UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

November 2, 2006

MEMORANDUM TO: ACRS Members

FROM: Maitri Banerjee, Senior Staff Engineer
Technical Support Branch, ACRS

SUBJECT: REVIEW MATERIALS FOR THE ACRS FULL COMMITTEE MEETING ON DECEMBER 7-9, 2006, RELATED TO THE REVIEW OF THE STANDARD REVIEW PLAN SECTION 13.3, "EMERGENCY PLANNING"

The purpose of this memorandum is to forward background materials related to the ACRS Full Committee Meeting on December 7 through 9, 2006, with the staff of the Office of Nuclear Reactor Regulation to discuss the proposed Revision 3 to Standard Review Plan (SRP) NUREG-0800, Section 13.3, "Emergency Planning."

To prepare for the meeting, the following documents are attached:

1) Memorandum from David B. Matthews to John Larkins, Transmittal of Proposed Draft Revision to Standard Review Plan, NUREG-0800, Section 13.3, "Emergency Planning," September 8, 2006.

2) Commission Paper SECY-05-0197, Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria, October 28, 2005, and the related Staff Requirement Memorandum dated February 22, 2006.

I plan on sending additional information regarding a status summary and agenda details in near future. If you have any questions, please contact me at (301) 415-6973 or mxb@NRC.GOV.

Attachments: As stated

cc: w/o Attachments:
J. Larkins
M. Snodderly
S. Duraiswamy

September 8, 2006

MEMORANDUM TO: John T. Larkins, Executive Director
Advisory Committee on Reactor Safeguards/
Advisory Committee on Nuclear Waste

FROM: David B. Matthews, Director Tom Bergman for */RA/*
Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: TRANSMITTAL OF PROPOSED DRAFT REVISION TO STANDARD REVIEW PLAN, NUREG-0800, SECTION 13.3, "EMERGENCY PLANNING"

The purpose of this memorandum is to transmit the proposed revision of Section 13.3, "Emergency Planning," of the *Standard Review Plan* (SRP) (NUREG-0800) to the Advisory Committee on Reactor Safeguards (ACRS) for their consideration.

In accordance with the May 10, 2005, Commission Meeting staff requirements memorandum (SRM) M050406, the Office of Nuclear Security and Incident Response (NSIR), in cooperation with the Department of Homeland Security (DHS) and the Office of Nuclear Reactor Regulation (NRR), has developed a revised SRP Section 13.3 (enclosed) as a draft. This revision will ensure that up-to-date guidance is available for the staff responsible for reviewing and licensing new sites and new reactors. The proposed revision is a rewrite of the July 1981 SRP Section 13.3, Revision 2, and provides staff guidance for the review of emergency planning information submitted in license applications under 10 CFR Parts 50 and 52.

The proposed revision will be issued as a draft document for comment, in accordance with the May 8, 2006, NRR Office Instruction LIC-200, Revision 1, "Standard Review Plan (SRP) Process." The schedule for publication of the proposed revision, including incorporation of stakeholder comments, will allow for the publication of the final revision 6 months before the docket date of the first combined license application, which is anticipated in September 2007.

In addition to updating the July 1981 SRP section, the proposed revision includes some of the proposed changes in the April 1996 draft Revision 3 to SRP Section 13.3. The proposed revision consists mostly of changes that identify specific regulations and guidance, and provides SRP acceptance criteria for the various applications submitted under both 10 CFR Parts 50 and 52. The most significant changes reflect the new application processes allowed by 10 CFR Part 52. This also includes the incorporation of Commission policy on the use of

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emergency planning inspections, tests, analyses, and acceptance criteria (EP-ITAAC), which is addressed in the February 22, 2006, SRM SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria" (ML052770225). In addition, the proposed revision incorporates experience gained from the first three early site permit (ESP) application reviews, and the standard design certification applications. The license application review processes in both 10 CFR Part 50 and Part 52 utilize the same existing emergency planning requirements contained primarily in 10 CFR 50.47 and Appendix E to Part 50.

While the proposed SRP Section 13.3 revision is a complete rewrite of Section 13.3, it does not contain new or unreviewed staff positions. It does, however, identify a new NUREG/CR report on evacuation time estimates (ETEs). Guidance on the development of ETEs was provided in November 1980 in NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," and that guidance is still used today. The staff will continue to use the established guidance and criteria in Appendix 4, "Evacuation Time Estimates Within the Plume Exposure Pathway Emergency Planning Zone," of NUREG-0654/FEMA-REP-1, as the basis for compliance with applicable regulations.

The new (January 2005) ETE report, NUREG/CR-6863, "Development of Evacuation Time Estimate Studies for Nuclear Power Plants," is identified in the proposed SRP Section 13.3 revision as providing information relating to performing an ETE analysis. In March 1992, NUREG/CR-4831, "State of the Art in Evacuation Time Estimate Studies for Nuclear Power Plants," was written to provide updated information, assumptions, and methods to be used in performing ETE studies. NUREG/CR-6863 updates NUREG/CR-4831 and integrates new technologies in traffic management, computer modeling, and communication systems to identify additional tools useful in the development of new, or updates to existing, ETEs.

The proposed revision does introduce the option to use EP-ITAAC in an ESP application, which is consistent with the ongoing 10 CFR Part 52 rulemaking (see proposed 10 CFR 52.17(b)(3)). Prior to the current 10 CFR Part 52 rulemaking, the rules only addressed the use of EP-ITAAC with a combined license (COL) application but not at the ESP stage. The staff's position, which is supported by public comments, is that the extension of EP-ITAAC to ESP applications is not precluded in the existing rules, and is necessary in order to accommodate an applicant's submission of a "complete and integrated emergency plan" at the ESP stage, as well as provide an additional level of flexibility for an ESP applicant. Without allowing the use of EP-ITAAC (or other such placeholders) at the ESP stage, the staff would be unable to reach a reasonable assurance finding at the time of application. The use of EP-ITAAC would allow the staff to make its findings based on proposed, and not yet implemented, emergency plans. Table 13.3-1 provides a proposed set of allowable EP-ITAAC (for use at either the ESP or COL application stage). The asterisked/bolded text in the table represents the earlier set of COL EP-ITAAC that was approved by the Commission in SRM SECY-05-0197. Table 13.3-1 reflects a process of review allowed by 10 CFR Part 52, and does not contain new or unreviewed staff positions relating to emergency planning requirements. Of note, the initial three ESP applications requested approval of major features of emergency plans, only. The use of EP-ITAAC is not applicable to these reviews, as it applies to complete and integrated plans. In contrast, the Vogtle ESP application did submit complete and integrated plans with EP-ITAAC.

Based on the nature of the changes, the staff will be publishing the proposed revision for public comment. Please coordinate with the technical contacts identified below and NSIR to schedule an ACRS briefing on this subject. Also, the staff has determined that the changes do not involve any backfits; therefore, we will be requesting a waiver of review from the Committee to Review Generic Requirements.

For questions concerning this document, please contact Stephen Koenick of my staff at 301-415-1239, or Bruce Musico (NSIR/DPR) at 301-415-2310.

Enclosure
SRP Section 13.3

U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

13.3 EMERGENCY PLANNING

REVIEW RESPONSIBILITIES

Primary - Organization responsible for the review of emergency planning

Secondary - None

I. AREAS OF REVIEW

This standard review plan (SRP) section addresses the applicant's emergency planning, as described in the safety analysis report (SAR). The areas of review will depend on the specific application. For an application submitted under 10 CFR Part 50, this primary review responsibility involves evaluation of evidence of preliminary planning (in the Preliminary Safety Analysis Report, PSAR) or substantive evidence of planning (in the Final Safety Analysis Report, FSAR) for emergency preparedness directed at situations involving real or potential radiological hazards. For an application submitted under 10 CFR Part 52, the review involves evaluation of various aspects of emergency planning, which will depend on whether the application is for an early site permit (ESP), design certification, or combined license (COL).

The review is conducted against the applicable standards and requirements in 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47, 10 CFR 50.54, 10 CFR 50.72, Appendix E to 10 CFR Part 50, 10 CFR Part 52, 10 CFR 73.71, and 10 CFR Part 100. The review is also conducted against any additional requirements that impact emergency planning and preparedness, including those

added to Second Draft SCV3 – Sep 2006

associated with security, and are imposed through Nuclear Regulatory Commission (NRC) Orders. The review addresses plans for emergency response activities, including emergency planning zones (EPZs), emergency action levels (EALs), evacuation time estimates (ETEs), and emergency response facilities. If applicable, the reviewer also evaluates proposed inspections, tests, and analyses applicable to emergency planning that the licensee shall perform, and the associated acceptance criteria (i.e., ITAAC[1]).

For a construction permit (CP) application, the applicant is required by 10 CFR 50.34(a)(10) to include in the PSAR a discussion of the applicant's preliminary plans for coping with emergencies, which shall include the applicable items in Appendix E to 10 CFR Part 50,[2] as well as the means by which the standards of 10 CFR 50.47(b) will be met. For an operating license (OL) application, the applicant is required by 10 CFR 50.34(b)(6)(v) to include in the FSAR the plans for coping with emergencies, which shall include the applicable items in Appendix E to 10 CFR Part 50. The review is made against 10 CFR 50.47 and Appendix E, which establishes the requirements for emergency plans for use in attaining an acceptable state of emergency preparedness.

For an ESP application, the review is made against the requirements in 10 CFR 52.17 and 10 CFR 52.18. At a minimum, the review includes physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans, and the description of contacts and arrangements made with local, State, and Federal governmental agencies with emergency planning responsibilities. If the applicant submits additional information to address either major features of emergency plans, or to provide complete and integrated emergency plans, the staff reviews that information.

For a design certification application, the review is conducted against the requirements in 10 CFR 52.47 and 10 CFR 52.48, and only addresses those design features, facilities, functions, and equipment that are technically relevant to the design and are not site-specific, and which affect some aspect of emergency planning or the capability of a licensee to cope with plant emergencies. The review addresses such areas as a habitable technical support center (TSC) with adequate space, data retrieval capabilities and dedicated communications equipment, and an operational support center (OSC) with adequate communications. Additional design-related features associated with emergency planning, such as EALs, may also be included in the application for review. There is no minimum amount of design-related emergency planning for the proposed reactor that must be addressed in an application. The applicant may choose the extent to which emergency planning features are included in the application to be reviewed as part of the certified design.

For a COL application, the review is conducted against the requirements in 10 CFR Part 52.77, 10 CFR 52.79, and 10 CFR 52.80, and includes, if referenced in the application, an evaluation of emergency plans that are approved in connection with the issuance of an ESP and/or design

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[1]ITAAC – Inspections, Tests, Analyses, and Acceptance Criteria

[2]10 CFR 50.34(a), footnote 5, allows an applicant for a CP to provide required information in the form of a discussion, with specific references, of similarities to and differences from, facilities of similar design for which applications have previously been filed with the Commission.

features contained in a certified design. The review of the previously approved referenced information is to confirm it is appropriately incorporated into the emergency plans contained in the COL application. Draft Regulatory Guide (DG-1145) provides specific guidance related to the development of a COL application.

In general, if an application is for an additional reactor at an operating reactor site, and the application proposes to incorporate and extend elements of the existing emergency planning program to the new reactor (including by reference), those existing elements should be considered acceptable and adequate. The reviewer will generally focus the review on the extension of the existing program to the new reactor, and will determine whether the incorporated emergency planning program information from the existing reactor site (1) is applicable to the proposed reactor, (2) is up-to-date when the application is submitted, and (3) reflects use of the site for construction of a new reactor (or reactors) and appropriately incorporates the new reactor(s) into the existing plan.

The safety evaluation report (SER) should document the bases for concluding that included (or referenced) information from an existing emergency preparedness program satisfies the applicable acceptance criteria. The reviewer will also examine how the existing elements are incorporated into the application, determine the acceptability of expanding the existing program to include one or more additional reactors, and determine the acceptability of the applicant's identification of any impact on the adequacy of the existing emergency preparedness program for the operating reactor (or reactors). The reviewer will confirm that the applicant has appropriately identified whether any updates are required to existing emergency facilities and equipment, including the Alert and Notification System (ANS), in order to accommodate extension to the proposed new reactor. If appropriate, the reviewer will determine whether the applicant has addressed the exercise requirements for co-located licensees, in accordance with Section IV.F.2.c of Appendix E to 10 CFR Part 50, and the conduct of emergency preparedness activities and interactions discussed in Regulatory Guide 1.101, Rev. 5.

For all reactor license applications (excluding standard design certifications), submitted pursuant to 10 CFR Part 50 or 10 CFR Part 52, the NRC consults with the Department of Homeland Security (DHS) regarding offsite emergency planning and preparedness. Certified designs are design-specific (i.e., pertain to a licensee's facilities and equipment), and do not address site-specific emergency planning, which is programmatic in nature. DHS is the Federal agency with the lead responsibility for oversight of offsite emergency planning and preparedness. These responsibilities are now executed by the Radiological Emergency Preparedness (REP) Program (formerly held by the Federal Emergency Management Agency (FEMA)). The REP Program now resides within the Preparedness Directorate of DHS. While the responsibility for evaluating the emergency plans and procedures is shared between the DHS and the NRC under a Memorandum of Understanding (MOU), which is reflected in 44 CFR Part 353, the final decision-making authority on the overall adequacy of emergency planning and preparedness rests with the NRC.

In general, the NRC reviews include consideration of the DHS findings and determinations on the level of preparedness of State, tribal, and local governments with responsibility for taking protective measures in the plume exposure pathway EPZ and the ingestion control pathway EPZ. The level of review by DHS will vary, as will its findings, depending upon the specific application. For example, DHS's review and findings for a CP or ESP application may be less

than that for an OL or COL application. The specific DHS reviews are detailed below under the respective applications.

Review Interfaces

The emergency planning staff will coordinate their evaluations with those performed by other branches, as indicated below, to complete the overall evaluation of emergency planning:

1. Review of the exclusion area, including provisions for control of activities in the exclusion area in the event of an emergency, and provisions to control traffic in the exclusion area if the area is traversed by a transportation corridor, is performed under SRP Section 2.1.2.

2. Review of the population distribution and use characteristics of the exclusion area and the accidental releases of liquid effluents in ground and surface waters is performed under SRP Sections 2.1.3 and 2.4.13, respectively.

3. Review of the meteorological instrumentation and information, including atmospheric diffusion estimates, is performed under SRP Sections 2.3.1 through 2.3.5.

4. Review of the provisions for protection of the control room during an emergency is performed under SRP Section 6.4.

5. Review of information systems important to safety, including instrumentation to assess plant conditions during and following an accident and information systems associated with emergency response facilities, is performed under SRP Section 7.5. This review includes meteorological instrumentation and the safety parameter display system (SPDS).

6. Review of those portions of the communications systems that are used in intra-plant and plant-to-offsite communications during accident conditions is performed under SRP Section 9.5.2.

7. Review of post-accident sampling systems is performed under SRP Section 9.3.2.

8. Review of the provisions for accident protection is performed under SRP Sections 12.3 and 12.4.

9. Review of the training programs is performed under SRP Section 13.2.2.

10. Review of security-based events and considerations are performed under SRP Section 13.6.

11. Review of human factors related aspects of the emergency response facility features (e.g., SPDS, meteorological instrumentation, communications/information systems, facility arrangement/environment, etc.), to verify that human factors engineering (HFE) principles have been or will be taken into account in their design, is performed under SRP Section 18.0.

II. ACCEPTANCE CRITERIA

Acceptance criteria are based on meeting the relevant requirements of the following Commission and DHS regulations:[3]

L. 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47, 10 CFR 100.1, 10 CFR 100.3, 10 CFR 100.20, and 10 CFR 100.21(g), as they relate to emergency planning and preparedness.

M. 10 CFR Part 50, Appendix E, as it relates to emergency planning and preparedness, and the emergency response data system (ERDS) [or successor system to ERDS].

N. 10 CFR 52.17 and 10 CFR 52.18, as they relate to emergency planning information submitted in an ESP application. 10 CFR 52.17(b)(3) provides the requirement for ITAAC in an ESP application submitted under 10 CFR 52.17(b)(2).

O. 10 CFR 52.47 and 10 CFR 52.48, as they relate to emergency planning information submitted in a standard design certification application. 10 CFR 52.47(b)(2) provides the requirement for ITAAC in a design certification application.

P. 10 CFR 52.77, 10 CFR 52.79, 10 CFR 52.80, 10 CFR 52.81, and 10 CFR 52.83, as they relate to emergency planning and preparedness associated with a COL application. 10 CFR 52.80(b) provides the requirement for ITAAC in a combined license.

Q. 10 CFR 50.72(a)(3), 10 CFR 50.72(a)(4), 10 CFR 50.72(c)(3), and 10 CFR 73.71(a), as they relate to notification of NRC for an emergency class declaration, ERDS notification, and requirements for reporting safeguards events and maintaining an open emergency notification system (ENS) line.[4]

R. Interim Compensatory Measures (ICMs) B.5.c, B.5.d, and B.5.e of Commission Orders of February 25, 2002, to all operating commercial nuclear power plants, relating to security-based emergency plans and preparedness.[5]

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[3]The applicable emergency planning requirements for applications submitted pursuant to 10 CFR Part 52 are contained in both 10 CFR Part 52 and 10 CFR Part 50, and the specific cross-references are provided in the respective sections.

[4]NRC Bulletin 2005-02 outlined enhancements to emergency preparedness programs in response to the potential for security events. The Nuclear Energy Institute (NEI) White Paper, entitled "Enhancement to Emergency Preparedness Programs for Hostile Actions," dated November 18, 2005, was endorsed by the staff in RIS 2006-12, which outlines industry actions in support of the implementation of these enhancements.

[5]See also, SECY-06-0098, "Licensee Response to Demand for Information Regarding Mitigation Strategies Required Under Section B.5.b of the Orders Dated February 25, 2002, and Staff Recommendations for Follow-up Action," issued May 2, 2005 (Safeguards document).

S. 44 CFR Parts 350, 351, and 352, including applicable DHS policies, REP-series guidance documents and associated memoranda, as they relate to offsite radiological emergency planning and preparedness.

Regulatory Guidance

Specific criteria acceptable to meet[6] the relevant requirements of the Commission's regulations identified above are as follows for each review described in Subsection I of this SRP section:

12. All of the standards of 10 CFR 50.47(b), as supported by the guidance in the corresponding planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, must be met before an OL is issued pursuant to 10 CFR 50.57 or a COL is issued pursuant to 10 CFR 52.97. In addition, for the first reactor at a site, Appendix E to 10 CFR Part 50 requires that a full participation exercise be conducted within 2 years before NRC issuance of an operating license for full power (i.e., one authorizing operation above 5 percent of rated power). Because this exercise would be included in the ITAAC required for a COL, it's acceptance criteria would have to be satisfied before fuel loading pursuant to a COL (see Table 13.3-1).

13. The onsite and, except as provided in 10 CFR 50.47(d), offsite emergency response plans for nuclear power reactors must meet the standards established in 10 CFR 50.47(b) and applicable requirements of Appendix E to 10 CFR Part 50. Compliance with these regulations is determined by using the guidance in Regulatory Guide (RG) 1.101, Rev. 2, which endorses NUREG-0654/FEMA-REP-1, Rev. 1, and through it NUREG-0396, and NUREG-0696. NUREG-0654/FEMA-REP-1, Rev. 1, establishes an acceptable basis for NRC licensees and State, tribal and local governments to develop radiological emergency plans and procedures, and improve their overall state of emergency preparedness. NUREG-0696 discusses the facilities and systems to be provided by nuclear power plant licensees to aid the licensee's response to emergency situations. Additional guidance is provided in NUREG-0718,[7] NUREG-0737, Supplement 1 to NUREG-0737, NUREG-0814, and Supplement 3 to NUREG-0654/FEMA-REP-1, Rev. 1.

