

REACTOR COOLANT SYSTEM

ATTACHMENT

3/4.4.5 SPECIFIC ACTIVITY

1 of 4

LIMITING CONDITION FOR OPERATION

3.4.5 The specific activity of the primary coolant shall be limited to:

- a. Less than or equal to 0.2 microcurie per gram DOSE EQUIVALENT I-131, and
- b. Less than or equal to $100/\bar{E}$ microcuries per gram.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and 4.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2, or 3 with the specific activity of the primary coolant:

DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or greater than 4.0 microcuries per gram DOSE EQUIVALENT I-131, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours.

1. Greater than 0.2 microcurie per gram DOSE EQUIVALENT I-131 but less than or equal to 4 microcuries per gram, ~~operation may continue for up to 48 hours provided that the cumulative operating time under these circumstances does not exceed 800 hours in any consecutive 12-month period. With the total cumulative operating time at a primary coolant specific activity greater than 0.2 microcurie per gram DOSE EQUIVALENT I-131 exceeding 500 hours in any consecutive 6-month period, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days indicating the number of hours of operation above this limit. The provisions of Specification 3.0.4 are not applicable.~~
2. ~~Greater than 0.2 microcurie per gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or for more than 800 hours cumulative operating time in a consecutive 12-month period, or greater than 4 microcuries per gram, be in at least HOT SHUTDOWN with the main steam line isolation valves closed within 12 hours.~~
- 2
3. Greater than $100/\bar{E}$ microcuries per gram, be in at least HOT SHUTDOWN with the main steamline isolation valves closed within 12 hours.

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- b. In OPERATIONAL CONDITION 1, 2, 3, or 4, with the specific activity of the primary coolant greater than 0.2 microcurie per gram DOSE EQUIVALENT I-131 or greater than $100/\bar{E}$ microcuries per gram, perform the sampling and analysis requirements of Item 4a of Table 4.4.5-1 until the specific activity of the primary coolant is restored to within its limit. ~~A REPORTABLE OCCURRENCE shall be prepared and submitted to the Commission pursuant to Specification 6.9.1. This report shall contain the results of the specific activity analyses and the time duration when the specific activity of the coolant exceeded 0.2 microcurie per gram DOSE EQUIVALENT I-131 together with the following additional information.~~

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REACTOR COOLANT SYSTEMLIMITING CONDITION FOR OPERATION (Continued)ACTION: (Continued)

c. In OPERATIONAL CONDITION 1 or 2, with:

1. THERMAL POWER changed by more than 15% of RATED THERMAL POWER in 1 hour*, or
2. The off-gas level, at the SJAE, increased by more than 15,000 microcuries per second in 1 hour during steady-state operation at release rates less than 100,000 microcuries per second, or
3. The off-gas level, at the SJAE, increased by more than 15% in 1 hour during steady-state operation at release rates greater than 100,000 microcuries per second,

perform the sampling and analysis requirements of Item 4b of Table 4.4.5-1 until the specific activity of the primary coolant is restored to within its limit. ~~Prepare and submit to the Commission a Special Report pursuant to Specification 6.9.2 at least once per 92 days containing the results of the specific activity analysis together with the below additional information for each occurrence.~~

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Additional Information

1. ~~Reactor power history starting 48 hours prior to:~~
 - a) ~~The first sample in which the limit was exceeded, and/or~~
 - b) ~~The THERMAL POWER or off-gas level change.~~
2. ~~Fuel burnup by core region.~~
3. ~~Clean-up flow history starting 48 hours prior to:~~
 - a) ~~The first sample in which the limit was exceeded, and/or~~
 - b) ~~The THERMAL POWER or off-gas level change.~~
4. ~~Off-gas level starting 48 hours prior to:~~
 - a) ~~The first sample in which the limit was exceeded, and/or~~
 - b) ~~The THERMAL POWER or off-gas level change.~~

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SURVEILLANCE REQUIREMENTS

4.4.5 The specific activity of the reactor coolant shall be demonstrated to be within the limits by performance of the sampling and analysis program of Table 4.4.5-1.

