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August 20, 2013

Docket Nos.: 50-424
50-425

NL-13-1780

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Vogtle Electric Generating Plant – Units 1 and 2
License Amendment Request to Revise
the Vogtle Electric Generating Plant Emergency Plan

Ladies and Gentlemen:

Pursuant to 10 CFR 50.90, Southern Nuclear Operating Company (SNC) proposes to revise the Vogtle Electric Generating (VEGP) Emergency Plan by revising the Emergency Action Level (EAL) thresholds for Initiating Conditions (ICs) RU1, RA1, RS1, and RG1. The proposed change will remove Main Steam Line (MSL) radiation monitors RE-13119, RE-13120, RE-13121, and RE-13122 from the reference ICs to address limitations of these monitors.

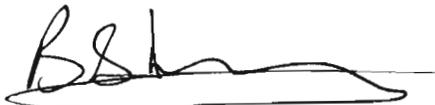
Enclosure 1 provides a description of the proposed changes and includes the technical evaluation and associated no significant hazards determination and environmental evaluation. Enclosure 2 provides the Emergency Plan marked-up pages. Enclosure 3 contains the Emergency Plan clean typed pages.

SNC requests approval of this proposed license amendment request by August 20, 2014, with the revision being implemented within 90 days of U.S. Nuclear Regulatory Commission (NRC) approval.

This letter contains no NRC commitments. If you have any questions, please contact Ken McElroy at 205-992-7369.

Mr. B. L. Ivey states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,



Mr. B. L. Ivey
Vice President - Regulatory Affairs

BLI/CLN/lac

Sworn to and subscribed before me this 20th day of August, 2013.

Nancy Louise Henderson
Notary Public

My commission expires: March 23, 2014

- Enclosures: 1. Basis for Proposed Change
 2. Emergency Plan Markup Pages
 3. Emergency Plan Clean Typed Pages



cc: Southern Nuclear Operating Company
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Mr. T. E. Tynan, Vice President – Vogtle
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**Vogtle Electric Generating Plant – Units 1 and 2
License Amendment Request to Revise
the Vogtle Electric Generating Plant Emergency Plan**

Enclosure 1

Basis for Proposed Change

Enclosure 1
Basis for Proposed Change

Table of Contents

- 1.0 Summary Description
- 2.0 Detailed Description
 - 2.1 Proposed Change
 - 2.2 Background
- 3.0 Technical Evaluation
- 4.0 Regulatory Evaluation
 - 4.1 Significant Hazards Consideration
 - 4.2 Applicable Regulatory Requirements/Criteria
 - 4.3 Precedent
 - 4.4 Conclusions
- 5.0 Environmental Consideration
- 6.0 References

**Vogtle Electric Generating Plant – Units 1 and 2
License Amendment Request to Revise
the Vogtle Electric Generating Plant Emergency Plan**

1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, Southern Nuclear Operating Company (SNC) proposes to revise the Vogtle Electric Generating (VEGP) Emergency Plan by revising the Emergency Action Level (EAL) thresholds for Initiating Conditions (ICs) RU1, RA1, RS1, and RG1. The proposed change will remove Main Steam Line (MSL) radiation monitors RE-13119, RE-13120, RE-13121, and RE-13122 from the reference ICs to address limitations of these monitors.

2.0 DETAILED DESCRIPTION

2.1 Proposed Change

A description of the proposed change to the EALs is provided below together with a discussion of the justification for the change. The proposed changes for which approval is requested are provided in Enclosure 2.

The EAL thresholds for ICs RU1, RA1, RS1, and RG1 will be revised to address limitations of specific radiation monitors. Specifically, threshold value (TV) 2 will be removed from ICs RU1 and RA1 and TV1 will be revised in ICs RS1 and RG1. The threshold values being deleted utilize the MSL radiation monitors RE-13119, 13120, 13121, and 13122 to provide indication of radiation levels in meeting ICs for the Notification of an Unusual Event (NUE), Alert, Site Area Emergency (SAE), and General Emergency (GE) classification levels specified in ICs RU1, RA1, RS1, and RG1 respectively.

This proposed change is acceptable because the VEGP Emergency Plan will continue to meet the requirements of 10 CFR 50 Appendix E and the planning standards of 10 CFR 50.47(b).

2.2 Background

During the conversion of the VEGP EAL scheme to NEI 99-01, Revision 4 (Reference 1), MSL Radiation Monitors (RE-13119, RE-13120, RE-13121, and RE-13122) were identified to monitor releases after a steam generator tube rupture (SGTR) accident based on information contained in the VEGP FSAR, Version 12 (September 2004). One detector is used on the main steam line of each steam generator upstream of the main steam line isolation and atmospheric relief valves. The updated FSAR also lists these monitors as viable monitors for the detection of steam generator tube leakage and to monitor this potential effluent release path.

The capabilities of the installed monitors were evaluated and determined to be ineffective for evaluating plant conditions against the ICs RU1, RA1, RS1, and RG1. No alternate installed instrumentation is available to monitor this potential effluent release path. The EAL scheme will not be changed. The ineffective EALs that were introduced in the conversion to NEI 99-01, Revision 4 will be revised. The EAL scheme will be maintained and continue to be based on NEI 99-01, Revision 4.