3. 10 CFR 50.47(b)(4) requires a standard emergency classification and action level scheme. Section IV.C, "Activation of Emergency Organization," of Appendix E identifies the four emergency classes. Section IV.B, "Assessment Actions," of Appendix E to 10 CFR Part 50 also requires emergency action levels. The emergency plan should include the emergency classification level scheme described in Appendix 1 and

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[6]The SRP is not a substitute for the NRC's regulations, and compliance with it is not required. However, applicants are required to identify differences between the design features, analytical techniques, and procedural measures proposed for their facility and the SRP acceptance criteria, and evaluate how the proposed alternatives to the SRP acceptance criteria provide an acceptable method of complying with the NRC regulations.

[7]The applicability of NUREG-0718, Rev. 2, "Licensing Requirements for Pending Applications for Construction Permits and Manufacturing Licenses," January 1982, is addressed in 10 CFR 50.34(f).

Supplement 3 to NUREG-0654. The staff anticipates that any new application will use an emergency action level scheme similar to that described in Revision 4 of NEI 99-01, "Methodology for Development of Emergency Action Levels," dated January 2003, which was endorsed in Revision 4 Regulatory Guide (RG) 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," dated October 2003. However, Revision 4 of NEI 99-01, "Methodology for Development of Emergency Action Levels," dated January 2003, is not considered to be entirely applicable to advanced light water reactor designs. Even though the majority of Revision 4 of NEI 99-01 may be applicable to any reactor design and should be used, the unique characteristics of the new reactor should be addressed in the development of emergency action levels specific to the new plant and the site. The format of the emergency action level scheme should follow the convention established in Regulatory Information Summary 2003-18, "Use of Nuclear Energy Institute (NEI) 99-01, Methodology for Development of Emergency Action Levels," Revision 4, dated January 2003, and its supplements. Section IV.B. "Assessment Actions," of Appendix E to 10 CFR Part 50 also requires that the initial emergency actions be discussed and agreed on by the State and local governmental authorities. The applicant should provide some form of confirmation of the agreement, such as a letter signed by State and local governmental authorities, in the emergency plan, if the applicant provides emergency action levels different from those for the existing reactor(s) on the site.

4. Appendix 2, "Meteorological Criteria for Emergency Preparedness at Operating Nuclear Power Plants," to NUREG-0654/FEMA-REP-1, Rev. 1, provides guidance related to the planning standards codified in 10 CFR 50.47(b)(8) and (9) and the requirements of Section IV.E.2 of Appendix E to 10 CFR Part 50. Proposed revision 1 to Regulatory Guide 1.23, "Meteorological Programs in Support of Nuclear Power Plants," is referenced in Appendix 2 to NUREG-0654 as a source of acceptance criteria for meteorological measurements. Revision 1 to Regulatory Guide 1.23 is expected to be issued in [March 2007]. Since Appendix 2 was issued, additional guidance related to meteorological systems has been developed. NUREG-0696, "Functional Criteria for Emergency Response Facilities," refers to the guidance in proposed Revision 1 to Regulatory Guide 1.23, Revision 2 to Regulatory Guide 1.97, and Appendix 2 to NUREG-0654/FEMA-REP-1, Rev. 1. Supplement 1 to NUREG-0737, "Clarification of TMI Action Plan Requirements," (Generic Letter 82-33) clarifies the guidance in Revision 2 of Regulatory Guide 1.97, "Instrumentation for Light-water-cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," and contains guidance related to the need to provide reliable indication of meteorological variables in the control room, Technical Support Center, and Emergency Operations Facility in the vicinity (up to about 10 miles) of the plant site. Revision 3 of Regulatory Guide 1.97 was issued in May 1983 and Revision 4 was issued in June 2006.

5. Supplement 1 to NUREG-0737, "Clarification of TMI Action Plan Requirements," (Generic Letter 82-33) clarifies the guidance in Revision 2 of Regulatory Guide 1.97, "Instrumentation for Light-water-cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," and contains guidance related to upgrading emergency response facilities and meeting the requirements of 10 CFR 50.47(b)(6), (8), (9) and Section IV.E of 10 CFR Part 50.

6. Appendix 3, "Means for Providing Prompt Alerting and Notification of Response Organizations and the Population," to NUREG-0654/FEMA-REP-1, Rev. 1, provides guidance related to 10 CFR 50.47(b)(5) and (6).

7. Supplement 3, "Criteria for Protective Action Recommendations for Severe Accidents," to NUREG-0654/FEMA-REP-1, Rev.1, provides guidance for the development of protective action recommendations for the public for severe reactor accidents. The guidance updates and simplifies the decision-making process for protective actions for severe reactor accidents given in Appendix 1 to NUREG-0654/FEMA-REP-1, Rev.1.

8. RG 1.101, Rev. 2, states that the criteria and recommendations in NUREG-654/FEMA-REP-1, Rev. 1, are considered by the NRC staff to be acceptable methods for complying with the standards in 10 CFR 50.47. Except in those cases in which the applicant or licensee proposes acceptable alternative methods for complying with specific portions of the regulations, the methods described in NUREG-0654/FEMA-REP-1, Rev. 1, will be used as a basis for evaluating the adequacy of the emergency plans. If an applicant chooses to propose an alternative practice or method for complying with the regulations, the application should provide an appropriate justification.

9. In addition to NUREG-0654/FEMA-REP-1, Rev. 1, DHS will evaluate State, tribal, and local government planning and preparedness on the basis of applicable policies and guidance,[8] including approved alternative approaches and methods. DHS will base its findings and determinations, relating to the adequacy of offsite radiological emergency planning and preparedness, on these evaluations.

10. 10 CFR 50.33(g), 10 CFR 50.47(c)(2), and Section I of Appendix E to 10 CFR Part 50 require that the size of the EPZ for a nuclear power plant shall be determined in relation to local emergency response needs and capabilities, as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries. 10 CFR 52.77 requires that the COL application must contain all of the information required by 10 CFR 50.33. 10 CFR 50.33(g) requires that an applicant for an operating license submit radiological emergency response plans of State and local government entities that are wholly or partially within the 10-mile plume exposure EPZ, as well as the plans of State governments wholly or partially within the 50-mile ingestion pathway EPZ. An applicant should also submit plans for tribal governmental entities affected by the 10-mile EPZ. NUREG-0396 provides additional guidance relating to the definition of the EPZs.

11. Section IV of Appendix E to 10 CFR Part 50, through 10 CFR 52.79(a)(21) and 10 CFR 50.34, requires that an application for an OL or COL provide an analysis of the time required to evacuate various sectors and distances within the plume exposure pathway EPZ; i.e., an ETE. The NRC regulations do not specify a limit for such estimated evacuation times. An ETE can identify physical characteristics unique to the

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[8]In addition to the current REP-series guidance documents and associated memoranda, offsite plans and procedures are reviewed against the requirements and policies incorporated in the REP Program Planning Guidance Document: "Radiological Emergency Preparedness: Planning Guidance" (see 68 FR 9669, February 28, 2003).

proposed site that could pose a significant impediment to the development of emergency plans. An ETE provides an analysis of the time required to evacuate and for taking other protective actions for various sectors and distances within the plume exposure EPZ. This information can be used by decision makers in responding to an actual emergency to aid in deciding what protective actions to implement. Appendix 4 to NUREG-0654/FEMA-REP-1, Rev. 1, and Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, provide guidance relating to performing an ETE analysis. NUREG/CR-6863 provides additional information on ETEs.

12. Section VI of Appendix E to 10 CFR Part 50 requires an emergency response data system (ERDS). The ERDS is a direct near real-time electronic data link between a licensee's onsite computer system and the NRC Operations Center, and provides for the automated transmission of a limited data set of selected parameters from a licensee's installed onsite computer system in the event of an emergency. NUREG-1394 provides the minimum standards and acceptable methods that may be used to implement and comply with the ERDS requirements. [The ERDS requirements will be replaced by those associated with its successor system, currently expected in 2007.]

13. Insofar as emergency planning and preparedness requirements are concerned, 10 CFR 50.47(d) provides that a license authorizing fuel loading and/or low-power testing and training (up to 5 percent of the rated power) may be issued after a finding is made by the NRC that the state of onsite emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. The assessment of the applicant's onsite emergency plan will be based on the pertinent standards in 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50. However, the acceptability of an applicant's emergency plans will be reviewed against the standards with offsite aspects presented in 10 CFR 50.47(d)(1)-(7).

14. Where an applicant for an OL or COL asserts that its inability to demonstrate compliance with the offsite emergency planning requirements of 10 CFR 50.47(b) is wholly or substantially the result of the non-participation of State and/or local governments, an operating license may be issued if the applicant demonstrates to the Commission's satisfaction those elements listed in 10 CFR 50.47(c)(1)(i)-(iii). (See 10 CFR 50.47(c)(1) and 10 CFR 52.79(a)(22)(ii).) Supplement 1 to NUREG-0654/FEMA-REP-1, Rev. 1, provides guidance for the development, review, and evaluation of utility offsite radiological emergency response planning and preparedness, for those situations in which State and/or local governments decline to participate in emergency planning.

15. The minimum acceptance criteria for all ESP applications, located in 10 CFR 52.17(b)(1), require that ESP applications identify physical characteristics unique to the propose site that could pose a significant impediment to the development of emergency plans. If such physical characteristics are identified, the applicant must also identify measures that would, when implemented, mitigate or eliminate the significant impediment. Applications providing only the information required by 10 CFR 52.17(b)(1) must also include a description of contacts and arrangements (preferably letters of

agreement) made with local, State, and Federal governmental agencies with emergency planning responsibilities, in accordance with 10 CFR 52.17(b)(4). The applicant may choose to submit additional emergency planning information in the ESP application to address the two options in 10 CFR 52.17(b)(2). The two options allow an ESP applicant to propose either major features of the emergency plans, or to provide complete and integrated emergency plans. While neither option is required, each would provide for a more definitive finding concerning emergency plans and preparedness at the ESP stage than would be the case for submittal of only the minimum required information. Complete and integrated emergency plans in an ESP application will be reviewed in accordance with the applicable requirements of 10 CFR 50.47 and Appendix E to 10 CFR Part 50. Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, provides guidance relating to emergency planning information in an ESP application.

16. For an ESP application, a preliminary analysis of evacuation times is one example of how some significant impediments to the development of emergency plans may be identified. Other factors, such as the availability of adequate shelter facilities, in consideration of local building practices and land use (e.g., outdoor recreation facilities, including camps, beaches, hunting or fishing areas), and the presence of large institutional or other special needs populations (e.g., schools, hospitals, nursing homes, prisons) should also be addressed when identifying significant impediments to the development of emergency plans. Any ETE analysis or other identification of physical impediments should include the latest population census numbers and reflect the most recent local conditions. Appendix 4 to NUREG-0654/FEMA-REP-1, Rev. 1, and Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, provide guidance relating to performing an ETE analysis. NUREG/CR-6863 provides additional information on ETEs.

17. For applications that require site approval for a stationary power reactor subject to 10 CFR Part 50 and 10 CFR Part 52 (e.g., CP, OL, ESP and COL), 10 CFR 100.1 and 10 CFR 100.21(g) require the identification of physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans. This siting requirement is similar to that in 10 CFR 52.17(b)(1) for an ESP application, and the means for identifying significant impediments (e.g., an analysis of evacuation times or ETE) could apply to non-ESP applications. Further, if such physical characteristics are identified, the application must also identify measures that would, when implemented, mitigate or eliminate the significant impediment. Where unfavorable physical characteristics of the site exist, the proposed site may nevertheless be found to be acceptable if the design of the facility includes appropriate and adequate compensating engineering safeguards (see 10 CFR 100.10(d), which applies to applications submitted before January 10, 1997). Additional site-related guidance is provided in RG 4.7, and in ESP-related guidance documents (e.g., Supplement 2 to NUREG-654/FEMA-REP-1, Rev. 1).[9]

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[9]The identification of significant impediments, while common to all site approval decisions (per 10 CFR 100.21(g)), is more fully addressed for an ESP application under 10 CFR 52.17, which also requires that the applicant identify measures to mitigate or eliminate any identified significant impediment (see 10 CFR 52.18). The *adequate compensating engineering safeguards* language, which is taken from 10 CFR 100.10(d) and applies to applications prior to

18. Copies of letters of agreement or other certifications, reflecting contacts and arrangements made with local, State, and Federal agencies with supporting emergency responsibilities, should be included in a CP, OL, ESP or COL application, as required by 10 CFR 52.17(b)(4), 10 CFR 52.79(a)(22), or Section II.B of Appendix E to 10 CFR Part 50.[10] The agreement information should be up-to-date when the application is submitted, and should reflect use of the proposed site for possible construction of a new reactor (or reactors). In addition, a discussion of the details associated with any ambiguous or incomplete language in the letters of agreement should be provided in the application. For an existing reactor site, the letters of agreement or other certifications[11] should clearly address the presence of an additional reactor (or reactors) at the site, and any impact that would have on governmental agency or private organization emergency planning responsibilities, including acknowledgment by the agencies or organization of the proposed expanded responsibilities. If the applicant is unable to make arrangements with local, tribal, State, and Federal governmental agencies with emergency planning responsibilities, for whatever reason, the applicant should discuss its efforts to make such arrangements and describe any compensatory measures the applicant has taken or plans to take because of the lack of such arrangements. Supplement 1 to NUREG-654/FEMA-REP-1, Rev. 1, provides guidance for the development, review, and evaluation of utility offsite radiological emergency response planning and preparedness (i.e., a utility plan), for those situations in which State and/or local governments decline to participate in emergency planning. (See also 10 CFR 50.47(c)(1).)

19. Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, will be used as the primary guidance for the review of emergency preparedness information and plans submitted with an ESP application pursuant to Subpart A of 10 CFR Part 52. For a pre-existing nuclear facility, all major features of the emergency plan (i.e., all 14 planning standards) identified in Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, should be addressed in the ESP application. The detailed, specific evaluation criteria for each of the major features in Supplement 2 should be addressed for both a pre-existing nuclear facility, as well as for applicable major features associated with a site without a pre-existing nuclear facility. If emergency planning information is not provided on all 14 major features (including the detailed, specific evaluation criteria) in Section V of Supplement 2, the ESP application will not be rejected. The review and evaluation will, however, only be

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January 10, 1997, is intended to address this societal risk siting factor for emergency planning, and is included in order to determine the acceptability of the site if significant impediments are identified.

[10]Agreements or other arrangements with tribal agencies and private organizations should also be included in the application.

[11]Another acceptable method of addressing this issue would be through the use of separate correspondence. Such correspondence might be appropriate, for example, in a case for which an existing letter of agreement is written in a way that is broad enough to cover an expanded site use, and does not need to be revised. The correspondence would identify this fact.

based on, and specifically limited to, the submitted information that relates to the guidance in Supplement 2 of NUREG-0654/FEMA-REP-1, Rev. 1.

20. The planning standards and evaluation criteria for preparing and evaluating an ESP application containing complete and integrated emergency plans are provided in NUREG-0654/FEMA-REP-1, Rev. 1. Under this ESP option, the applicant should make a good-faith effort to obtain from the government agencies certifications that (1) the proposed emergency plans are practicable; (2) these agencies are committed to participating in any further development of the plans, including any required field demonstrations; and (3) these agencies are committed to executing their responsibilities under the plans in the event of an emergency. The application must contain any certifications that have been obtained. If these certifications cannot be obtained, the application must contain information, including a utility plan pursuant to 10 CFR 50.47(c)(1), sufficient to show that the proposed plans nonetheless provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the site. The utility-prepared emergency plans and preparedness will be reviewed and evaluated using the guidance in Supplement 1 to NUREG-0654/FEMA-REP-1, Rev. 1.

21. 10 CFR 52.17(b)(3) allows an applicant for an ESP, that proposes major features of the emergency plans or complete and integrated emergency plans, to include proposed ITAAC which are necessary and sufficient to provide reasonable assurance that, if the inspections, tests and analyses are performed and the acceptance criteria met, the facility has been constructed and will operate in conformity with the license, the provisions of the Atomic Energy Act, and the NRC's regulations.

22. 10 CFR 52.47(b)(2) allows an applicant for a design certification to include proposed ITAAC, including those applicable to emergency planning, which are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a plant that incorporates the design certification is built and will operate in accordance with the design certification, the provisions of the Atomic Energy Act, and the NRC's regulations.

23. 10 CFR 52.80(b) requires that an application for a combined license includes proposed emergency planning ITAAC which are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, the facility has been constructed and will operate in conformity with the combined license, the provisions of the Atomic Energy Act, and the NRC's regulations.

24. Table 13.3.1[12] provides an acceptable set of generic emergency planning ITAAC that an applicant may use to develop application-specific ITAAC, tailored to the specific reactor design and emergency planning program requirements. A smaller set of ITAAC is

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[12]See SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," October 28, 2005; and SRM SECY-05-0197, February 22, 2006. The generic EP ITAAC in SECY-05-0197 formed the basis for Table 13.3-1.

acceptable if the application contains information that fully addresses emergency preparedness requirements associated with any of the generic ITAAC in Table 13.3-1 that are not used. Table 13.3-1 is not all-inclusive, or exclusive of other ITAAC an applicant may propose. Additional plant-specific emergency planning ITAAC (i.e., beyond those listed in Table 13.3-1) may be proposed, and they will be examined to determine their acceptability on a case-by-case basis.

25. For those licensees subject to 10 CFR 50.34(f),[13] 10 CFR 50.34(f)(2)(xxv) requires that an applicant provide a TSC, OSC, and, for a CP application only, a near-site emergency operations facility (EOF) (TMI Item III.A.1.2[14]). NUREG-0696, Appendix B to NUREG-0718, NUREG-0737, and Supplement 1 to NUREG-0737 provide guidance relating to the design and implementation of emergency response facilities (e.g., TSC, OSC, EOF). In addition, 10 CFR 50.47(b)(8) and Subsection IV.E.8 of Appendix E to 10 CFR Part 50 requires that the design should include adequate emergency facilities and equipment to support emergency response. NUREG-0696, NUREG-0737, and Supplement 1 to NUREG-0737 provide guidance relating to occupancy and radiological habitability of vital areas (including the TSC), which aid in the mitigation of or recovery from an accident.

26. For those licensees subject to 10 CFR 50.34(f), 10 CFR 50.34(f)(2)(iv) requires that an applicant seeking an operating license shall provide an SPDS in both the TSC and EOF (TMI Item I.D.2). The SPDS includes the minimum set of plant parameters needed to assess the safety status of the plant in a timely manner, and is capable of indicating when process limits are being approached or exceeded. Supplement 1 to NUREG-0737, NUREG-0696, and NUREG-0814 provide guidance regarding the SPDS. (The SPDS is reviewed under SRP Sections 7.5 and 18.2.)

