VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

November 5, 2002

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No.	02-687
NLOS/GDM	R0
Docket Nos.	50-280
	50-281
License Nos.	DPR-32
	DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
PROPOSED TECHNICAL SPECIFICATION CHANGE
DELETION OF FIFTEEN MINUTE DEGASSED BETA AND GAMMA ACTIVITY TEST AND SEMIANNUAL DOSE EQUIVALENT I-131 ANALYSIS

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests amendments, in the form of changes to the Technical Specifications (TS) to Facility Operating Licenses Numbers DPR-32 and DPR-37 for Surry Power Station Units 1 and 2, respectively. The proposed change revises the secondary coolant sampling surveillance test requirements. Specifically, the current TS require a fifteen minute degassed beta and gamma activity test, the results of which establish the frequency of performing the dose equivalent I-131 analysis as either monthly or semiannually. The proposed change requires the dose equivalent I-131 analysis to be performed on a monthly basis, thereby deleting the need for performing the fifteen minute degassed beta and gamma activity test, as well as the semiannual dose equivalent I-131 analysis. A discussion of the proposed TS change is provided in Attachment 1. The marked-up and proposed TS pages reflecting the proposed change are provided in Attachments 2 and 3, respectively.

We have evaluated the proposed TS change and have determined that it does not involve a significant hazards consideration as defined in 10 CFR 50.92. The basis for this determination is provided in Attachment 1. We have also determined that operation with the proposed change will not result in any significant increase in the amount of effluents that may be released offsite and no significant increase in individual or cumulative occupational radiation exposure will occur. Therefore, the proposed amendment is eligible for categorical exclusion as set forth in 10 CFR 51.22(c)(9).

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Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed change.

If you have any further questions or require additional information, please contact us.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Engineering

Attachments

Commitment made in this letter: None

cc: U.S. Nuclear Regulatory Commission
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SN: 02-687
Docket Nos.: 50-280/281
Subject: Proposed TS Change
Deletion of 15 Min. Degassed Beta & Gamma Act. Test and
Semi-Annual Dose Equivalent I-131 Analysis

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz, who is Vice President - Nuclear Engineering, of Virginia Electric and Power Company. She has affirmed before me that she is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 5th day of November, 2002.

My Commission Expires: March 31, 2004.

Maggie McClure
Notary Public

(SEAL)

Attachment 1

Discussion of Change

Surry Power Station
Units 1 and 2

Virginia Electric and Power Company
(Dominion)

DISCUSSION OF CHANGE

Introduction

Pursuant to 10CFR50.90, Virginia Electric and Power Company (Dominion) requests a change to Technical Specification (TS) Table 4.1-2B Item 6 for Surry Units 1 and 2. The proposed change revises the secondary coolant sampling surveillance test requirements in Table 4.1-2B Item 6. The current TSs require a fifteen minute degassed beta and gamma activity test, the results of which establish the frequency of the dose equivalent I-131 analysis as either monthly or semiannually. This change requires that the dose equivalent I-131 analysis be performed on a monthly basis, thereby permitting the deletion of the fifteen minute degassed beta and gamma activity test, as well as the semiannual dose equivalent I-131 analysis.

The proposed change has been reviewed, and it has been judged to involve no significant hazards consideration, as defined in 10CFR50.92. In addition, it has been determined that the change qualifies for categorical exclusion from an environmental assessment as set forth in 10CFR51.22(c)(9); therefore, no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed change.

Background

Sampling surveillance test requirements and minimum frequencies are specified in TS Table 4.1-2B. Item 6 in this table identifies secondary coolant sampling tests and currently includes the following requirements:

- Once per 72 hours fifteen minute degassed beta and gamma activity test
- Monthly dose equivalent I-131 analysis if the fifteen minute degassed beta and gamma activity is 10% or more of the limit given in TS 3.6.E (specified by Note 4)
- Semiannual dose equivalent I-131 analysis when the fifteen minute degassed beta and gamma activity is less than 10% of the limit given in TS 3.6.E (specified by Note 8)

TS 3.6.E requires that the specific activity of the secondary coolant system shall be ≤ 0.10 μCi/cc dose equivalent I-131. As noted in the TS 3.6 Basis, a limit on the specific activity of the secondary coolant is required in order to limit the radiological consequences of a main steam line break (MSLB) to a small fraction of the 10CFR100 criteria. The proposed TS change deletes the secondary coolant sampling requirements for the fifteen minute degassed beta and gamma activity test required once per 72 hours and for the semiannual dose equivalent I-131 analysis, as well as the associated notes to Table 4.1-2B. The requirement for a dose equivalent I-131 analysis to be performed on a monthly basis will remain in Table 4.1-2B. This change does not alter the TS 3.6.E requirements, actions, or bases.

