



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

September 27, 1985

TO ALL LICENSEES AND APPLICANTS FOR OPERATING POWER REACTORS AND HOLDERS
OF CONSTRUCTION PERMITS FOR POWER REACTORS

Gentlemen:

SUBJECT: Reporting Requirements on Primary Coolant Iodine Spikes
(Generic Letter No. 85-19)

Generic Letter No. 83-43 was issued on December 19, 1983, to provide guidance on Technical Specification revisions required as the result of the revisions to 10 CFR 50.72 (Immediate Notification Requirements of Significant Events at Operating Nuclear Power Reactors) and of implementation of 10 CFR 50.73 (Licensee Event Report System). That generic letter discussed changing the requirement from a Licensee Event Report to a Special Report for operating conditions where the specific activity limits of the reactor coolant are exceeded.

As part of our continuing program to delete unnecessary reporting requirements, we have reviewed the reporting requirements related to primary coolant specific activity levels, specifically primary coolant iodine spikes. We have determined that the reporting requirements for iodine spiking can be reduced from a short-term report (Special Report or Licensee Event Report) to an item which is to be included in the Annual Report. The information to be included in the Annual Report is similar to that previously required in the Licensee Event Report but has been changed to more clearly designate the results to be included from the specific activity analysis and to delete the information regarding fuel burnup by core region.

In our effort to eliminate unnecessary Technical Specification requirements, we have also determined that the existing requirements to shut down a plant if coolant iodine activity limits are exceeded for 800 hours in a 12-month period can be eliminated. The quality of nuclear fuel has been greatly improved over the past decade with the result that normal coolant iodine activity (i.e. in the absence of iodine spiking) is well below the limit. Appropriate actions would be initiated long before accumulating 800 hours above the iodine activity limit. In addition, 10 CFR 50.72(b)(1)(ii) requires the NRC to be immediately notified of fuel cladding failures that exceed expected values or that are caused by unexpected factors. Therefore, this Technical Specification limit is no longer considered necessary on the basis that proper fuel management by licensees and existing reporting requirements should preclude ever approaching the limit.

Licensees are expected to continue to monitor iodine activity in the primary coolant and take responsible actions to maintain it at a reasonably low level (i.e., accumulated time with high iodine activity should not approach 800 hours).

8509240257

PDR #DOCK

850927
1571#33
05000003 P

IDR-5
INFO GR

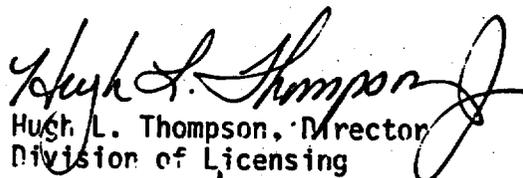
Enclosed are model Technical Specifications in Standard Technical Specification (STS) format showing the revisions that may be used in a submittal of proposed Technical Specifications or proposed changes to existing Technical Specifications. These changes will also be incorporated in the next revision of the STS for all nuclear power reactor vendors. The changes are indicated by a line in the margin of the Action Statement for the Limiting Condition for Operation. A Technical Specification amendment request should be submitted to the NRC for each facility which currently has Technical Specification reporting requirements upon exceeding coolant iodine activity limits or which has a requirement to shut down after 800 hours with iodine above the limit. Your request should include appropriate changes to the bases section of your Technical Specifications.

As a matter of information, when Technical Specification changes or other proposed license amendments and approvals (i.e., proposed facility modifications requiring NRC approval) are required as a result of this or another generic letter, they are subject to the fee provisions of 10 CFR 170 and a \$150 application fee should accompany your request (see 10 CFR 170.12(c) and 170.21).

If you have any questions relating to this subject, please contact M. Virgilio of my staff on (301-492-8947).

This request has been approved by OMB Clearance Number 3150-0011, which expires September 30, 1986.

Sincerely,


Hugh L. Thompson, Director
Division of Licensing

Enclosure: *See Jacket (Computer Printout)*
"Model Technical Specifications
showing Revisions to STS Reporting
Requirements for Primary Coolant
Specific Activity"

List of Generic Letters

REACTOR COOLANT SYSTEM

3/4.4.8 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the reactor coolant shall be limited to:

- a. Less than or equal to 1 microCurie per gram DOSE EQUIVALENT I-131, and
- b. Less than or equal to $100/\bar{E}$ microCuries per gram of gross radioactivity.

