over the internet, or in some cases to mail copies on electronic storage media. Participants may not submit paper copies of their filings unless they seek an exemption in accordance with the procedures described below.

To comply with the procedural requirements of E-Filing, at least 10 days prior to the filing deadline, the participant should contact the Office of the Secretary by e-mail at hearing.docket@nrc.gov, or by telephone at (301) 415-1677, to request (1) a digital ID certificate, which allows the participant (or its counsel or representative) to digitally sign documents and access the E-Submittal server for any proceeding in which it is participating; and (2) advise the Secretary that the participant will be submitting a request or petition for hearing (even in instances in which the participant, or its counsel or representative, already holds an NRC-issued digital ID certificate). Based upon this information, the Secretary will establish an electronic docket for the hearing in this proceeding if the Secretary has not already established an electronic docket.

Information about applying for a digital ID certificate is available on NRC's public Web site at *http://www.nrc.gov/site-help/e-submittals/apply-certificates.html*. System requirements for accessing the E-Submittal server are detailed in NRC's "Guidance for Electronic Submission," which is available on the agency's public Web site at *http://www.nrc.gov/site-help/esubmittals.html*. Participants may attempt to use other software not listed on the web site, but should note that the NRC's E-Filing system does not support unlisted software, and the NRC Meta System Help Desk will not be able to offer assistance in using unlisted software.

If a participant is electronically submitting a document to the NRC in accordance with the E-Filing rule, the participant must file the document using the NRC's online, web-based submission form. In order to serve documents through the Electronic Information Exchange, users will be required to install a web browser plug-in from the NRC web site. Further information on the web-based submission form, including the installation of the Web browser plug-in, is available on the NRC's public Web site at *http://www.nrc.gov/site-help/esubmittals.html*.

Once a participant has obtained a digital ID certificate and a docket has been created, the participant can then submit a request for hearing or petition for leave to intervene. Submissions

should be in Portable Document Format (PDF) in accordance with NRC guidance available on the NRC public Web site at *http://www.nrc.gov/site-help/e-submittals.html*. A filing is considered complete at the time the documents are submitted through the NRC's E-Filing system. To be timely, an electronic filing must be submitted to the E-Filing system no later than 11:59 p.m. Eastern Time on the due date. Upon receipt of a transmission, the E-Filing system time-stamps the document and sends the submitter an e-mail notice confirming receipt of the document. The E-Filing system also distributes an e-mail notice that provides access to the document to the NRC Office of the General Counsel and any others who have advised the Office of the Secretary that they wish to participate in the proceeding, so that the filer need not serve the documents on those participants separately. Therefore, applicants and other participants (or their counsel or representative) must apply for and receive a digital ID certificate before a hearing request/petition to intervene is filed so that they can obtain access to the document via the E-Filing system.

A person filing electronically using the agency's adjudicatory E-Filing system may seek assistance by contacting the NRC Meta System Help Desk through the "Contact Us" link located on the NRC Web site at *http://www.nrc.gov/site-help/e-submittals.html*, by e-mail at MSHD.Resource@nrc.gov, or by a toll-free call at (866) 672-7640. The NRC Meta System Help Desk is available between 8 a.m. and 8 p.m., Eastern Time, Monday through Friday, excluding government holidays.

Participants who believe that they have a good cause for not submitting documents electronically must file an exemption request, in accordance with 10 CFR 2.302(g), with their initial paper filing requesting authorization to continue to submit documents in paper format. Such filings must be submitted by: (1) first class mail addressed to the Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemaking and Adjudications Staff; or (2) courier, express mail, or expedited delivery service to the Office of the Secretary, Sixteenth Floor, One White Flint North, 11555 Rockville Pike,

Rockville, Maryland, 20852, Attention: Rulemaking and Adjudications Staff. Participants filing a document in this manner are responsible for serving the document on all other participants. Filing is considered complete by first-class mail as of the time of deposit in the mail, or by courier, express mail, or expedited delivery service upon depositing the document with the provider of the service. A presiding officer, having granted an exemption request from using E-Filing, may require a participant or party to use E-Filing if the presiding officer subsequently determines that the reason for granting the exemption from use of E-Filing no longer exists.

