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(Indian Point Nuclear Generating Units 2 and 3)
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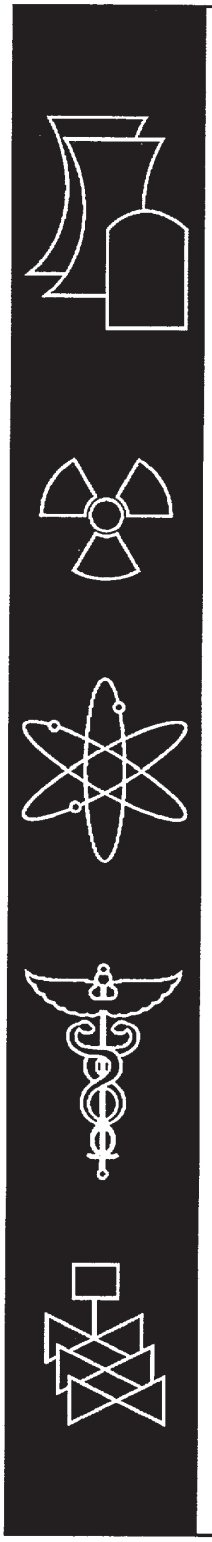

Environmental Standard Review Plan

Supplement 1

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, DC 20555-0001

NUREG-1555, Supp. 1

Environmental Standard Review Plan

Standard Review Plans for Environmental Reviews for Nuclear Power Plants

Supplement 1: Operating License Renewal

Manuscript Completed: October 1999
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Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

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U.S. NUCLEAR REGULATORY COMMISSION

ENVIRONMENTAL STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

STANDARD REVIEW PLANS FOR ENVIRONMENTAL REVIEWS FOR NUCLEAR POWER PLANTS

Supplement 1: Operating License Renewal

October 1999

OFFICE OF NUCLEAR REACTOR REGULATION
U.S. NUCLEAR REGULATORY COMMISSION

USNRC ENVIRONMENTAL STANDARD REVIEW PLAN

Environmental standard review plans are prepared for the guidance of the Office of Nuclear Reactor Regulation staff responsible for environmental reviews for nuclear power plants. These documents are made available to the public as part of the Commission's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Environmental standard review plans are not substitutes for regulatory guides or the Commission's regulations and compliance with them is not required. These supplemental environmental standard review plans are keyed to the U.S. NRC Regulatory Guide 4.2, Supplement 1, Preparation of Supplemental Environmental Reports for Applications to Renew Nuclear Power Plant Operating Licenses.

Published environmental standard review plans will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience.

Comments and suggestions for improvement will be considered and should be sent to the U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Washington, D.C. 20555-0001.

ABSTRACT

This document provides guidance to Nuclear Regulatory Commission staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to reactor operating license renewals. It supplements NUREG-1555, *Standard Review Plans for Environmental Reviews for Nuclear Power Plants*, which covers reviews related to reactor construction permits, initial operating licenses, early site permits, and combined licenses. Reviews conducted following this review plan lead to preparation of site-specific environmental impact statement supplements to NUREG-1437, *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*.

U.S. NUCLEAR REGULATORY COMMISSION

ENVIRONMENTAL STANDARD REVIEW PLAN

OFFICE OF NUCLEAR REACTOR REGULATION

5.1.1 SEVERE ACCIDENT MITIGATION ALTERNATIVES

REVIEW RESPONSIBILITIES

Primary—Appendix A

Secondary—Appendix A

I. AREAS OF REVIEW

This environmental standard review plan (ESRP) directs the staff's analysis and assessment of the severe accidents for the applicant's plant. This issue was identified as a Category 2 issue in NUREG-1437, *Generic Environmental Statement for License Renewal of Nuclear Plants* (NRC 1996), and in Table B-1 of Appendix B, Subpart A to 10 CFR 51. An applicant for license renewal (LR) is required by 10 CFR 51.53(c)(3)(ii)(L) to consider alternatives to mitigate severe accidents at the plant if the staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an environmental impact statement (EIS) or related supplement or in an environmental assessment for the plant.