27. For those licensees subject to 10 CFR 50.34(f), 10 CFR 50.34(f)(2)(viii) requires that an applicant provide a capability to promptly obtain and analyze samples from the reactor coolant system and containment that may contain accident source term radioactive materials, while ensuring that no individual receives radiation exposure in excess of 0.05 Sv (5 rem) to the whole body or 0.5 Sv (50 rem) to the extremities (TMI Item II.B.3). In addition, 10 CFR 50.47(b)(9) requires adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition. To address this regulation, the NRC has concluded that source term information should be obtained and analyzed, to continuously assess and refine dose assessments and confirm or modify initial protective action recommendations. Finally, 10 CFR 50.47(b)(11) requires the establishment of the means for controlling radiological exposure to emergency workers. Post-accident sampling systems are

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[13]NUREG-0933, "A Prioritization of Generic Safety Issues," August 2004, presents priority rankings for generic safety issues, and is periodically updated. 10 CFR 50.34(f) identifies the pending applications that are subject to additional Three Mile Island (TMI)-related requirements.

[14]Alphanumeric designations correspond to the related action plan items in NUREG-0718 and NUREG-0660, relating to the TMI accident in 1979 (see 10 CFR 50.34(f)(a)(1), footnote 10).

discussed in the October 31, 2000, Model Safety Evaluation, as it relates to the development of contingency plans for sampling and analysis of highly radioactive samples from the reactor coolant system, containment sump, and containment atmosphere.

28. For those licensees subject to 10 CFR 50.34(f), 10 CFR 50.34(f)(2)(xvii) requires instrumentation to measure, record and readout of various containment parameters, including noble gas effluents at all potential, accident release points. In addition, an applicant must provide for continuous sampling of radioactive iodines and particulates in gaseous effluents from all potential accident release points, and for onsite capability to analyze and measure these samples (TMI Item II.F.1). RG 1.97 provides guidance relating to instrumentation to assess plant and environmental conditions during and following an accident.

29. 10 CFR 50.72(a)(3) and (c)(3) require the notification of the NRC Operations Center following the declaration of an emergency in accordance with the licensee's approved emergency plans, and the establishment of an open and continuous communications channel when requested by the NRC. 10 CFR 50.72(a)(4) establishes requirements for the activation of the ERDS following the licensee's declaration of an alert, site area emergency, or general emergency. NUREG-1022 provides the minimum standards and acceptance methods that may be used to comply with these NRC reporting requirements. 10 CFR 73.71(a) requires the notification of the NRC Operations Center as soon as possible, but not later than 15 minutes, after the discovery of an imminent or actual safeguards threat against the facility or other safeguards events. Regulatory Guide 5.62 provides the minimum standards and acceptance methods that may be used to comply with these NRC reporting requirements.

30. The emergency planning and preparedness standards and requirements in 10 CFR Part 50, 10 CFR Part 52, and 10 CFR Part 100 are supplemented by various generic communications and Commission Orders.[15] Those generic communications that relate to emergency planning and are currently in effect are identified in Subsection VI (below). They provide additional guidance and criteria for meeting the relevant emergency planning standards and requirements. Any subsequently issued generic communications or Commission Orders that pertain to emergency planning and preparedness and are relevant to the application should also be addressed by the applicant.

Technical Rationale

The technical rationale for application of the above acceptance criteria to the review of emergency planning and preparedness is discussed in the following paragraphs.

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[15]See also 10 CFR 52.79(a)(37), which requires that a COL application contain information which demonstrates how operating experience insights from generic letters and bulletins issued up to 6 months before the docket date of the application, or comparable international operating experience, have been incorporated into the plant design.

1. On May 21, 1970, the Atomic Energy Commission published in the *Federal Register* (35 FR 7818) proposed emergency planning amendments to 10 CFR Part 50, which would amend 10 CFR 50.34 and add a new Appendix E to 10 CFR Part 50. The proposed amendments, which were adopted, required the submission of certain information pertaining to licensee's emergency plans to the Commission for facility CPs and OLs. On December 19, 1979, following the TMI-2 accident, the NRC upgraded its emergency planning regulations in order to assure that adequate protective measures can and will be taken in the event of a radiological emergency. The final regulations, effective November 3, 1980, served to clarify and upgrade the requirements in 10 CFR Part 50 and Appendix E thereto.[16]

2. The Commission's final rules are based on the significance of adequate emergency planning and preparedness, in order to ensure adequate protection of the public health and safety. Onsite and offsite emergency preparedness, as well as proper siting and engineered design features, are needed to protect the health and safety of the public. The protection provided by siting and engineered design features is bolstered by the ability to take protective measures during the course of an incident. In order to discharge effectively its statutory responsibilities, the Commission must know that proper means and procedures will be in place to assess the course of an incident and its potential severity, that NRC and other appropriate authorities and the public will be notified promptly, and that adequate protective actions in response to actual or anticipated conditions can and will be taken.

3. 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47, Appendix E to 10 CFR Part 50, and 10 CFR 100.21(g) establish the requirements to be met in emergency planning and preparedness at various stages of the licensing process. The issuance of a CP, OL, or COL for a nuclear power plant, is based in part on findings made by the NRC that adequate protection can and will be taken in the event of a radiological incident. Many of the emergency planning and preparedness requirements are a direct result of lessons learned from the TMI-2 accident. Proper emergency response actions are critical to mitigating the potential adverse impact that a reactor incident may have on the local population and/or the environment.

4. Various requirements in 10 CFR Part 52 supplement the basic emergency planning requirements in 10 CFR 50.47 and Appendix E to 10 CFR Part 50. The applicable emergency planning requirements for an application under 10 CFR Part 52 will be determined by the specific application. 10 CFR Part 52 governs the issuance of an ESP, certified standard design, and COL for nuclear power facilities. Compliance with the requirements in 10 CFR Part 52, as it relates to emergency planning and preparedness, requires that various aspects of emergency planning and preparedness be addressed in an application prior to construction of a nuclear power facility. These requirements are imposed to ensure that site-specific, design related, or comprehensive emergency plans and preparedness are addressed, consistent with the timing aspect and desired level of detail in the specific application.

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[16]See 10 CFR Parts 50 and 70, Emergency Planning, Statements of Consideration, 45 FR 55402, August 19, 1980. The final rules were determined to be consistent with the NRC Authorization Act for fiscal year 1980, Pub. L. No. 96-295.

5. Subpart A of 10 CFR Part 52 sets out the requirements applicable to issuance of ESPs for approval of a site or sites for one or more nuclear power facilities, separate from the filing of an application for a CP or COL. 10 CFR 52.17 and 10 CFR 52.18 identify required and optional site-specific emergency planning elements. The requirements vary, depending upon whether the application (1) only identifies significant impediments to developing emergency plans, and describes offsite contacts and arrangements; (2) also proposes major features of emergency plans; or (3) proposes complete and integrated emergency plans. For major features of an emergency plan or complete and integrated emergency plans, 10 CFR 52.17(b)(3) addresses the requirements for ITAAC. The applicability of these requirements to an ESP application will depend on the chosen ESP application option, and extent of emergency planning information in the application.

6. Subpart B of 10 CFR Part 52 sets out the requirements applicable to issuance of rules granting standard design certification for a nuclear power facility, separate from the filing of an application for a CP, OL, or COL. A standard design is one which is sufficiently detailed and complete, and which is usable for a multiple number of units or at a multiple number of sites. 10 CFR 52.47 and 10 CFR 52.48 require, in part, that the application contains the technical information required of CP and OL applicants by 10 CFR Part 50 and its appendices, and which is technically relevant to the design proposed for the facility and not site-specific. This includes the relevant emergency planning elements in 10 CFR 50.47 and Appendix E to 10 CFR Part 50. In addition, 10 CFR 52.47(b)(2) addresses the requirement for proposed ITAAC, including design related emergency planning ITAAC.

7. Subpart C of 10 CFR Part 52 sets out the requirements applicable to issuance of COLs for nuclear power facilities. 10 CFR 52.77, 10 CFR 52.79, 10 CFR 52.81, 10 CFR 52.83, and 10 CFR 52.97 identify emergency planning elements that are required for a COL application. 10 CFR 52.80(b) addresses the requirement for emergency planning ITAAC related to COL applications. Unless otherwise specifically provided for in this subpart, all provisions of 10 CFR Part 50 and its appendices applicable to holders of a CP or OL also apply to holders of a COL. This includes the relevant emergency planning requirements in 10 CFR 50.47 and Appendix E to 10 CFR Part 50.

8. Security-related requirements to be met in emergency planning and preparedness are provided in 10 CFR 50.72(a)(3), 10 CFR 50.72(a)(4), 10 CFR 50.72(c)(3), and 10 CFR 73.71(a). In addition, the Commission Orders of February 25, 2002, ensure that the emergency plan has considered the adequacy of site emergency evacuation strategies, onsite staffing, facilities, procedures, and EALs for security events, in order to accomplish necessary response actions.

9. 44 CFR Parts 350, 351, and 352, including applicable DHS policies, REP-series guidance documents and associated memoranda, establish policy and procedures for review and evaluation of the adequacy of offsite radiological emergency plans and procedures by DHS. In addition, they set out Federal agency roles and assign tasks regarding Federal assistance to State, tribal, and local governments in their radiological emergency planning and preparedness activities.

Meeting these requirements provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

III. REVIEW PROCEDURES

For each area of review specified in Subsection I of this SRP section, the review procedure is identified below. These review procedures are based on the identified SRP acceptance criteria. For deviations from these specific acceptance criteria, the staff should review the applicant's evaluation of how the proposed alternatives to the SRP criteria provide an acceptable method of complying with the relevant NRC requirements identified in Subsection II.

General Review Procedures[17]

1. Following the acceptance of each safety analysis report (SAR), the application review is conducted on a schedule that is established by Office of Nuclear Reactor Regulation (NRR) for each SAR. The reviewer should examine the overall review schedule and identify the key milestones that are related to the review of emergency planning information in the application. The reviewer should determine the specific milestones and/or deliverables that apply to the review of onsite information, and to the review of offsite information. The reviewer should become familiar with and follow the record-keeping requirements, as directed by the project manager, including entering relevant documents or records into ADAMS under the appropriate application docket number.

2. The emergency plan should be a physically separate document identified as Section 13.3 of the SAR, and may incorporate by reference various State and local emergency plans and other relevant materials. The reviewer should confirm that the application includes a copy of all referenced plans and procedures or other materials, which serve to establish compliance with the applicable emergency planning standards and requirements. The application should include a table of contents and a cross-reference to applicable regulatory requirements, criteria contained in guidance documents, generic communications, Commission Orders, and other criteria that are addressed. For multi-unit sites, the reviewer should also carefully distinguish whether the emergency plans are applicable only to one unit, or to subsequent units as well.

3. The extent of the review will depend upon the specific application (i.e., whether the application is for a CP, OL, ESP, standard design certification, or COL). In addition to the general review areas common to most applications, various application-specific review procedures are provided below. If applicable, the reviewer should examine relevant sections of the SAR, particularly sections found in Chapters 1, 2, 6, 7, 9, 11, and 15. The reviewer should examine Chapter 1, or other relevant chapters, to identify the industry standards and regulatory guidance the applicant has committed to that are related to emergency planning and preparedness. The reviewer should also gain familiarity with proposed radiation protection activities and other operational matters that

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[17]Some of the general review procedures in this section may have been performed as part of the application acceptance review; others that are site-related may not apply to standard design certification applications.

interface with emergency plans; particularly, as described in the SAR in sections of Chapters 12 and 13.

4. Although the bulk of the emergency planning information should be found in Section 13.3 of the SAR (or referenced therein), the reviewer should gain familiarity with the site, including the emergency planning zones, demography, land use, plant design and layout, and major accidents and/or incidents postulated by the applicant. The reviewer may supplement this information by a personal visit to the site and meetings with the applicant. If the applicant is a licensee for a previously licensed plant, the reviewer should review recent NRC emergency planning and health physics inspection reports, and discuss any identified concerns with appropriate regional inspectors.

5. The reviewer should confirm that the application addresses physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans, as required by 10 CFR 100.1, 10 CFR 100.3, 10 CFR 100.20, and 10 CFR 100.21(g). If such physical characteristics are identified, the reviewer should determine whether the application identifies measures that would, when implemented, mitigate or eliminate the significant impediment.

6. In consultation with the assigned reviewer for SRP Section 2.1, the reviewer should determine whether the area surrounding the reactor and exclusion zone comply with the definition of "exclusion area" and "low population zone" in 10 CFR 100.3. While the exclusion area and low population zone are reviewed in SRP Section 2.1, the relationship of the population and characteristics within these areas to emergency planning should also be examined. Specifically, the reviewer should confirm that the following are adequately addressed as part of the review under SRP Section 2.1:

   a. The applicant has the authority to determine all activities, including exclusion or removal of personnel and property, from the exclusion area;

   b. The applicant has made appropriate and effective arrangements to control traffic on the highways, railroads, or waterways within the exclusion area in case of emergency;

   c. Residences within the exclusion area are subject to ready removal in case of necessity; and

   d. The total number and density of residents within the low population zone is such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious incident.

7. The reviewer should determine whether the applicant is subject to 10 CFR 50.34(f), and if so, whether the application complies with the technically relevant portions of the TMI requirements set forth in 10 CFR 50.34(f)(2)(iv), (viii), (xvii), and (xxv), as they pertain to emergency preparedness and response. These requirements may be met by satisfying the requirements in 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50.

8. In general, if an application is for an additional reactor at an operating reactor site, and the application proposes to incorporate and extend elements of the existing emergency planning program to the new reactor (included by reference), those existing elements should be considered acceptable and adequate. The reviewer should generally focus the review on the extension of the existing program to the new reactor, and should determine whether the incorporated emergency planning program information from the existing reactor site (1) is applicable to the proposed reactor, (2) is up-to-date when the application is submitted, and (3) reflects use of the site for construction of a new reactor (or reactors) and appropriately incorporates the new reactor(s) into the existing plan. This includes examining how the existing elements have been incorporated into the application, determining the acceptability of expanding the existing program to include one or more additional reactors, and determining the acceptability of the applicant's identification of any impact on the adequacy of the existing emergency preparedness program. The reviewer should confirm that the applicant has appropriately identified whether any updates are required to existing emergency facilities and equipment, including the Alert and Notification System (ANS), in order to accommodate extension to the proposed new reactor. If appropriate, the reviewer should determine whether the applicant has addressed the exercise requirements for co-located licensees, in accordance with Section IV.F.2.c of Appendix E to 10 CFR Part 50, and the conduct of emergency preparedness activities and interactions discussed in Regulatory Guide 1.101, Rev. 5. When appropriate, the reviewer should also evaluate any proposed changes that the licensee submits that involve a decrease in effectiveness of the existing emergency preparedness program.

9. The reviewer should determine whether the application includes copies of the applicable letters of agreement or other certifications, required by 10 CFR 52.17, 10 CFR 52.79, or Appendix E to 10 CFR Part 50. The reviewer should confirm that the agreement information is up-to-date when the application is submitted, and reflects use of the proposed site for possible construction of a new reactor (or reactors). The applicant should clarify any ambiguous or incomplete language in the letters of agreement or certifications. For an existing reactor site, the description of contacts and arrangements[18] should clearly address the presence of an additional reactor (or reactors) at the site, and any impact that would have on governmental agency or private organization emergency planning responsibilities, including acknowledgment by the agencies or organizations of the proposed expanded responsibilities. If the applicant is unable to make arrangements with local, tribal, State, or Federal governmental agencies with emergency planning responsibilities, for whatever reason, the applicant should discuss its efforts to make such arrangements and describe any compensatory measures the applicant has taken or plans to take because of the lack of such arrangements.

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[18]Another acceptable method of addressing this issue would be through the use of separate correspondence. Such correspondence might be appropriate, for example, in a case for which an existing letter of agreement is written in a way that is broad enough to cover an expanded site use, and does not need to be revised. The correspondence would identify this fact.

10. The review consists of an evaluation of the emergency planning and preparedness information submitted by the applicant, using the foregoing acceptance criteria. The reviewer must determine whether the applicable acceptance criteria identified in Subsection II (above) have been satisfactorily met. The reviewer should identify any deficiencies, and use them to form the basis for requests for additional information (RAIs), discussed below. The reviewer should discuss proposed RAIs or position statements with the appropriate project manager and technical manager. Such further review may result in a determination that (a) the acceptance criterion in question does not apply; (b) the applicant has proposed an acceptable alternative; (c) the proposed acceptance alternative is unacceptable; or (d) no acceptable alternative has been proposed or identified. For deviations from the specific acceptance criteria, the reviewer should review the applicant's evaluation of how the proposed alternative to the SRP criteria provides an acceptable method of complying with the relevant rules or regulations of the Commission, or portions thereof, that underlie the corresponding SRP acceptance criteria. The reviewer should make an explicit finding in the appropriate sections of the SER of how the proposed alternative meets the applicable regulations. If any deficiencies remain in category (c) at the conclusion of the review, the reviewer should follow established NRC processes to attempt to resolve them.

11. Requests for additional information (RAIs) serve the purpose of enabling the staff to obtain all relevant information needed to make a decision on a licensing action request that is fully informed, technically correct, and legally defensible. RAIs are necessary when the information was not included in the initial submittal or is not contained in any other docketed correspondence. RAIs should be directly related to the applicable requirements related to the application, and consistent with the applicable codes, standards, regulatory guides, and/or the applicable Standard Review Plan (SRP) sections. RAIs should not be used as general information requests or as a means to encourage commitments from licensees. (See Section 4.3 of LIC-101, Rev. 3, "License Amendment Review Procedures.")

12. The detailed application of the acceptance criteria will in many instances require the exercise of judgement on the part of the reviewer. The reasonableness and adequacy of the factors involved should be viewed in the light of general emergency planning and response experience, bearing in mind that the broad objective of radiological emergency plans is to provide for dose savings in order to protect the public by mitigating the potential health consequences of radiation exposure. Ideally, such plans would ensure neither an over reaction nor an under reaction to unexpected events. The content of the application and emergency plans should be based upon the broad objective of providing reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency to protect individuals onsite and offsite and the environment.

13. Formal consultation with DHS is necessary, with respect to the relevant State, tribal, and local government emergency response capabilities.[19] In accordance with the general

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[19]An application for a certified standard design under Subpart B of 10 CFR Part 52 deals solely with plant features and does not address offsite emergency plans. As such, DHS review and consultation is not involved.

principles established in the 1993 MOU between the NRC and the DHS (formerly FEMA) relating to radiological emergency planning and preparedness, DHS takes the lead for assessing offsite radiological emergency response plans and preparedness, makes findings and determinations as to the adequacy and capability of implementing offsite plans, and communicates those findings and determinations to the NRC. NRC reviews the DHS findings in conjunction with the NRC onsite findings, in order to determine the overall state of emergency preparedness, in support of a radiological health and safety decision associated with issuance of a license or permit. Through the NRC/DHS Steering Committee, the reviewer should formally request DHS to review offsite plans and supporting procedures, and provide findings and determinations of this review to the NRC on a schedule agreed upon between the two agencies. The DHS review should be performed pursuant to 44 CFR Part 350, "Review and Approval of State and Local Radiological Emergency Plans and Preparedness," and in accordance with the NRC/DHS MOU. At the conclusion of the review, the NRC reviewer should prepare findings on the acceptability of the applicant's proposed plans for coping with emergencies, for input to the SER.

14. The reviewer should examine the generic communications identified in Subsection VI (below) to determine which ones are relevant to the specific application that is being reviewed, consistent with the applicable requirements in 10 CFR Part 50, 10 CFR Part 52, 10 CFR Part 73, and 10 CFR Part 100. In addition, the reviewer should identify any subsequently issued Generic Letters and Commission Orders that pertain to emergency planning and preparedness and are applicable to the application. The reviewer should review the application against all relevant Generic Letters and Commission Orders, and confirm that the applicable requirements have been adequately addressed in the application.