Documents submitted in adjudicatory proceedings will appear in NRC's electronic hearing docket, which is available to the public at *http://ehd.nrc.gov/EHD_Proceeding/home.asp*, unless excluded pursuant to an order of the Commission, or the presiding officer. Participants are requested not to include personal privacy information, such as social security numbers, home addresses, or home phone numbers in their filings, unless an NRC regulation or other law requires submission of such information. With respect to copyrighted works, except for limited excerpts that serve the purpose of the adjudicatory filings and would constitute a Fair Use application, participants are requested not to include copyrighted materials in their submission.

If a person other than the Licensee or CP holder requests a hearing, that person shall set forth with particularity the manner in which his interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.309(d).

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section IV above shall be final twenty (20) days from the date of this Order without further order or proceedings. If an extension of time for requesting a hearing has been approved, the provisions specified in Section IV shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Michael R. Johnson, Director
Office of New Reactors

Dated this 12th day of March 2012

POWER REACTOR LICENSEES AND HOLDERS OF
CONSTRUCTION PERMITS IN ACTIVE OR DEFERRED STATUS

Arkansas Nuclear One
Entergy Operations, Inc.
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6

Mr. Christopher J. Schwarz
Vice President, Operations
Entergy Operations, Inc.
Arkansas Nuclear One
1448 S.R. 333
Russellville, AR 72802

Beaver Valley Power Station
First Energy Nuclear Operating Co.
Docket Nos. 50-334 and 50-412
License Nos. DPR-66 and NPF-73

Mr. Paul A. Harden
Site Vice President
FirstEnergy Nuclear Operating Company
Mail Stop A-BV-SEB1
P.O. Box 4, Route 168
Shippingport, PA 15077

Bellefonte Nuclear Power Station
Tennessee Valley Authority
Docket Nos. 50-438 and 50-439
Construction Permit Nos. CPPR No. 122 and CPPR No. 123

Mr. Michael D. Skaggs
Senior Vice President, Nuclear Generation Development and Construction
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Braidwood Station
Exelon Generation Co., LLC
Docket Nos. STN 50-456 and STN 50-457
License Nos. NPF-72 and NPF-77

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Browns Ferry Nuclear Plant
Tennessee Valley Authority
Docket Nos. 50-259, 50-260 and 50-296
License Nos. DPR-33, DPR-52 and DPR-68

Mr. Preston D. Swafford
Chief Nuclear Officer and Executive Vice President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Brunswick Steam Electric Plant
Carolina Power & Light Co.
Docket Nos. 50-325 and 50-324
License Nos. DPR-71 and DPR-62

Mr. Michael J. Annacone
Vice President
Carolina Power & Light Company
Brunswick Steam Electric Plant
P. O. Box 10429
Southport, NC 28461

Byron Station
Exelon Generation Co., LLC
Docket Nos. STN 50-454 and STN 50-455
License Nos. NPF-37 and NPF-66

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Callaway Plant
Union Electric Co.
Docket No. 50-483
License No. NPF-30

Mr. Adam C. Heflin
Senior Vice President and Chief Nuclear Officer
Union Electric Company
P. O. Box 620
Fulton, MO 65251

Calvert Cliffs Nuclear Power Plant
Calvert Cliffs Nuclear Power Plant, LLC
Docket Nos. 50-317 and 50-318
License Nos. DPR-53 and DPR-69

Mr. George H. Gellrich
Vice President
Calvert Cliffs Nuclear Power Plant, LLC
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

Catawba Nuclear Station
Duke Energy Carolinas, LLC
Docket Nos. 50-413 and 50-414
License Nos. NPF-35 and NPF-52

Mr. James R. Morris
Site Vice President
Duke Energy Carolinas, LLC
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

Clinton Power Station
Exelon Generation Co., LLC
Docket No. 50-461
License No. NPF-62

