RTL#: A9.621B

Beaver Valley Power Station

Unit 1/2

1/2-ODC-2.04

ODCM: Information Related to 40 CFR 190

Document Owner
Manager, Nuclear Environmental & Chemistry

Revision Number	2
Level Of Use	General Skill Reference
Safety Related Procedure	Yes
Effective Date	10/07/14

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1.0 PURPOSE

1.1 This procedure provides the steps to be taken when the Total Dose of ODCM Control 4.11.4.1 exceeds twice the limit of any of the ODCM Controls specifying an Offsite Dose Limit.(3.1.2)

1.1.1 Prior to issuance of this procedure, these items were located in Section 4 of the old ODCM.

2.0 SCOPE

2.1 This procedure is applicable to all station personnel that are qualified to perform activities as described and referenced in this procedure.

3.0 REFERENCES AND COMMITMENTS

3.1 References

3.1.1 40 CFR Part 190

3.1.2 1/2-ODC-3.03, ODCM: Controls for RETS and REMP Programs

3.1.3 1/2-ADM-1640, Control of the Offsite Dose Calculation Manual

3.1.4 1/2-ADM-0100, Procedure Writer's Guide

3.1.5 1/2-ADM-0101, Review and Approval of Documents

3.1.6 CR 05-01169, Chemistry Action Plan for Transition of RETS, REMP and ODCM. CA-18, Revise procedure 1/2-ODC-2.04 to change document owner from Manager, Radiation Protection to Manager, Nuclear Environmental & Chemistry.

3.1.7 10 CFR 72.104, Criteria for Radioactive Materials in Effluents and Direct Radiation from an ISFSI or MRS.

3.2 Commitments

3.2.1 10 CFR 20.405(c), Special Reports

3.2.2 NUREG-1301, Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors (Generic Letter 89-01, Supplement No. 1)

4.0 RECORDS AND FORMS

4.1 Records

4.1.1 Any calculation supporting ODCM changes shall be documented, as appropriate, by a retrievable document (e.g.; letter or calculation package) with an appropriate RTL number.

4.2 Forms

4.2.1 None

5.0 PRECAUTIONS AND LIMITATIONS

5.1 The Offsite Dose Limits used to show compliance to this procedure are as follows:

5.1.1 ODCM Control 3.11.2.a; Liquid Effluents: $\leq$ 1.5 mrem/quarter Total Body or $\leq$ 5 mrem/quarter any Organ.

5.1.2 ODCM Control 3.11.2.b; Liquid Effluents: $\leq$ 3 mrem/year Total Body or $\leq$ 10 mrem/year any Organ.

5.1.3 ODCM Control 3.11.2.2.a; Gas Effluent-Noble Gas: $\leq$ 5 mrad/quarter Gamma, or $\leq$ 10 mrad/quarter Beta

5.1.4 ODCM Control 3.11.2.2.b; Gas Effluents-Noble Gas: $\leq$ 10 mrad/year Gamma $\leq$ 20 mrad/year Beta

5.1.5 ODCM Control 3.11.2.3.a; Gas Effluents-Particulates & Iodines: $\leq$ 7.5 mrem/quarter any organ

5.1.6 ODCM Control 3.11.2.3.b; Gas Effluents-Particulates & Iodines: $\leq$ 15 mrem/year any organ

5.1.7 ODCM Control 3.11.4.1; All Fuel Cycle Sources: $\leq$ 25 mrem/year Total Body or any Organ, except the thyroid, which is limited to $\leq$ 75 mrem/year

6.0 ACCEPTANCE CRITERIA

6.1 Any changes to this procedure shall contain sufficient justification that the change will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, 10 CFR 72.104 and Appendix I to 10 CFR 50, and not adversely impact the accuracy or reliability of effluent dose or setpoint calculation.[3.2.2]

6.1.1 All changes to this procedure shall be prepared in accordance with 1/2-ADM-0100[3.1.4] and 1/2-ADM-1640.[3.1.3]

6.1.2 All changes to this procedure shall be reviewed and approved in accordance with 1/2-ADM-0101[3.1.5] and 1/2-ADM-1640.[3.1.3]

7.0 PREREQUISITES

7.1 The user of this procedure shall be familiar with ODCM structure and content.

8.0 PROCEDURE

8.1 Information Related To 40 CFR 190

8.1.1 CONTROL 3.11.4.1 requires that when the calculated doses associated with the effluent releases exceed twice the limits of ODCM CONTROL 3.11.1.2.a, 3.11.1.2.b, 3.11.2.2.a, 3.11.2.2.b, 3.11.2.3.a, or 3.11.2.3.b, the following shall be performed:

