ATTACHMENT I TO IPN-96-087

SUPPLEMENT TO PROPOSED TECHNICAL SPECIFICATION CHANGES REGARDING SURVEILLANCE INTERVAL FOR INSTRUMENT CHANNELS TO ACCOMMODATE A 24-MONTH OPERATING CYCLE

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286

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TABLE 4.1-1 (Sheet 4 of 6)

Channel Description	Check	Calibrate	Test	Remarks
25. Level Sensors in Turbine Building	N.A.	N.A.	24M	
26. Volume Control Tank Level	N.A.	24M	N.A.	
27. Boric Acid Makeup Flow Channel	N.A.	24M	N.A.	
28. Auxiliary Feedwater:				
a. Steam Generator Level	S	24M	Q	Low-Low
b. Undervoltage	N.A.	24M	24M	
c. Main Feedwater Pump Trip	N.A.	N.A.	24M	
29. Reactor Coolant System Subcooling Margin Monitor	D	18M****	N.A.	
30. PORV Position Indicator	N.A.	N.A.	24M	Limit Switch
31. PORV Position Indicator	D	24M	24M	Acoustic Monitor
32. Safety Valve Position Indicator	D	24M	24M	Acoustic Monitor
33. Auxiliary Feedwater Flow Rate	N.A.	18M	N.A.	
34. Plant Effluent Radioiodine/ Particulate Sampling	N.A.	N.A.	18M	Sample line common with monitor R-13
35. Loss of Power				
a. 480v Bus Undervoltage Relay	N.A.	24M	M	
b. 480v Bus Degraded Voltage Relay	N.A.	18M	M	
c. 480v Safeguards Bus Undervoltage Alarm	N.A.	24M	M	
36. Containment Hydrogen Monitors	D	Q	M	

TABLE 4.1-1 (Sheet 5 of 6)

Channel Description	Check	Calibrate	Test	Remarks
37. Core Exit Thermocouples	D	N.A.	18M	
38. Overpressure Protection System (OPS)	D	18M (1)	24M	1) Calibration frequency for OPS sensors (RCS pressure and temperature) is 24 months
39. Reactor Trip Breakers	N.A.	N.A.	TM(1) 24M(2)	1) Independent operation of under-voltage and shunt trip attachments 2) Independent operation of under-voltage and shunt trip from Control Room manual push-button
40. Reactor Trip Bypass Breakers	N.A.	N.A.	(1) 24M(2) 24M(3)	1) Manual shunt trip prior to each use 2) Independent operation of under-voltage and shunt trip from Control Room manual push-button 3) Automatic undervoltage trip
41. Reactor Vessel Level Indication System (RVLIS)	D	18M*****	N.A.	
42. Ambient Temperature Sensors Within the Containment Building	D	24M	N.A.	
43. River Water Temperature # (installed)	S	18M	N.A.	
44. River Water Temperature # (portable)	S (1)	Q (2)	N.A.	1) Check against installed instrumentation or another portable device 2) Calibrate within 30 days prior to use and quarterly thereafter
45. Steam Line Flow	S	24M	Q	Engineered Safety Features circuits only

Table Notation

* By means of the movable incore detector system

** Quarterly when reactor power is below the setpoint and prior to each startup if not done previous month.

**** This surveillance requirement may be extended on a one time basis to no later than May 12, 1997.

***** This surveillance requirement may be extended on a one time basis to no later than May 14, 1997.

\# These requirements are applicable when specification 3.3.F.5 is in effect only.

S - Each Shift
W - Weekly
P - Prior to each startup if not done previous week
M - Monthly
NA - Not Applicable
Q - Quarterly
D - Daily
18M - At least once per 18 months
TM - At least every two months on a staggered test basis (i.e., one train per month)
24M - At least once per 24 months
6M - At least once per 6 months

ATTACHMENT II TO IPN-96-087

SUPPLEMENTAL INFORMATION SUPPORTING

PROPOSED TECHNICAL SPECIFICATION CHANGES

REGARDING SURVEILLANCE INTERVALS FOR INSTRUMENT CHANNELS

TO ACCOMMODATE A 24-MONTH OPERATING CYCLE

NOTE:

On August 16, 1996 the NRC verbally requested additional information regarding the proposed changes (IPN-96-070) for Subcooling Margin Monitor and Reactor Vessel Level Indication System. The requested information as understood by the Power Authority is identified in this attachment.

