

RANCHO SECO UNIT 1  
TECHNICAL SPECIFICATIONS

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4.17.5 Reports (Continued)

- b. The results of the steam generator tube inservice inspection shall be included in a Monthly Operating Report for the period in which this inspection was completed. This report shall include:
1. Number and extent of tubes inspected.
  2. Location and percent of wall-thickness penetration for each indication of an imperfection.
  3. Identification of tubes plugged.
- c. Results of steam generator tube inspections which fall into Category C-3 require notification of the Commission within 4 hours and shall be reported pursuant to Specification 6.9.5P. The written followup of this report shall provide a description of investigations conducted to determine cause of the tube degradation and corrective measures taken to prevent recurrence.

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4.17.6 OTSG Auxiliary Feedwater Header Surveillance

On the first refueling outage following the 1983 refueling outage, and at the 10-year ISI, the following inspections will take place:

- a. Visual inspections of the secured Internal Header, attachment welds and external headers thermal sleeves will be made through selected openings, and will be performed in such a manner that the known cracks in the Internal Header will be inspected.
- b. Selected special interest peripheral tubes, designated in Table 4.17-5, will be Eddy Current inspected but shall not be considered a part of the Eddy Current inspection that is conducted pursuant to Technical Specification 4.17.1 through 4.17.5.

4.17.7 Inspection Acceptance Criteria and Corrective Actions

- a. Video taped inspections of the known cracks performed during the initial discovery will be compared with the crack configuration found during this surveillance. This comparison will allow a determination to be made as to whether or not the crack has propagated.
- b. If any inspected special interest peripheral tube indicates clearance (less than 1/4") or greater than 40 through wall indications, it will be plugged.

4.17.8 Reports

A report of these inspections will be prepared and incorporated in the subsequent Monthly Report to the NRC.

Bases

The Surveillance Requirements for inspection of the steam generator tubes ensure that the structural integrity of this portion of the RCS will be maintained. The surveillance requirements of steam generator tubes are based on a modification of B+W - Standard Technical Specifications dated June 1, 1976. Inservice inspection of steam generator tubing is essential in order to maintain surveillance of the conditions of the tubes in the event that there is evidence of mechanical damage or progressive degradation due to design, manufacturing errors, or inservice conditions that lead to corrosion. Inservice inspection of steam generator tubing also provides a means of characterizing the nature and cause of any tube degradation so that corrective measures can be taken. For example, historical data has shown that certain areas of the steam generators are particularly susceptible to corrosion and degradation. Consequently, the inservice inspection now includes provisions for a more indepth inspection of a Special Area group of tubes specified in Table 4.17-3 and Table 4.17-4.

Operational experience has shown that tube defects can be the result of unique operating conditions or physical arrangements in certain areas of the steam generators. A full inspection of all of the tubes in such limited areas will provide complete assurance that degraded or defective tubes in these areas are detected. Because no credit is taken for these distinctive tubes in the constitution of the first sample or its results, the requirements for the first sample are unchanged. This requirement is essentially equivalent to and meets the intent of the requirements set forth in NRC Regulatory Guide 1.83, Revision 1 and does not reduce the margin of safety provided by those requirements.

Wastage-type defects are unlikely with AVT chemistry treatment of the secondary coolant. However, even if a defect should develop in service, it will be found during scheduled inservice steam generator tube examinations. Plugging will be required for defective tubes. Steam generator tube inspections of operating plants have demonstrated the capability to reliably detect degradation that has penetrated 20 percent of the original tube wall thickness.

122> Whenever the results of any steam generator tubing inservice inspection fall  
< into Category C-3, the Commission will be notified within 4 hours and the results shall be reported pursuant to Specification 6.9.5P. Such cases will be considered by the Commission on a case-by-case basis and may result in a requirement for analysis, laboratory examinations, tests, additional eddy-current inspection and revision of the Technical Specifications, if necessary.