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Columbia Generating Station
Energy Northwest
Docket No. 50-397
License No. NPF-21

Mr. Mark E. Reddemann
Chief Executive Officer
Energy Northwest
MD 1023
P.O. Box 968
Richland, WA 99352

Comanche Peak Nuclear Power Plant
Luminant Generation Co., LLC
Docket Nos. 50-445 and 50-446
License Nos. NPF-87 and NPF-89

Mr. Rafael Flores
Senior Vice President and Chief Nuclear Officer
Luminant Generation Company, LLC
Attn: Regulatory Affairs
P. O. Box 1002
Glen Rose, TX 76043

Cooper Nuclear Station
Nebraska Public Power District
Docket No. 50-298
License No. DPR-46

Mr. Brian J. O'Grady
Vice President - Nuclear and Chief Nuclear Officer
Nebraska Public Power District
72676 648A Avenue
P.O. Box 98
Brownville, NE 68321

Crystal River Nuclear Generating Plant
Florida Power Corp.
Docket No. 50-302
License No. DPR-72

Mr. Jon A. Franke
Vice President
Attn: Supervisor, Licensing & Regulatory Affairs
Progress Energy, Inc.
Crystal River Nuclear Plant (NA2C)
15760 West Power Line Street
Crystal River, FL 34428-6708

Davis-Besse Nuclear Power Station
First Energy Nuclear Operating Co.
Docket No. 50-346
License No. NPF-3

Mr. Barry S. Allen
Site Vice President
FirstEnergy Nuclear Operating Company
c/o Davis-Besse NPS
5501 N. State Route 2
Oak Harbor, OH 43449-9760

Diablo Canyon Power Plant
Pacific Gas & Electric Co.
Docket Nos. 50-275 and 50-323
License Nos. DPR-80 and DPR-82

Mr. John T. Conway
Senior Vice President - Energy Supply and Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
77 Beale Street, Mail Code B32
San Francisco, CA 94105

Donald C. Cook Nuclear Plant
Indiana Michigan Power Co.
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74

Mr. Lawrence J. Weber
Senior Vice President and Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

Dresden Nuclear Power Station
Exelon Generation Co., LLC
Docket Nos. 50-237 and 50-249
License Nos. DPR-19 and DPR-25

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Duane Arnold Energy Center
NextEra Energy Duane Arnold, LLC
Docket No. 50-331
License No. DPR-49

Mr. Peter Wells
Site Vice President
NextEra Energy
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324-9785

Edwin I. Hatch Nuclear Plant
Southern Nuclear Operating Co.
Docket Nos. 50-321 and 50-366
License Nos. DPR-57 and NPF-5

Mr. Dennis R. Madison
Vice President
Southern Nuclear Operating Company, Inc.
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

Fermi
Detroit Edison Co.
Docket No. 50-341
License No. NPF-43

Mr. Jack M. Davis
Senior Vice President and Chief Nuclear Officer
Detroit Edison Company
Fermi 2 – 210 NOC
6400 North Dixie Highway
Newport, MI 48166

Fort Calhoun Station
Omaha Public Power District
Docket No. 50-285
License No. DPR-40

Mr. David J. Bannister
Vice President and Chief Nuclear Officer
Omaha Public Power District
444 South 16th St. Mall
Omaha, NE 68102-2247

Grand Gulf Nuclear Station
Entergy Operations, Inc.
Docket No. 50-416
License No. NPF-29

Mr. Michael Perito
Vice President, Operations
Entergy Operations, Inc.
Grand Gulf Nuclear Station, Unit 1
7003 Bald Hill Road
Port Gibson, MS 39150

H. B. Robinson Steam Electric Plant
Carolina Power & Light Co.
Docket No. 50-261
License No. DPR-23

Mr. Robert J. Duncan II
Vice President
Carolina Power & Light Company
3581 West Entrance Road
Hartsville, SC 29550

Hope Creek Generating Station
PSEG Nuclear, LLC
Docket No. 50-354
License No. NPF-57