15. The reviewer should verify that the application addresses the NRC reporting requirements in 10 CFR 50.72(a)(3), 10 CFR 50.72(a)(4), and 10 CFR 50.72(c)(3).

Security-Based Considerations[20]

16. The reviewer should verify that the required NRC reporting requirements associated with discovery of an actual or imminent safeguards threat against the facility, or other safeguards event, are reflected in the site emergency plan and/or procedures.

17. The reviewer should verify that the applicant has determined the potential effect on the plant, onsite staffing and augmentation, and on site evacuation strategies from damage to nearby hazardous facilities, dams, and other nearby sites, with consideration of a security event, and has reflected this, as appropriate, in the plans and preparedness measures.

18. If available, the reviewer should verify that onsite staffing, facilities, and procedures are adequate to accomplish actions necessary in response to a security event, and the emergency plan and/or procedures reflect the specific site needs.

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[20]Any information submitted to the NRC that is proprietary, sensitive or safeguards information should be marked appropriately.

19. The reviewer should verify that the application contains EALs to ensure that a site-specific, security event results in an emergency classification declaration of at least a notification of unusual event. The classification scheme should also reflect the strategy for escalation to a higher-level event classification.

20. The reviewer should verify that the relevant requirements in 10 CFR 50.72(a)(3), 10 CFR 50.72(a)(4), 10 CFR 50.72(c)(3), and 10 CFR 73.71(a) are adequately addressed.

21. The reviewer should consult ICMs B.5.c, B.5.d, and B.5 e, contained in the February 25, 2002, Commission Orders, and the security-related emergency preparedness enhancements outlined in NRC Bulletin 2005-02 (referenced in RIS 2006-12). Only ICM B.5.c applies to applications for a Construction Permit.

22. The reviewer should review SRP Section 13.6, as it relates to consultation with DHS concerning the potential vulnerabilities of the location of the proposed facility to terrorist attack, as required by Section 657 of the Energy Policy Act of 2005.

Construction Permit

1. For the CP applicant, the reviewer should assess the applicant's plans as they relate to Section II of Appendix E to 10 CFR Part 50, and NUREG-0718, Appendix B, Sections I.D.2 and III.A.1.2 (Section I.D.2 is reviewed only to ensure that SPDS information capabilities are available in the TSC and EOF).

2. The reviewer should request a status report from DHS on the State, tribal, and local planning and preparedness in support of the application, but should emphasize that formal DHS findings are not required for this review, and DHS participation in CP hearings is not contemplated.

Operating License

1. At the beginning of the OL application review, the reviewer should examine the CP docket record, including PSAR, staff SER(s), recommendations of the Advisory Committee on Reactor Safeguards (ACRS), and the public hearing record, for information that may bear on the FSAR review of plans for coping with emergencies. For multi-unit sites, the reviewer should also carefully distinguish whether the plans are applicable only to one unit, or to subsequent units as well.

2. The emergency plan should be a physically separate document, as identified in Section 13.3 of the SAR. Copies of applicable State, tribal, and local radiological emergency response plans, procedures and other relevant materials, including supporting letters of agreement or certifications from local and State governmental agencies with emergency planning responsibilities, should be submitted as part of the application. The reviewer should confirm that the plans, procedures, and other materials are current and the latest revisions, as appropriate, and are applicable to the proposed reactor site. If the required agreements or certifications cannot be obtained

from State and local organizations, the application must contain information and a utility plan, in accordance with the requirements of 10 CFR 50.47(c)(1).

Early Site Permit

1. The reviewer should examine the relevant requirements in 10 CFR 52.17 and 10 CFR 52.18, including the referenced sections of 10 CFR 50.33, 10 CFR 50.47, and Appendix E to 10 CFR Part 50 for proposed complete and integrated emergency plans, and confirm that the required emergency plan information is included in the application. The NRC and DHS will use Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, as the primary guidance for the review of radiological emergency preparedness information and plans submitted with an ESP application, pursuant to Subpart A of 10 CFR Part 52.

2. If the applicant chooses to provide only the minimum required information, NRC will review, in consultation with DHS, the feasibility of emergency planning for the site. The review will examine the anticipated support from various governmental agencies and the adequacy of the information provided in the application, concerning whether there are any physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans. If a significant impediment is identified, the review will also determine whether the applicant has adequately identified measures that would, when implemented, mitigate or eliminate the significant impediment. Additional guidance concerning identifying physical characteristics unique to the propose site, and describing agency contacts and arrangements, is provided in Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1.

3. An ESP application that proposes major features of the emergency plans will be reviewed by NRC, in consultation with DHS, and evaluated against the selected and modified planning standards and evaluation criteria from Section II of NUREG-0654/FEMA-REP-1, Rev. 1. These planning standards and evaluation criteria for major features of the emergency plans, which are provided in Section V of Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, have been selected to:

   a. highlight the need for cooperation among the applicant, Federal, State, and local agencies, as addressed in 10 CFR 52.17(b)(4);

   b. address potential emergency planning issues early in the licensing process, before large commitments of resources are made; and

   c. reflect that an ESP applicant may not have certain information and resources, or should not be expected to expend resources on various aspects of emergency planning and preparedness that will be required, and may best be address at the COL stage.

   In addition, the standards and criteria that refer to facilities, systems, and equipment have been modified to address only descriptions, rather than in-place capabilities. The modifications to the emergency planning standards and evaluation criteria in Section V of Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, apply only to an ESP application for major features of the emergency plans.

4. As indicated in 10 CFR 52.17(b)(2)(ii), an ESP application may propose complete and integrated emergency plans for review and approval by NRC, in consultation with DHS, in accordance with the applicable provisions of 10 CFR 50.47. The review will use the guidance provided in the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, as clarified, interpreted, and modified by DHS, to determine whether the plans meet the applicable regulatory requirements.

5. The reviewer should examine the specific emergency planning ITAAC in the application, and confirm that they are consistent with the ITAAC contained in Table 13.3-1, which provides an acceptable set of generic emergency planning ITAAC. The reviewer should confirm that the proposed ITAAC have been tailored to the specific reactor design and emergency planning program requirements. A smaller set of COL ITAAC is acceptable if the application contains information that fully addresses emergency preparedness requirements associated with any of the generic ITAAC in Table 13.3-1 that are not used. Table 13.3-1 is not all-inclusive, or exclusive of other ITAAC an applicant may propose. If the applicant proposes additional plant-specific emergency planning ITAAC (i.e., beyond those listed in Table 13.3-1), the reviewer should examine them and determine their acceptability on a case-by-case basis.

Standard Design Certification

1. The reviewer should examine the requirements in 10 CFR 52.47 and 10 CFR 52.48, relating to the application contents and standards for review, respectively. Emergency planning basically consists of facilities, equipment, personnel and training. The majority of emergency planning requirements are programmatic in nature and supplement physical facilities and equipment. The reviewer should confirm that any emergency planning features addressed in the application are technically relevant to the design (i.e., facilities and equipment) proposed for the facility and not site-specific (i.e., programmatic in nature), and are usable for a multiple number of units or at a multiple number of sites. In general, programmatic aspects of emergency planning and preparedness are the responsibility of a COL applicant that references the certified standard design. The application may, but is not required to, identify such programmatic responsibilities as COL action or information items. Although the COL applicant will address most aspects of emergency planning, the standard design may consider design features, facilities, functions, and equipment necessary to support emergency preparedness and response.

2. If applicable, the reviewer should confirm that the application identifies the technically relevant portions of the requirements in 10 CFR 50.34(f)(1) through 10 CFR 50.34(f)(3), and determine whether the application demonstrates compliance with them (see 10 CFR 52.47(a)(17)).

3. The reviewer should examine the relevant sections of the SAR that address facilities, equipment, and systems that support the emergency preparedness and response capabilities of the proposed reactor design. The application may, but is not required to, address facilities that support emergency response. These facilities include, but are not limited to, the TSC, OSC, and decontamination facilities. The reviewer should

determine whether the proposed facilities satisfactorily meet the relevant acceptance criteria, which address location, size, and habitability during an emergency.

4. The reviewer should determine whether the proposed equipment and system designs that support the facilities satisfactorily meet the relevant acceptance criteria. For example, the reviewer should examine, at a minimum, the proposed ventilation system that ensures the habitability of the TSC. To the extent that the TSC shares a common ventilation system with the control room or other area of the plant, the reviewer should also examine that aspect of the design to determine any impact on TSC habitability. In addition, if addressed in the application, and to the extent that it is related to the non-site-specific design, the reviewer should also examine the ERDS, SPDS, voice and data communications capabilities, and radiological protection, monitoring and decontamination equipment. The application may, but is not required to, address these additional equipment and system descriptions. Further, the application may, but is not required to, identify these additional descriptions as COL action or information items.

5. The reviewer should examine the proposed ITAAC, and should determine whether the ITAAC are necessary and sufficient to provide reasonable assurance that, if the tests, inspections and analyses are performed and the acceptance criteria met, a plant which references the design will be built, and will operate, in accordance with the design certification.

6. The procedures above should be followed, as modified by the procedures in SRP Section 14.3, to verify that the design set forth in the standard SAR (including ITAAC), site interface requirements and COL action or information items, meet the acceptance criteria given in Subsection II. SRP Section 14.3 contains procedures for the review of certified design material for the standard design, including the site parameters, interface criteria, and ITAAC.

Combined License

1. The reviewer should examine the relevant requirements in 10 CFR 52.77, 10 CFR 52.79 and 10 CFR 52.80, including the referenced sections of 10 CFR 50.33, 10 CFR 50.47, and Appendix E to 10 CFR Part 50, and confirm that the required emergency plan information is included in the application. The relevant requirements of 10 CFR 50.34 should also be examined. 10 CFR 52.81 indicates the standards for review of a COL application.

2. The emergency plans, including associated implementing procedures (if appropriate), should be a physically separate document, as identified in Section 13.3 of the SAR. Copies of applicable State, tribal, and local radiological emergency response plans and procedures, including supporting letters of agreement or certifications from local, tribal, and State governmental agencies with emergency planning responsibilities, should be submitted as part of the application. The reviewer should confirm that the plans, procedures, and other materials are current and the latest revisions, as appropriate, and are applicable to the proposed reactor site. If the required agreements or certifications cannot be obtained from State, tribal, and local organizations, the application must

contain information and a utility plan, in accordance with the requirements of 10 CFR 52.79(a)(22)(ii) and 10 CFR 50.47(c)(1).

3. The reviewer should determine whether the application has incorporated by reference an ESP that has been issued for the proposed COL site or a certified standard design, pursuant to 10 CFR 52.73. If so, the application need not contain information submitted in connection with the ESP or certified design, but must contain emergency planning information required of applicants for an OL, when combined with that approved in the ESP and/or certified design. The emergency planning information approved in connection with the issuance of the ESP or certified design should not be re-examined for adequacy, but should be reviewed to determine that it is still valid, e.g., the ESP has not expired; and it has been incorporated into the application to form a complete and integrated plan.

4. For a referenced ESP or certified design, the reviewer should confirm that the SAR addresses any conditions or requirements in the referenced ESP or certified design that relate to emergency planning, such as COL action or information items, permit conditions, or ITAAC. For a referenced ESP, the reviewer should determine whether the application includes any new or additional information that updates or corrects the information that was provided under 10 CFR 52.17(b), and if so, whether the applicant discusses whether the new or additional information materially changes the bases for compliance with the applicable requirements, as required by 10 CFR 52.79(b)(4). If the proposed facility emergency plans incorporate existing emergency plans or major features of emergency plans, the reviewer should confirm that the application identifies changes to the emergency plans or major features of emergency plans that have been incorporated into the proposed facility emergency plans, and that constitute a decrease in effectiveness under 10 CFR 50.54(q). 10 CFR 52.79(b)(5) provides that if complete and integrated emergency plans are approved as part of the ESP, new certifications meeting the requirements of 10 CFR 52.79(a)(22) are not required. The reviewer should determine if the applicant has provided updates to the certifications to incorporate new and significant information, if required.

5. The reviewer should confirm that the application identifies the technically relevant portions of the requirements in 10 CFR 50.34(f)(1) through 10 CFR 50.34(f)(3), and determine whether the application demonstrates compliance with them (see 10 CFR 50.34(f)).

6. The reviewer should identify the EAL scheme proposed in the application, and determine whether it is consistent with methods that have been found acceptable by the NRC staff for complying with NRC regulations; i.e., Appendix 1 to NUREG-0654/FEMA-REP-1, Rev. 1, NUMARC/NESP-007, or NEI 99-01 (as endorsed by the applicable revision of RG 1.101). If the applicant proposes an EAL scheme that differs from those acceptable for the existing light water reactors, the reviewer should examine the technical basis for the EALs and determine whether the alternative scheme is acceptable.

7. The reviewer should confirm that the emergency planning ITAAC contained in a referenced standard design certification apply to those portions of the facility design that

are approved in the design certification, as required by 10 CFR 52.80(b)(2). Further, pursuant to 10 CFR 52.80(b)(3), if the application references an ESP with ITAAC or a standard design certification, or both, the application may include a notification that a required inspection, test, or analysis in the ITAAC has been successfully completed, and that the corresponding acceptance criterion has been met. The *Federal Register* notification required by 10 CFR 52.85 must indicate that the application includes this notification.

8. 10 CFR 52.80(b) requires that an application must include the proposed ITAAC, including those applicable to emergency planning. The reviewer should examine the specific emergency planning ITAAC in the application, and confirm that they are consistent with the ITAAC contained in Table 13.3-1, which provides an acceptable set of generic emergency planning ITAAC. The reviewer should confirm that the proposed ITAAC have been tailored to the specific reactor design and emergency planning program requirements. A smaller set of COL ITAAC is acceptable if the application contains information that fully addresses emergency preparedness requirements associated with any of the generic ITAAC in Table 13.3-1 that are not used. Table 13.3-1 is not all-inclusive, or exclusive of other ITAAC an applicant may propose. If the applicant proposes additional plant-specific emergency planning ITAAC (i.e., beyond those listed in Table 13.3-1), the reviewer should examine them and determine their acceptability on a case-by-case basis.

IV. EVALUATION FINDINGS

The SERs and evaluation findings for each of the application types should address how the emergency plans meet the applicable licensing requirements. The reviewer should verify that the applicant has provided sufficient information, and that the evaluation supports findings and conclusions of the types indicated below. The SER provides the detailed bases for the findings and conclusions, which are summarized in the evaluation finding. The evaluation finding may also be included in the permit or license that the Commission issues.

1. Construction Permit

The SER at the CP stage should indicate the specific bases for the findings and conclusions, including how the plans meet Section II of Appendix E to 10 CFR Part 50, 10 CFR 50.34,[21] and 10 CFR 100.21(g). In addition, the SER should include the results of the interim findings and/or status report submitted by DHS. The desired evaluation findings at the CP stage should be substantially equivalent to the following:

> The staff reviewed the applicant's onsite preliminary plans for coping with emergencies, required by 10 CFR 50.34(a)(10), and DHS's interim finding and/or status report on

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[21] 10 CFR 50.34(f), "Additional TMI-related requirements," only applies to those applicants for a light-water-reactor construction permit whose application was pending as of February 16, 1982. 10 CFR 50.34(f)(2)(iv), if applicable, only applies to a review to assure that safety parameter display system (SPDS) information capabilities are available in the Technical Support Center (TSC) and Emergency Operations Facility (EOF). The bases for compliance with the additional TMI-related requirements should also be included in the SER.

currently available offsite plans and procedures. The staff concludes that the preliminary plans are acceptable and meet the requirements of Section II of Appendix E to 10 CFR Part 50, 10 CFR 50.34, and 10 CFR 100.21(g). In addition, the staff concludes that the PSAR contains sufficient information to ensure the compatibility of proposed emergency plans for both onsite areas and the EPZs, with facility design features, site layout, and site location with respect to such considerations as access routes, surrounding population distributions, land use, and local jurisdictional boundaries for the EPZs, by which the standards of 10 CFR 50.47(b) will be met.

The staff reviewed the emergency plans and preparedness against the Commission Orders of February 25, 2002, relating to security-based events and considerations, and concludes that they adequately address Interim Compensatory Measures (ICMs) B.5.c, B.5.d, and B.5.e, to the extent necessary at the CP stage.

The permit holder has committed to meet the following permit conditions, consistent with the dates indicated, for the emergency preparedness program:

[List the permit conditions.]

2. Operating License

The SER at the OL stage should summarize the specific bases for the findings and conclusions, including how the plans meet each of the standards of 10 CFR 50.47(b), 10 CFR 50.34,[22] and Appendix E to 10 CFR Part 50. The findings should generally adhere to the format of Part II of NUREG-0654/FEMA-REP-1, Rev. 1. In addition, the SER should include a summary of the results of the offsite findings and determinations submitted by DHS, which may be combined with the NRC's onsite findings under the respective planning standard discussion. The desired evaluation finding at the OL stage should be substantially equivalent to the following:

> The staff has reviewed the radiological emergency response plans provided in the [applicant's name] operating license (OL) application for the [plant name]. The staff reviewed the onsite plan against the requirements of 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47, 10 CFR 50.72, Appendix E to 10 CFR Part 50, 10 CFR 73.71, and 10 CFR 100.21, using the applicable guidance criteria, the results of onsite inspections of the emergency preparedness program, and an evaluation of the performance of the onsite emergency response organization in implementing the plans during a full or partial participation exercise. The staff concludes that, provided the items identified below as required conditions for the full power license are met, the [plant name] onsite emergency plan provides an adequate planning basis for an acceptable state of onsite

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[22] 10 CFR 50.34(f), "Additional TMI-related requirements," only applies to those applicants for a light-water-reactor construction permit whose application was pending as of February 16, 1982. 10 CFR 50.34(f)(2)(iv), if applicable, only applies to a review to assure that safety parameter display system (SPDS) information capabilities are available in the Technical Support Center (TSC) and Emergency Operations Facility (EOF). The bases for compliance with the additional TMI-related requirements should also be included in the SER.

emergency preparedness, and there is reasonable assurance that it can be implemented.

The Department of Homeland Security (DHS) has provided its findings and determinations on the adequacy of offsite emergency planning and preparedness, which are based on its review of State, tribal, and local emergency plans and procedures, offsite inspections, and an evaluation of the performance of the offsite emergency response organizations in implementing the plans and procedures during a full or partial participation exercise. DHS concludes that the offsite State, tribal, and local emergency plans and procedures are adequate to cope with an incident at the [plant name], and that there is reasonable assurance that they can be implemented. Based on the staff review of these DHS findings and determinations, the staff concludes that, provided the items identified below as required conditions and limitations are met, the [plant name] offsite emergency plans provide an adequate planning basis for an acceptable state of offsite emergency preparedness, and there is reasonable assurance that they can be implemented.

The staff reviewed the emergency plans and preparedness against the Commission Orders of February 25, 2002, relating to security-based events and considerations, and concludes that they adequately address Interim Compensatory Measures (ICMs) B.5.c, B.5.d, and B.5.e.

The staff concludes that the emergency plans describe the overall concept of operation, the essential elements of advanced planning that have been considered, and the provisions that have been made to cope with emergency situations. As such, the staff concludes that the overall state of onsite and offsite emergency preparedness meets the requirements of 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47,[23] 10 CFR 50.72, Appendix E to 10 CFR Part 50, 10 CFR 73.71, and 10 CFR 100.21. Further, pursuant to 10 CFR 50.47(a), the staff concludes that, subject to the required conditions of the full-power license, there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the [plant name] site, and that emergency preparedness at [plant name] is adequate to support full-power operations.