The scope of the review directed by this plan includes an analysis of severe accident mitigation alternatives (SAMAs), referred to as severe accident mitigation design alternatives (SAMDAs) in some references, and the preparation of an appropriate statement for the supplemental environmental impact statement (SEIS). The analysis of SAMAs includes the identification and evaluation of alternatives that reduce the radiological risk from a severe accident by preventing substantial core damage (i.e., preventing a severe accident) or by limiting releases from containment in the event that substantial core damage occurs (i.e., mitigating the impacts of a severe accident). The intent is to identify additional cases that might warrant either additional features or other actions that would prevent or mitigate the consequences of serious accidents.

USNRC ENVIRONMENTAL STANDARD REVIEW PLAN

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Review Interfaces

The reviewer for this ESRP should obtain input from or provide input to the reviewers for the following supplemental ESRPs (ESRP/S1s):

- ESRP/S1 5.2. Provide a summary statement describing material reviewed, analyses performed, and conclusions reached.

- ESRP/S1 5.3. Provide a list of the references cited in the SEIS.

In addition, the reviewer should coordinate the SAMA review for the SEIS with reviewers for the following:

- 10 CFR 50.34(f)(1)(I). Coordinate with the responsible 10 CFR 50.34(f)(1)(I) reviewer to ensure consistency of the SAMA and the 10 CFR 50.34(f)(l)(I) reviews if available.

- Internal Plant Examination (IPE). Coordinate with the responsible reviewer (or review branch) for the IPE to ensure consistency of the SAMA analysis with the findings of the IPE.

- Internal Plant Examination of External Events (IPEEE). Coordinate with the responsible reviewer (or review branch) for the IPEEE to ensure consistency of the SAMA analysis with the results of the IPEEE.

- Safety Analysis Report (SAR), Chapter 19 Review. Coordinate with the responsible reviewer (or review branch) for Chapter 19 of the SAR to ensure consistency of the SAMA analysis with the results of the SAR Chapter 19 review, if available.

Data and Information Needs

The kinds of data and information needed will be affected by site- and station-specific factors. The following data or information may be needed:

- a list of leading contributors to (1) core-damage frequency (e.g., from dominant severe accident sequences or initiating events), (2) large-release frequency (e.g., from containment failure mode or accident progression bin), and (3) dose consequences with and without interdiction (e.g., from each release class and associated source term) (from the environmental report [ER])

- the applicant's description of the methodology, process, and rationale used by the applicant to identify, screen, and select alternatives (from the ER)

- the estimated cost, risk reduction, and value-impact ratios for the selected SAMAs and the assumptions used to make these estimates (from the ER)

- a description and list of any alternatives that have been or will be implemented to prevent or mitigate severe accidents or reduce the risk of a severe accident (from the ER).

II. ACCEPTANCE CRITERIA

Acceptance criteria for the analysis and evaluation of SAMAs are based on the relevant requirements of the following regulations:

- 10 CFR 51.53(c)(3)(ii)(L) with respect to the need to consider alternatives to mitigate severe accidents for the applicant's plant if SAMAs were not previously considered

- 10 CFR 51.70(b) with respect to permitting an independent evaluation of the assessment and the reliability of information used in the assessment

- 10 CFR 51, Subpart A, Appendix B, Table B-1, with respect to the definition of the issue to be addressed.

Regulatory positions and specific criteria in support of the regulations identified above are as follows:

- NUREG-1555, *Standard Review Plans for Environmental Reviews for Nuclear Power Plants* (NRC 1999a) provides guidance to the staff on reviewing ERs associated with license applications under 10 CFR 50 and 52. It contains general review procedures that may be helpful in reviews for specific issues addressed in ERs associated with LR.

- NUREG/BR-0058, Rev. 2, *Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission.* Final Report (NRC 1997a) states the policy for the preparation and the contents of regulatory analyses, including estimation of values and impacts for alternatives and the "dollars per person-rem" conversion factors.

- NUREG/BR-0184, *Regulatory Analysis Technical Evaluation Handbook* (NRC 1997b) provides guidance with respect to the value impact methodology.

- NUREG/CR-6349 (Mubayi et al. 1995) provides information with respect to dollars per person-rem conversion factor for offsite damage costs.