Mr. Thomas Joyce
President and Chief Nuclear Officer
PSEG Nuclear LLC - N09
P. O. Box 236
Hancocks Bridge, NJ 08038

Indian Point Energy Center
Entergy Nuclear Operations, Inc.
Docket Nos. 50-247 and 50-286
License Nos. DPR-26 and DPR-64

Mr. John Ventosa
Vice President, Operations
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249

James A. FitzPatrick Nuclear Power Plant
Entergy Nuclear Operations, Inc.
Docket No. 50-333
License No. DPR-59

Mike Colomb
Vice President, Operations
Entergy Nuclear Operations, Inc.
James A. FitzPatrick Nuclear Power Plant
P.O. Box 110
Lycoming, NY 13093

Joseph M. Farley Nuclear Plant
Southern Nuclear Operating Co.
Docket Nos. 50-348 and 50-364
License Nos. NPF-2 and NPF-8

Mr. Tom Lynch
Vice President - Farley
Southern Nuclear Operating Company, Inc.
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia, AL 36319

Kewaunee Power Station
Dominion Energy Kewaunee, Inc.
Docket No. 50-305
License No. DPR-43

Mr. David A. Heacock
President and Chief Nuclear Officer
Dominion Energy Kewaunee, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

LaSalle County Station
Exelon Generation Co., LLC
Docket Nos. 50-373 and 50-374
License Nos. NPF-11 and NPF-18

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Limerick Generating Station
Exelon Generation Co., LLC
Docket Nos. 50-352 and 50-353
License Nos. NPF-39 and NPF-85

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Millstone Nuclear Power Station
Dominion Nuclear Connecticut, Inc.
Docket Nos. 50-336 and 50-423
License Nos. DPR-65 and NPF-49

Mr. David A. Heacock
President and Chief Nuclear Officer
Dominion Nuclear Connecticut, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Monticello Nuclear Generating Plant
Northern States Power Company
Docket No. 50-263
License No. DPR-22

Mr. Timothy J. O'Connor
Site Vice President
Northern States Power Company - Minnesota
Monticello Nuclear Generating Plant
2807 West County Road 75
Monticello, MN 55362-9637

Nine Mile Point Nuclear Station
Nine Mile Point Nuclear Station, LLC
Docket Nos. 50-220 and 50-410
License Nos. DPR-63 and NPF-69

Mr. Ken Langdon
Vice President Nine Mile Point
Nine Mile Point Nuclear Station, LLC
P. O. Box 63
Lycoming, NY 13093

North Anna Power Station
Virginia Electric & Power Co.
Docket Nos. 50-338 and 50-339
License Nos. NPF-4 and NPF-7

Mr. David A. Heacock
President and Chief Nuclear Officer
Dominion Nuclear
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Oconee Nuclear Station
Duke Energy Carolinas, LLC
Docket Nos. 50-269, 50-270 and 50-287
License Nos. DPR-38, DPR-47 and DPR-55

Mr. Preston Gillespie
Site Vice President, Oconee Nuclear Station
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672

Oyster Creek Nuclear Generating Station
Exelon Generation Co., LLC
Docket No. 50-219
License No. DPR-16

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Palisades Nuclear Plant
Entergy Nuclear Operations, Inc.
Docket No. 50-255
License No. DPR-20

Mr. Anthony J. Vitale
Site Vice President - Palisades
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

Palo Verde Nuclear Generating Station
Arizona Public Service Company
Docket Nos. STN 50-528, STN 50-529 and STN 50-530
License Nos. NPF-41, NPF-51 and NPF-74

Mr. Randall K. Edington
Executive Vice President Nuclear and Chief Nuclear Officer
Arizona Public Service Co.
P. O. Box 52034, MS 7602
Phoenix, AZ 85072-2034

Peach Bottom Atomic Power Station
Exelon Generation Co., LLC
Docket Nos. 50-277 and 50-278
License Nos. DPR-44 and DPR-56

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Perry Nuclear Power Plant
First Energy Nuclear Operating Co.
Docket No. 50-440
License No. NPF-58

