Listing of NRC Guidance Potentially Subject for Update
in support of the revision of
10 CFR Part 50 and Appendix I
Regulations for
Light Water-Cooled Nuclear Power Reactors

A. Introduction

Under current NRC regulations, light water nuclear power reactors are licensed primarily under the requirements of 10 CFR Parts 20, 50, 51, 52, 70, 71, 72, and 100 in the context of radiation protection to workers and members of the public. In addition, guidance on the implementation of these regulations is contained in several guidance documents, both issued by the NRC and as codes and standards issued by non-regulatory agencies. The guidance includes regulatory guides (Divisions 1, 4, and 8), NUREG documents, branch technical positions, generic letters, information notices, regulatory issue summaries, computer codes, etc.

Conceptually, the proposed revision of Part 50 and Appendix I would result in two sets of regulatory guides, supporting NUREGs, and computer codes. The revised guidance would address the licensing and operation of new reactors, while the current guidance would remain unchanged for the existing fleet of operating reactors. Also, utilities would have the option of adopting the revised guidance for procedural efficiency and consistency in reporting doses to members of the public among multiple reactor sites, e.g., one site with an existing reactor and another with a newly licensed reactor. However, it is recognized that some aspects of the current guidance would be equally applicable to new and currently operating reactors and would not need to be revised nor duplicated. Finally, a revision to the current guidance, based on new data, operational experience, and technological advances in radiological assessment, would provide an opportunity for introducing a more realistically conservative (risk-informed and performance-based) approach in licensing Appendix I requirements for new power reactors.

The proposed approach would ensure that only essential regulatory guides and guidance documents would be revised and available in time by the implementation date specified in the final rule for Part 50 and Appendix I. In support of the implementation of the revised regulations, the staff proposes to prioritize the revisions of supporting regulatory guides, computer codes, and other guidance documents because of resource considerations. The revision of the balance of the guidance would be effected in defined subsequent stages.

B. Regulatory Guides

1. Division 1 RG

1. Regulatory Guide 1.21 - Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants.

2. Regulatory Guide 1.23 – Onsite Meteorological Programs.

3. Regulatory Guide 1.68 – Initial Test Programs for Water-Cooled Nuclear Power Plants.

4. Regulatory Guide 1.70 - Standard Format and Content Safety Analysis Reports for Nuclear Power Plants (LWR Edition).

5. Regulatory Guide 1.109 - Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I.

6. Regulatory Guide 1.110 - Cost-Benefit Analysis for Radwaste Systems for Light-Water-Cooled Nuclear Power Reactors, draft for comment, March 1976.

7. Regulatory Guide 1.111 - Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors, Rev. 1, draft for comment, July 1977.

8. Regulatory Guide 1.112 - Calculation of Releases of Radioactive Materials in Gaseous and Liquid Effluents from Light-Water-Cooled Nuclear Power Reactors.

9. Regulatory Guide 1.113 - Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I.

10. Regulatory Guide 1.206 – Combined License Applications for Nuclear Power Plants (LWR Edition).

2. Division 4 RG

1. Regulatory Guide 4.1- Programs for Monitoring Radioactivity in the Environs of Nuclear Power Plants.

2. Regulatory Guide 4.2 – Preparation of Environmental Reports for Nuclear Power Stations.

3. Supplement 1 to Regulatory Guide 4.2 - Preparation of Supplemental Environmental Reports for Applications To Renew Nuclear Power Plant Operating Licenses.

4. Regulatory Guide 4.8 – Environmental Technical Specifications for Nuclear Power Plants.

5. Regulatory Guide 4.15 - Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) - Effluent Streams and the Environment, Rev. 2.

6. Regulatory Guide 4.15 - Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment, Rev. 1.

7. Regulatory Guide 4.21 – Minimization of Contamination and Radioactive Waste Generation – Life Cycle Planning, draft 2008.

C. Supporting Guidance Documents

1. Generic Letter 89-01 - Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Offsite Dose Calculation Manual or to the Process Control Program (Generic Letter 89-01), January 31, 1989

2. NUREG-0133 - Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants.

3. NUREG-1301 - Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors.

4. NUREG-1302 - Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Boiling Water Reactors.

5. NUREG-0172 - Age-Specific Radiation Dose Commitment Factors for a One Year Chronic Intake.

6. NUREG-0851 - Nomograms for Evaluation of Doses from Finite Noble Gas Clouds.

7. NUREG-0800 - Standard Review Plan (All applicable sections referring to Part 20 and 50, requirements, doses, and effluent concentration limits.)

8. NUREG-1551 – Environmental Standard Review Plan.

D. Supporting Computer Codes – *Some of this work is in progress*

1. NUREG-0017 - Calculation of Releases of Radioactive Materials in Gaseous and Liquid Effluents from Pressurized Water Reactor, PWR-Gale Code, Rev. 1.

2. NUREG-0016 - Calculation of Releases of Radioactive Materials in Gaseous and Liquid Effluents from Boiling Water Reactor, BWR-Gale Code, Rev. 1.

3. NUREG/CR-2919 - User Guide for XOQDOQ: Evaluating Routine Effluent Releases at Commercial Nuclear Power Stations, supersedes NUREG-0324.

4. NUREG/CR-1276 - User's Manual for LADTAP II - A Computer Program for Calculating Radiation Exposure to Man from Routine Releases of Nuclear Reactor Liquid Effluents.

5. NUREG/CR-4013 - LADTAP II - Technical Reference and User Guide.

6. NUREG/CR-4653 - GASPAR II - Technical Reference and User Guide.

7. NUREG-0133 - RATAFR Code for BWRs and PWRs, Assessment of liquid radwaste tank failures; and PARTS and RABFIN Codes, Derivation of ODCM composite dose parameters.

8. NUREG/CR-0781-Supplement 1 - SKYSHINE II Procedure: Calculation of the Effects of Structure Design Assessment on Neutron, Primary Gamma-Ray and Secondary Gamma-Ray Dose Rates in Air.

E. NUREG Documents <u>Possibly Excluded</u> from Updates – Licensing Bases for Existing Fleet of Operating Reactors – *Needs Confirmation*

1. NUREG-0212 - Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors.

2. NUREG-0103 - Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors.

3. NUREG-0452 - Standard Technical Specifications for Westinghouse Pressurized Water Reactors.

4. NUREG-0123 - Standard Technical Specifications for General Electric Boiling Water Reactors.

5. NUREG-0472 - Draft Radiological Effluent Technical Specifications for PWRs, Rev. 1.

6. NUREG-0473 - Draft Radiological Effluent Technical Specifications for BWRs, Rev. 1.

F. Standard Technical Specifications - NUREG <u>Potentially Subject</u> to Revision – *Needs Confirmation*

1. Standard Technical Specifications for General Electric Plants, BWR/6, update of NUREG-1434, as referenced in NUREG-1503, FSER for the GE ABWR, and Part 52, Appendix A.

2. Standard Technical Specifications for Combustion Engineering Plants, update of NUREG-1432, as referenced in NUREG-1462, FSER for the ABB-CE System 80+, and Part 52, Appendix B.

3. Standard Technical Specifications for Westinghouse Pressurized Water Reactors, update of NUREG-1431, as referenced in NUREG-1512, FSER for the Westinghouse AP600 PWR, and Part 52, Appendix C.

4. Standard Technical Specifications for Westinghouse Pressurized Water Reactors, update of NUREG-1431, as referenced in NUREG-1793, FSER for the Westinghouse AP1000 PWR, and Part 52, Appendix D.