3.0 TECHNICAL EVALUATION

The VEGP EAL scheme contains multiple alternative EALs for the declaration of the NUE, Alert, SAE, and the GE for various ICs. Multiple EALs are in place for ICs RU1, RA1, RS1, and RG1. These multiple EALs are contained within the approved EAL scheme, Emergency Plan, and associated implementing procedures. The EALs sufficiently bound the initiating condition to ensure that the capability to assess the initiating condition is provided and is not dependent on "skill-of-the-craft" or individual judgment.

EAL threshold values were evaluated based on the installed instrumentation. The evaluation revealed that the MSL monitors are not appropriate for monitoring the parameters provided in ICs RU1, RA1, RS1, and RG1. TV2 for ICs RU1 and RA1 is intended for licensees that have established effluent monitoring on non-routine release pathways for which a discharge permit would not normally be prepared. Table 3-1 of the VEGP Offsite Dose Calculation Manual (ODCM) provides a listing of radioactive gaseous effluent monitoring instrumentation for VEGP. Indication of a release through the Atmospheric Relief Valve (ARV) pathway is provided by the MSL monitors. However, the ODCM does not utilize the MSL monitors for effluent monitoring. Therefore, utilization of the MSL monitors for ICs RU1 and RA1 is inappropriate.

TV1 for ICs RS1 and RG1 includes the MSL monitors as an indication of radiation doses in excess of the values specified in the IC. The calculated values for the MSL monitors corresponding to the limits specified in ICs RS1 and RG1 are beyond the capabilities of the installed monitors. The EAL thresholds for the ICs RS1 and RG1 also include the evaluation of Dose Assessment results based on actual meteorology and Field Monitoring Team (FMT) measurements. These parameters provide sufficient capability to determine the appropriate emergency action levels based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring as required by 10 CFR 50.47(b)(5).

Dose assessment is based on actual meteorology, whereas the monitor reading EALs are not. The timely performance of dose assessments using actual meteorology and release information, including the evaluation of unmonitored release pathways (e.g., SGTR releasing out the ARV/Code Safeties/Terry Turbine) utilizing the back-calculation capability of the Meteorological Information Dose Assessment System (MIDAS) is required

by procedure. Dose assessment capabilities are available on-shift. Dose assessment activities are initiated shortly after the declaration of an Alert or higher emergency condition in accordance with plant procedure.

The utilization of these dose assessment results is required when the classification is made (e.g., initiated at a lower classification level). In accordance with plant procedure, dose assessment results override the monitor reading EALs. The hierarchy for the utilization of dose assessment results and monitor readings is clearly outlined in the approved EAL scheme. Emergency implementing procedures are in place to ensure the availability of these dose assessments prior to the onset of core damage capable of providing the source term required to exceed the protective action guidelines. Activation of the dose assessment function and rapid dispatch of field monitoring teams is performed to facilitate the timely assessment of radiological releases via unmonitored pathways in accordance with plant procedure.

Quantification of the release and evaluation against the EAL threshold values and protective action guidelines is accomplished utilizing the MIDAS dose assessment software. This software utilizes inputs from effluent monitors or field monitoring teams to provide dose projections of offsite doses and compares those doses to the Protective Action Guides (PAGS) for the development of protective action recommendations. The model also provides the capability to perform these assessments utilizing guidance provided in NUREG 1228 (Reference 2) and NUREG/BR-0150, RTM-96 (Reference 3).

The proposed change does not represent an EAL scheme change. The proposed change revises the thresholds for ICs RU1, RA1, RS1, and RG1. The EAL scheme remains in place. The requirements of 10 CFR 50.47 and 10 CFR 50 Appendix E will continue to be met.

4.0 REGULATORY EVALUATION

4.1 Significant Hazards Consideration

SNC has evaluated whether or not a significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10 CFR 50.92(c) as discussed below.

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change to the emergency plan does not impact the physical function of plant structures, systems, or components (SSCs) or the manner in which SSCs perform their design function. The proposed changes neither adversely affect accident initiators or precursors, nor alter design assumptions.

The proposed changes do not alter or prevent the ability of operable SSCs to perform their intended function to mitigate the consequences of an initiating event within assumed acceptance limits. No operating procedures or administrative controls that function to prevent or mitigate accidents are affected by the proposed change.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes do not impact the accident analysis. The changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed), a change in the method of plant operation, or new operator actions. The proposed change will not introduce failure modes that could result in a new accident, and the change does not alter assumptions made in the safety analysis. The proposed changes revise EALs, which establish the thresholds for placing the plant in an emergency classification. EALs are not initiators of any accidents.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

Margin of safety is associated with confidence in the ability of the fission product barriers (i.e., fuel cladding, reactor coolant system pressure boundary, and containment structure) to limit the level of radiation dose to the public. The proposed changes are associated with the EALs and do not impact operation of the plant or its response to transients or accidents. The changes do not affect the TSs or the operating license. The proposed changes do not involve a change in the method of plant operation, and no accident analyses will be affected by the proposed changes. Additionally, the proposed changes will not relax any criteria used to establish safety limits and will not relax any safety system settings. The safety analysis acceptance criteria are not affected by these changes. The proposed changes will not result in plant operation in a configuration outside the design basis. The proposed change does not adversely affect systems that respond

to safely shutdown the plant and to maintain the plant in a safe shutdown condition.