The visual and eddy current inspections provide the capability of determining the success of the internal aux feedwater header stabilization by monitoring the long term effects to tube integrity and crack propagation. The inspections will focus on known crack growth, new crack identification (if any), and tube effects in localized areas near the internal header brackets. Additionally, visual inspection of the external header thermal sleeves will provide assurance that the new design header will not introduce additional problems by demonstrating sleeve integrity.

TABLE 4.17-2A  
STEAM GENERATOR TUBE INSPECTION

1ST SAMPLE INSPECTION			2ND SAMPLE INSPECTION		3RD SAMPLE INSPECTION	
Sample Size	Result	Action Required	Result	Action Required	Result	Action Required
122> A minimum of S of the Tubes per S.G.	C-1	None	N/A	N/A	N/A	N/A
	C-2	Plug defective tubes and inspect additional 2S of the tubes in this S.G.	C-1	None	N/A	N/A
			C-2	Plug defective tubes and inspect additional 4S of the tubes in this S.G.	C-1	None
					C-2	Plug defective tubes
122>					C-3	Plug defective tubes and perform action for C-3 result of first sample
			C-3	Plug defective tubes and perform action for C-3 result of first sample	N/A	N/A
122>	C-3	Inspect 6S tubes in this S.G., plug defective tubes and inspect 2S tubes in the other S.G. Perform follow-on inspections in the other S.G. in accordance with results of the above inspection as applied to Table 4.17-2A.	The other S.G. is C-1	None	N/A	N/A
			The other S.G. is C-2	Perform action for C-2 result of second sample	N/A	N/A
			The other S.G. is C-3	(a) If defects can be localized to an affected area, inspect all tubes in affected area and plug defected tubes. (b) If defects cannot be localized to an affected area, inspect all tubes in this S.G. and plug defective tubes	N/A	N/A

$S = \frac{b}{n} \%$  Where n is the number of steam generators inspected during an inspection



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TABLE 4.17-2B

STEAM GENERATOR TUBE INSPECTION

1ST SAMPLE INSPECTION OF A "SPECIFIC LIMITED AREA"			2ND SAMPLE INSPECTION OF A "SPECIFIC LIMITED AREA"	
Sample Size	Result	Action Required	Result	Action Required
100% of Area in both OTSGs	C-1	None	N/A	N/A
	C-2	Plug defective tubes	N/A	N/A
	C-3	Plug defective tubes. Notification to NRC within 4 hours and a report shall be filed pursuant to Specification 6.9.5P	N/A	N/A
100% of Area in one OTSG	C-1	None	N/A	N/A
	C-2	Plug defective tubes and inspect 100% of corresponding area in other OTSG.	C-1	None
			C-2	Plug defective tubes
			C-3	Plug defective tubes and notify NRC within 4 hours and a report shall be filed pursuant to Specification 6.9.5P
	C-3	Plug defective tubes and inspect 100% of corresponding area in other OTSG. Notification to NRC within 4 hours and a report shall be filed pursuant to Specification 6.9.5P	C-1	None
			C-2	Plug defective tubes
			C-3	Plug defective tubes

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TABLE 4.17-5

OTSG Auxiliary Feedwater Header Surveillance

OTSG A Special Interest Tubes

Row	Tube No
5	1, 46
6	2, 3, 49, 50, 51
7	1, 2, 53, 54
8	1, 2, 56, 57
44	1, 119
45	1, 120
46	1, 121
47	1, 122
48	1, 123
49	1, 124
103	1, 124
105	1
106	1, 119
107	1, 120
108	1, 119
144	1, 2, 56, 57
145	1, 2, 53, 54
146	2, 3, 49, 50, 51
147	1, 46

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TABLE 4.17-5 (Continued)

OTSG Auxiliary Feedwater Header Surveillance

OTSG B Special Interest Tubes

Row	Tube No
5	1, 46
6	2, 3, 49, 50
7	1, 2, 53, 54
8	1, 2, 56, 57
44	1, 119
45	1, 120
46	1, 121
47	122
48	1, 123
49	1, 124
103	1, 124
104	123
105	122
106	1, 119
107	1, 120
108	1, 119
144	1, 2, 56, 57
145	1, 2, 53, 54
146	2, 3, 49, 50, 51
147	1, 46