- Generic Letter 88-20 (NRC 1988) provides guidance with respect to the performance of an IPE at operating plants for severe accident vulnerabilities.

- Generic Letter 88-20, Supplement 3 (NRC 1990) provides guidance with respect to accident prevention and mitigation features identified in the Containment Performance Improvement Program that may be valid for consideration in the review of SAMAs.

- Generic Letter 88-20, Supplement 4 (NRC 1991b) provides guidance with respect to conducting an individual plant examination for externally initiated events.

- Interim Policy Statement, "Power Plants—Nuclear Power Plant Accident Considerations under NEPA" (1980) provides guidance with respect to the early consideration of either additional features or other actions that would prevent or mitigate the consequences of serious accidents.

- Regulatory Guide 4.2, Supplement 1, *Preparation of Supplemental Environmental Reports for Applications to Renew Nuclear Power Plant Operating Licenses* (NRC 1999b) provides guidance on preparation of ERs associated with LR.

- SECY-91-229 (NRC 1991a) presents alternative courses of action and the staff's recommendations concerning the treatment of the SAMA issues to be considered under NEPA as they relate to the certification of standard plants, including evolutionary, passive, and advanced reactors.

In addition, the following acceptance criterion is used:

- Completeness and reasonableness with respect to (1) the identification of SAMAs applicable to the plant under consideration, (2) the estimation of core damage frequency reduction and averted person-rem for each SAMA, (3) the estimation of cost for each SAMA, (4) the screening criteria to identify SAMAs for further consideration, and (5) the final disposition of promising SAMAs.

Technical Rationale

The technical rationale for evaluating the applicant's SAMAs is discussed in the following paragraphs:

The SEIS should include an analysis of the SAMAs for the applicant's plant if they have not previously been considered in an EIS or related supplement or in an environmental assessment. The purpose of SAMAs is to review and evaluate plant design alternatives and procedural changes that could significantly reduce the radiological risk from a severe accident by preventing substantial core damage (i.e., preventing a severe accident) or by limiting releases from containment in the event that substantial core damage occurs (i.e., mitigating the impacts of a severe accident).

In 1980, the NRC published an interim policy statement (Interim Policy Statement, "Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969" [NRC 1980]) that stated that it was the intent of the Commission for the staff to take steps to identify additional cases that might warrant early consideration of either additional features or other actions that would prevent or mitigate the consequences of serious accidents.

In 1985, the NRC published a policy statement ("Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants," August 9, 1985 [NRC 1985a]). It concluded that existing plants posed no undue risk to public health and safety and that there is no present basis for immediate action on generic rulemaking or other regulatory changes for these plants because of

severe-accident risk. However, the policy statement indicated that "the Commission plans to formulate an approach for a systematic safety examination of existing plants to determine whether particular accident vulnerabilities are present and what cost-effective changes are desirable to ensure that there is no undue risk to public health and safety."

A 1989 court decision (*Limerick Ecology Action vs. NRC*, 869 F.2d 719 [3rd Cir. 1989] stated that the "Action of NRC in addressing SAMDAs through policy statements, not rule making, did not satisfy NEPA, where policy statements did not represent requisite careful consideration of environmental consequences, excluded consideration of design alternatives without making any conclusions about effectiveness of any particular alternative, and issues were not generic in that impact of SAMDAs on environment would differ with a particular plant's design, construction and locations." NRC considers the evaluation of SAMAs in the environmental impact review that is performed as part of every application for a LR if SAMAs have not been considered for the plant.

III. REVIEW PROCEDURES

Suggested steps for conducting the review are as follows:

(1) Review the discussion of severe accidents and SAMAs in the NUREG-1437.

(2) Determine if the staff previously considered SAMAs for the applicant's plant in an EIS or related supplement or in an environmental assessment. If not, then continue the analysis at Step (3). Otherwise, prepare a statement for the SEIS that describes the SAMA analysis and identifies the location of the analysis.

(3) Become familiar with analyses, the process, and design alternatives considered in previous studies, including the following:

- Limerick, Letter from U.S. NRC to G. A. Hunger, Jr. Philadelphia Electric Company. Subject: Supplement to the Final Environmental Statement-Limerick Generating Station, Units 1 and 2. Supplement to NUREG-0974" (NRC 1989).