The licensee has committed to meet the following license conditions for full-power operation, consistent with the dates indicated, for the emergency preparedness program:

[List the license conditions.]

3. Early Site Permit

The evaluation findings for an ESP will vary, depending upon the ESP application option chosen by the applicant. All ESP applications must address the significant impediments

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[23]For an applicant subject to non-participation by State and/or local governments in emergency planning under 10 CFR 50.47(c)(1), the evaluation findings should reflect the staff's review of the applicant's emergency plan (i.e., utility plan), pursuant to 10 CFR 50.47(c)(1)(iii).

and contacts and arrangements requirements. An applicant may also choose to submit either major features or complete and integrated emergency plans. The desired evaluation findings at the ESP stage for the three ESP options should be substantially equivalent to the following:

a. Significant Impediments/Contacts and Arrangements

The staff has reviewed the physical characteristics unique to the proposed site, and the description of contacts and arrangements made with Federal, State, and local governmental agencies with emergency planning responsibilities, for the [indicate applicant] early site permit (ESP) application for [indicate site names].

The staff concludes, after consultation with the Department of Homeland Security (DHS), the following:

[Summarize important NRC and DHS review findings.]

Therefore, based on the review and for the reasons set forth above, the staff finds that there are no significant impediments to the development of emergency plans, and that the emergency planning information meets the requirements of 10 CFR 52.17(b)(1), 10 CFR 52.17(b)(4), 10 CFR 52.18, and 10 CFR 100.21(g).

When referenced by a combined license (COL) applicant pursuant to 10 CFR 52.73, this ESP is subject to the following permit conditions, COL action items, and ITAAC for the emergency preparedness program:

[List the permit conditions, COL action items, and ITAAC.]

b. Major Features of the Emergency Plans

The staff has reviewed the proposed major features of the emergency plans for the [indicate applicant] early site permit (ESP) application for [indicate site name]. The staff concludes, after consultation with the Department of Homeland Security (DHS), the following:

[Summarize important NRC and DHS review findings; including the extent to which the emergency plans do, or do not, satisfy the planning standards and evaluation criteria in Section V of Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, and applicable DHS criteria.]

Therefore, based on the review and for the reasons set forth above, the staff finds that the major features of the emergency plans proposed in the [applicant] [plant name] ESP application, and indicated above as having satisfied applicable guidance, are acceptable, and meet the requirements of 10 CFR 52.17(b)(2)(i), 10 CFR 52.17(b)(4), 10 CFR 52.18, 10 CFR 50.47, Appendix E to 10 CFR Part 50, and 10 CFR 100.21(g).

When referenced by a combined license (COL) applicant pursuant to 10 CFR 52.73, this ESP is subject to the following permit conditions and COL action items for the emergency preparedness program:

[List the permit conditions and COL action items.]

c. Complete and Integrated Emergency Plans

The SER at the ESP stage should summarize the specific bases for the findings and conclusions, including how the plans meet each of the standards of 10 CFR 50.47(b), 10 CFR 50.34,[24] and Appendix E to 10 CFR Part 50. The findings should generally adhere to the format of Part II of NUREG-0654/FEMA-REP-1, Rev. 1. In addition, the SER should include a summary of the results of the offsite findings and determinations submitted by DHS, which may be combined with the NRC's onsite findings under the respective planning standard discussion. The desired evaluation finding at the ESP stage should be substantially equivalent to the following:

> The staff has reviewed the complete and integrated radiological emergency response plans provided in the [applicant] early site permit (ESP) application for the [plant name]. The staff reviewed the onsite emergency plan against the requirements of 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47, 10 CFR 50.72, Appendix E to 10 CFR Part 50, 10 CFR 73.71, and 10 CFR 100.21, using the applicable guidance criteria. The staff concludes that, provided the items identified below as required conditions and ITAAC are met, the [plant name] onsite emergency plan provides an adequate planning basis for an acceptable state of onsite emergency preparedness, and there is reasonable assurance that it can be implemented.
>
> The Department of Homeland Security (DHS) has provided its findings and determinations on the adequacy of offsite emergency planning and preparedness, which are based on its review of State, tribal, and local emergency plans and procedures. DHS concludes that the offsite State, tribal, and local emergency plans and procedures are adequate to cope with an incident at the [plant name], and that there is reasonable assurance that they can be implemented. Based on the staff review of these DHS findings and determinations, the staff concludes that, provided the items identified below as required conditions and limitations are met, the [plant name] offsite emergency plans provide an adequate planning basis for an acceptable state of offsite emergency preparedness, and there is reasonable assurance that they can be implemented.
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> Pursuant to 10 CFR 52.17(b)(3), the [plant name] emergency plan includes the proposed inspections, tests, and analyses that the holder of a combined license referencing the [plant name] ESP shall perform, and the acceptance criteria that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met (i.e., ITAAC), the [plant name] has been constructed and will operate in conformity with the license, the provisions of the Atomic Energy Act, and the NRC's regulations.

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[24] 10 CFR 50.34(f), "Additional TMI-related requirements," only applies to those applicants for a light-water-reactor construction permit whose application was pending as of February 16, 1982. 10 CFR 50.34(f)(2)(iv), if applicable, only applies to a review to assure that safety parameter display system (SPDS) information capabilities are available in the Technical Support Center (TSC) and Emergency Operations Facility (EOF). The bases for compliance with the additional TMI-related requirements should also be included in the SER.

The staff reviewed the emergency plans and preparedness against the Commission Orders of February 25, 2002, relating to security-based events and considerations, and concludes that they adequately address Interim Compensatory Measures (ICMs) B.5.c, B.5.d, and B.5.e.

The staff concludes that the emergency plans describe the overall concept of operation, the essential elements of advanced planning that have been considered, and the provisions that have been made to cope with emergency situations. As such, the staff concludes that the overall state of onsite and offsite emergency preparedness, when fully implemented, will meet the requirements of 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47,[25] 10 CFR 50.72, Appendix E to 10 CFR Part 50, 10 CFR 52.17(b)(2)(ii), 10 CFR 52.17(b)(4), 10 CFR 52.18, 10 CFR 73.71, and 10 CFR 100.21. Further, pursuant to 10 CFR 50.47(a), the staff concludes that, subject to the required conditions and limitations of the full-power license and satisfactory completion of the ITAAC, there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the [plant name] site, and that emergency preparedness at [plant name] is adequate to support full-power operations.

When referenced by a combined license (COL) applicant pursuant to 10 CFR 52.73, this ESP is subject to the following permit conditions, COL action items, and ITAAC for full power, consistent with the dates indicated, for the emergency preparedness program:

[List the permit conditions, COL action items, and ITAAC.]

4. Standard Design Certification

The SER for a certified design should summarize the specific bases for the findings and conclusions, including how the plans meet each of the applicable standards of 10 CFR 50.34, 10 CFR 50.47(b), and Appendix E to 10 CFR Part 50. The findings may vary, depending upon the level of detail in the application and the extent to which an applicant chooses to address certain design related aspects of emergency planning in the application. These should be limited to non-site-specific emergency planning features that are technically relevant to the design, usable for a multiple number of units or sites. The desired evaluation findings at the standard design certification stage should be substantially equivalent to the following:

a. Emergency Planning Responsibilities

The staff concludes that the COL applicant referencing the [reactor] design will be the primary party addressing emergency planning, and that emergency planning information submitted in the application will largely depend on plant- and site-specific characteristics. As such, the staff finds that [COL Action Item 13.3-x] is acceptable, in that it complies with the requirements set forth in 10 CFR 52.79(a)(22), and through it the applicable requirements of 10 CFR 50.47 and Appendix E to 10 CFR Part 50. It is consistent with the extent to which certain emergency planning design features,

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[25]For an applicant subject to non-participation by State and/or local governments in emergency planning under 10 CFR 50.47(c)(1), the evaluation findings should reflect the staff's review of the applicant's emergency plan (i.e., utility plan), pursuant to 10 CFR 50.47(c)(1)(iii).

facilities, functions, and equipment are more appropriately addressed by the COL applicant.

b. General Description of Facilities

The staff concludes that the information provided in the application pertaining to the [TSC, OSC, decontamination room, etc.] is consistent with the guidance identified in RG 1.101. As such, the staff finds this information meets the applicable requirements of 10 CFR 50.47(b)(8), 10 CFR 50.47(b)(11), and Subsections IV.E.3 and IV.E.8 of Appendix E to 10 CFR Part 50, and if applicable 10 CFR 50.34(f)(2)(xxv).

c. Technical Support Center Size

The staff concludes that the information provided in the application pertaining to TSC size is consistent with guidance identified in RG 1.101. Specifically, the size conforms with the specifications of NUREG-0696 and is sufficient to accommodate and support NRC and licensee predesignated personnel, equipment, and documentation, in conformance with Supplement 1 to NUREG-0737. As such, the staff finds that this information meets the applicable requirements of 10 CFR 50.47(b)(8) and Subsection IV.E.8 of Appendix E to 10 CFR Part 50.

d. Technical Support Center Habitability

The staff concludes that the information provided in the application pertaining to the habitability of the TSC is consistent with the guidance identified in RG 1.101. As such, the staff finds that the DCD meets the applicable requirements of 10 CFR 50.47(b)(8) and (b)(11), Subsection IV.E.8 to 10 CFR Part 50, Appendix E, and if applicable 10 CFR 50.34(f)(2)(xxv).

e. Post-accident Sampling and Analysis – Radiation Exposure

The staff concludes that the information provided in the application pertaining to controlling radiation exposures to individuals involved in post-accident sampling is acceptable and meets the applicable requirements of 10 CFR 50.47(b)(8), 10 CFR 50.47(b)(9), 10 CFR 50.47(b)(11), and if applicable 10 CFR 50.34(f)(2)(xxv).

Subsequent findings can address additional design related aspects of emergency planning that the applicant chooses to address, e.g., EALs. The findings should also summarize, to the extent that the review is not discussed in other SER sections, the staff's evaluation of the ITAAC, and as applicable, design acceptance criteria (DAC), interface requirements, and COL action or information items that are relevant to this SRP section.

5. Combined License

The SER at the COL stage should summarize the specific bases for the findings and conclusions, including how the plans meet each of the standards of 10 CFR 50.47(b),

10 CFR 50.34,[26] and Appendix E to 10 CFR Part 50. The findings should generally adhere to the format of Part II of NUREG-0654/FEMA-REP-1, Rev. 1. In addition, the SER should include a summary of the results of the offsite findings and determinations submitted by DHS, which may be combined with the NRC's onsite findings under the respective planning standard discussion. The desired evaluation finding at the COL stage should be substantially equivalent to the following:

> The staff has reviewed the radiological emergency response plans provided in the [indicate applicant] combined license (COL) application for [indicate site name]. The staff reviewed the onsite emergency plan against the requirements of 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47, 10 CFR 50.72, Appendix E to 10 CFR Part 50, 10 CFR 73.71, and 10 CFR 100.21, using the applicable guidance. The staff concludes that, provided the items identified below as required conditions, limitations, and ITAAC are met, the [plant name] onsite emergency plan provides an adequate planning basis for an acceptable state of onsite emergency preparedness, and there is reasonable assurance that it can be implemented.
>
> The Department of Homeland Security (DHS) has provided its findings and determinations on the adequacy of offsite emergency planning and preparedness, which are based on its review of State, tribal, and local emergency plans and procedures. DHS concludes that the offsite State, tribal, and local emergency plans and procedures are adequate to cope with an incident at the [plant name], and that there is reasonable assurance that they can be implemented. Based on the staff review of these DHS findings and determinations, the staff concludes that, provided the items identified below as required conditions and limitations are met, the [plant name] offsite emergency plans provide an adequate planning basis for an acceptable state of offsite emergency preparedness, and there is reasonable assurance that they can be implemented.
>
> Pursuant to 10 CFR 52.80(b), the [plant name] emergency plan includes the proposed inspections, tests, and analyses that the licensee shall perform, and the acceptance criteria (i.e., ITAAC) that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, the [plant name] has been constructed and will operate in conformity with the combined license, the provisions of the Atomic Energy Act, and the NRC's regulations.
>
> The staff reviewed the emergency plans and preparedness against the Commission Orders of February 25, 2002, relating to security-based events and considerations, and concludes that they adequately address Interim Compensatory Measures (ICMs) B.5.c, B.5.d, and B.5.e.

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[26] 10 CFR 50.34(f), "Additional TMI-related requirements," only applies to those applicants for a light-water-reactor construction permit whose application was pending as of February 16, 1982. 10 CFR 50.34(f)(2)(iv), if applicable, only applies to a review to assure that safety parameter display system (SPDS) information capabilities are available in the Technical Support Center (TSC) and Emergency Operations Facility (EOF). The bases for compliance with the additional TMI-related requirements should also be included in the SER.

The staff concludes that the emergency plans describe the overall concept of operation, the essential elements of advanced planning that have been considered, and the provisions that have been made to cope with emergency situations. As such, the staff concludes that the overall state of onsite and offsite emergency preparedness, when fully implemented, will meet the requirements of 10 CFR 50.33, 10 CFR 50.34, 10 CFR 50.47,[27] 10 CFR 50.72, Appendix E to 10 CFR Part 50, 10 CFR 73.71, 10 CFR 52.77, 10 CFR 52.79, 10 CFR 52.80, 10 CFR 52.81, 10 CFR 52.83, and 10 CFR 100.21. Further, pursuant to 10 CFR 50.47(a), the staff concludes that, subject to the required conditions and limitations of the license and satisfactory completion of the ITAAC, there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the [plant name] site, and that emergency preparedness at [plant name], when fully implemented, is adequate to support operations.

The licensee has committed to meet the following license conditions and ITAAC, consistent with the dates indicated, for the emergency preparedness program:

[List the license conditions and ITAAC.]

The findings should also summarize, to the extent that the review is not discussed in other SER sections, the staff's evaluation of the ITAAC, and as applicable, DAC, interface requirements, and COL action or information items that are relevant to this SRP section.

V. IMPLEMENTATION

The staff will use this SRP section in performing safety evaluations of design certifications and license applications submitted by applicants pursuant to 10 CFR Parts 50 or 52. Except when the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the staff will use the method described herein to evaluate conformance with Commission regulations.

The provisions of this SRP section apply to reviews of applications docketed 6 months or more after the date of issuance of this SRP section, unless superceded by a later revision.[28]

VI. REFERENCES

1. 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities"

2. 10 CFR 50.33, "Contents of applications; general information"

3. 10 CFR 50.34, "Contents of applications; technical information"

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[27]For an applicant subject to non-participation by State and/or local governments in emergency planning under 10 CFR 50.47(c)(1), the evaluation findings should reflect the staff's review of the applicant's emergency plan (i.e., utility plan), pursuant to 10 CFR 50.47(c)(1)(iii).

[28]See 10 CFR 50.34(h), 10 CFR 52.17(a)(1)(xiii), 10 CFR 52.47(a)(26), and 10 CFR 52.79(a)(41).

4. 10 CFR 50.47, "Emergency plans"

5. 10 CFR 50.54, "Conditions of licenses"

6. 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors"

7. 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants"

8. 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities"

9. 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants"

10. 10 CFR Part 52, Subpart C, "Combined Licenses"

11. 10 CFR 52.24, "Issuance of early site permit"

12. 10 CFR 52.77, "Contents of application; general information"

13. 10 CFR 52.79, "Contents of application; technical information"

14. 10 CFR 52.81, "Standards for review of applications"

15. 10 CFR 52.83, "Applicability of part 50 provisions"

16. 10 CFR 52.97, "Issuance of combined licenses"

17. 10 CFR 73.71, "Reporting of safeguards events"

18. 10 CFR Part 100, "Reactor Site Criteria"

19. 10 CFR 100.21, "Non-seismic siting criteria"

20. 44 CFR Part 350, "Review and Approval of State and Local Radiological Emergency Plans and Preparedness"

21. 44 CFR Part 351, "Radiological Emergency Planning and Preparedness"

22. 44 CFR Part 352, "Commercial Nuclear Power Plants: Emergency Preparedness Planning"

23. 44 CFR Part 353, Appendix A, "Memorandum of Understanding Between NRC and FEMA Relating to Radiological Emergency Planning and Preparedness"

24. Regulatory Guide 1.23, Second proposed revision, "Meteorological Measurement Program for Nuclear Power Plants," April 1986 (ADAMS Accession No. ML003739962). [Draft Regulatory Guide DG-XXXX, "Meteorological Monitoring Programs for Nuclear Power Plants," August 17, 2006.]

25. Regulatory Guide 1.97, Rev. 3, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," May 1983 (ADAMS Accession No. ML003740282).

26. Regulatory Guide 1.70, Rev. 3, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants," November 1978 (ADAMS Accession Nos. ML003740072, ML003740108, & ML003740116).

27. Regulatory Guide 1.101, Rev. 2, "Emergency Planning and Preparedness for Nuclear Power Reactors," October 1981.

28. Regulatory Guide 1.101, Rev. 3, "Emergency Planning and Preparedness for Nuclear Power Reactors," August 1992.

29. Regulatory Guide 1.101, Rev. 4, "Emergency Planning and Preparedness for Nuclear Power Reactors, "July 2003.

30. Regulatory Guide 1.101, Rev. 5, "Emergency Planning and Preparedness for Nuclear Power Reactors," September 2004 (ADAMS Accession No. ML050730286).

31. Draft Regulatory Guide (DG-1145), "Combined License Applications for Nuclear Power Plants (LWR Edition)," [March 2007].

32. Regulatory Guide 4.7, Rev. 2, "General Site Suitability Criteria for Nuclear Power Stations," April 1998 (ADAMS Accession No. ML003739894).

33. Regulatory Guide 5.62, Rev. 1, "Reporting of Safeguards Events," November 1987 (ADAMS Accession No. ML003739271).

34. NUREG-0396, EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December 1978.

35. NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants – Final Report," November 1980 (supplemented by the March 2002 addenda).

36. Supplement 1 to NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Utility Offsite Planning and Preparedness," November 1987.

37. Supplement 2 to NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Emergency Planning in an Early Site Permit Application–Draft Report for Comment," April 1996 (ADAMS Accession No. ML050130188).

38. Supplement 3 to NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Protective Action Recommendations for Severe Accidents," July 1996.

39. NUREG-0660, "NRC Action Plan Developed as a Result of the TMI-2 Accident," May 1980.

40. NUREG-0696, "Functional Criteria for Emergency Response Facilities," February 1981.

41. NUREG-0718, Rev. 2, "Licensing Requirements for Pending Applications for Construction Permits and Manufacturing Licenses," January 1982.

42. NUREG-0737, "Clarification of TMI Action Plan Requirements," October 30, 1980.

43. Supplement 1 to NUREG-0737, "Requirements for Emergency Response Capability," January 1983.

44. NUREG-0814, "Methodology for Evaluation of Emergency Response Facilities," August 1981.

45. NUREG-0835, "Human Factors Acceptance Criteria for the Safety Parameter Display System," October 1981.

46. NUREG-0933, "A Prioritization of Generic Safety Issues, August 2004.

47. NUREG-1022, Rev. 2, "Event Reporting Guidelines – 10 CFR 50.72 and 50.73," October 2000.

48. NUREG-1394, Rev. 1, "Emergency Response Data System (ERDS) Implementation," June 1991.

49. NUREG-1793, Vol. 2, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Design," Section 13.3, "Emergency Planning," September 2004.