Mr. Vito A. Kaminskas
Site Vice President - Nuclear - Perry
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
10 Center Road, A290
Perry, OH 44081

Pilgrim Nuclear Power Station Unit No. 1
Entergy Nuclear Operations, Inc.
Docket No. 50-293
License No. DPR-35

Mr. Robert Smith
Vice President and Site Vice President
Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360-5508

Point Beach Nuclear Plant
NextEra Energy Point Beach, LLC
Docket Nos. 50-266 and 50-301
License Nos. DPR-24 and DPR-27

Mr. Larry Meyer
Site Vice President
NextEra Energy Point Beach, LLC
Point Beach Nuclear Plant, Units 1 & 2
6610 Nuclear Road
Two Rivers, WI 54241-9516

Prairie Island Nuclear Generating Plant
Northern States Power Co. Minnesota
Docket Nos. 50-282 and 50-306
License Nos. DPR-42 and DPR-60

Mr. Mark A. Schimmel
Site Vice President
Northern States Power Company - Minnesota
Prairie Island Nuclear Generating Plant
1717 Wakonade Drive East
Welch, MN 55089-9642

Quad Cities Nuclear Power Station
Exelon Generation Co., LLC
Docket Nos. 50-254 and 50-265
License Nos. DPR-29 and DPR-30

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

R. E. Ginna Nuclear Power Plant
R.E. Ginna Nuclear Power Plant, LLC
Docket No. 50-244
License No. DPR-18

Mr. Joseph E. Pacher
Vice President
R.E. Ginna Nuclear Power Plant, LLC
R.E. Ginna Nuclear Power Plant
1503 Lake Road
Ontario, NY 14519

River Bend Station
Entergy Operations, Inc.
Docket No. 50-458
License No. NPF-47

Mr. Eric W. Olson
Vice President, Operations
Entergy Operations, Inc.
River Bend Station
5485 U.S. Highway 61N
St. Francisville, LA 70775

Salem Nuclear Generating Station
PSEG Nuclear, LLC
Docket Nos. 50-272 and 50-311
License Nos. DPR-70 and DPR-75

Mr. Thomas Joyce
President and Chief Nuclear Officer
PSEG Nuclear LLC - N09
P. O. Box 236
Hancocks Bridge, NJ 08038

San Onofre Nuclear Generating Station
Southern California Edison Co.
Docket Nos. 50-361 and 50-362
License Nos. NPF-10 and NPF-15

Mr. Peter T. Dietrich
Senior Vice President and Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P. O. Box 128
San Clemente, CA 92674-0128

Seabrook
NextEra Energy Seabrook, LLC
Docket No. 50-443
License No. NPF-86

Mr. Paul Freeman
Site Vice President
NextEra Energy Seabrook, LLC
c/o Mr. Michael O'Keefe
NextEra Energy Seabrook, LLC
P.O. Box 300
Seabrook, NH 03874

Sequoyah Nuclear Plant
Tennessee Valley Authority
Docket Nos. 50-327 and 50-328
License Nos. DPR-77 and DPR-79

Mr. Preston D. Swafford
Chief Nuclear Officer and Executive Vice President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Shearon Harris Nuclear Power Plant
Carolina Power & Light Co.
Docket No. 50-400
License No. NPF-63

Mr. Christopher L. Burton
Vice President
Progress Energy Carolinas, Inc.
Shearon Harris Nuclear Power Plant
P. O. Box 165, Mail Zone 1
New Hill, NC 27562-0165

South Texas Project
STP Nuclear Operating Co.
Docket Nos. 50-498 and 50-499
License Nos. NPF-76 and NPF-80

Mr. Edward D. Halpin
President, Chief Executive Officer and Chief Nuclear Officer
STP Nuclear Operating Company
South Texas Project
P. O. Box 289
Wadsworth, TX 77483

St. Lucie Plant
Florida Power & Light Co.
Docket Nos. 50-335 and 50-389
License Nos. DPR-67 and NPF-16

