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Chapter 11 Programs
DCWG Meeting
July 24, 2007

Enclosure 9

Meeting Objectives

- **Based on feedback from NRC staff, discuss a revised approach to developing the COLA ODCM and PCP program descriptions**
  - Changes to scope and level of detail
  - Timetable for submission
- **Obtain feedback from the NRC staff regarding this revised approach**

March 07 NRC-NEI Meeting & June '07 DCWG Meeting

- ODCM program description (a.k.a., 80% ODCM) and PCP program description in COLA
- Develop complete programs, including implementing procedures, by defined milestone to allow NRC staff review before actual implementation – use a license condition as appropriate
- Implementation milestones defined in COLA FSAR section 13.4

July '07 NEI HP TF Meeting with NRC Staff

- NRC staff proposed alternate approach for FSAR Chapter 11 Program Descriptions
- NEI template approach similar to Section 12.5 Radiation Protection Program template

ODCM Program Description – Revised Approach

- **ODCM Program Description will address requirements for:**
  - ODCM
  - Radiological Effluent Technical Specifications/Standard Radiological Effluent Controls
  - Radiological Environmental Monitoring Program

ODCM Program Description – Revised Approach

- Instead of providing an 80% ODCM, develop a program description that describes the ODCM content
- Program description will follow an approach similar to NEI 07-03, Radiation Protection Program
- Consistent with RG 1.206, C.IV.4, Operational Programs
- NEI and participating new plant DCWGs to develop template (NEI HP Task Force)
- No plant specific information or parameters (e.g., setpoints, sampling frequencies, instruments)

ODCM Program Description – Preliminary Draft Contents

- **Governing regulatory documents**
- **Liquid and gaseous effluent controls including requirements for the setpoint calculation methodology**
- **Requirements for the radiological environmental monitoring program**
- **Requirements for dose calculations**
  - Total dose determinations
  - Potential doses to members of the public due to their activities inside the site boundary
- **Requirements for reporting and revision control**
- **Requirements for miscellaneous issues such as meteorological models, methods and parameters for calculation of gaseous effluent pathway dose factors, integration of existing units**

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Excerpt 1 From Radiation Protection Program Template

GENERIC FSAR TEMPLATE GUIDANCE FOR RADIATION PROTECTION PROGRAM DESCRIPTION

12.5 RADIATION PROTECTION PROGRAM

A radiation protection program is developed, documented, and implemented commensurate with the scope and extent of licensed activities, sufficient to ensure compliance with the provisions of 10 CFR Parts 19, 20, 50, and 71 and consistent with the guidance in Regulatory Guides 1.8, 8.2, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.13, 8.15, 8.20, 8.26, 8.27, 8.28, 8.29, 8.32, 8.34, 8.35, 8.36, and 8.38, the consolidated guidance in NUREG-1736, and Nuclear Energy Institute Report No. NEI 06-14, Quality Assurance Program Description (QAPD).

The purpose of the radiation protection program is to maintain occupational and public doses below regulatory limits and as low as reasonably achievable (ALARA). To achieve this, the program will include:

Excerpt 1 From Radiation Protection Program Template (continued)

The purpose of the radiation protection program is to maintain occupational and public doses below regulatory limits and as low as reasonably achievable (ALARA). To achieve this, the program will include:

1. a documented management commitment to keep exposures ALARA;

2. a trained and qualified organization with sufficient authority and well-defined responsibilities; and

3. adequate facilities, equipment, and procedures to effectively implement the program.

The radiation protection program is implemented in stages consistent with the following milestones:

1. Prior to initial receipt of by-product, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18), and thereafter, when such radioactive materials are possessed under this license, the following radiation protection program elements will be in place:

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ODCM Program Description – Preliminary Draft Text: Example 1

INTRODUCTION

The Offsite Dose Calculation Manual (ODCM) is a supporting document of the facility's Technical Specifications and satisfies the requirements in Technical Specification 5.5.X. It contains the Radioactive Effluent Controls Program and the Radiological Effluent Monitoring Program. The program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program is implemented by procedures, and includes remedial actions to be taken whenever the program limits are exceeded.

The ODCM describes the methodology and parameters used in the calculation of offsite doses resulting from radioactive liquid and gaseous effluents, in the calculation of liquid and gaseous effluent monitoring instrumentation setpoints, and in the conduct of the radiological environmental monitoring program. In addition, the ODCM also describes specific radioactive effluent controls and environmental monitoring activities.....

Computer software used to perform the calculations described will be maintained current with the ODCM. Equations and methods used this ODCM are based on those presented in NUREG-0133, in Regulatory Guide 1.109, in Regulatory Guide 1.111, and in Regulatory Guide 1.113.