- Watts Bar (NUREG-0498), *Final Environmental Statement Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2*. (NRC 1995).

- 10 CFR 50.34(f)(l)(I) reviews of the System 80+, "Contents of application; technical information" (NRC 1997c).

- the Advanced Boiling-Water Reactor (ABWR), "Final Environmental Assessment by the Office of Nuclear Reactor Regulation" (NRC 1997c).

- the GESSAR II, *"Safety Evaluation Report Related to the Final Design Approval of the GESSAR II BWR/6 Nuclear Island Design"* (NRC 1985b)

- the Containment Improvement Program

- Generic Environmental Impact Statement for License Renewal (NUREG-1437).

(4) Evaluate the applicant's methods for identifying the potential mitigation alternatives. If the applicant used an alternative methodology to a probabilistic risk assessment approach to assess potential SAMAs for example, a margins-based approach to evaluate external events initiated by fires or seismic activity), the staff evaluation should be appropriately modified. For example, the synergistic effects of mitigation alternatives that reduce risks for internally initiated events that also provide a benefit for mitigation of externally initiated events should be considered. Alternative benefit-cost approaches are appropriate when a margins method has been used to screen external events.

(a) Determine if this set of potential alternatives represents a reasonable range of preventive and mitigative alternatives.

(b) Verify that the applicant's list of potential SAMAs includes a reasonable range of applicable SAMAs derived from consideration of previous analyses and based on insights from the Level 1 and Level 2 portions of the applicant's probabilistic risk assessment (PRA) or IPE/IPEEE.

(5) Evaluate the applicant's basis for estimating the degree to which various alternatives would reduce risk (expressed as a reduction in core-damage frequency or in terms of person-rem averted). In performing its independent assessment, the staff may make bounding assumptions to determine the magnitude of the potential risk reduction for each SAMA.

(6) Evaluate whether the applicant's cost estimates for each SAMA are reasonable, and compare the cost estimates with estimates developed elsewhere (e.g., using previous SAMA evaluations or using accepted cost-estimation tools).

(7) Evaluate the benefit-cost comparison to determine if it is consistent with the benefit-cost balance criteria and methodology given in NUREG/BR-0058, Rev. 2, *Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission, Final Report* (NRC 1997a), and further analyze any SAMAs that are within a decade of the NUREG/BR-0058, Rev. 2, or NUREG/CR-6349 (Mubayi et al. 1995) benefit-cost criteria to ensure that a sufficient margin is present to account for uncertainties in assumptions used to determine the cost and benefit estimates. The benefit-cost criterion in NUREG/BR-0058 is $200,000 per person-sievert averted ($2000 per person-rem averted) for health effects. In addition, a criterion of $300,000 per person-sievert averted ($3000 per person-rem averted) is given in NUREG/CR-6349 (Mubayi et al. 1995) for offsite damage and other related costs for severe accidents.

(8) Subject any SAMAs that remain following the screening given above to further probabilistic and deterministic considerations, including a qualitative assessment of the following:

- the impact of additional benefits that could accrue for the SAMA if it would be effective in reducing risk from certain external events, as well as internal events

- the effects of improvements already made at the plant

- any operational disadvantage associated with the potential SAMA.

(9) Prepare a statement for the SEIS that describes the applicant's analysis and details the staff's review process. Any mitigation should be described along with the estimated benefit-cost ratio. The risk reduction for the facility should be provided. The statement for the SEIS should identify and describe the mitigative measures considered and committed to by the applicant.

IV. EVALUATION FINDINGS

The depth and extent of the input to the SEIS will be governed by the extent of the analysis required to reach a conclusion related to the applicant's SAMA analysis. The information that should be included in the SEIS is described in the review procedures. Examples of statements that might be appropriate for inclusion in an SEIS are provided in the following paragraphs.