Mr. Mano Nazar
Executive Vice President and Chief Nuclear Officer
NextEra Energy
700 Universe Boulevard
P. O. Box 14000
Juno Beach, FL 33408-0420

Surry Power Station
Virginia Electric & Power Co.
Docket Nos. 50-280 and 50-281
License Nos. DPR-32 and DPR-37

Mr. David A. Heacock
President and Chief Nuclear Officer
Dominion Nuclear
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Susquehanna Steam Electric Station
PPL Susquehanna, LLC
Docket Nos. 50-387 and 50-388
License Nos. NPF-14 and NPF-22

Mr. Timothy S. Rausch
Senior Vice President and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
NUCSB3
Berwick, PA 18603-0467

Turkey Point
Florida Power & Light Co.
Docket Nos. 50-250 and 50-251
License Nos. DPR-31 and DPR-41

Mr. Mano Nazar
Executive Vice President and Chief Nuclear Officer
NextEra Energy
700 Universe Boulevard
P. O. Box 14000
Juno Beach, FL 33408-0420

Vermont Yankee Nuclear Power Station
Entergy Nuclear Operations, Inc.
Docket No. 50-271
License No. DPR-28

Mr. Christopher J. Wamser
Site Vice President
Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
320 Governor Hunt Road
Vernon, VT 05354

Virgil C. Summer Nuclear Station
South Carolina Electric & Gas Co.
Docket No. 50-395
License No. NPF-12

Mr. Thomas D. Gatlin
Vice President Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88, Mail Code 300
Jenkinsville, SC 29065

Vogtle Electric Generating Plant
Southern Nuclear Operating Co.
Docket Nos. 50-424 and 50-425
License Nos. NPF-68 and NPF-81

Mr. Tom E. Tynan
Vice President
Southern Nuclear Operating Company, Inc.
Vogtle Electric Generating Plant
7821 River Road
Waynesboro, GA 30830

Vogtle Electric Generating Plant, Units 3 & 4
Southern Nuclear Operating Co.
Docket Nos. 52-025 and 52-026
License Nos. NPF-91 and NPF-92

Mr. B. L. Ivey
Vice President, Regulatory Affairs
Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
Bin B022
Birmingham, AL 35242

Waterford Steam Electric Station
Entergy Operations, Inc.
Docket No. 50-382
License No. NPF-38

Ms. Donna Jacobs
Vice President, Operations
Entergy Operations, Inc.
Waterford Steam Electric Station, Unit 3
17265 River Road
Killona, LA 70057-0751

Watts Bar Nuclear Plant, Unit 1
Tennessee Valley Authority
Docket No. 50-390
License No. NPF-90

Mr. Preston D. Swafford
Chief Nuclear Officer and Executive Vice President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Watts Bar Nuclear Plant, Unit 2
Tennessee Valley Authority
Docket No. 50-391
Construction Permit No. CPPR No. 092

Mr. Michael D. Skaggs
Senior Vice President, Nuclear Generation Development and Construction
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

William B. McGuire Nuclear Station
Duke Energy Carolinas, LLC
Docket Nos. 50-369 and 50-370
License Nos. NPF-9 and NPF-17

Mr. Regis T. Repko
Vice President
Duke Energy Carolinas, LLC
McGuire Nuclear Site
12700 Hagers Ferry Road
Huntersville, NC 28078

Wolf Creek Generating Station
Wolf Creek Nuclear Operating Corp.
Docket No. 50-482
License No. NPF-42

Mr. Matthew W. Sunseri
President and Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P. O. Box 411
Burlington, KS 66839

REQUIREMENTS FOR MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS AT OPERATING REACTOR SITES AND CONSTRUCTION PERMIT HOLDERS

This Order requires a three-phase approach for mitigating beyond-design-basis external events. The initial phase requires the use of installed equipment and resources to maintain or restore core cooling, containment and spent fuel pool (SFP) cooling capabilities. The transition phase requires providing sufficient, portable, onsite equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from off site. The final phase requires obtaining sufficient offsite resources to sustain those functions indefinitely.

(1) Licensees or construction permit (CP) holders shall develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and SFP cooling capabilities following a beyond-design-basis external event.