APPLICABILITY: MODES 1, 2, 3, 4, and 5.

ACTION:

MODES 1, 2 and 3*:

- a. With the specific activity of the reactor coolant greater than 1 microCurie per gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours; and
- b. With the specific activity of the reactor coolant greater than $100/\bar{E}$ microCuries per gram, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours.

MODES 1, 2, 3, 4, and 5:

With the specific activity of the reactor coolant greater than 1 microCurie per gram DOSE EQUIVALENT I-131 or greater than $100/\bar{E}$ microCuries per gram, perform the sampling and analysis requirements of Item 4.a) of Table 4.4-4 until the specific activity of the reactor coolant is restored to within its limits.

SURVEILLANCE REQUIREMENTS

4.4.8 The specific activity of the reactor coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.

*With T_{avg} greater than or equal to 500°F.

REACTOR COOLANT SYSTEM

3/4.4.8 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

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

- a. Less than or equal to 1.0 microcurie/gram DOSE EQUIVALENT I-131, and
- b. Less than or equal to $100/\bar{E}$ microcuries/gram.

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1, 2 and 3*:

- a. With the specific activity of the primary coolant greater than 1.0 microcurie/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours.
- b. With the specific activity of the primary coolant greater than $100/\bar{E}$ microcuries/gram, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours.

MODES 1, 2, 3, 4 and 5:

With the specific activity of the primary coolant greater than 1.0 microcurie/gram DOSE EQUIVALENT I-131 or greater than $100/\bar{E}$ microcuries/gram, perform the sampling and analysis requirements of item 4 a) of Table 4.4-4 until the specific activity of the primary coolant is restored to within its limits.

SURVEILLANCE REQUIREMENTS

4.4.8 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.

* With T_{avg} greater than or equal to 500°F.

REACTOR COOLANT SYSTEM

3/4.4.9 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

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

- a. Less than or equal to 1.0 microcurie/gram DOSE EQUIVALENT I-131, and
- b. Less than or equal to $100/\bar{E}$ microcuries/gram .

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1, 2 and 3*.

- a. With the specific activity of the primary coolant greater than 1.0 microcurie/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours.
- b. With the specific activity of the primary coolant greater than $100/\bar{E}$ microcuries/gram be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours.

MODES 1, 2, 3, 4 and 5:

- a. With the specific activity of the primary coolant greater than 1.0 microcurie/gram DOSE EQUIVALENT I-131 or greater than $100/\bar{E}$ microcuries/gram perform the sampling and analysis requirements of item 4 a of Table 4.4-4 until the specific activity of the primary coolant is restored to within its limits.

SURVEILLANCE REQUIREMENTS

4.4.9 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.

*With T_{avg} greater than or equal to 500°F.

REACTOR COOLANT SYSTEM

3/4.4.5 SPECIFIC ACTIVITY

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 microcuries 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 CONDITIONS 1, 2 or 3 with the specific activity of the primary coolant;
 1. Greater than 0.2 microcuries per gram DOSE EQUIVALENT I-131 but less than or equal to 4.0 microcuries per gram 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.
 2. Greater than $100/\bar{E}$ microcuries per gram, be in at least HOT SHUTDOWN with the main steamline isolation valves closed within 12 hours.
- b. In OPERATIONAL CONDITIONS 1, 2, 3 or 4, with the specific activity of the primary coolant greater than 0.2 microcuries 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.
- c. In OPERATIONAL CONDITION 1 or 2, with:
 1. THERMAL POWER changed by more than 15% of RATED THERMAL POWER in one hour^a, or
 2. The off-gas level, at the SJAE, increased by more than (10,000) microcuries per second in one hour during steady state operation at release rates less than (75,000) microcuries per second, or
 3. The off-gas level, at the SJAE, increased by more than (15)% in one hour during steady state operation at release rates greater than (75,000) 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.

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.

^aNot applicable during the startup test program.