This proposed TS change is consistent with NUREG-1431 for the (Improved) Standard Technical Specifications for Westinghouse Plants. The change is also consistent with the North Anna Technical Specifications, which were recently converted to Improved Technical Specifications and approved by the NRC on April 5, 2002 by Amendments 231/212.

This change will result in considerable reduction in manpower required to accomplish the required secondary coolant sampling surveillance testing. Specifically, the effort required to perform the monthly analysis versus the once per 72 hours test will be reduced from approximately 1.5 hours three days a week for two people to 15 minutes once a month for one person.

Description of Change

The following specific revisions in TS Table 4.1-2B are proposed:

- The requirement to perform a fifteen minute degassed beta and gamma activity test once per 72 hours is deleted,
- The requirement for performing a semiannual dose equivalent I-131 analysis is deleted,
- The conditional requirement to perform a monthly dose equivalent I-131 analysis if the fifteen minute degassed beta and gamma activity is 10% or more of the limit given in TS 3.6.E, as specified in Note (4) to the table, is deleted, and
- The conditional requirement to perform a semiannual dose equivalent I-131 analysis when the fifteen minute degassed beta and gamma activity is less than 10% of the limit given in TS 3.6.E, as specified in Note (8) of the table, is deleted.

The requirement for a dose equivalent I-131 analysis to be performed on a monthly basis remains in Table 4.1-2B with no conditional qualification (i.e., no associated note).

Safety Implications of the Proposed Change

A limit on secondary coolant specific activity during power operation minimizes releases to the environment resulting from normal operation, anticipated operational occurrences, and accidents. The accident analysis of the MSLB assumes the initial secondary coolant specific activity to have a radioactive isotope concentration of 0.10 μCi/cc dose equivalent I-131. This assumption is used in the analysis for determining the radiological consequences of the postulated accident. The accident analysis, based on this and other assumptions, shows that the radiological consequences of an MSLB do not exceed a small fraction of the 10CFR100 limits.

Secondary coolant sampling surveillance testing verifies that the secondary specific activity is within the limits of the accident analysis. The current TSs require a fifteen minute degassed beta and gamma activity test once every 72 hours. Based on the results of that test, the frequency of the dose equivalent I-131 analysis is established as

either monthly or semiannually. The fifteen minute degassed beta and gamma activity test provides a gross activity determination. It has been determined and is recognized that the fifteen minute degassed beta and gamma activity test is not the optimum method of identifying and quantifying primary to secondary leakage for comparison to in-line instrumentation. An alternate method that is more sensitive is the liquid gamma isotopic test with which the dose equivalent I-131 can be calculated. This is the method currently used to satisfy the existing TS requirement for a monthly or semiannual dose equivalent I-131 analysis. In view of the higher sensitivity of the liquid gamma isotopic test used in calculating the dose equivalent I-131, the proposed deletion of the fifteen minute degassed beta and gamma activity test and the proposed monthly performance of the dose equivalent I-131 analysis is appropriate. The dose equivalent I-131 analysis confirms the validity of the safety analysis assumptions. It also serves to identify and trend any unusual isotopic concentrations that might indicate changes in reactor coolant activity or primary to secondary leakage. The monthly frequency is based on the detection of increasing trends of the level of dose equivalent I-131 and allows for appropriate action to be taken to maintain levels below the TS 3.6.E limit.

As noted earlier in this discussion, this proposed TS change is consistent with NUREG-1431 for the (Improved) Standard Technical Specifications for Westinghouse Plants. The change is also consistent with the North Anna Technical Specifications, which were recently converted to Improved Technical Specifications and approved by the NRC on April 5, 2002 by Amendments 231/212.

Evaluation of Significant Hazards Consideration

The proposed revision to Technical Specifications deletes the secondary coolant sampling requirements for the fifteen minute degassed beta and gamma activity test required once per 72 hours and for the semiannual dose equivalent I-131 analysis in TS Table 4.1-2B. The requirement for a dose equivalent I-131 analysis to be performed on a monthly basis remains in Table 4.1-2B. In accordance with the requirements of 10CFR50.92, the enclosed application is judged to involve no significant hazards based upon the following information:

1. Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change revises the sampling surveillance test requirements for the secondary coolant. Analyzed events are initiated by the failure of plant structures, systems, or components. The proposed change does not have a detrimental impact on the integrity of any plant structure, system, or component that could initiate an analyzed event. The proposed change will not alter the design and operation of, or otherwise increase the likelihood of failure of, any plant equipment that could initiate an analyzed accident.