(2) These strategies must be capable of mitigating a simultaneous loss of all alternating current (ac) power and loss of normal access to the ultimate heat sink and have adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.

(3) Licensees or CP holders must provide reasonable protection for the associated equipment from external events. Such protection must demonstrate that there is adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.

(4) Licensees or CP holders must be capable of implementing the strategies in all modes.

(5) Full compliance shall include procedures, guidance, training, and acquisition, staging, or installing of equipment needed for the strategies.

REQUIREMENTS FOR MITIGATION STRATEGIES
FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS
AT COL HOLDER REACTOR SITES
(VOGTLE UNITS 3 AND 4)

Attachment 2 to this order for Part 50 licensees requires a phased approach for mitigating beyond-design-basis external events. The initial phase requires the use of installed equipment and resources to maintain or restore core cooling, containment and spent fuel pool (SFP) cooling capabilities. The transition phase requires providing sufficient, portable, onsite equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from off site. The final phase requires obtaining sufficient offsite resources to sustain those functions indefinitely.

The design bases of Vogtle Units 3 and 4 includes passive design features that provide core, containment and SFP cooling capability for 72 hours, without reliance on alternating current (ac) power. These features do not rely on access to any external water sources since the containment vessel and the passive containment cooling system serve as the safety-related ultimate heat sink. The NRC staff reviewed these design features prior to issuance of the combined licenses for these facilities and certification of the AP1000 design referenced therein. The AP1000 design also includes equipment to maintain required safety functions in the long term (beyond 72 hours to 7 days) including capability to replenish water supplies. Connections are provided for generators and pumping equipment that can be brought to the site to back up the installed equipment. The staff concluded in its final safety evaluation report for the AP1000 design that the installed equipment (and alternatively, the use of transportable equipment) is capable of supporting extended operation of the passive safety systems to maintain required safety functions in the long term. As such, this Order requires Vogtle Units 3 and 4 to address the following requirements relative to the final phase.

(1) Licensees shall develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and SFP cooling capabilities following a beyond-design-basis external event.

(2) These strategies must be capable of mitigating a simultaneous loss of all ac power and loss of normal access to the normal heat sink and have adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.

(3) Licensees must provide reasonable protection for the associated equipment from external events. Such protection must demonstrate that there is adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.

(4) Licensees must be capable of implementing the strategies in all modes.

(5) Full compliance shall include procedures, guidance, training, and acquisition, staging, or installing of equipment needed for the strategies.

Pursuant to Section 223 of the Atomic Energy Act of 1954, as amended, any person who willfully violates, attempts to violate, or conspires to violate, any provision of this Order shall be subject to criminal prosecution as set forth in that section. Violation of this order may also subject the person to civil monetary penalty.

The enclosed Order requires responses and actions within specified timeframes. Please contact your Licensing Project Manager or Mr. Steven Bloom, Mitigation Strategies Order Project Manager (301-415-2431), regarding any issues related to compliance with the requirements in the enclosed Order, or if you have other questions.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. The NRC also includes significant enforcement actions on its Web site at (http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/. The enclosed Order has been forwarded to the Office of the *Federal Register* for publication.

Sincerely,

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Michael R. Johnson, Director
Office of New Reactors

Enclosure:
Order (EA-12-049)

cc: Listserv

Distribution: See next page

ADAMS Accession No.: ML12054A736 *e-mail concurrence

OFFICE	PM: NRR/JLD	LA: NRR/JLD	QTE*	BC: NRR/JLD	OGC*
NAME	SBloom	SRohrer	JDoughterty	RPascarelli	CSafford
DATE	03/12/2012	03/12/2012	02/05/2012	03/11/2012	03/10/2012
OFFICE	D: JLD*	OD: OE*	OD: NRO	OD: NRR	
NAME	DSkeen	RZimmerman (NHilton for)	MJohnson	ELeeds	
DATE	03/11/2012	03/09/2012	03/ 12 /2012	03/ 12 /2012	

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