

risk para on 3dp review
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The level of risk associated with steam generator tube degradation at the Indian Point unit 2 reactor should be small so long as there is confidence that the tubes satisfy the 3ΔP criterion. The normal operating pressure differential is 1556 psi, so 3 times that pressure is 4668 psi. This value is unusually high, due to the unusually low steam system pressure used at this plant for cycle 15. It is almost half the strength of a tube that has no degradation. It is, by definition, 3 times the strength needed for conditions during normal operation, and about 1.9 times the strength needed for the pressure difference postulated for design basis accidents. (The design basis requires only a factor of 1.4 for design basis accidents.) The uncertainties in materials properties and loads are small compared to these margins. Tube performance under the conditions of core damage accident sequences (caused by some problem other than tube degradation) would also be expected to be adequate. Although the NRC staff has not performed plant-specific thermal-hydraulic analyses for the Indian Point 2 reactor under core damage accident conditions, those performed for other Westinghouse type plants indicate that this level of strength is expected to be sufficient to provide tube integrity, and thus containment integrity. Considering the uncertainties in the staff's thermal-hydraulic analyses for severe accidents, the staff estimates that there is about a 95% confidence that 4668 psi (at normal temperatures) would be adequate for severe accident sequences.

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