   The deletion of the fifteen minute degassed beta and gamma activity test once every 72 hours is a less restrictive change, while the deletion of the semiannual equivalent

dose I-131 analysis is more restrictive. In view of the higher sensitivity of the liquid gamma isotopic test used in calculating the dose equivalent I-131, the proposed deletion of the fifteen minute degassed beta and gamma activity test and the proposed monthly performance of the dose equivalent I-131 analysis is appropriate. The dose equivalent I-131 analysis serves to confirm the validity of the safety analysis assumptions.

As a result, the probability or consequences of any accident previously evaluated are not significantly affected by the proposed change in surveillance frequencies.

2. Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the method of plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

   A limit on the specific activity of the secondary coolant is required in order to limit the radiological consequences of a main steam line break to a small fraction of the 10CFR100 criteria. The proposed sampling surveillance test requirements for the secondary coolant will verify that the TS-required specific activity limit is satisfied and will serve to confirm the validity of the safety analysis assumptions. Hence, the proposed change in sampling surveillance test requirements does not involve a significant reduction in the margin of safety.

Environmental Assessment

This amendment request meets the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9) as follows:

(i) The amendment involves no significant hazards consideration.

As described above, the proposed change in secondary coolant sampling surveillance test requirements does not involve a significant hazards consideration.

(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed change in sampling surveillance test requirements for secondary coolant does not involve the installation of any new equipment or the modification of any equipment that may affect the types or amounts of effluents that may be released offsite. Therefore, there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

(iii) There is no significant increase in individual or cumulative occupation radiation exposure.

The proposed change in sampling surveillance test requirements for secondary coolant does not involve plant physical changes or changes in the method of plant operation. Therefore, there is no significant increase in individual or cumulative occupational radiation exposure.

Based on the above, Dominion concludes that the proposed changes meet the criteria specified in 10CFR51.22 for a categorical exclusion from the requirements of 10CFR51.22 relative to requiring a specific environmental assessment by the Commission.

Conclusion

The proposed change in the sampling surveillance test requirements for secondary coolant will continue to verify that the secondary specific activity is within the TS-required limit. Furthermore, the proposed change is consistent with the current safety analysis and serves to confirm the validity of the accident analysis assumptions.

The Station Nuclear Safety and Operating Committee (SNSOC) and the Management Safety Review Committee (MSRC) have reviewed the proposed change in sampling surveillance test requirements for secondary coolant and have concluded that this change does not involve a significant hazards consideration and will not endanger the health and safety of the public.

References

- UFSAR Section 10.3.1, Main Steam System
- UFSAR Section 14.3.2, Rupture of a Main Steam Pipe

Attachment 2

Mark-up of Technical Specifications Change

Surry Power Station
Units 1 and 2

Virginia Electric and Power Company
(Dominion)

TABLE 4.1-2B
MINIMUM FREQUENCIES FOR SAMPLING TESTS

	DESCRIPTION	TEST	FREQUENCY	UFSAR SECTION REFERENCE
1.	Reactor Coolant Liquid Samples	Radio-Chemical Analysis(1)	Monthly(5)	
		Gross Activity(2)	5 days/week(5)	9.1
		Tritium Activity	Weekly (5)	9.1
		* Chemistry (CL, F & O_2)	5 days/week(9)	4
		* Boron Concentration	Twice/week	9.1
		$\bar{E}$ Determination	Semiannually(3)	
		DOSE EQUIVALENT I-131	Once/2 weeks(5)	
		Radio-iodine Analysis (including I-131, I-133 & I-135)	Once/4 hours(6) and (7) below	
2.	Refueling Water Storage	Chemistry (Cl & F)	Weekly	6
3.	Boric Acid Tanks	* Boron Concentration	Twice/Week	9.1
4.	Chemical Additive Tank	NaOH Concentration	Monthly	6
5.	Spent Fuel Pit	* Boron Concentration	Monthly	9.5
6.	Secondary Coolant	~~Fifteen minute degassed beta and gamma activity~~	~~Once/72 hours~~	
		DOSE EQUIVALENT I-131	Monthly(4) Semiannually(8)	
7.	Stack Gas Iodine and Particulate Samples	* I-131 and particulate radioactive releases	Weekly	

* See Specification 4.1.D

(1) A radiochemical analysis will be made to evaluate the following corrosion products: Cr-51, Fe-59, Mn-54, Co-58, and Co-60.

(2) A gross beta-gamma degassed activity analysis shall consist of the quantitative measurement of the total radioactivity of the primary coolant in units of μCi/cc.

(3) $\bar{E}$ determination will be started when the gross gamma degassed activity of radionuclides with half-lives greater than 15 minutes analysis indicates ≥ 10 µCi/cc. Routine sample(s) for E analyses shall only be taken after a minimum of 2 EFPD and 20 days of power operation have elapsed since reactor was last subcritical for 48 hours or longer.