The revised EAL provides more appropriate and accurate criteria for determining protective measures that should be considered within and outside the site boundary to protect health and safety. The emergency plan will continue to activate an emergency response commensurate with the extent of degradation of plant safety.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, SNC has determined that operation of the facility in accordance with the proposed changes does not involve a significant hazards consideration as defined in 10 CFR 50.92(c), in that it does not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

4.2 Applicable Regulatory Requirements/Criteria

The VEGP FSAR, Section 3.1, lists the General Design Criteria (GDC) for the design, construction and operation of the plant. Radiological monitors are included in the post-accident monitoring system as required by GDC 64 and Regulatory Guide 1.97 (Reference 4). The applicable GDC associated with radiation monitoring instrumentation and regulatory requirements is discussed below.

- **CRITERION 64 – MONITORING RADIOACTIVITY RELEASES**

"Means shall be provided for monitoring the reactor containment atmosphere, spaces containing components for recirculation of LOCA fluids, effluent discharge paths, and the plant environs for radioactivity that may be released from normal operations, including anticipated operational occurrences, and from postulated accidents."

DISCUSSION

The containment atmosphere is continually monitored during normal and transient station operations, using the containment particulate, gaseous, and radioiodine radiation monitors. Under accident conditions, samples of the containment atmosphere provide data on existing airborne radioactive concentrations within the containment. Portable radiation detection instruments are provided to periodically monitor radiation levels in the auxiliary building spaces which contain components for recirculation of LOCA fluids and components

for processing radioactive wastes. Radioactivity levels contained in the facility effluent and discharge paths and in the plant environs are continually monitored during normal and accident conditions by the plant radiation monitoring systems. In addition to the installed detectors, periodic plant environmental surveillance is established. Measurement capability and reporting of effluents are based on the guidelines of Regulatory Guides 1.4 (Reference 5) and 1.21 (Reference 6). The affected radiation monitoring systems are discussed in FSAR section 11.5.

The proposed changes do not modify the plant as described in the FSAR. No equipment is modified or removed as a result of the proposed change. Rather, the change serves to remove monitors from the EAL scheme and rely on existing alternate EALs for the evaluation of the ICs.

- 10 CFR 50.47 establishes the standards for offsite emergency response plans for nuclear power reactors. 10 CFR 50.47(b)(4) states "A standard emergency classification and action level scheme, the bases 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."
- 10 CFR 50, Appendix E, Section IV, Content of Emergency Plans, item B.1, Assessment Actions, states "[t]he 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."
- 10 CFR Part 50 Appendix E, Section IV.C.2 states "[b]y 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.”

- 10 CFR 50.54, Conditions of licenses, paragraph (q)(4) states “[t]he changes to a licensee's emergency plan that reduce the effectiveness of the plan as defined in paragraph (q)(1)(iv) of this section may not be implemented without prior approval by the NRC. A licensee desiring to make such a change after February 21, 2012 shall submit an application for an amendment to its license. In addition to the filing requirements of §§ 50.90 and 50.91, the request must include all emergency plan pages affected by that change and must be accompanied by a forwarding letter identifying the change, the reason for the change, and the basis for concluding that the licensee's emergency plan, as revised, will continue to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).”

Section IV.C.2 of Appendix E to 10 CFR Part 50 requires the licensee to have the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications that an EAL has been exceeded and to declare the emergency as soon as possible following the identification of the appropriate emergency classification level. Removal of the specified EALs will impact the timeliness of declaration of emergency conditions. The proposed revision to the EAL scheme would eliminate predetermined radiation monitor EAL thresholds and rely instead on manually initiated dose projections. Existing protocols for the establishment of this alternate method are addressed in existing procedures.

The margin of safety is associated with confidence in the ability of the fission product barriers (i.e., fuel cladding, reactor coolant system pressure boundary, and containment structure) to limit the level of radiation doses to the public. The proposed change is associated with the EALs and does not impact operation of the plant or its response to transients or accidents. The change does not affect the technical specifications or the operating license. The proposed change does not involve a change in the method of plant operation, and no accident analyses will be affected by the proposed change. Additionally, the proposed change will not relax any criteria used to establish safety limits and will not relax any safety system settings. The safety analysis acceptance criteria are not affected by this change. The proposed change will not result in plant operation in a configuration outside the design basis. The proposed change does not adversely affect systems that respond to safely shutdown the plant and to maintain the plant in a safe shutdown condition. The removal of the specified EALs provides more appropriate and accurate criteria for determining protective measures that should be considered within and outside the site boundary to protect public

health and safety. The emergency plan will continue to activate an emergency response commensurate with the extent of degradation of plant safety.