50. NUREG/CR-4831 (PNL-7776), "State of the Art in Evacuation Time Estimate Studies for Nuclear Power Plants," March 1992.

51. NUREG/CR-6863 (SAND2004-5900), "Development of Evacuation Time Estimate Studies for Nuclear Power Plants," January 2005.

52. NUREG/CR-6864, Vol. 1 (SAND2004-5901), "Identification and Analysis of Factors Affecting Emergency Evacuations–Main Report," January 2005.

53. SECY-91-041, "Early Site Permit Review Readiness," February 13, 1991 (ADAMS Accession No. ML003781623).

54. SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," October 28, 2005 (ADAMS Accession No. ML052770225).

55. SRM on SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," February 22, 2006 (ADAMS Accession No. ML060530316).

56. SECY-06-0098, "Licensee Response to Demand for Information Regarding Mitigation Strategies Required Under Section B.5.b of the Orders Dated February 15, 2002, and Staff Recommendations for Follow-up Action," May 2, 2005 (Safeguards document).

57. NRR Review Standard, RS-002, "Processing Applications for Early Site Permits," May 3, 2004 (ADAMS Accession No. ML040700236).

58. NRC Office Procedure LIC-101, Rev. 3, "License Amendment Review Procedures," February 9, 2004 (ADAMS Accession No. ML040060258).

59. NRC Office Procedure LIC-200, Rev. 1, "Standard Review Plan (SRP) Process," May 8, 2006 (ADAMS Accession No. ML060300069).

60. H.R. 5005, "Homeland Security Act of 2002," P.L. 107-296, enacted November 25, 2002.

61. H.R. 6, "Energy Policy Act of 2005," P.L. 109-58, enacted August 8, 2005.

62. FEMA "Interim Radiological Emergency Preparedness (REP) Program Manual," August 2002. [See also DHS successor document (under development): 'REP Program Planning Guidance Document: "Radiological Emergency Preparedness: Planning Guidance,"' (see 68 FR 9669, February 28, 2003).]

63. NRC Commission Orders of February 25, 2002, to all operating commercial nuclear power plants, related to terrorist threats.

Generic Communications

64. Administrative Letter (AL) 94-04, "Change of the NRC Operations Center Commercial Telephone & Facsimile Numbers," April 11, 1994.

65. AL 94-07, "Distribution of Site-Specific and State Emergency Planning Information," May 6, 1994.

66. AL 94-16, "Revision of NRC Core Inspection Program for Annual Emergency Preparedness Exercise," November 30, 1994.

67. Bulletin (BL) 79-18, "Audibility Problems Encountered on Evacuation of Personnel from High-Noise Areas," August 7, 1979.

68. BL 80-15, "Possible Loss of Emergency Notification System (ENS) with Loss of Offsite Power," June 18, 1980.

69. BL 05-02, "Emergency Preparedness and Response Actions for Security-Based Events," July 18, 2005 (ADAMS Accession No. ML051740058).

70. Generic Letter (GL) 82-33, "Supplement 1 to NUREG-0737 – Requirements for Emergency Response Capability (Generic Letter 82-33)," December 17, 1982.

71. GL 91-14, "Emergency Telecommunications," September 23, 1991 (ADAMS Accession No. ML031140150).

72. Information Notice (IN) 81-34, "Accidental Actuation of Prompt Public Notification System," November 16, 1981.

73. IN 85-41, "Scheduling of Pre-Licensing Emergency Preparedness Exercises," May 25, 1985.

74. IN 85-44, "Emergency Communication System Monthly Test," May 30, 1985.

75. IN 85-52, "Errors in Dose Assessment Computer Codes and Reporting Requirements Under 10 CFR Part 21," July 10, 1985.

76. IN 85-80, "Timely Declaration of an Emergency Class, Implementation of an Emergency Plan, and Emergency Notifications," October 15, 1985.

77. IN 86-18, "NRC On-Scene Response During a Major Emergency," March 26, 1986.

78. IN 86-43, "Problems with Silver Zeolite Sampling of Airborne Radioiodine," June 10, 1986.

79. IN 86-55, "Delayed Access to Safety-Related Areas and Equipment During Plant Emergencies," July 10, 1986.

80. IN 86-98, "Offsite Medical Services," December 2, 1986.

81. IN 87-54, "Emergency Response Exercises (Off-Year Exercises)," October 23, 1987.

82. IN 87-58, "Continuous Communications Following Emergency Notification," November 16, 1987.

83. IN 88-15, "Availability of U.S. Food and Drug Administration (FDA)-Approved Potassium Iodide for Use in Emergencies Involving Radioactive Iodine," April 18, 1988.

84. IN 89-72, "Failure of Licensed Senior Operators to Classify Emergency Events Properly," October 24, 1989.

85. IN 90-74, "Information on Precursors to Severe Accidents," December 4, 1990.

86. IN 91-64, "Site Area Emergency Resulting from a Loss of Non-Class 1E Uninterruptible Power Supplies," October 9, 1991.

87. IN 91-64, Supp. 1, "Supplement 1, Site Area Emergency Resulting from a Loss of Non-Class 1E Uninterruptible Power Supplies," October 7, 1992.

88. IN 91-77, "Shift Staffing at Nuclear Power Plants," November 26, 1991.

89. IN 92-32, "Problems Identified with Emergency Ventilation Systems for Near-Site (Withing 10 Miles) Emergency Operations Facilities and Technical Support Centers," April 29, 1992.

90. IN 92-38, "Implementation Date for the Revision to the EPA Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (EPA-400-R-92-001)," May 12, 1992.

91. IN 93-53, "Effect of Hurricane Andrew on Turkey Point Nuclear Generating Station and Lessons Learned," July 20, 1993.

92. IN 93-81, "Implementation of Engineering Expertise on Shift," October 12, 1993.

93. IN 93-94, "Unauthorized Forced Entry into the Protected Area at Three Mile Island Unit 1 on February 7, 1993," December 9, 1993.

94. IN 94-27, "Facility Operating Concerns Resulting from Local Area Flooding," March 31, 1994.

95. IN 95-23, "Control Room Staffing Below Minimum Regulatory Requirements," April 24, 1995.

96. IN 95-48, "Results of Shift Staffing Study," October 10, 1995.

97. IN 96-19, "Failure of Tone Alert Radios to Activate When Receiving a Shortened Activation Signal," April 2, 1996.

98. IN 97-05, "Offsite Notification Capabilities," February 27, 1997.

99. IN 98-20, "Problems with Emergency Preparedness Respiratory Programs," June 3, 1998.

100. IN 02-14, "Ensuring a Capability to Evacuate Individuals, Including Members of the Public, from the Owner-Controlled Area," April 8, 2002.

101. IN 02-25, "Challenges to Licensees' Ability to Provide Prompt Public Notification and Information During an Emergency Preparedness Event," August 26, 2002.

102. IN 04-19, "Problems Associated with Back-up Power Supplies to Emergency Response Facilities and Equipment," November 4, 2004.

103. IN 05-06, "Failure to Maintain Alert and Notification System Tone Alert Radio Capability," March 30, 2005.

104. IN 05-19, "Effect of Plant Configuration Changes on the Emergency Plan," July 18, 2005.

105. Regulatory Issue Summary (RIS) 2000-08, "Voluntary Submission of Performance Indicator Date," March 29, 2000 (ADAMS Accession No. ML003685821).

106. RIS 2000-11, "NRC Emergency Telecommunications System," June 30, 2000 (ADAMS Accession No. ML003727812).

107. RIS 2000-11, Supp. 1, "NRC Emergency Telecommunications System," March 22, 2001 (ADAMS Accession No. ML010570103).

108. RIS 2001-16, "Update of Evacuation Time Estimates," August 1, 2001 (ADAMS Accession No. ML012070310).

109. RIS 2002-01, "Changes to NRC Participation in the International Nuclear Event Scale," January 14, 2002 (ADAMS Accession No. ML013200502).

110. RIS 2002-16, "Current Incident Response Issues," September 13, 2002 (ADAMS Accession No. ML022560256).

111. RIS 2002-21, "National Guard and Other Emergency Responders Located in the Licensee's Controlled Area," November 8, 2002 (ADAMS Accession No. ML023160020).

112. RIS 2003-12, "Clarification of NRC Guidance for Modifying Protective Actions," June 24, 2003 (ADAMS Accession No. ML031680611).

113. RIS 2003-18, "Use of NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 4, Dated January 2003," October 8, 2003 (ADAMS Accession No. ML032580518).

114. RIS 2003-18, Supp. 1, "Supplement 1, Use of Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 4, Dated January 2003," July 13, 2004 (ADAMS Accession No. ML041550395).

115. RIS 2003-18, Supp. 2, "Supplement 2, Use of Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 4, Dated January 2003," December 12, 2005 (ADAMS Accession No. ML051450482).

116. RIS 2004-13, "Consideration of Sheltering in Licensee's Range of Protective Action Recommendations," August 2, 2004 (ADAMS Accession No. ML041210046).

117. RIS 2004-13, Supp. 1, "Consideration of Sheltering in Licensee's Range of Protective Action Recommendations, Dated August 2004," March 10, 2005 (ADAMS Accession No. ML050340531).

118. RIS 2004-15, "Emergency Preparedness Issues: Post 9/11," (Official Use Only – See RIS 2006-02), October 18, 2004.

119. RIS 2004-15, Supp. 1, "Emergency Preparedness Issues: Post-9/11," May 25, 2006 (ADAMS Accession No. ML053000046).

120. RIS 2005-02, "Clarifying the Process for Making Emergency Plan Changes," February 14, 2005 (ADAMS Accession No. ML042580404).

121. RIS 2005-08, "Endorsement of Nuclear Energy Institute (NEI) Guidance 'Range of Protective Actions for Nuclear Power Plant Incidents," June 6, 2005 (ADAMS Accession No. ML050870432).

122. RIS 2006-02, "Good Practices for Licensee Performance During the Emergency Preparedness Components of Force-On-Force Exercises," February 23, 2006 (ADAMS Accession No. ML052970294).

123. RIS 2006-03, "Guidance on Requesting an Exemption from Biennial Emergency Preparedness Exercise Requirements," February 24, 2006 (ADAMS Accession No. ML053390039).

124. RIS 2006-12, "Endorsement of Nuclear Energy Institute Guidance "Enhancements to Emergency Preparedness Programs for Hostile Action"," July 19, 2006 (ADAMS Accession No. ML061530290).

125. Emergency Preparedness Position (EPPOS) No. 1, Rev. 0, "Acceptable Deviations from Appendix 1 of NUREG-0654 Based Upon the Staff's Regulatory Analysis of NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels",'" June 1, 1995 (ADAMS Accession No. ML022970165).

126. EPPOS No. 2, "Timeliness of Classification of Emergency Condition," August 1, 1995.

127. EPPOS No. 3, "Requirement for Onshift Dose Assessment Capability, November 8, 1995.

128. EPPOS No. 5, "Emergency Planning Information Provided to the Public," December 4, 2002.

129. Circular (CR) 80-09, "Problems with Plant Internal Communications Systems," April 28, 1980.

PAPERWORK REDUCTION ACT STATEMENT

The information collections contained in the draft standard review plan are covered by the requirements of 10 CFR 50.54, which were approved by the Office of Management and Budget, approval number 3150 - 0011.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

Table 13.3-1
EMERGENCY PLANNING
Generic Inspections, Tests, Analyses, & Acceptance Criteria (EP ITAAC)[29,30]

Planning Standard	EP Program Elements[31]	Inspections, Tests, Analyses	Acceptance Criteria[32]
1.0 Assignment of Responsibility – Organization Control			
10 CFR 50.47(b)(1) – Primary responsibilities for emergency response by the nuclear facility licensee, and by State and local organizations within the emergency planning zones (EPZs) have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principle response organization has staff to respond and to augment its initial response on a continuous basis.	1.1 The staff exists to provide 24-hour per day emergency response and manning of communications links, including continuous operations for a protracted period. [A.1.e, A.4]	1.1 An inspection of the implementing procedures or staffing rosters will be performed.	1.1 The staff exists to provide 24-hour per day emergency response and manning of communications links, including continuous operations for a protracted period. [The COL applicant will identify specific capabilities.]
2.0 Onsite Emergency Organization			
10 CFR 50.47(b)(2) – On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and response activities are specified.	2.1 The staff exists to provide minimum and augmented on-shift staffing levels, consistent with Table B-1 of NUREG-0654/FEMA-REP-1, Rev. 1. [B.5, B.7]	2.1 An inspection of the implementing procedures or staffing rosters will be performed.	2.1 The staff exists to provide minimum and augmented on-shift staffing levels, consistent with Table B-1 of NUREG-0654/FEMA-REP-1, Rev. 1. [The COL applicant will identify responsibilities and specific capabilities.]

[29] See also SRM SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," October 28, 2005 (ADAMS Accession No. ML052770225), and associated February 22, 2006, Staff Requirements Memorandum (SRM) (ML060530316). These COL EP ITAAC are identified as asterisked "*" & **bolded** text.

[30] Standard design certification criteria or COL ITAAC may replace specific (generic) ITAAC in this table.

[31] The alphanumeric designations correspond to NUREG-0654/FEMA-REP-1, Rev. 1, evaluation criteria.

[32] A license condition may be used, if required, to address those aspects of emergency planning and preparedness that reflect offsite (i.e., non-licensee) responsibilities.

3.0 Emergency Classification System			
10 CFR 50.47(b)(4) – 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.	***3.1 A standard emergency classification and emergency action level (EAL) scheme exists, and identifies facility system and effluent parameters constituting the bases for the classification scheme. [D.1]**	***3.1 An inspection of the control room, technical support center (TSC), and emergency operations facility (EOF) will be performed to verify that they have displays for retrieving facility system and effluent parameters specified in the emergency classification and EAL scheme.**	***3.1 The specified parameters are retrievable in the control room, TSC and EOF, and the ranges of the displays encompass the values specified in the emergency classification and EAL scheme. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.]**
4.0 Notification Methods and Procedures			
10 CFR 50.47(b)(5) – Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.	***4.1 The means exists to notify responsible State and local organizations within 15 minutes after the licensee declares an emergency. [E.1]** ***4.2 The means exists to notify emergency response personnel. [E.2]** ***4.3 The means exists to notify and provide instructions to the populace within the plume exposure EPZ. [E.6]**	***4.1 - 4.3 A test will be performed of the capabilities.**	***4.1 The responsible State and local agencies receive notification within 15 minutes after the licensee declares an emergency.** ***4.2 Emergency response personnel receive the notification and mobilization communication. [The COL applicant will provide specific acceptance criteria.]** ***4.3 The means for notifying and providing instructions to the public are demonstrated to meet the design objectives, as stated in the emergency plan. [The COL applicant will identify specific capabilities.]**

5.0 Emergency Communications			
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	***5.1 The means exists for communications among the control room, TSC, EOF, principal State and local emergency operations centers (EOCs), and radiological field assessment teams. [F.1.d]** ***5.2 The means exists for communications from the control room, TSC, and EOF to the NRC headquarters and regional office EOCs (including establishment of the Emergency Response Data System (ERDS) [or its successor system] between the onsite computer system and the NRC Operations Center.) [F.1.f]**	***5.1 & 5.2 A test will be performed of the capabilities.**	***5.1 Communications are established among the control room, TSC, EOF, principal State and local EOCs, and radiological field assessment teams.** ***5.2 Communications are established from the control room, TSC and EOF to the NRC headquarters and regional office EOCs, and an access port for ERDS [or its successor system] is provided.**
6.0 Public Education and Information			
10 CFR 50.47(b)(7) – Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.	***6.1 The licensee has provided space which may be used for a limited number of the news media. [G.3.b]**	***6.1 An inspection of the as-built facility/area provided for the news media will be performed.**	***6.1 The licensee has provided space, which may be used for a limited number of the news media. [The COL applicant will specify the number of news media to be accommodated.]**

7.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	***7.1 The licensee has established a TSC and onsite OSC. [The TSC and OSC may be combined at a single location.] [H.1, H.9]**	***7.1 An inspection of the as-built TSC and OSC will be performed, including a test of the capabilities.**	***7.1.1 The TSC size is consistent with NUREG-0696.** ***7.1.2 The TSC is close to the control room, and the walking distance from the TSC to the control room does not exceed two minutes. [Advanced communication capabilities may be used to satisfy the two minute travel time.] [The COL applicant will adopt design certification criteria, if applicable, or otherwise specify TSC location.]** ***7.1.3 The TSC has comparable habitability with the control room under accident conditions. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.]** ***7.1.4 TSC communications equipment is installed, and voice transmission and reception are accomplished. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.]** ***7.1.5 The TSC has the means to receive, store, process, and display plant and environmental information, and to initiate emergency measures and conduct emergency assessment. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.]**

			*7.1.6 The OSC is located onsite, separate from the control room and TSC. [The COL applicant will adopt design certification criteria, if applicable, or otherwise specify OSC location and identify specific capabilities.] *7.1.7 OSC communications equipment is installed, and voice transmission and reception are accomplished. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.]
	*7.2 The licensee has established an EOF. [H.2]	*7.2 An inspection of the as-built EOF will be performed, including a test of the capabilities.	*7.2.1 The EOF working space size is consistent with NUREG-0696, and is large enough for required systems, equipment, records and storage. [The COL applicant will identify EOF size characteristics.] *7.2.2 The EOF habitability is consistent with Table 2 of NUREG-0696. [The COL applicant will specify the acceptance criteria for EOF habitability.] *7.2.3 EOF communications equipment is installed, and voice transmission and reception are accomplished with the control room, TSC, NRC, and State and local agencies. [The COL applicant will identify specific capabilities.] *7.2.4 The EOF has the means to acquire, display and evaluate radiological, meteorological, and plant system data pertinent to determining offsite protective measures. [The COL applicant will identify specific capabilities.]

	7.3 The means exists to initiate emergency measures, consistent with Appendix 1 of NUREG-0654/FEMA-REP-1, Rev. 1. [H.5] 7.4 The means exists to acquire data from, or for emergency access to, offsite monitoring and analysis equipment. [H.6] 7.5 The means exists to provide offsite radiological monitoring equipment in the vicinity of the nuclear facility. [H.7] 7.6 The means exists to provide meteorological information, consistent with Appendix 2 of NUREG-0654/FEMA-REP-1, Rev. 1. [H.8]	7.3 - 7.6 A test will be performed of the capabilities.	7.3 The means exists to initiate emergency measures, consistent with Appendix 1 of NUREG-0654/FEMA-REP-1, Rev. 1. [The COL applicant will identify specific capabilities.] 7.4 The means exists to acquire data from, or for emergency access to, offsite monitoring and analysis equipment. [The COL applicant will identify specific capabilities.] 7.5 The means exists to provide offsite radiological monitoring equipment in the vicinity of the nuclear facility. [The COL applicant will identify specific capabilities.] 7.6 The means exists to provide meteorological information, consistent with Appendix 2 of NUREG-0654/FEMA-REP-1, Rev. 1. [The COL applicant will identify specific capabilities.]

