

**New York Power
Authority**

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SUBJECT: DOCKET NO. 50-333
SPECIAL REPORT 95-002: INOPERABILITY OF FIRE
SUPPRESSION FEATURES

- REFERENCES:
1. LETTER FROM H.P. SALMON (NYPA) TO USNRC
CONCERNING NON-FUNCTIONAL FIRE
PROTECTION FEATURES (SPECIAL REPORT 95-
001, DATED FEBRUARY 6, 1995; JAFF-95-
0062)
 2. TECHNICAL SPECIFICATION AMENDMENT 218,
DATED NOVEMBER 3, 1994

Dear Sir:

The New York Power Authority (NYPA) submits this Special Report in accordance with the requirements of Administrative Procedure AP-01.04, "Tech Spec Related Requirements, Lists, and Tables". The Report concerns the inoperability of fire suppression features associated with the Cable Spreading Room, North Cable Run Room, East Electric Bay, West Electric Bay, Standby Gas Treatment (SGT) System A charcoal adsorber and SGT System B charcoal adsorber.

Carbon Dioxide Fire Suppression System:

On January 9, 1995, NYPA was informed by a contractor that the preliminary results of a study of the integrity (leak tightness) of areas utilizing carbon dioxide as the fire suppression agent indicated the following:

1. The carbon dioxide concentration in the Cable Spreading Room could not be maintained equal to or greater than 50 percent for the 15 minute retention period due to leakage of carbon dioxide from the area.
2. The North Cable Run Room would be pressurized to approximately 21 inches water column during a carbon dioxide discharge due to insufficient venting of air during the carbon dioxide discharge. The maximum acceptable pressure is approximately five inches water column.

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3. The East Electric Bay would be pressurized to approximately 47 inches water column during a carbon dioxide discharge into the area due to insufficient venting of air during the carbon dioxide discharge. The maximum acceptable pressure is approximately 4.5 inches water column.
4. The West Electric Bay would be pressurized to approximately 39 inches water column during a carbon dioxide discharge into the area due to insufficient venting of air during carbon dioxide discharge. The maximum acceptable pressure is approximately 4.5 inches water column.

Each of the above areas is provided with an automatic carbon dioxide fire suppression system supplied from the ten ton carbon dioxide storage tank.

The fire suppression systems for each of the areas was declared inoperable for the reasons stated above. Since the inoperability of the fire suppression systems exceeded 14 days, a Special Report is required within the following 30 days. It should also be noted that the carbon dioxide fire suppression systems associated with the ten ton carbon dioxide storage tank had previously been declared inoperable due to a planned modification of the control panel and was reported in Special Report 95-001 on February 6, 1995 (Reference 1). The compensatory actions taken for that planned impairment remain in effect and will continue until both the modification of the control panel and modifications to correct the deficiencies discussed above are corrected.

The low carbon dioxide concentration deficiency will be corrected by changing the discharge timer setpoint and the insufficient air venting will be corrected by providing additional vent area. The planned completion date of the modifications is March 1, 1995.

Standby Gas Treatment (SGT) Charcoal Adsorber Fire Suppression

On August 31, 1993, spray nozzle air flow testing of the spray nozzles for the fire suppression system for SGT A charcoal adsorbers was being conducted to satisfy Technical Specification Table 4.12.1. (Note that the Fire Protection Technical Specification limiting conditions for operation and surveillance requirements were subsequently relocated to plant procedures by Technical Specification Amendment 218 on November 2, 1994.) The surveillance test revealed plugging of 11 of the 18 spray nozzles due to debris. The nozzles were cleaned, air flow tested with satisfactory results, and the fire suppression system was returned to service in an operable status.

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On September 2, 1993, the same spray nozzle air test was conducted on SGT B charcoal adsorber spray nozzles. Eighteen of the 18 nozzles were plugged with debris. The nozzles were cleaned, air flow tested with satisfactory results, and the fire suppression system was returned to service in an operable status. Analysis of the debris removed from spray nozzles in both systems indicated that most of the material was Iron and Zinc. This is consistent with corrosion of the galvanized steel pipe used in the application.

Based on the results of the 1993 spray nozzle air flow testing and analysis of the debris removed from spray nozzles, requests to perform internal inspection of the piping were initiated. On January 8, 1995, during the current refuel outage, SGT B charcoal adsorber fire suppression system was made inoperable to allow internal inspection of the normally dry piping between the flow control valve and the spray nozzles and a fire watch was established as required. The inspection revealed a significant quantity of pipe scale and the presence of a "trap" for water that might enter the piping due to inadvertent, spurious or other actuation. Spurious actuations did take place in 1981 and 1982.

The piping for SGT B charcoal adsorber water spray was flushed to remove the debris, drained, and the system was returned to service in an operable status on January 18, 1995.

On January 10, 1995, SGT A charcoal adsorber fire suppression was made inoperable to allow a similar inspection. A fire watch was established and the inspection results were also similar. The system was flushed, drained, and returned to service in an operable status on January 16, 1995.

Procedure changes will be initiated to require draining of the "trap" following an initiation of the system. This action will eliminate significant corrosion in the piping and thus eliminate the source of debris which caused plugging of the spray nozzles.

It should also be noted that while the SGT charcoal adsorber fire suppression system inspection and flushing activities discussed above were completed in less than 14 days, and thus do not require submittal of a Special Report, the New York Power Authority considers the systems to have been significantly degraded (due to the presence of the debris similar to that which had plugged the nozzles previously). As a result of the degradation that was present for the 16 months prior to January, 1995, the conditions and circumstances related to the degradation have been included in this Special Report.

Summary of Corrective Actions:

Carbon Dioxide Fire Suppression Systems:

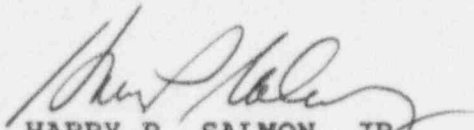
1. The carbon dioxide discharge timer for the cable spreading room will be adjusted, based on calculations, to provide a concentration of 50 percent or greater for a 15 minute retention period. (Planned completion date: March 1, 1995).
2. Additional venting capability will be added to the three areas in which calculations indicate an overpressure condition would exist during a carbon dioxide discharge. (Planned completion date: March 1, 1995).

SGT Charcoal Adsorber Fire Suppression:

1. Plant procedures will be revised to require draining of the normally dry SGT A and B charcoal adsorber fire suppression piping after an initiation. (Planned completion date: May 1, 1995).

If you have any questions concerning this matter, please contact W. Verne Childs at (315) 349-6071.

Very truly yours,


HARRY P. SALMON, JR.
RESIDENT MANAGER

HPS:WVC:tlc

cc: USNRC, Region I
USNRC Resident Inspector
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