4.3 Precedent

SNC is aware of three LARs which propose EAL changes. On April 27, 2012, Omaha Public Power District submitted an LAR for Fort Calhoun Station, Unit 1 (Reference 7) which proposed to revise emergency action levels for flooding. On April 30, 2012, NextEra Energy Seabrook, LLC, submitted an LAR for Seabrook Station, Unit 1 (Reference 8) which proposed to revise EALs for classifications based on instrumentation failures. On December 21, 2012, Xcel Energy submitted an LAR for Monticello Nuclear Generating Plant which proposed to revise the EAL setpoint for the Turbine Building Normal Waste Sump Monitor (Reference 9).

By letter dated January 31, 2013, the NRC approved the LAR to revise EALs for classifications based on instrumentation failures submitted by NextEra Energy for Seabrook Station Unit 1 (Reference 10).

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATION

SNC has determined that the proposed changes do not revise a requirement with respect to installation or use of a facility or component located within the restricted area, as defined in 10 CFR 20, nor would it change an inspection or surveillance requirement. The proposed amendment does not involve (i) a significant hazards consideration, or (ii) authorize a significant change in the types or a significant increase in the amounts of any effluent that may be released offsite, or (iii) result in a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for a categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, SNC concludes that pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. Nuclear Energy Institute (NEI) 99-01, Revision 4, "Methodology for Development of Emergency Action Levels," dated January 2003 (NUMARC/NESP-007) (ADAMS Accession Number ML041470131)
2. McKenna, T. J., and J. Giitter. 1988, "Source Term Estimation During Incident Response to Severe Nuclear Power Plant Accidents" NUREG-1228, U.S. Nuclear Regulatory Commission
3. RTM-96, "Incident Response Division Office for Analysis and Evaluation of Operational Data", dated March 1996 (NUREG/BR – 0150, Volume 1, Revision 4) (ADAMS Accession Number ML091980341)
4. U.S. NRC Regulatory Guide 1.97, "Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants", Revision 4 dated June 2006 (ADAMS Accession Number ML061580448)
5. U.S. NRC Regulatory Guide 1.4, "Assumptions Used For Evaluating The Potential Radiological Consequences of a Loss of Coolant Accident for Pressurized Water Reactors", Revision 2 dated June 1974 (ADAMS Accession Number ML003739614)
6. U.S. NRC Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactive Material in Liquid and Gaseous Effluents and Solid Waste", Revision 2 dated June 2009 (ADAMS Accession Number ML091170109)
7. Letter from Omaha Public Power District (OPPD) to Nuclear Regulatory Commission (NRC), "License Amendment Request (LAR) 12-03, Proposed Change to Revise Operating Requirements for Technical Specification 2.16, River Level, and Establish Emergency Action Level Classification Criteria for External Flooding Events under the Radiological Emergency Response Plan for Fort Calhoun Station," dated April 27, 2012 (LIC-12-0056) (ADAMS Accession Number ML12121A565)
8. Letter from NextEra Energy Seabrook, LLC (NextEra) to Nuclear Regulatory Commission (NRC), "Proposed Changes to Seabrook Station Emergency Action Levels Regarding Safety System Indications," dated April 30, 2012 (LAR 12-01) (ADAMS Accession Number ML12124A341)
9. Letter from Xcel Energy to Nuclear Regulatory Commission (NRC), "License Amendment Request: Modification to the MNGP Emergency Plan Concerning a Revision to the Emergency Action Level Setpoint for the Turbine Building Normal Waste Sump Monitor," dated December 21, 2012 (L-MT-12-078) (ADAMS Accession Number ML12356A473)

Enclosure 1 to NL-13-1780
Basis for Proposed Change

10. Letter from Nuclear Regulatory Commission, "Seabrook Station, Unit No. 1 – Issuance of Amendment RE: Emergency Plan", dated January 31, 2013 (ADAMS Accession Number ML12332A301)

**Vogtle Electric Generating Plant – Units 1 and 2
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Enclosure 2

Emergency Plan Marked Up Pages

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

RU1

Initiating Condition -- NOTIFICATION OF UNUSUAL EVENT

Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Effluent Technical Specifications for 60 Minutes or Longer.

Operating Mode Applicability: All

Threshold Values: (1 OR 2 ~~OR~~ 3)

Note: The Emergency Director should not wait until 60 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 60 minutes.

1. VALID reading on any of the following effluent monitor that exceeds two times the alarm setpoint established by a current radioactivity discharge permit for 60 minutes OR longer.

Monitor	2 X Setpoint Value
Liquid Radwaste Effluent Line (RE-0018)	$2.8 \times 10^{-5} \mu\text{Ci/cc}$
SG Blowdown Effluent Line (RE-0021)	$4.0 \times 10^{-5} \mu\text{Ci/cc}$
Turbine Bldg Effluent Line (RE-0848)	$3.5 \times 10^{-5} \mu\text{Ci/cc}$
Gaseous Radwaste (ARE-0014)	$2.4 \times 10^0 \mu\text{Ci/cc}$
Turbine Bldg Vent, SJAE (RE-12839)	$7.9 \times 10^{-3} \mu\text{Ci/cc}$
Plant Vent (RE-12442C or RE-12444C)	$1.3 \times 10^{-3} \mu\text{Ci/cc}$

- ~~2. VALID reading on the following radiation monitor that exceeds the reading shown for 60 minutes OR longer:~~