8.1.1.1 Calculations shall be made including direct radiation contributions from the units (including outside storage tanks, the onsite Independent Spent Fuel Storage Installation (ISFSI), etc.) to determine whether the dose or dose commitment to any MEMBER OF THE PUBLIC from all facility releases of radioactivity and to radiation from uranium fuel cycle sources, which is considered to include the onsite Independent Spent Fuel Storage Installation (ISFSI), exceeds the limits of ≤ 25 mrem to the total body or any organ, except the thyroid, which is limited to ≤ 75 mrem for a calendar year.

8.1.1.1.1 If any of these limits are exceeded, prepare and submit to the Commission within 30 days a Special Report pursuant to 10 CFR 20.405(c).(3.2.1) The following shall be included in the Special Report:

8.1.1.1.1.1 Define the corrective action to be taken to reduce subsequent releases to prevent recurrence of exceeding the limits of ODCM CONTROL 3.11.4.1.

8.1.1.1.1.2 Include the schedule for achieving conformance within the limits of ODCM CONTROL 3.11.4.1.

8.1.1.1.1.3 Include an analysis that estimates the radiation exposure (dose) to a MEMBER OF THE PUBLIC from uranium fuel cycle sources, which is considered to include the onsite Independent Spent Fuel Storage Installation (ISFSI), including all effluent pathways and direct radiation, for the calendar year that includes the release(s) covered by this report.

8.1.1.1.1.4 Describe levels of radiation and concentrations of radioactive material involved, and the cause of exposure levels or concentrations.

8.1.1.1.1.5 If the estimated dose(s) exceeds the limits of ODCM CONTROL 3.11.4.1, and if the release condition resulting in violation of 40 CFR Part 190 has not already been corrected, include a request for a variance in accordance with the provisions of 40 CFR Part 190. Submittal of the report is considered a timely request, and a variance is granted until staff action on the request is complete.

8.2 **Inside The Site Boundary Radiation Doses**

8.2.1 In regards to assessment of radiation doses (from Radioactive Effluents) to MEMBERS OF THE PUBLIC due to their activities inside the site boundary, the following is provided:

8.2.1.1 A separate assessment of radiation doses from radioactive effluents to MEMBERS OF THE PUBLIC due to their activities inside the site boundary is generally not necessary because the exposure time for individuals not occupationally associated with the plant site is minimal in comparison to the exposure time considered for the dose calculation at or beyond the site boundary.

8.2.1.2 For reporting purposes, separate guidance for calculating radiation doses to a MEMBER OF THE PUBLIC inside the site boundary is not needed because the dose assessments for an offsite MEMBER OF THE PUBLIC is also assumed to be for a MEMBER OF THE PUBLIC conducting activities onsite.

8.2.1.2.1 This is verified by showing that the ground release χ/Q dispersion parameter used for dose calculation at the site boundary (0.352 miles NW) is greater than the χ/Q dispersion parameter at the location where a MEMBER OF THE PUBLIC would most likely have the maximum exposure time (0-0.5 miles N and 0-0.5 miles NNW). A comparison of these χ/Q dispersion parameters is as follows:

χ/Q Used for Dose Calculation	χ/Q Where an Assumed MEMBER OF THE PUBLIC Would Most Likely Have the Maximum Exposure Time		χ/Q References from 1/2-ODC-2.02
Site Boundary 0.352 miles NW	Inside the Site Boundary 0-0.5 miles N	Inside the Site Boundary 0-0.5 miles NNW	See Attachment F
9.24E-5 sec/m^3	2.33E-5 sec/m^3	5.47E-5 sec/m^3	Table 2.2-4
1.03E-4 sec/m^3	2.76E-5 sec/m^3	6.01E-5 sec/m^3	Table 2.2-5
7.35E-5 sec/m^3	2.44E-5 sec/m^3	5.57E-5 sec/m^3	Table 2.2-7
9.24E-5 sec/m^3	2.33E-5 sec/m^3	5.47E-5 sec/m^3	Table 2.2-8
9.24E-5 sec/m^3	2.33E-5 sec/m^3	5.47E-5 sec/m^3	Table 2.2-9
7.35E-5 sec/m^3	2.44E-5 sec/m^3	5.57E-5 sec/m^3	Table 2.2-10

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