8.0 Accident Assessment			
10 CFR 50.47(b)(9) – Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	***8.1 The means exists to provide initial and continuing radiological assessment throughout the course of an accident. [I.2]** ***8.2 The means exists to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [I.3]** ***8.3 The means exists to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [I.4]**	***8.1 - 8.9 A test will be performed of the capabilities.**	***8.1 The means exists to provide initial and continuing radiological assessment throughout the course of an accident. [The COL applicant will identify specific capabilities.]** ***8.2 The means exists to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [The COL applicant will identify specific capabilities.]** ***8.3 The means exists to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [The COL applicant will identify specific capabilities.]**

	***8.4 The means exists to acquire and evaluate meteorological information. [I.5]**		***8.4 Meteorological data is available at the EOF, TSC, control room, offsite NRC center, and to the State. [The COL applicant will identify specific capabilities].**
	8.5 The means exists to determine the release rate and projected doses if the instrumentation used for assessment is off-scale or inoperable. [I.6]		8.5 The means exists to determine the release rate and projected doses if the instrumentation used for assessment is off-scale or inoperable. [The COL applicant will identify specific capabilities.]
	8.6 The means exist for field monitoring within the plume exposure EPZ. [I.7]		8.6 The means exists for field monitoring within the plume exposure EPZ. [The COL applicant will identify specific capabilities.]
	***8.7 The means exists to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8]**		***8.7 The means exists to make rapid assessment of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways. [The COL applicant will identify specific capabilities.]**
	***8.8 The capability exists to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as 10^{-7} µCi/cc (microcuries per cubic centimeter) under field conditions. [I.9]**		***8.8 Radioiodine can be detected in the plume exposure EPZ, as low as 10^{-7} µCi/cc. [The COL applicant will identify specific capabilities.]**
	***8.9 The means exists to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PAGs). [I.10]**		***8.9 The means exists to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PACs). [The COL applicant will identify specific capabilities.]**

9.0 Protective Response			
10 CFR 50.47(b)(10) – A range of protective actions has been developed for the plume exposure EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure EPZ appropriate to the locale have been developed.	***9.1 The means exists to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including:[J.1]** **130. employees not having emergency assignments;** **131. visitors;** **132. contractor and construction personnel; and** **4. other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area.** 9.2 The means exist to radiological monitor people evacuated from the site. [J.3] 9.3 The means exists to notify and protect all segments of the transient and resident populations. [J.10] 9.4 The means exists to register and monitor evacuees at relocation centers. [J.12]	***9.1 - 9.4 A test will be performed of the capabilities.**	***9.1 The means exists to warn and advise onsite individuals. [The COL applicant will identify specific capabilities.]** 9.2 The means exist to radiological monitor people evacuated from the site. [The COL applicant will identify specific capabilities.] 9.3 The means exists to notify and protect all segments of the transient and resident populations. [The COL applicant will identify specific capabilities.] 9.4 The means exists to register and monitor evacuees at relocation centers. [The COL applicant will identify specific capabilities.]

10.0 Radiological Exposure Control			
10 CFR 50.47(b)(11) – Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity PAGs.	10.1 The means exists to provide onsite radiation protection. [K.2] 10.2 The means exists to provide 24-hour-per-day capability to determine the doses received by emergency personnel and maintain does records. [K.3] 10.3 The means exists to decontaminate relocated onsite and emergency personnel, including waste disposal. [K.5.b, K.7] 10.4 The means exists to provide onsite contamination control measures. [K.6]	10.1 - 10.4 A test will be performed of the capabilities.	10.1 The means exists to provide onsite radiation protection. [The COL applicant will identify specific provisions.] 10.2 The means exists to provide 24-hour-per-day capability to determine the doses received by emergency personnel and maintain dose records. [The COL applicant will identify specific provisions.] 10.3 The means exists to decontaminate relocated onsite and emergency personnel, including waste disposal. [The COL applicant will identify specific provisions.] 10.4 The means exists to provide onsite contamination control measures. [The COL applicant will identify specific provisions.]
11.0 Medical and Public Health Support			
10 CFR 50.47(b)(12) – Arrangements are made for medical services for contaminated, injured individuals.	11.1 Arrangements have been implemented for local and backup hospital and medical services having the capability for evaluation of radiation exposure and uptake [L.1] 11.2 The means exists for onsite first aid capability. [L.2] 11.3 Arrangements have been implemented for transporting victims of radiological accidents, including contaminated injured individuals, from the site to offsite medical support facilities. [L.4]	11.1 - 11.3 A test will be performed of the capabilities.	11.1 Arrangements have been implemented for local and backup hospital and medical services having the capability for evaluation of radiation exposure and uptake. [The COL applicant will identify specific provisions.] 11.2 The means exists for onsite first aid capability. [The COL applicant will identify specific provisions.] 11.3 Arrangements have been implemented for transporting victims of radiological accidents, including contaminated injured individuals, from the site to offsite medical support facilities. [The COL applicant will identify specific provisions.]

12.0 Exercises and Drills			
10 CFR 50.47(b)(14) – Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.	***12.1 Licensee conducts a full participation exercise to evaluate major portions of emergency response capabilities, which includes participation by each State and local agency within the plume exposure EPZ, and each State within the ingestion control EPZ. [N.1]**	***12.1 A full participation exercise (test) will be conducted within the specified time periods of Appendix E to 10 CFR Part 50.**	***12.1.1 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, onsite exercise objectives have been met, and there are no uncorrected onsite exercise deficiencies. [The COL applicant will identify exercise objectives and associated acceptance criteria.]** ***12.1.2 Onsite emergency response personnel were mobilized in sufficient numbers to fill emergency response positions, and they successfully performed their assigned responsibilities. [The COL applicant will identify responsibilities and associated acceptance criteria.]** ***12.1.3 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, offsite exercise objectives have been met, and there are either no uncorrected offsite exercise deficiencies or a license condition requires offsite deficiencies to be addressed prior to operation above 5% of rated power.**

13.0 Radiological Emergency Response Training			
10 CFR 50.47(b)(15) – Radiological emergency response training is provided to those who may be called on to assist in an emergency.	13.1 Site-specific emergency response training has been provided for those who may be called upon to provide assistance in the event of an emergency. [O.1]	13.1 A test will be performed of the capabilities.	13.1 Site-specific emergency response training has been provided for those who may be called upon to provide assistance in the event of an emergency. [The COL applicant will identify the specific training program.]
14.0 Responsibility for the Planning Effort: Development, Periodic Review, and Distribution of Emergency Plans			
10 CFR 50.47(b)(16) – Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.	14.1 The emergency response plans have been forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. [P.5]	14.1 An inspection of the distribution list will be performed.	14.1 The emergency response plans have been forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. [The COL applicant will identify specific distribution requirements.]
15.0 Implementing Procedures			
10 CFR Part 50, App. E.V – No less than 180 days prior to the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	***15.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.**	***15.1 An inspection of the submittal letter will be performed.**	***15.1 The licensee has submitted detailed implementing procedures for the onsite emergency plan no less than 180 days prior to fuel load. [The COL applicant will develop the implementing procedures.]**

13.0 Radiological Emergency Response Training			
10 CFR 50.47(b)(15) – Radiological emergency response training is provided to those who may be called on to assist in an emergency.	13.1 Site-specific emergency response training has been provided for those who may be called upon to provide assistance in the event of an emergency. [O.1]	13.1 A test will be performed of the capabilities.	13.1 Site-specific emergency response training has been provided for those who may be called upon to provide assistance in the event of an emergency. [The COL applicant will identify the specific training program.]
14.0 Responsibility for the Planning Effort: Development, Periodic Review, and Distribution of Emergency Plans			
10 CFR 50.47(b)(16) – Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.	14.1 The emergency response plans have been forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. [P.5]	14.1 An inspection of the distribution list will be performed.	14.1 The emergency response plans have been forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. [The COL applicant will identify specific distribution requirements.]
15.0 Implementing Procedures			
10 CFR Part 50, App. E.V – No less than 180 days prior to the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	***15.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.**	***15.1 An inspection of the submittal letter will be performed.**	***15.1 The licensee has submitted detailed implementing procedures for the onsite emergency plan no less than 180 days prior to fuel load. [The COL applicant will develop the implementing procedures.]**

POLICY ISSUE
NOTATION VOTE

October 28, 2005 SECY-05-0197

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations

SUBJECT: REVIEW OF OPERATIONAL PROGRAMS IN A COMBINED LICENSE APPLICATION AND GENERIC EMERGENCY PLANNING INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA

PURPOSE:

To describe the staff's plan for reviewing operational programs in a combined license (COL) application and to obtain Commission approval to:

1. Include license conditions for operational programs in a COL.

2. Identify the list of operational programs required to be included in a COL application through current efforts to update the Nuclear Regulatory Commission (NRC) standard review plan.

3. Allow the use of proposed generic emergency planning/emergency preparedness (EP) inspections, tests, analyses, and acceptance criteria (ITAAC) as a model for inclusion in COL applications.

SUMMARY:

The staff has concluded that all operational programs discussed in this paper can be fully described in a COL application. The COL application would not call for ITAAC for an operational program if the program and its implementation, with the exception of EP, are fully

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described in a COL application. The staff is proposing that each COL contain license conditions associated with the timing of implementation for these programs. The staff is also providing the Commission with the results of its work with external stakeholders on generic EP ITAAC.

BACKGROUND:

In a September 11, 2002, staff requirements memorandum (SRM) for SECY-02-0067, "Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) for Operational Programs (Programmatic ITAAC)," the Commission provided direction to the staff that a COL applicant is not necessarily required to have ITAAC for an operational program with the exception of EP. In this SRM, the Commission stated the following:

> [A]n ITAAC for a program should not be necessary if the program and its implementation are fully described in the application and found to be acceptable by the NRC at the COL stage. The burden is on the applicant to provide the necessary and sufficient programmatic information for approval of the COL without ITAAC.

The Commission defined "fully described" in a May 14, 2004, SRM for SECY-04-0032, "Programmatic Information Needed for Approval of a Combined License Application Without Inspections, Tests, Analyses, and Acceptance Criteria."

> In this context, "fully described" should be understood to mean that the program is clearly and sufficiently described in terms of the scope and level of detail to allow a reasonable assurance finding of acceptability. Required programs should always be described at a functional level and at an increased level of detail where implementation choices could materially and negatively affect the program effectiveness and acceptability.

In SRM-SECY-04-0032, the Commission directed the staff as follows:

> The staff should complete its work on the information necessary for the COL application for each of the programs for which the staff had previously assumed ITAACs would be required (fire protection, training, quality assurance during operation, fitness for duty, access authorization, radiation protection, physical security, licensed operator, and reportability programs). . .and present its results to the Commission.

In response to the direction provided in SRM-SECY-04-0032, the staff held seven public meetings with the Nuclear Energy Institute (NEI) COL task force to discuss the COL application information needed to review the operational programs identified in NEI's letter of May 14, 2001 (ML011370644). These public meetings were held in conjunction with public meetings discussing NRC comments on NEI 04-01, Revision D, "Draft Industry Guideline for Combined

License Applicants Under 10 CFR Part 52," dated December 21, 2004 (ML050110295). The staff also held additional public meetings with NEI to discuss updates to NUREG-0800, "Standard Review Plan [SRP] of Safety Analysis Reports for Nuclear Power Plants," related to certain operational programs (quality assurance and radiation protection). These public meetings are related because the NEI COL task force plans to include guidance related to operational programs in NEI 04-01.

In preparation for the public meetings discussing operational programs, the staff evaluated whether each program and its implementation could be fully described in a COL application, consistent with the direction provided by the Commission. In response to a request from the staff, NEI provided its proposal to address SRM-SECY-04-0032 in its letter to the NRC dated August 31, 2005 (ML052510037). This paper presents the results of the staff's work and its interactions with external stakeholders and provides recommendations to the Commission.

DISCUSSION:

The staff has concluded that a COL applicant can fully describe all the operational programs and their implementation, with the exception of EP, listed in NEI's letter dated August 31, 2005. Therefore, if these programs and their implementation are fully described, they will not require ITAAC. These include the operational programs identified in the May 14, 2004, SRM, with one exception. After discussions with the NEI COL task force, the staff concluded that reportability is not an actual program but rather a collection of requirements that are either part of the quality assurance program or not reviewed in a COL application.

A COL applicant may, at its option, choose to submit a complete program description for any particular program, but omit implementation information and instead include ITAAC. The staff also notes that unique circumstances involving a particular application may raise an implementation issue on an operational program that is best resolved by an ITAAC. The staff expects such circumstances to be rare.

COL Application Information Required to Review Operational Programs

Title 10 of the *Code of Federal Regulations* (10 CFR), Section 52.79, "Contents of applications; technical information," requires that a COL application contain a final safety analysis report (FSAR). Specifically, 52.79(b) states, in part:

> The application must contain the technically relevant information required of applicants for an operating license by 10 CFR 50.34. The final safety analysis report and other required information may incorporate by reference the final safety analysis report for a certified standard design.

The technical information requirements of 10 CFR 50.34 include the submission of information on operational programs. Therefore, the COL applicant is required to provide an FSAR discussion for operational programs in a COL application. The staff is proposing to clarify

operational program information requirements for COL applications in the proposed rulemaking to 10 CFR Part 52, which will soon be provided to the Commission for consideration.

Implementation of Operational Programs

In the public meetings on operational program reviews, the staff and the NEI COL task force discussed the implementation of each program listed in NEI's letter of May 14, 2001. The staff identified an issue from these meetings related to implementation of operational program commitments. A substantial portion of operational program development activities will occur after the issuance of a COL. The NRC intends to inspect each operational program to verify that the key elements of each program on which the staff relied to make a reasonable assurance finding have been or will be incorporated into the program. NEI's letter of August 31, 2005, proposes license conditions associated with implementation of operational programs.

The implementation strategy currently in the regulations reflects licensing in accordance with 10 CFR Part 50, where an operating license is issued after construction is completed. Under a Part 52 COL, a reasonable assurance finding on all operational programs required by regulation must be made before the license is issued and the plant is constructed. Most operational programs need to be implemented at or before fuel load.

In accordance with Commission direction, implementation milestones for operational programs that do not have ITAAC should be fully described or referenced in the FSAR. The staff believes the description should include one or more implementation milestones depending on whether the program will be implemented all at once or on a phased basis. As an example, portions of the radiation protection, fire protection, and security programs are implemented before fuel is brought on site while the inservice testing program is required to be implemented when the plant is placed in commercial service. The staff would review and approve the proposed implementation milestones for each operational program in the course of reviewing the COL application and will make a reasonable assurance finding on each program and its proposed implementation, including the adequacy of the implementation milestones. These findings will be documented in the staff's safety evaluation report (SER).

License Conditions for Implementing Operational Programs

The regulations do not specify implementation requirements for a majority of operational programs listed in Attachment 1 of this paper. The staff recognizes that few, if any, of these programs will need to be implemented when the COL is issued. There is a potential issue concerning the implementation of operational programs for which no implementation requirements are specified in the regulations. Under the Part 50 licensing regime, this subset of programs would be required to be fully implemented when the operating license was issued. Therefore, one would expect that these programs would be implemented upon COL issuance under Part 52. To address this issue, the staff has proposed a set of license conditions that will link program implementation, which is fully described in the FSAR, to the license. The license conditions described below will also provide certainty for the NRC as to when the operational

programs are scheduled to be implemented, as well as for the licensee as to when NRC inspectors would plan to inspect these programs.

NEI's August 31, 2005, letter states:

> We agree that for programs required by regulation, the FSAR should describe the programs and their implementation. Also, we agree that a license condition would be imposed concerning program implementation.

NEI has proposed license conditions related to the fire protection and security programs in its letter dated August 31, 2005. With regard to fire protection, NEI has proposed to modify the license condition provided in NRC Generic Letter (GL) 86-10, "Implementation of Fire Protection Requirements," with two separate license conditions, one each for implementing and changing the fire protection program. The staff proposes to retain the generic language in GL 86-10, which is found in the licenses of all operating reactors, for a COL. The license condition included in GL 86-10 is as follows:

> (Name of Licensee) shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility (or as described in submittals dated _____) and as approved in the SER dated_____(and Supplements dated_____) subject to the following provision:
>
> The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

Regarding security, NEI has proposed a license condition requiring the licensee to implement and maintain in effect the approved physical security, guard training and qualifications, and safeguards contingency plan. The staff proposes to retain the security license condition based on the generic COL provided in SECY-00-0092, "Combined License Review Process."

> The licensee shall fully implement and maintain in effect all provisions of the physical security plan, security personnel training and qualification plan, and safeguards contingency plan, and all amendments made pursuant to the authority of 10 CFR 50.90, 50.54(p), 52.97[, and Section VIII of Appendix ___ to Part 52] when nuclear fuel is first received onsite, and continuing until all nuclear fuel is permanently removed from the site.

License conditions similar to those proposed by NEI could address the remaining operational programs listed in Attachment 1 that do not have implementation requirements in the regulations. The staff, however, recommends a different approach and is proposing the following license condition:

> The licensee shall implement the programs or portions of programs identified in Table__ on or before the associated milestones in Table__.

The table referenced in this license condition will be included in the license. It will specify each operational program that does not have implementation requirements in the regulations at the time the COL is issued and its associated implementation milestones. The number of implementation milestones would depend on whether the program was implemented on a phased basis or all at once. For example, the staff expects that the radiation protection program will have 4 implementation milestones (sources on site, fuel on site, fuel load, and first shipment of waste) whereas the motor-operated valve (MOV) program will be fully implemented at a specific milestone before plant startup. The portion of the program implemented at a particular milestone would be described in the implementation section of the FSAR.

NRC intends to inspect operational programs and their implementation as they are developed and put into place. These inspections would verify that the program being implemented is consistent with the FSAR. In addition, these inspections would verify that any changes made to the programs as described have not adversely impacted the bases for the Commission's findings of reasonable assurance. Any adverse impacts discovered during inspection will be subject to enforcement action.

NEI proposed in its August 31, 2005, letter that COL applicants include a table in the FSAR listing each operational program and the section in the FSAR where its implementation is fully described. NEI also proposed that within 12 months after issuance of the COL, the licensee make available a schedule to support inspection of its operational programs and provide periodic updates of the schedule until fuel load.

The staff agrees with NEI's proposal for a license condition requiring the licensee to provide operational program implementation schedules to facilitate NRC inspection. The staff agrees that the licensee should provide an implementation schedule semiannually starting 1 year after the issuance of a COL. However, recognizing that maintaining NRC inspection schedules will be critical to ensuring that the Commission has timely information on operational readiness, the staff proposes that within 12 months of fuel load, the licensee submit an updated program implementation schedule monthly until the last operational program listed in the FSAR table has been fully implemented or the plant has been placed into commercial service, whichever comes first. The staff proposes this reporting license condition be written as follows:

> Within 12 months after COL issuance, the licensee shall submit to the NRC an implementation schedule for the operational programs listed in FSAR Table [13.X]. The schedule shall be updated every 6 months until 12 months before scheduled fuel load, and monthly thereafter until either the last program in FSAR Table [13.x] has been fully implemented or the plant has been placed into commercial service, whichever comes first.

The timing and closure of operational program inspections will be discussed in a future paper concerning construction inspection program policy issues.

Scope of Operational Programs Reviewed in a COL Application

During the public meetings on operational programs, the staff and NEI discussed what programs, beyond the 14 listed in the NEI letter of May 14, 2001, were required by regulation, and would be reviewed in a COL application. NEI provided the following expanded list of programs in Attachment 2 of its letter dated August 31, 2005:

Containment Leakage Rate Testing
Fire Protection
Operator Training
Plant Staff Training
Access Authorization
Radiation Protection
Process and Effluent Monitoring and Sampling
Preservice Inspection
Preservice Testing
Equipment Qualification
Weapons Training and Weapons Qualification and Requalification
Emergency Preparedness
Maintenance Rule
Operator Requalification
Physical Security
Vehicle Control
Fitness-for-Duty
Reactor Vessel Material Surveillance
Quality Assurance - Operations
Inservice Inspection
Inservice Testing

This expanded list of operational programs constitutes the programs that NEI is proposing to list in the FSAR that would be subject to the reporting license condition. Table 1 of Attachment 1 to this paper reconciles the two lists of operational programs provided by NEI letters dated May 14, 2001, and August 31, 2005. Table 1 also shows that certain operational programs, such as the security program, contain one or more separate operational programs. The staff reviewed the list of operational programs included in the August 31, 2005, letter, and concludes that these programs are required by regulation. The staff will review these programs in a COL application and make a reasonable assurance finding on each of the operational programs.