Main Steam RE-13119 through RE-13122	$2.5 \times 10^{-2} \mu\text{Ci/cc}$
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- ~~32. Confirmed sample analyses for gaseous OR liquid releases indicates concentrations OR release rates, with a release duration of 60 minutes OR longer, in excess of two times Technical Specification 5.5.4, as confirmed by the ODCM.~~

Basis:

UNPLANNED, as used in this context, includes any release for which a radioactivity discharge permit was not prepared, or a release that exceeds the conditions (e.g., minimum dilution flow, maximum discharge flow, alarm setpoints, etc.) on the applicable permit. The Emergency Director should not wait until 60 minutes has elapsed, but should declare the event as soon as

it is determined that the release duration has or will likely exceed 60 minutes. Also, if an ongoing release is detected and the starting time for that release is unknown, the Emergency Director should, in the absence of data to the contrary, assume that the release has exceeded 60 minutes.

This IC addresses a potential or actual decline in the level of safety of the plant as indicated by a radiological release that exceeds regulatory commitments for an extended period of time. Nuclear power plants incorporate features intended to control the release of radioactive effluents to the environment. Further, there are administrative controls established to prevent unintentional releases, or control and monitor intentional releases. These controls are located in the Offsite Dose Calculation Manual (ODCM). The occurrence of extended, uncontrolled radioactive releases to the environment is indicative of a degradation in these features and/or controls.

Threshold Value #1 addresses radioactivity releases, that for whatever reason, cause effluent radiation monitor readings to exceed two times the Technical Specification limit and releases are not terminated within 60 minutes. This alarm setpoint may be associated with a planned batch release, or a continuous release path. In either case, the setpoint is established by the ODCM to warn of a release that is not in compliance with the TS 5.5.4. Indexing the Threshold Value to the ODCM setpoints in this manner ensures that the Threshold Value will never be less than the setpoint established by a specific discharge permit.

~~Threshold Value #2 is intended for effluent monitoring on non-routine release pathways for which a discharge permit would not normally be prepared. The ODCM establishes a methodology for determining effluent radiation monitor setpoints. The ODCM specifies default source terms and, for gaseous releases, prescribes the use of pre-determined annual average meteorology in the most limiting downwind sector for showing compliance with the regulatory commitments. These monitor reading Threshold Values are determined using this methodology.~~

Threshold Value #3-2 addresses uncontrolled releases that are detected by sample analyses, particularly on unmonitored pathways, e.g., spills of radioactive liquids into storm drains, heat exchanger leakage in river water systems, etc.

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

RA1

Initiating Condition -- ALERT

Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Effluent Technical Specifications for 15 Minutes or Longer.

Operating Mode Applicability: All

Threshold Values: (1 OR 2 ~~OR~~ 3)

Note: The Emergency Director should not wait until 15 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 15 minutes.

1. VALID reading on any of the following effluent monitor that exceeds 200 times the alarm setpoint established by a current radioactivity discharge permit for 15 minutes OR longer.

Monitor	200 X Setpoint Value
Liquid Radwaste Effluent Line (RE-0018)	$2.8 \times 10^{-3} \mu\text{Ci/cc}$
SG Blowdown Effluent Line (RE-0021)	$4.0 \times 10^{-3} \mu\text{Ci/cc}$
Turbine Bldg Effluent Line (RE-0848)	$3.5 \times 10^{-3} \mu\text{Ci/cc}$
Gaseous Radwaste (ARE-0014)	$2.4 \times 10^2 \mu\text{Ci/cc}$
Turbine Bldg Vent, SJAE (RE-12839)	$7.9 \times 10^{-1} \mu\text{Ci/cc}$
Plant Vent (RE-12444C or RE-12442-C)	$1.3 \times 10^{-1} \mu\text{Ci/cc}$

- ~~2. VALID reading on the following radiation monitor that exceeds the reading shown for 15 minutes OR longer:~~

Main Steam RE-13119 - RE-13122	2.5 $\mu\text{Ci/cc}$
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- ~~32. Confirmed sample analyses for gaseous or liquid releases indicates concentrations OR release rates in excess of 200 times Technical Specification 5.5.4 as confirmed by the ODCM , with a release duration of 15 minutes OR longer.~~

Basis:

UNPLANNED: a parameter change or an event that is not the result of an intended evolution and requires corrective or mitigative actions.

VALID: an indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, or (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment.

This IC addresses a potential or actual decline in the level of safety of the plant as indicated by a radiological release that exceeds regulatory commitments for an extended period of time. Nuclear power plants incorporate features intended to control the release of radioactive effluents to the environment. Further, there are administrative controls established to prevent unintentional releases, or control and monitor intentional releases. These controls are located in the Offsite Dose Calculation Manual (ODCM). The occurrence of extended, uncontrolled radioactive releases to the environment is indicative of a degradation in these features and/or controls.

The Radiological Effluent Control Plan (RECP) multiples are specified in ICs RU1 and RA1 only to distinguish between non-emergency conditions, and from each other. While these multiples obviously correspond to an offsite dose or dose rate, the emphasis in classifying these events is the degradation in the level of safety of the plant, NOT the magnitude of the associated dose or dose rate. Releases should not be prorated or averaged.

