

WISCONSIN PUBLIC SERVICE CORPORATION
Kewaunee Nuclear Power Plant
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NO. EP-ENV-3C

TITLE Primary Dose Projection
Calculation -
IBM Personal Computer

DATE: JUN 21 1983

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REVIEWED BY

M. L. Marches *D. J. Yeung*

APPROVED BY

C. J. Lusk

1.0 APPLICABILITY

This procedure will be utilized by the Environmental Protection Director during any incident that involves a significant release of radioactive materials to the environment, for the purpose of projecting a radiological dose impact.

2.0 PRECAUTIONS

- 2.1 Ensure all data on the forms of the procedure is accurately recorded.
- 2.2 Check all calculations for accuracy.
- 2.3 Ensure that all cable connections on the computer are secure.
- 2.4 If the IBM personal computer is not available for use, proceed to EP-RET-5, Plume Projection, and EP-RET-6, Dose Projection, for performing dose projection calculations.
- 2.5 If both IBM personal computer and IBM mainframe computer are not available for use, proceed to ENV-3E, 3F, and 3G for performing dose projection calculations.
- 2.6 Meteorological data must be re-evaluated every 30 minutes or whenever significant changes occur, to determine if dose projection should be recalculated.

3.0 REFERENCE

- 3.1 U.S. NRC Regulatory Guide 1.109, Calculation of Annual Doses to Man from Routine Release of Reactor Effluents for the Purpose of Evaluating Compliance with 10CFR50, Appendix I, Revision 1, October 1977.
- 3.2 U.S. EPA, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA-520/1-75-001, September 1975. Appendix D Technical Bases for Methods to Estimate the Projected Thyroid Dose and Projected Whole Body Gamma Dose from Exposure to Airborne Radioiodines and Radioactive Noble Gases.

4.0 INSTRUCTIONS

4.1 Starting the IBM Personal Computer

- 4.1.1 Acquire the 5 1/2 inch diskette labeled "Dose Projection" from the office supplies storage file in the EOF bullpen.
- 4.1.2 Insert the diskette into the IBM personal computer's disk drive A. When facing the computer, the diskette label should be on the right in the corner nearest you. Close the door on disk drive A.
- 4.1.3 Turn the computer on. Turn the printer on. It should take approximately 40 seconds before the computer responds.
- 4.1.4 The Dose Projection Program is now executing. A menu will soon appear on the screen. Instructions will appear at the bottom of the screen.

4.2 Dose Projection from Plant Release Data

- 4.2.1 Acquire the plant release data on Form ENV 3C.1, Plant Release Data, from the RAF or the TSC and complete the appropriate section of the Form.
- 4.2.2 Acquire meteorological data on Forms ENV-3D.1 or ENV-3F.1, (Section I & II), Meteorological Data Worksheet and ENV-3C.1, IBM Personal Computer.
- 4.2.3 Enter data collected in IBM personal computer.
- 4.2.4 Proceed to procedure EP-ENV-3H, Protective Action Recommendation, to determine the appropriate protective action recommendation.

4.3 Dose Calculation from Field Sample Data

- 4.3.1 Acquire the field sample data on Form ENV-3C.2, Field Sample Data, from the EM team coordinator.
- 4.3.2 Acquire the meteorological data on Forms ENV-3D.1 or ENV-3F.1, (Section I & II) Meteorological Data Worksheet, that is closest in time to the time on form ENV-3C.2, Field Sample Data.
- 4.3.3 Enter data collected on Forms ENV-3D.1 or ENV-3F.1, (Section I & II), Meteorological Data Worksheet and ENV-3C.2, Field Sample Data into the IBM personal computer.
- 4.3.4 Proceed to procedure EP-ENV-3H, Protective Action Recommendation, to determine the appropriate protective action recommendation.

FORM ENV-3C.1
PLANT RELEASE DATA

DATE _____ TIME _____

Reactor Trip: Date _____ Time _____

Expect Release: Duration: _____ Hours

I. STACK ANALYTICAL RESULTS

Operating Fans: (circle one)

Aux. A / Aux. B / Aux. A and B
SVA / SVB / SVA and SVB

ISOTOPE

CONCENTRATION (uCi/cc)

Kr-85
KR-85m
KR-87
KR-88
Xe-133
Xe-133m
Xe-135
Xe-135m
I-131

II. SPING RESULTS

Operating Fans: (circle one)

Aux. A / Aux. B / Aux. A and B
SVA / SVB / SVA and SVB

Latest 10 minute Iodine Average _____ uCi/cc
Latest 10 minute Gas Average _____ uCi/cc

III. STEAM RELEASE

Main Steam Line Monitor: _____ R/hr

SI Flow Rate: _____ gpm.

FORM ENV-3C.2

FIELD SAMPLE DATA

DATE _____ TIME _____

Sample Time: _____ Sample Location: _____

Nearest Isopleth: _____

I.

GAS ANALYSIS

ISOTOPE

CONCENTRATION (uCi/cc)

Kr-85
KR-85m
KR-87
KR-88
Xe-133
Xe-133m
Xe-135
Xe-135m

II. DIRECT FIELD READINGS

Whole Body Dose Rate: _____ REM/hr

Iodine Concentration: _____ uCi/cc