→ Deleted

(4) ~~If the fifteen minute degassed beta and gamma activity is 10% or more of the limit given in Specification 3.6.E, a DOSE EQUIVALENT I-131 analysis will be performed.~~

(5) When reactor is critical and average primary coolant temperature ≥ 350°F.

(6) Whenever the specific activity exceeds 1.0 µCi/cc DOSE EQUIVALENT I-131 or 100/$\bar{E}$ µCi/cc and until the specific activity of the Reactor Coolant System is restored within its limits.

(7) One sample between 2 & 6 hours following a THERMAL POWER change exceeding 15 percent of RATED POWER within a one hour period provided the average primary coolant temperature ≥ 350°F.

→ Deleted

(8) ~~When the fifteen minute degassed beta and gamma activity is less than 10% of the limit given in Specification 3.6.E.~~

(9) Sampling for chloride and fluoride concentrations is not required when fuel is removed from the reactor vessel and the reactor coolant inventory is drained below the reactor vessel flange, whether the upper internals and/or the vessel head are in place or not. Sampling for oxygen concentration is not required when the reactor coolant temperature is below 250 degrees F.

Attachment 3

Proposed Technical Specifications Change

Surry Power Station
Units 1 and 2

Virginia Electric and Power Company
(Dominion)

TABULATION OF CHANGES

License No. DPR-32 / Docket No. 50-280
License No. DPR-37 / Docket No. 50-281

Summary of Changes:

The proposed change to the Surry Power Station Technical Specifications is being made to revise the secondary coolant sampling surveillance test requirements. Specifically, the fifteen minute degassed beta and gamma activity test and the semiannual dose equivalent I-131 analysis are being deleted. The proposed change requires the dose equivalent I-131 analysis to be performed on a monthly frequency.

DELETE	DATED	SUBSTITUTE
TS 4.1-10	11-01-99	TS 4.1-10
TS 4.1-10a	04-29-96	TS 4.1-10a

TABLE 4.1-2B
MINIMUM FREQUENCIES FOR SAMPLING TESTS

	DESCRIPTION	TEST	FREQUENCY	UFSAR SECTION REFERENCE
1.	Reactor Coolant Liquid Samples	Radio-Chemical Analysis (1)	Monthly (5)	
		Gross Activity (2)	5 days/week (5)	9.1
		Tritium Activity	Weekly (5)	9.1
		* Chemistry (CL, F & O_2)	5 days/week (9)	4
		* Boron Concentration	Twice/week	9.1
		$\bar{E}$ Determination	Semiannually (3)	
		DOSE EQUIVALENT I-131	Once/2 weeks (5)	
		Radio-iodine Analysis (including I-131, I-133 & I-135)	Once/4 hours (6) and (7) below	
2.	Refueling Water Storage	Chemistry (Cl & F)	Weekly	6
3.	Boric Acid Tanks	* Boron Concentration	Twice/Week	9.1
4.	Chemical Additive Tank	NaOH Concentration	Monthly	6
5.	Spent Fuel Pit	* Boron Concentration	Monthly	9.5
6.	Secondary Coolant	DOSE EQUIVALENT I-131	Monthly	
7.	Stack Gas Iodine and Particulate Samples	* I-131 and particulate radioactive releases	Weekly	

* See Specification 4.1.D

(1) A radiochemical analysis will be made to evaluate the following corrosion products: Cr-51, Fe-59, Mn-54, Co-58, and Co-60.

(2) A gross beta-gamma degassed activity analysis shall consist of the quantitative measurement of the total radioactivity of the primary coolant in units of μCi/cc.

(3) $\bar{E}$ determination will be started when the gross gamma degassed activity of radionuclides with half-lives greater than 15 minutes analysis indicates ≥ 10 μCi/cc. Routine sample(s) for E analyses shall only be taken after a minimum of 2 EFPD and 20 days of power operation have elapsed since reactor was last subcritical for 48 hours or longer.

(4) Deleted.

(5) When reactor is critical and average primary coolant temperature ≥ 350°F.

(6) Whenever the specific activity exceeds 1.0 μCi/cc DOSE EQUIVALENT I-131 or 100/$\bar{E}$ μCi/cc and until the specific activity of the Reactor Coolant System is restored within its limits.

(7) One sample between 2 & 6 hours following a THERMAL POWER change exceeding 15 percent of RATED POWER within a one hour period provided the average primary coolant temperature ≥ 350°F.

(8) Deleted.

(9) Sampling for chloride and fluoride concentrations is not required when fuel is removed from the reactor vessel and the reactor coolant inventory is drained below the reactor vessel flange, whether the upper internals and/or the vessel head are in place or not. Sampling for oxygen concentration is not required when the reactor coolant temperature is below 250 degrees F.