UNPLANNED, as used in this context, includes any release for which a radioactivity discharge permit was not prepared, or a release that exceeds the conditions (e.g., minimum dilution flow, maximum discharge flow, alarm setpoints, etc.) on the applicable permit. The Emergency Director should not wait until 15 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 15 minutes. Also, if an ongoing release is detected and the starting time for that release is unknown, the Emergency Director should, in the absence of data to the contrary, assume that the release has exceeded 15 minutes.

Threshold Value #1 addresses radioactivity releases that for whatever reason cause effluent radiation monitor readings that exceed two hundred times the alarm setpoint established by the radioactivity discharge permit. This alarm setpoint may be associated with a planned batch release, or a continuous release path. In either case, the setpoint is established by the ODCM to warn of a release that is not in compliance with the RECP. Indexing the Threshold Value threshold to the ODCM setpoints in this manner ensures that the Threshold Value threshold will never be less than the setpoint established by a specific discharge permit. Setpoints are 100 times those of RU1 or the maximum range of the monitor.

~~Threshold Value #2 is similar to Threshold Value #1, but is intended to address effluent or accident radiation monitors on non-routine release pathways (i.e., for which a discharge permit would not normally be prepared). The ODCM establishes a methodology for determining effluent radiation monitor setpoints. The ODCM specifies default source terms and, for gaseous releases, prescribes the use of pre-determined annual average meteorology in the most limiting downwind sector for showing compliance with the regulatory commitments. These monitor~~

~~reading Threshold Values should be determined using this methodology. Setpoints are 100 times those of RU1.~~

Threshold Value #3-2 addresses uncontrolled releases that are detected by sample analyses, particularly on unmonitored pathways, e.g., spills of radioactive liquids into storm drains, heat exchanger leakage in river water systems, etc.

Threshold Values #1 and #2 directly correlates with the IC since annual average meteorology is required to be used in showing compliance with the RECP and is used in calculating the alarm setpoints. Thus, there will likely be a numerical inconsistency. However, the fundamental basis of this IC is NOT a dose or dose rate, but rather the degradation in the level of safety of the plant implied by the uncontrolled release.

Due to the uncertainty associated with meteorology, emergency implementing procedures should call for the timely performance of dose assessments using actual (real-time) meteorology in the event of a gaseous radioactivity release of this magnitude. The results of these assessments should be compared to the ICs RS1 and RG1 to determine if the event classification should be escalated.

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

RS1

Initiating Condition -- SITE AREA EMERGENCY

Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 100 mR TEDE OR 500 mR Thyroid CDE for the Actual or Projected Duration of the Release.

Operating Mode Applicability: All

Threshold Values: (1 OR 2 OR 3)

Note: If dose assessment results are available at the time of declaration, the classification should be based on Threshold Value #2 instead of Threshold Value #1. While necessary declarations should not be delayed awaiting results, the dose assessment should be initiated / completed in order to determine if the classification should be subsequently escalated.

Note: The Emergency Director should not wait until 15 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 15 minutes.

1. VALID reading on any of the following radiation monitors that exceeds OR is expected to exceed the reading shown for 15 minutes OR longer:

RE-12839	2.5 x 10 ² µCi/cc
RE-12444	1.2 µCi/cc
RE-13119 thru 13122	5.2 x 10 ² µCi/cc

2. Dose assessment using actual meteorology indicates doses greater than 100 mR TEDE OR 500 mR thyroid CDE at OR beyond the site boundary.
3. Field survey results indicate closed window dose rates exceeding 100 mR/hr expected to continue for more than one hour; OR analyses of field survey samples indicate thyroid CDE of 500 mR for one hour of inhalation, at OR beyond the site boundary.

Basis:

VALID: an indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, or (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

RG1

Initiating Condition -- GENERAL EMERGENCY

Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 1000 mR TEDE **OR** 5000 mR Thyroid CDE for the Actual or Projected Duration of the Release Using Actual Meteorology.

Operating Mode Applicability: All

Threshold Values: (1 **OR** 2 **OR** 3)

Note: If dose assessment results are available at the time of declaration, the classification should be based on Threshold Value #2 instead of Threshold Value #1. While necessary declarations should not be delayed awaiting results, the dose assessment should be initiated / completed in order to determine if the classification should be subsequently escalated.

Note: The Emergency Director should not wait until 15 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 15 minutes.

1. VALID reading on any of the following radiation monitors that exceeds **OR** expected to exceed the reading shown for 15 minutes **OR** longer:

RE-12839	$2.5 \times 10^3 \mu\text{Ci/cc}$
RE-12444	$1.2 \times 10^1 \mu\text{Ci/cc}$
RE-13119 thru 13122	$5.2 \times 10^3 \mu\text{Ci/cc}$

2. Dose assessment using actual meteorology indicates doses greater than 1000 mR TEDE **OR** 5000 mR thyroid CDE at **OR** beyond the site boundary.
3. Field survey results indicate closed window dose rates exceeding 1000 mR/hr expected to continue for more than one hour; **OR** analyses of field survey samples indicate thyroid CDE of 5000 mR for one hour of inhalation, at **OR** beyond site boundary.