REACTOR COOLANT SYSTEM

3/4.4.5 SPECIFIC ACTIVITY

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 microcuries 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 CONDITIONS 1, 2 or 3 with the specific activity of the primary coolant;
 1. Greater than 0.2 microcuries per gram DOSE EQUIVALENT I-131 but less than or equal to 4.0 microcuries per gram 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.
 2. Greater than $100/\bar{E}$ microcuries per gram, be in at least HOT SHUTDOWN with the main steamline isolation valves closed within 12 hours.
- b. In OPERATIONAL CONDITIONS 1, 2, 3 or 4, with the specific activity of the primary coolant greater than 0.2 microcuries 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.
- c. In OPERATIONAL CONDITION 1 or 2, with:
 1. THERMAL POWER changed by more than 15% of RATED THERMAL POWER in one hour*, or
 2. The off-gas level, at the SJAE, increased by more than (10,000) microcuries per second in one hour during steady state operation at release rates less than (75,000) microcuries per second, or
 3. The off-gas level, at the SJAE, increased by more than (15)% in one hour during steady state operation at release rates greater than (75,000) 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.

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 start-up test program

REACTOR COOLANT SYSTEM

3/4.4.5 SPECIFIC ACTIVITY

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 microcuries 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 CONDITIONS 1, 2 or 3 with the specific activity of the primary coolant;
 1. Greater than 0.2 microcuries per gram DOSE EQUIVALENT I-131 but less than or equal to 4.0 microcuries per gram 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.
 2. Greater than $100/\bar{E}$ microcuries per gram, be in at least HOT SHUT-DOWN with the main steamline isolation valves closed within 12 hours.
- b. In OPERATIONAL CONDITIONS 1, 2, 3 or 4, with the specific activity of the primary coolant greater than 0.2 microcuries 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.
- c. In OPERATIONAL CONDITION 1 or 2, with:
 1. THERMAL POWER changed by more than 15% of RATED THERMAL POWER in one hour*, or
 2. The off-gas level, at the SJAE, increased by more than (10,000) microcuries per second in one hour during steady state operation at release rates less than (75,000) microcuries per second, or
 3. The off-gas level, at the SJAE, increased by more than (15)% in one hour during steady state operation at release rates greater than (75,000) 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.

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.

ADMINISTRATIVE CONTROLS

ANNUAL REPORTS (Add the following to this section)

The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.4.8 (W and CE plants), 3.4.9 (B&W plants) or 3.4.5 (GE plants). 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 for radioiodine performed prior to exceeding the limit, results of 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.

STS-ALL PLANTS

LIST OF RECENTLY ISSUED GENERIC LETTERS

<u>GENERIC LETTER NO.</u>	<u>SUBJECT</u>	<u>DATE</u>
85-03	Clarification of Equivalent Control Capacity For Standby Liquid Control Systems	1/28/85
85-04	Operator Licensing Examinations	1/29/85
85-05	Inadvertent Boron Dilution Events	1/31/85
85-06	Quality Assurance Guidance for ATWS Equipment that is not Safety-Related	4/16/85
85-07	Implementation of Integrated Schedules for Plant Modifications	5/02/85
85-08	10 CFR 20.408 Termination Reports - Format	5/23/85
85-09	Technical Specifications for Generic Letter 83-28, Item 4.3	5/23/85
85-10	Technical Specifications for Generic Letter 83-28, Items 4.3 and 4.4	5/23/85
85-11	Completion of Phase II of "Control of Heavy Loads at Nuclear Power Plants" NUREG-0612	6/28/85
85-12	Implementation of TMI Action Item II.K.3.5, "Automatic Trip of Reactor Coolant Pumps"	6/28/85
85-13	Transmittal of NUREG-1154 Regarding the Davis Besse Loss of Main and Auxiliary Feedwater Event	8/5/85
84-14	Commercial Storage at Power Reactor Sites of Low Level Radioactive Waste not Generated by the Utility	8/1/85
85-15	Information Relating to the Deadlines for Compliance with 10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants"	8/6/85
85-16	High Boron Concentrations	8/23/85
85-17	Availability of Supplements 2 & 3 to NUREG-0933, "A Prioritization of Generic Safety Issues"	8/23/85
85-18	Operator Licensing Examinations	9/27/85
85-19	Reporting Requirements on Primary Coolant Iodine Spikes	9/27/85