

respect to the plant TS in conjunction with 10 CFR part 50, Appendix B.

In addition, the staff notes that not inspecting for cracks with qualified procedures in the lower regions of the tubesheet would allow any such cracks to remain in place. However, most plant TS state that only tubes with imperfections less than 40 percent of the nominal tube wall thickness are acceptable for continued service (there are exceptions specified in some plant TS). While it is not known whether any such cracks actually exist, the staff notes that the acceptance or plugging limit for SG tube inspections is a specific technical specification limit that can only be changed through the license amendment process.

Also, for the instances cited above, the safety basis developed by the licensees for not expanding the scope of the specialized probe inspection beyond a specific distance (x-inches) into the tubesheet was that any cracks below that distance were not detrimental to tube integrity. This was based on analyses indicating that tubes only needed a minimum embedment of x-inches into the tubesheet to exhibit acceptable structural and accident leakage integrity. These analyses have been performed to demonstrate that cracks below this embedment distance do not impair SG tube integrity, even if these cracks cause complete severance of the tube. According to plant final safety analysis reports (FSARs), the SGs were designed in accordance with section III of the American Society of Mechanical Engineers (ASME) Code. In accordance with section III of the Code, the original design basis pressure boundary for the tube-to-tubesheet joint included the tube and tubesheet extending down to and including the tube-to-tubesheet weld. The criteria of section III of the ASME Code constitute the "method of evaluation" for the design basis. In the event licensees are using a different "method of evaluation" for assessing the steam generator pressure boundary, an evaluation under 10 CFR 50.59 would determine whether a license amendment is required in these cases.

In summary, for the cases discussed above, the TS required a tube inspection for the full length of the tube within the tubesheet (scope), and the findings from this inspection were required to be evaluated against a repair (plugging) criteria. Neither the scope nor the repair criteria in the TS contained provisions for limiting the inspections through a licensee controlled analysis.

Based on these instances, the NRC cannot conclude that addressees that are using such an approach remain in

compliance with their TS in conjunction with Criterion IX of 10 CFR part 50, Appendix B with regard to the inspections they are performing. This concern stems, in part, from the experience with some addressees relying on licensee controlled analyses to limit the scope and therefore the repair or plugging of defective SG tubes contrary to the requirements in the TS in conjunction with Criterion IX of 10 CFR part 50, Appendix B, which contains no provisions for limiting the inspections in this manner. It is the staff's position that pending a license amendment clarifying the inspection approach to be followed, licensees are required to employ inspection methods capable of detecting all flaw types which may potentially be present at locations which are required to be inspected pursuant to the TS, as set forth above.

Based on these staff concerns, the NRC is issuing this generic letter, consistent with the requirements in 10 CFR 50.54(f) to obtain information necessary for the staff to determine if addressees are in compliance with the technical specifications in conjunction with 10 CFR part 50, Appendix B. In addition, licensees who have not been implementing inspections consistent with the staff's position should submit a safety assessment that demonstrates their ability to ensure continued safe operation and addresses any differences relative to the staff's position.

For licensees that cannot demonstrate continued compliance with the TS in conjunction with 10 CFR part 50, Appendix B, owners group involvement in the development of standard or generic approaches to this issue, including TS and associated Bases wording, could be helpful from the standpoint of minimizing resource impacts for both licensees and the staff.

#### *Requested Information*

Within 30 days of the date of this generic letter, addressees are requested to provide to the NRC the following information:

1. Addressees should provide a description of the SG tube inspections performed at their plant during the last inspection. In addition, addressees should provide an assessment of how the tube inspections performed at their plant meet the requirements of the TS in conjunction with Criterion IX of 10 CFR part 50, Appendix B, if they are not using SG tube inspection methods with capabilities consistent with the NRC's position. This assessment should also address whether the tube inspection practices ensured that the tube plugging or repair limits were implemented for

the entire length of tubing required to be inspected per the TS (*i.e.*, discuss whether the techniques employed during the tube inspections ensured flaws could be detected such that the plugging or repair limits could be implemented).

2. If addressees conclude that full compliance with the TS in conjunction with Criterion IX of 10 CFR part 50, Appendix B, requires corrective actions to be taken, they should discuss their proposed corrective actions (*e.g.*, changing inspection practices consistent with the NRC's position, or submitting a TS amendment request with the associated safety basis for limiting the inspections). If addressees choose to change their TS, the staff has included in Attachment 1 suggested changes to the TS definitions for a tube inspection and for plugging limits to show what may be acceptable to the staff in cases where the extent of the inspection in the tubesheet region is limited.

3. For plants where SG tube inspections have not been or are not being performed consistent with the NRC's position on the requirements contained in the TS in conjunction with Criterion IX of 10 CFR part 50, Appendix B, the licensee should submit a safety assessment that addresses any differences relative to the NRC's position (*i.e.*, submit the safety basis for not employing inspection methods capable of detecting specific flaw types at specific locations where these flaw types may potentially occur and where a tube inspection is required by the TS), and include an evaluation of whether this safety assessment constitutes a change to the "method of evaluation" (as defined in 10 CFR 50.59) for establishing the structural and leakage integrity of the joint. Licensees should also determine whether a license amendment is necessary pursuant to 10 CFR 50.59.

#### *Required Response*

In accordance with 10 CFR 50.54(f), addressees are required to submit written responses to this generic letter. Two options are available:

- (a) Addressees may choose to submit written responses providing the information requested above within the requested time period.

- (b) Addressees who cannot meet the requested completion date are required to notify the NRC in writing as soon as possible but no later than 30 days from the date of this generic letter. The responses must address any alternative course of action proposed, including the basis for the acceptability of the proposed alternative course of action, the basis for finding that the SGs remain