Excerpt 2 From Radiation Protection Program Template

12.5.4 PROCEDURES

Radiation protection procedures are established, implemented and maintained sufficient to provide adequate control over the receipt, possession, use, transfer, and disposal of byproduct, source, and special nuclear material and assure compliance with applicable

12.5.4.1 Radiological Surveillance

Radiological surveillance procedures comply with 10 CFR 20.1501 and are consistent with the guidance in Regulatory Guides 8.2, 8.8, and 8.10.

Trained and qualified radiation protection staff will routinely survey accessible areas in the plant and environs to assess the presence and levels of radiation, radioactive contamination, and airborne radioactivity. The instrumentation and techniques used for these surveys are selected based upon the purpose of the survey and the anticipated types and levels of radiation and radioactivity involved. Surveys are performed using effective practices to minimize personnel exposure and avoid the spread of contamination.

The frequency and extent of the surveys will depend upon several factors, such as

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ODCM Program Description – Preliminary Draft Text: Example 2

LIQUID EFFLUENTS

LIMITS OF OPERATION

Limits of operations for liquid effluents are established in the ODCM to meet the requirements of Technical Specifications 5.5.X.

Liquid Effluent Monitoring Instrumentation Control

In accordance with Technical Specifications Section 5.5.X, the ODCM will define the radioactive liquid effluent monitoring instrumentation channels that are required to be OPERABLE with their alarm/trip setpoints set to ensure that specified limits are not exceeded. The ODCM will establish the methodology used to define the alarm/trip setpoints of these channels (refer to Section X.Y). As part of these controls, the ODCM will establish "Applicability," "Actions," "Surveillance Requirements," and "Basis."

Liquid Effluent Concentration Control

In accordance with Technical Specifications 5.5.X, the ODCM will define the limits on concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS. As part of these controls the ODCM will establish "Applicability," "Actions," "Surveillance Requirements," and "Basis."

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ODCM Program Description – Preliminary Draft Text: Example 3

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

Limits of Operation

The Radiological Environmental Monitoring Program (REMP) shall be conducted as required by Technical Specification 5.5.X. The REMP shall be part of the ODCM and shall define the appropriate limits of operation including exposure pathways to be sampled, the number and type of samples, the sampling frequency and collection method and the type of analysis. As part of these controls, the REMP requirements shall specify "applicability", "actions", "surveillance", and "basis".

The REMP required by this control provides representative measurements of radiation and of radioactive materials in those exposure pathways, and for those radionuclides, which lead to the highest potential radiation exposure of MEMBERS OF THE PUBLIC resulting from the plant operation. The REMP implements Section IV.B.2, Appendix I, 10 CFR 50, and thereby supplements the radiological effluent monitoring program by measuring concentrations of radioactive materials and levels of radiation, which may then be compared with those expected on the basis of the effluent measurements and modeling of the environmental exposure pathways.

Land Use Census

The REMP shall define requirements for a land use census. The land use census shall be conducted and shall identify the following within a distance of 5 miles in each of the 16 meteorological sections: the location of the nearest milk animal, the nearest permanent residence, and the nearest garden of greater than 500 square feet producing broad leafy vegetation.

Technical Specifications Related to ODCM

The following programs shall be established, implemented, and maintained.

5.5.1 Offsite Dose Calculation Manual (ODCM)

a. The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and

b. The ODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release Reports required by Specification 5.6.1 and Specification 5.6.2.

c. Licensee initiated changes to the ODCM:

1. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:

i. sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and

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Technical Specifications Related to ODCM

5.5.3 Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ten times the concentration values in Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2402;

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;

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Information Not to be Included in ODCM Program Description

- Specific Formulas
- Dose Factor Tables
- Site Meteorological Data
- Instrument Lists (in DCD/COLA)
- Sampling Tables (e.g., frequencies)
- Offsite Sampling Locations

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Process Control Program

- **NEI template approach to be used**

ODCM and PCP Program Descriptions – Template Timetable

- **NEI to provide letter to NRC describing process for development of templates**
- **Request NRC to provide confirmatory response to NEI letter**
- **NEI TF interact with NRC every two weeks to discuss draft templates**
- **Initial draft of ODCM and PCP program description templates to be submitted to the NRC by the end of Sept '07**
- **COL applications would reference the NEI templates in FSAR Chapter 11 to address:**
  - COL items
  - RG 1.206 and SRP guidance
- **Expect to receive final NRC approval in the first half of 2008**
- **Update COL applications as necessary following template approvals**

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Conclusions

- The ODCM and PCP program descriptions will "fully describe" the programs per SECY-05-0197
- Program description templates to provide accepted, standard approaches for COL applications
- Milestones for full ODCM and PCP program implementation are timely enough to allow NRC staff review prior to fuel load

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Questions ?