*Not applicable during the startup test program.

REACTOR COOLANT SYSTEMBASES3/4.4.5 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the 2-hour thyroid and whole body doses resulting from a main steam line failure outside the containment during steady-state operation will not exceed small fractions of the dose guidelines of 10 CFR Part 100. The values for the limits on specific activity represent interim limits based upon a parametric evaluation by the NRC of typical site locations. These values are conservative in that specific site parameters, such as SITE BOUNDARY location and meteorological conditions, were not considered in this evaluation.

The ACTION statement permitting POWER OPERATION to continue for limited time periods with the primary coolant's specific activity greater than 0.2 microcurie per gram DOSE EQUIVALENT I-131, but less than or equal to 4.0 microcuries per gram DOSE EQUIVALENT I-131, accommodates possible iodine spiking phenomenon which may occur following changes in THERMAL POWER. ~~Operation with specific activity levels exceeding 0.2 microcurie per gram DOSE EQUIVALENT I-131 but less than or equal to 4.0 microcuries per gram DOSE EQUIVALENT I-131 must be restricted to no more than 800 hours per year, approximately 10% of the unit's yearly operating time, since these activity levels increase the 2-hour thyroid dose at the SITE BOUNDARY by a factor of up to 20 following a postulated steam line rupture. The reporting of cumulative operating time over 500 hours in any 6-month consecutive period with greater than 0.2 microcurie per gram DOSE EQUIVALENT I-131 will allow sufficient time for Commission evaluation of the circumstances prior to reaching the 800-hour limit.~~

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~~Information obtained on iodine spiking will be used to assess the parameters associated with spiking phenomena. A reduction in frequency of isotopic analysis following power changes may be permissible if justified by the data obtained.~~

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Closing the main steam line isolation valves prevents the release of activity to the environs should a steam line rupture occur outside containment. The surveillance requirements provide adequate assurance that excessive specific activity levels the reactor coolant will be detected in sufficient time to take corrective action.

ADMINISTRATIVE CONTROLSANNUAL REPORTS (Continued)

6.9.1.5 Reports required on an annual basis shall include:

- a. A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions* (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance [describe maintenance], waste processing, and refueling). The dose assignments to various duty functions may be estimated based on pocket dosimeter, thermoluminescent dosimeter (TLD), or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole-body dose received from external sources should be assigned to specific major work functions; and
- b. Documentation of all challenges to main steam line safety/relief valves.

MONTHLY OPERATING REPORTS

6.9.1.6 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Director, Office of Resource Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Administrator of the Regional Office of the NRC, no later than the 15th of each month following the calendar month covered by the report.

REPORTABLE OCCURRENCES

6.9.1.7 DELETED

PROMPT NOTIFICATION WITH WRITTEN FOLLOWUP

6.9.1.8 DELETED

*This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.

- add: C. The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.4.5. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) Results of the last isotopic analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up system flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

ENCLOSURE 2

WASHINGTON PUBLIC POWER SUPPLY SYSTEM, WNP-2
SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Functional Areas

1. Management involvement in assuring quality.
Technical review of the submittal indicates that the management reviews are timely and technically appropriate.
Rating: Category 1
2. Approach to resolution of technical issues from a safety standpoint.
The licensee showed a general understanding of the technical issue and used acceptable approaches.
Rating: Category 1
3. Responsiveness to NRC Initiatives
The licensee responded favorably to NRC initiatives.
Rating: Category 2
4. Staffing (including management)
N/A
5. Reporting and analyses of reportable events
N/A
6. Training and effectiveness and qualification
N/A
7. Overall rating for functional area: 1.3

* Reference: NRC Manual Appendix 0516 - Systematic Assessment of Licensee Performance