Basis:

VALID: an indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, or (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the

**Vogtle Electric Generating Plant – Units 1 and 2
License Amendment Request to Revise
the Vogtle Electric Generating Plant Emergency Plan**

Enclosure 3

Emergency Plan Clean Typed Pages

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

RU1

Initiating Condition -- NOTIFICATION OF UNUSUAL EVENT

Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Effluent Technical Specifications for 60 Minutes or Longer.

Operating Mode Applicability: All

Threshold Values: (1 OR 2)

Note: The Emergency Director should not wait until 60 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 60 minutes.

1. VALID reading on any of the following effluent monitor that exceeds two times the alarm setpoint established by a current radioactivity discharge permit for 60 minutes OR longer.

Monitor	2 X Setpoint Value
Liquid Radwaste Effluent Line (RE-0018)	$2.8 \times 10^{-5} \mu\text{Ci/cc}$
SG Blowdown Effluent Line (RE-0021)	$4.0 \times 10^{-5} \mu\text{Ci/cc}$
Turbine Bldg Effluent Line (RE-0848)	$3.5 \times 10^{-5} \mu\text{Ci/cc}$
Gaseous Radwaste (ARE-0014)	$2.4 \times 10^0 \mu\text{Ci/cc}$
Turbine Bldg Vent, SJAE (RE-12839)	$7.9 \times 10^{-3} \mu\text{Ci/cc}$
Plant Vent (RE-12442C or RE-12444C)	$1.3 \times 10^{-3} \mu\text{Ci/cc}$

2. Confirmed sample analyses for gaseous OR liquid releases indicates concentrations OR release rates, with a release duration of 60 minutes OR longer, in excess of two times Technical Specification 5.5.4, as confirmed by the ODCM.

Basis:

UNPLANNED, as used in this context, includes any release for which a radioactivity discharge permit was not prepared, or a release that exceeds the conditions (e.g., minimum dilution flow, maximum discharge flow, alarm setpoints, etc.) on the applicable permit. The Emergency Director should not wait until 60 minutes has elapsed, but should declare the event as soon as

it is determined that the release duration has or will likely exceed 60 minutes. Also, if an ongoing release is detected and the starting time for that release is unknown, the Emergency Director should, in the absence of data to the contrary, assume that the release has exceeded 60 minutes.

This IC addresses a potential or actual decline in the level of safety of the plant as indicated by a radiological release that exceeds regulatory commitments for an extended period of time. Nuclear power plants incorporate features intended to control the release of radioactive effluents to the environment. Further, there are administrative controls established to prevent unintentional releases, or control and monitor intentional releases. These controls are located in the Offsite Dose Calculation Manual (ODCM). The occurrence of extended, uncontrolled radioactive releases to the environment is indicative of a degradation in these features and/or controls.

Threshold Value #1 addresses radioactivity releases, that for whatever reason, cause effluent radiation monitor readings to exceed two times the Technical Specification limit and releases are not terminated within 60 minutes. This alarm setpoint may be associated with a planned batch release, or a continuous release path. In either case, the setpoint is established by the ODCM to warn of a release that is not in compliance with the TS 5.5.4. Indexing the Threshold Value to the ODCM setpoints in this manner ensures that the Threshold Value will never be less than the setpoint established by a specific discharge permit.

Threshold Value #2 addresses uncontrolled releases that are detected by sample analyses, particularly on unmonitored pathways, e.g., spills of radioactive liquids into storm drains, heat exchanger leakage in river water systems, etc.

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

RA1

Initiating Condition -- ALERT

Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Effluent Technical Specifications for 15 Minutes or Longer.

Operating Mode Applicability: All

Threshold Values: (1 OR 2)

Note: The Emergency Director should not wait until 15 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 15 minutes.

1. VALID reading on any of the following effluent monitor that exceeds 200 times the alarm setpoint established by a current radioactivity discharge permit for 15 minutes OR longer.

Monitor	200 X Setpoint Value
Liquid Radwaste Effluent Line (RE-0018)	$2.8 \times 10^{-3} \mu\text{Ci/cc}$
SG Blowdown Effluent Line (RE-0021)	$4.0 \times 10^{-3} \mu\text{Ci/cc}$
Turbine Bldg Effluent Line (RE-0848)	$3.5 \times 10^{-3} \mu\text{Ci/cc}$
Gaseous Radwaste (ARE-0014)	$2.4 \times 10^2 \mu\text{Ci/cc}$
Turbine Bldg Vent, SJAE (RE-12839)	$7.9 \times 10^{-1} \mu\text{Ci/cc}$
Plant Vent (RE-12444C or RE-12442-C)	$1.3 \times 10^{-1} \mu\text{Ci/cc}$

2. Confirmed sample analyses for gaseous or liquid releases indicates concentrations OR release rates in excess of 200 times Technical Specification 5.5.4 as confirmed by the ODCM , with a release duration of 15 minutes OR longer.

Basis:

UNPLANNED: a parameter change or an event that is not the result of an intended evolution and requires corrective or mitigative actions.

VALID: an indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, or (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment.