The staff believes that NEI's operational program list is not complete. All operational programs included in the above list are required by regulation, reviewed in a COL application, and inspected to verify program implementation as described in the FSAR. Using these criteria for operational programs, the staff concludes that the MOV program required by 10 CFR 50.55a(b)(3)(ii) is an operational program that should be added to the list. The NRC staff plans to review the MOV program information in a COL application and inspect the MOV

program before plant startup when sufficient program documentation is available to conduct this inspection. The staff also concludes that the safeguards contingency plan operational program required by 10 CFR 50.34(d) should be included in the expanded list of operational programs. This program is similar to the weapons training and qualification and requalification program in that it is part of the physical security program. These two programs are listed in Table 2 of Attachment 1 to this paper.

A COL applicant may choose to use an operational program to satisfy a regulation although the program is not explicitly required by regulation. In this case, the COL applicant should add this operational program to the list of programs in the FSAR. This addition would only be applicable to the individual COL applicant and not to all future COL applicants.

Standard Review Plan (SRP) Guidance for Operational Programs

Guidance to review all operational programs in a COL application is or will be included in the SRP. The tables in Attachment 1 of this paper identify SRP sections where applicable review guidance for each operational program will be located. The staff anticipates that the guidance contained in the update to NUREG-0800 will address the Commission's direction in SRM-SECY-04-0032. Specific schedule information regarding updating the SRP will be provided in response to SRM-M050406 dated May 10, 2005.

Several SRP sections are currently being revised, in part, to provide updated review guidance in preparation for the review of COL applications. The staff proposes to use the SRP update effort as a mechanism to identify any additional operational programs that meet the criteria for inclusion in a COL application. This approach would facilitate timely staff review and stakeholder feedback if any additional operational programs meet the criteria. An updated list of programs will be included in updated staff application guidance. The staff is proposing to seek stakeholder feedback on the scope of operational programs in a COL application in the statement of considerations to the proposed rule change to 10 CFR Part 52.

Generic Emergency Planning ITAAC

After the issuance of SRM-SECY-02-0067, the staff worked with NEI and the Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) to develop generic EP ITAAC. The staff and NEI held a number of public meetings to discuss the issues related to generic EP ITAAC. As stated in an NRC letter dated June 15, 2005 (ML051390065), EP ITAAC present a first-of-a-kind example of programmatic ITAAC under 10 CFR Part 52, and reflect the collective efforts of the NRC and FEMA staff, industry and other stakeholder input, and incorporation of various lessons learned from previous design certification reviews. They are generic in nature, and would be tailored by each COL applicant to its specific reactor design and EP program requirements. NEI has incorporated the generic EP ITAAC into NEI 04-01. The EP ITAAC are included in Attachment 2 of this paper.

While the generic EP ITAAC included in Attachment 2 of this paper reflects what the staff believes to be a reasonable basis for the development of the minimum EP ITAAC in a COL application, the acceptability of proposed plant-specific EP ITAAC will be reviewed on a case-by-case basis.

COMMITMENTS:

There are no additional commitments in this paper.

RECOMMENDATIONS:

That the Commission:

1. *Approve* inclusion of license conditions for operational programs in a COL. Specifically:

   a. License conditions for implementation of the fire protection and security operational programs.

   b. A license condition applying to the remaining operational programs listed in Attachment 1 of this paper that do not have implementation requirements. These programs or portions of programs and associated implementation milestones would be listed in the license.

   c. A license condition that specifies that the licensee shall make available to the NRC staff a schedule 12 months after issuance of a COL that supports planning for and conduct of NRC inspections of operational programs listed in the operational program FSAR table. The schedule shall be updated every 6 months until 12 months before scheduled fuel load, and every month thereafter until either the operational programs listed in the FSAR table have been fully implemented or the plant has been placed in commercial service, whichever comes first.

2. *Approve* further additions to the operational programs listed in this paper, as supplemented by the MOV testing and safeguards contingency plan operational programs, if any additional programs required by regulation are identified through the SRP update process.

3. *Allow* the use of the generic EP ITAAC included in Attachment 2 to this paper as the minimum set of ITAAC for EP included in a COL application.

RESOURCES:

The resources to complete the recommendations in this paper are contained in the Office of Nuclear Reactor Regulation (NRR) and the Office of Nuclear Security and Incident Response (NSIR) budgets as part of the new reactor licensing budget. The resources in NRR and NSIR are less than 0.1 FTE in FY 06 and FY 07.

COORDINATION:

The office of the General Counsel has no legal objection to this paper.

/RA/

Luis A. Reyes
Executive Director
for Operations

Attachments: 1. Operational Programs
Reviewed in a Combined
License Application
2. Generic EP ITAAC Table

COORDINATION:

The office of the General Counsel has no legal objection to this paper.

/RA/

Luis A. Reyes
Executive Director
for Operations

Attachments: 1. Operational Programs
Reviewed in a Combined
License Application
2. Generic EP ITAAC Table

ADAMS Accession No. ML052770225–Package
ML052770257-SECY Paper
ML052770261-Attachment 1
ML052770452-Attachment 2

via email* WITS 200000095

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Operational Programs Reviewed in a Combined License Application

Table 1: Operational Programs Identified by the Nuclear Energy Institute (NEI):

Operational Programs Listed in NEI Letter Dated May 14, 2001	Operational Programs Listed in NEI Letter Dated August 31, 2005	Applicable Regulations (10 CFR)	Required Implementation Milestone (10 CFR)	SRP Section
Containment Leak Rate Testing	Containment Leakage Rate Testing	Part 50, Appendix J	Appendix J, Option A, Section III: Type A, B, and C test: prior to any reactor operating period. Appendix J, Option B, Section III.A: Type A test: after the containment has been completed and is ready for operation Type B & C tests: prior to initial criticality.	6.2.6
Emergency Plan	Emergency Preparedness	50.47 Part 50, Appendix E	Appendix E.IV.F.2.a: (1) full participation exercise within two years before issuance of first operating license for full power; and (2) onsite exercise within one year before issuance of operating license for full power. Appendix E.V: detailed implementing procedures submitted within 180 days prior to scheduled issuance of an operating license.	13.3
Fire Protection	Fire Protection	50.48	None specified.	9.5.1
Maintenance Rule	Maintenance Rule	50.65	None specified.	17.X (future)

Operational Programs Listed in NEI Letter Dated May 14, 2001	Operational Programs Listed in NEI Letter Dated August 31, 2005	Applicable Regulations (10 CFR)	Required Implementation Milestone (10 CFR)	SRP Section
Licensed Operator	Operator Training	55.13 55.31 55.41 55.43 55.45	None specified.	13.2.1
	Operator Requalification	50.54(i) 50.34(b) 55.59	50.54(i-1): Within three months after issuance of an operating license.	
Training	Plant Staff Training	50.120	50.120(b): 18 months prior to fuel load.	13.2.2
Security Plan	Physical Security	50.54(p) 73.55 73.20	None specified.	13.6
Access Authorization	Weapons training and weapons qualification and requalification	Part 73, Appendix B		
	Vehicle Control	73.55		
Fitness for Duty	Access Authorization	73.56		
	Fitness for Duty	Part 26		
Radiation Protection	Radiation Protection	20.1101	None specified.	12.5

Operational Programs Listed in NEI Letter Dated May 14, 2001	Operational Programs Listed in NEI Letter Dated August 31, 2005	Applicable Regulations (10 CFR)	Required Implementation Milestone (10 CFR)	SRP Section
[not included]	Reactor Vessel Material Surveillance	50.60 50.61 Part 50, Appendix G, Appendix H	None specified.	5.3.1
[not included]	Process and Effluent Monitoring and Sampling	Part 50, Appendix I	None specified.	11.5
Quality Assurance	Quality Assurance - Operation	Part 50, Appendix B	None specified.	17.5 (future)
Inservice Inspection/Inservice Testing	Preservice Inspection	50.55a(g)	None for commencing program; American Society of Mechanical Engineers (ASME) Code Section XI, IWB-2200 (a), specifies examinations shall be completed prior to initial plant startup.	5.2.4 6.6
	Inservice Inspection		ASME Code Section XI, IWA-2430(b): placement of the plant into commercial service.	
	Preservice Testing	50.55a(f)	None for commencing program; ASME OM Code, ISTA-2000 defines preservice test period as period of time following completion of construction activities related to the component and before first electrical generation by nuclear heat.	3.9.6
	Inservice Testing		ASME Operation and Maintenance Code, ISTA-2000: after first electrical generation by nuclear heat.	

Operational Programs Listed in NEI Letter Dated May 14, 2001	Operational Programs Listed in NEI Letter Dated August 31, 2005	Applicable Regulations (10 CFR)	Required Implementation Milestone (10 CFR)	SRP Section
Equipment Qualification	Equipment Qualification	50.49	None specified.	3.11
Reportability	[not included]	50.72 50.73 Part 21 50.55(e)	None specified.	None

Table 2: Operational Programs Identified by NRC:

Operational Program	Applicable Regulations (10 CFR)	Required Implementation Milestone (10 CFR)	SRP Section
Motor-Operated Valve Testing	50.55a(b)(3)(ii)	None specified.	3.9.6
Safeguards Contingency Plan	50.34(d) Part 73, Appendix C	None specified.	13.6

TABLE 13.3-1

EMERGENCY PLANNING

*Inspections, Tests, Analyses, & Acceptance Criteria (EP ITAAC)**

Combined License (COL) Application – Subpart C to 10 CFR Part 52

*Standard design certification criteria may replace specific ITAAC in this table.

11/17/04

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
1.0 Emergency Classification System			
10 CFR 50.47(b)(4) – 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.	1.1 A standard emergency classification and emergency action level (EAL) scheme exists, and identifies facility system and effluent parameters constituting the bases for the classification scheme. [D.1**] [**D.1 corresponds to NUREG-0654 /FEMA-REP-1 evaluation criteria.]	1.1 An inspection of the control room, technical support center (TSC), and emergency operations facility (EOF) will be performed to verify that they have displays for retrieving facility system and effluent parameters specified in the emergency classification and EAL scheme.	1.1 The specified parameters are retrievable in the control room, TSC and EOF, and the ranges of the displays encompass the values specified in the emergency classification and EAL scheme. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.]
2.0 Notification Methods and Procedures			
10 CFR 50.47(b)(5) – Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.	2.1 The means exists to notify responsible State and local organizations within 15 minutes after the licensee declares an emergency. [E.1] 2.2 The means exists to notify emergency response personnel. [E.2] 2.3 The means exists to notify and provide instructions to the populace within the plume exposure EPZ. [E.6]	2.1 – 2.3 A test will be performed of the capabilities.	2.1 The responsible State and local agencies receive notification within 15 minutes after the licensee declares an emergency. 2.2 Emergency response personnel receive the notification and mobilization communication. [The COL applicant will provide specific acceptance criteria.] 2.3 The means for notifying and providing instructions to the public are demonstrated to meet the design objectives, as stated in the emergency plan. [The COL applicant will identify specific capabilities.]

3.0 Emergency Communications			
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	3.1 The means exists for communications among the control room, TSC, EOF, principal State and local emergency operations centers (EOCs), and radiological field assessment teams. [F.1.d] 3.2 The means exists for communications from the control room, TSC, and EOF to the NRC headquarters and regional office EOCs (including establishment of the Emergency Response Data System (ERDS) between the onsite computer system and the NRC Operations Center.) [F.1.f]	3.1 & 3.2 A test will be performed of the capabilities.	3.1 Communications are established among the control room, TSC, EOF, principal State and local EOCs, and radiological field assessment teams. 3.2 Communications are established from the control room, TSC and EOF to the NRC headquarters and regional office EOCs, and an access port for ERDS is provided.
4.0 Public Education and Information			
10 CFR 50.47(b)(7) – Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.	4.1 The licensee has provided space which may be used for a limited number of the news media at the EOF. [G.3.b]	4.1 An inspection of the as-built facility/area provided for the news media will be performed.	4.1 The licensee has provided space, which may be used for a limited number of the news media. [The COL applicant will specify the number of news media to be accommodated.]

5.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	5.1 The licensee has established a technical support center (TSC) and onsite operations support center (OSC). [H.1]	5.1 An inspection of the as-built TSC and OSC will be performed, including a test of the capabilities.	5.1.1 The TSC has at least 174 square meters (1,875 square feet) of floor space. 5.1.2 The TSC is close to the control room, and the walking distance from the TSC to the control room does not exceed two minutes. [The COL applicant will adopt design certification criteria, if applicable, or otherwise specify TSC location.] 5.1.3 The TSC has comparable habitability with the control room under accident conditions. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.] 5.1.4 TSC communications equipment is installed, and voice transmission and reception are accomplished. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.] 5.1.5 The TSC has the means to receive, store, process, and display

			plant and environmental information, and to initiate emergency measures and conduct emergency assessment. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.] 5.1.6 The OSC is located onsite, separate from the control room and TSC. [The COL applicant will adopt design certification criteria, if applicable, or otherwise specify OSC location and identify specific capabilities.] 5.1.7 OSC communications equipment is installed, and voice transmission and reception are accomplished. [The COL applicant will adopt design certification criteria, if applicable, or otherwise identify specific capabilities.]
	5.2 The licensee has established an emergency operations facility (EOF). [H.2]	5.2 An inspection of the as-built EOF will be performed, including a test of the capabilities.	5.2.1 The EOF working space is sized for at least 35 persons, and is large enough for required systems, equipment, records and storage. [The COL applicant will identify EOF size characteristics.] 5.2.2 The EOF habitability is consistent with Table 2 of NUREG-0696. [The COL applicant will specify the acceptance criteria for EOF habitability.] 5.2.3 EOF communications equipment is installed, and voice transmission and reception are accomplished with the control room, TSC, NRC, and State and local

			agencies. [The COL applicant will identify specific capabilities.] 5.2.4 The EOF has the means to acquire, display and evaluate radiological, meteorological, and plant system data pertinent to determining offsite protective measures. [The COL applicant will identify specific capabilities.]
6.0 Accident Assessment			
10 CFR 50.47(b)(9) – Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	6.1 The means exists to provide initial and continuing radiological assessment throughout the course of an accident. [I.2] 6.2 The means exists to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [I.3] 6.3 The means exists to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [I.4]	6.1 – 6.7 A test will be performed of the capabilities.	6.1 The means exists to provide initial and continuing radiological assessment throughout the course of an accident. [The COL applicant will identify specific capabilities.] 6.2 The means exists to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [The COL applicant will identify specific capabilities.] 6.3 The means exists to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [The COL applicant will identify specific capabilities.]

	6.4 The means exists to acquire and evaluate meteorological information. [I.5]		6.4 Meteorological data is available at the EOF, TSC, control room, offsite NRC center, and to the State. [The COL applicant will identify specific capabilities.]
	6.5 The means exists to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8]		6.5 The means exists to make rapid assessment of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways. [The COL applicant will identify specific capabilities.]
	6.6 The capability exists to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as 10^{-7} μCi/cc (microcuries per cubic centimeter) under field conditions. [I.9]		6.6 Radioiodine can be detected in the plume exposure EPZ, as low as 10^{-7} μCi/cc. [The COL applicant will identify specific capabilities.]
	6.7 The means exists to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PAGs). [I.10]		6.7 The means exists to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PAGs). [The COL applicant will identify specific capabilities.]
7.0 Protective Response			
10 CFR 50.47(b)(10) – A range of protective actions has been developed for the plume exposure EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate.	7.1 The means exists to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including: [J.1] a. employees not having emergency assignments; b. visitors;	7.1 A test will be performed of the capabilities.	7.1 The means exists to warn and advise onsite individuals. [The COL applicant will identify specific capabilities.]

Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure EPZ appropriate to the locale have been developed.	c. contractor and construction personnel; and d. other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area.		
8.0 Exercises and Drills			
10 CFR 50.47(b)(14) – Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.	8.1 Licensee conducts a full-participation exercise to evaluate major portions of emergency response capabilities, which includes participation by each State and local agency within the plume exposure EPZ, and each State within the ingestion control EPZ. [N.1]	8.1 A full-participation exercise (test) will be conducted within the specified time periods of Appendix E to 10 CFR Part 50.	8.1.1 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, onsite exercise objectives have been met, and there are no uncorrected onsite exercise deficiencies. [The COL applicant will identify exercise objectives and associated acceptance criteria.] 8.1.2 Onsite emergency response personnel were mobilized in sufficient numbers to fill emergency response positions, and they successfully performed their assigned responsibilities. [The COL applicant will identify responsibilities and associated acceptance criteria.] 8.1.3 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, offsite exercise objectives have been met, and there are either no uncorrected offsite exercise deficiencies or a license condition requires offsite deficiencies to be corrected prior to operation above 5% of rated power.

9.0 Implementing Procedures			
10 CFR Part 50, App. E.V – No less than 180 days prior to the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	9.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	9.1 An inspection of the submittal letter will be performed.	9.1 The licensee has submitted detailed implementing procedures for the onsite emergency plan no less than 180 days prior to fuel load. [The COL applicant will develop the implementing procedures.]

February 22, 2006

MEMORANDUM TO: Luis A. Reyes
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary */RA/*

SUBJECT: STAFF REQUIREMENTS - SECY-05-0197 - REVIEW OF OPERATIONAL PROGRAMS IN A COMBINED LICENSE APPLICATION AND GENERIC EMERGENCY PLANNING INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA

The Commission has approved the use of the license conditions proposed by the staff for the "Operational Programs Reviewed in a Combined License Application" (COL) listed in Tables 1 and 2 of Attachment 1 to SECY-05-0197. The staff's Recommendation 1.c. to include a license condition that specifies that "the licensee shall make available to the NRC staff..." should be understood to mean that "the licensee shall submit to the NRC staff..." as explained in the staff's discussion of this license condition on Page 7 of SECY-05-0197. The Commission approves using the Standard Review Plan (SRP) update process to identify additional operational programs. The staff should inform the Commission of the identification of such programs through information papers. The staff should similarly inform the Commission if any applicant chooses to use an operational program to meet a regulatory requirement when the requirement does not call for an operational program, and as a result, the staff adds this program to the list addressed by the license condition. Such a Commission notification should be made to the extent permitted by the separation of functions rule.

The Commission also has approved the use of the generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria (EP ITAAC) included in Attachment 2 to the paper as the minimum set of ITAAC for EP included in a COL application, recognizing that the acceptability of proposed plant-specific EP ITAAC will be reviewed on a case-by-case basis.

Regarding the standard license conditions for fire protection and security, the Commission believes that codifying these conditions is more efficient than including them in each license issued. The staff should consider including these fire protection and security issues in the next rulemaking opportunity affecting the associated regulations for each condition and provide its assessment to the Commission as part of the proposed rule package.

cc: Chairman Diaz
Commissioner McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons
OGC
CFO
OCA
OIG
OPA
Office Directors, Regions, ACRS, ACNW, ASLBP (via E-Mail)
PDR