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
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Question	Subcooling	RVLIS
Provide 95/75 drift allowances for the subcooling margin monitor (SMM) and Reactor Vessel Level Indication System (RVLIS) functions for comparison to the previously supplied 75/75 drift allowances.	75/75 Drift: ± 0.75 95/75 Drift: ± 0.75[a] *All errors expressed in % span random unless otherwise stated.*	75/75 Drift: ± 0.5 (WRP)[b] ± 1.1 (DP - full) ± 1.3 Bias ± 0.9 (DP - dyn.) 95/75 Drift: ± 0.75 (WRP) ± 2.0 (DP - full) ± 1.3 Bias ± 1.4 (DP - dyn.) *All errors expressed in % span random unless otherwise stated.*
Identify the bases for the current 18-month channel uncertainties for SMM and RVLIS.	Existing Emergency Operating Procedure (EOP) setpoints for subcooling are based on uncertainty calculations performed by Westinghouse in 1985 in conjunction with system installation. They were subsequently updated in 1987 in conjunction with the upgrade to qualified thermocouples.	Existing EOP setpoints for RVLIS are based on a combination of generic and IP3 RVLIS uncertainty calculations performed by Westinghouse in the mid-1980's
Identify the significance of the drift term to the overall channel uncertainty calculations for SMM and RVLIS (i.e., the sensitivity of the overall uncertainty to drift).	Not Applicable. The 95/75 drift is bounded by the existing 75/75 drift allowance.	The sensitivity of the total channel uncertainty calculation to drift is high. There is approximately a 1% level uncertainty increase for each 1% of span increase in the full range DP transmitter drift at the core mid-plane.

Question	Subcooling	RVLIS
Identify other functions or areas that may be affected by the SMM and RVLIS channel uncertainties.	Redundant instrumentation trains are used for post-accident monitoring in conjunction with the IP3 EOPs.	Redundant instrumentation trains are used for post-accident monitoring in conjunction with the IP3 EOPs.
Identify the number of instrument channels there are for each of the SMM and RVLIS functions?	Two redundant trains.	Two redundant trains.
Where was margin applied in the instrument channel uncertainty calculations?	Not applicable - The 95/75 drift is bounded by the existing 75/75 drift allowance.[c]	The RVLIS accuracy requirements are a function of level and temperature. Margin of approximately 0.6% span at the mid-plane exists based on 75/75 drift. However, no margin exists based on 95/75 drift.[c][d]

(a) Conservatism in previous 75/75 drift calculations bound the 95/75 value.

(b) The ± 0.5 drift value was calculated, but ± 0.75 was used in the channel uncertainty calculations.
Acronyms: WRP: Wide Range Pressure
DP: Differential Pressure
dyn.: Dynamic

(c) There is no explicit margin term for these calculations such as shown in documentation of the Westinghouse Setpoint Methodology for RPS and ESFAS functions.

(d) In response to NRC Generic Letter 82-28, the Westinghouse RVLIS was installed at IP3 and incorporated in to the IP3 EOPs based on the Westinghouse Owner's Group (WOG) Emergency Response Guidelines (ERGs). The regulatory requirement for RVLIS is to provide anticipatory indication of the approach to an inadequate core cooling (ICC) condition. A core exit thermocouple (CETC)

temperature of 1200°F provides the primary indication of an ICC condition. A ± 6.0% level span target accuracy was established by Westinghouse to allow RVLIS to indicate an approach to ICC (when used in conjunction with CETCs), while preventing an unnecessary indication of ICC when ICC does not actually exist. The RVLIS uncertainty at the core mid-plane, calculated using conservative setpoint assumptions and 75/75 transmitter drift allowances, results in margin of approximately 0.6% level span. When the 95/75 drift allowances are used, the results slightly exceed the 6% target. The larger uncertainty will result in a slight delay in the indication of the approach to ICC, however; RVLIS will continue to provide an anticipatory indication of the approach to ICC. In addition, even with the larger uncertainties based on 95/75 drift allowances, it is unlikely that RVLIS would provide false indication of ICC. Nevertheless, Westinghouse has evaluated the consequences of operator response to a false indication of ICC and has concluded that no actions would be taken that would lead to violation of the plant design basis.

Furthermore, RVLIS is also used in the IP3 EOPs for other confirmatory actions in conjunction with other plant parameters (eg. RCS subcooling). The EOPs never require the use of RVLIS alone to dictate operator action. For these other uses of RVLIS, the sensitivity to RVLIS accuracy is relatively low.

List of Commitments

Number	Commitment	Due
IPN-96-087-01	The proposed increase in the surveillance interval for the SMM and RVLIS instrument channels is a one time extension. After the surveillance is complete, the EOPs and supporting calculations will be revised, as necessary, to reflect the 18 month surveillance interval unless a request for a permanent 24 month surveillance interval has been approved prior to the end of the refueling outage.	During refueling outage