This IC addresses a potential or actual decline in the level of safety of the plant as indicated by a radiological release that exceeds regulatory commitments for an extended period of time. Nuclear power plants incorporate features intended to control the release of radioactive effluents to the environment. Further, there are administrative controls established to prevent unintentional releases, or control and monitor intentional releases. These controls are located in the Offsite Dose Calculation Manual (ODCM). The occurrence of extended, uncontrolled radioactive releases to the environment is indicative of a degradation in these features and/or controls.

The Radiological Effluent Control Plan (RECP) multiples are specified in ICs RU1 and RA1 only to distinguish between non-emergency conditions, and from each other. While these multiples obviously correspond to an offsite dose or dose rate, the emphasis in classifying these events is the degradation in the level of safety of the plant, NOT the magnitude of the associated dose or dose rate. Releases should not be prorated or averaged.

UNPLANNED, as used in this context, includes any release for which a radioactivity discharge permit was not prepared, or a release that exceeds the conditions (e.g., minimum dilution flow, maximum discharge flow, alarm setpoints, etc.) on the applicable permit. The Emergency Director should not wait until 15 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 15 minutes. Also, if an ongoing release is detected and the starting time for that release is unknown, the Emergency Director should, in the absence of data to the contrary, assume that the release has exceeded 15 minutes.

Threshold Value #1 addresses radioactivity releases that for whatever reason cause effluent radiation monitor readings that exceed two hundred times the alarm setpoint established by the radioactivity discharge permit. This alarm setpoint may be associated with a planned batch release, or a continuous release path. In either case, the setpoint is established by the ODCM to warn of a release that is not in compliance with the RECP. Indexing the Threshold Value threshold to the ODCM setpoints in this manner ensures that the Threshold Value threshold will never be less than the setpoint established by a specific discharge permit. Setpoints are 100 times those of RU1 or the maximum range of the monitor.

Threshold Value #2 addresses uncontrolled releases that are detected by sample analyses, particularly on unmonitored pathways, e.g., spills of radioactive liquids into storm drains, heat exchanger leakage in river water systems, etc.

Threshold Value #1 directly correlates with the IC since annual average meteorology is required to be used in showing compliance with the RECP and is used in calculating the alarm setpoints. Thus, there will likely be a numerical inconsistency. However, the fundamental basis of this IC is

NOT a dose or dose rate, but rather the degradation in the level of safety of the plant implied by the uncontrolled release.

Due to the uncertainty associated with meteorology, emergency implementing procedures should call for the timely performance of dose assessments using actual (real-time) meteorology in the event of a gaseous radioactivity release of this magnitude. The results of these assessments should be compared to the ICs RS1 and RG1 to determine if the event classification should be escalated.

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

RS1

Initiating Condition -- SITE AREA EMERGENCY

Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 100 mR TEDE OR 500 mR Thyroid CDE for the Actual or Projected Duration of the Release.

Operating Mode Applicability: All

Threshold Values: (1 OR 2 OR 3)

Note: If dose assessment results are available at the time of declaration, the classification should be based on Threshold Value #2 instead of Threshold Value #1. While necessary declarations should not be delayed awaiting results, the dose assessment should be initiated / completed in order to determine if the classification should be subsequently escalated.

Note: The Emergency Director should not wait until 15 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 15 minutes.

1. VALID reading on any of the following radiation monitors that exceeds OR is expected to exceed the reading shown for 15 minutes OR longer:

RE-12839	2.5 x 10 ² µCi/cc
RE-12444	1.2 µCi/cc

2. Dose assessment using actual meteorology indicates doses greater than 100 mR TEDE OR 500 mR thyroid CDE at OR beyond the site boundary.
3. Field survey results indicate closed window dose rates exceeding 100 mR/hr expected to continue for more than one hour; OR analyses of field survey samples indicate thyroid CDE of 500 mR for one hour of inhalation, at OR beyond the site boundary.

Basis:

VALID: an indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, or (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

RG1

Initiating Condition -- GENERAL EMERGENCY

Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 1000 mR TEDE OR 5000 mR Thyroid CDE for the Actual or Projected Duration of the Release Using Actual Meteorology.

Operating Mode Applicability: All

Threshold Values: (1 OR 2 OR 3)

Note: If dose assessment results are available at the time of declaration, the classification should be based on Threshold Value #2 instead of Threshold Value #1. While necessary declarations should not be delayed awaiting results, the dose assessment should be initiated / completed in order to determine if the classification should be subsequently escalated.

Note: The Emergency Director should not wait until 15 minutes has elapsed, but should declare the event as soon as it is determined that the release duration has or will likely exceed 15 minutes.

1. VALID reading on any of the following radiation monitors that exceeds OR expected to exceed the reading shown for 15 minutes OR longer:

RE-12839	$2.5 \times 10^3 \mu\text{Ci/cc}$
RE-12444	$1.2 \times 10^1 \mu\text{Ci/cc}$

2. Dose assessment using actual meteorology indicates doses greater than 1000 mR TEDE OR 5000 mR thyroid CDE at OR beyond the site boundary.
3. Field survey results indicate closed window dose rates exceeding 1000 mR/hr expected to continue for more than one hour; OR analyses of field survey samples indicate thyroid CDE of 5000 mR for one hour of inhalation, at OR beyond site boundary.

Basis:

VALID: an indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, or (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the