When the reviewer determines that the staff previously considered SAMAs for the applicant's plant in an EIS or related supplement or in an environmental assessment, then the reviewer should provide a statement for the SEIS similar to the following:

> SAMAs for the applicant's plant were previously considered by the staff in ____ (provide reference for document). The analysis was based on the licensee's analysis in ____(provide reference for document). The staff has concluded that the applicant completed a comprehensive, systematic effort to identify and evaluate the potential plant enhancements to mitigate the consequences of severe accidents. The staff has considered the robustness of this conclusion relative to critical assumptions in the analysis—specifically the impact of uncertainties in the risk and cost estimates and the use of alternative benefit-cost screening criteria. The staff has concluded that the findings of the analysis would be unchanged even considering these factors. Therefore, the staff concludes that the mitigation alternatives committed to by the applicant are appropriate, and no further mitigation measures are warranted.

If the reviewer determines that there was no previous consideration of SAMAs for the plant, then the reviewer should prepare a statement for the SEIS similar to the following:

> The staff has concluded that the applicant completed a comprehensive, systematic effort to identify and evaluate the potential plant enhancements to mitigate the consequences of severe accidents. The staff has considered the robustness of this conclusion relative to critical assumptions in the analysis—specifically the impact of uncertainties in the averted offsite risk estimates and the use of

alternative benefit-cost screening criteria. The staff has concluded that the findings of the analysis would be unchanged even considering these factors. Therefore, the staff concludes that the mitigation alternatives committed to by the applicant are appropriate, and no further mitigation measures are warranted.

V. IMPLEMENTATION

The method described in this ESRP will be used by the staff in evaluating conformance with the Commission's regulations, except in those cases in which the applicant for LR proposes an acceptable alternative for complying with specified portions of the regulations.

VI. REFERENCES

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

10 CFR 50.34, "Contents of application; technical information."

10 CFR 51.53, "Postconstruction environmental reports."

10 CFR 51 Subpart A, Appendix B, "Environmental Effect of Renewing the Operating License of a Nuclear Power Plant."

10 CFR 51.70, "Draft environmental impact statement—general."

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

Limerick Ecology Action vs. NRC 869 F. 2D 719 [3rd Cir. 1989]

Mubayi, V., V. Sailor, and G. Anandalingam. 1995. *Cost-Benefit Considerations in Regulatory Analysis*. NUREG/CR-6349, U.S. Nuclear Regulatory Commission, Washington, D.C.

U.S. Nuclear Regulatory commission (NRC). 1985a. Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants." 50 FR 32138, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1985b. *Safety Evaluation Report Related to the Final Design Approval of the GESSAR II BWR/6 Nuclear Island Design."* NUREG-0979, Supplement 4, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1988. Generic Letter 88-20," Individual Plant Examination for Severe Accident Vulnerabilities." November 23, 1988, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1989. Letter from U.S. NRC to G. A. Hunger, Jr. Philadelphia Electric Company. Subject: Supplement to the Final Environmental Statement—Limerick Generating Station, Units 1 and 2. Supplement to NUREG-0974.

U.S. Nuclear Regulatory Commission (NRC). 1990. Generic Letter 88-20, Supplement 3, "Completion of Containment Performance Improvement Program and Forwarding Insights for Use in the Individual Plant Examination for Severe Accident Vulnerabilities." July 6, 1990, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1991a. "Severe Accident Mitigation Design Alternatives for Certified Standard Designs." SECY-91-229, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1991b. Generic Letter 88-20, Supplement 4, "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities - 10 CFR 50.54(f)." June 28, 1991, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1995. *Final Environmental Statement Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2*. NUREG-0498, Suppl. 1, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1996. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*. NUREG-1437, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1997a. *Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission. Final report."* NUREG/BR-0058, Rev. 2, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1997b. *Regulatory Analysis Technical Evaluation Handbook."* NUREG/BR-0184, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1997c. *Final Environmental Assessment by the Office of Nuclear Reactor Regulation."* Relating to the Certification of the System 80+ Standard Nuclear Plant Design. NUREG-1462, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1997d. *Final Environmental Assessment by the Office of Nuclear Reactor Regulation."* Relating to the Certification of the U.S. Advanced Boiling Water Reactor Design. NUREG-1503, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1999a. *Standard Review Plans for Environmental Reviews for Nuclear Power Plants*. NUREG-1555, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1999b. Regulatory Guide 4.2, Supplement 1. *Preparation of Supplemental Environmental Reports for Applications to Renew Nuclear Power Plant Operating Licenses*, Washington, D.C..