NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1 | N Y J A F 1 (2) LICENSEE CODE | 0 0 - 0 0 0 0 0 - 0 0 0 (3) LICENSE NUMBER | 4 1 1 1 1 (4) LICENSE TYPE | (5) CAT

CON'T 0 1 | REPORT SOURCE L (6) | 0 5 0 0 0 3 3 3 (7) DOCKET NUMBER | 1 0 1 0 8 1 (8) EVENT DATE | 1 1 2 4 8 1 (9) REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 During normal operation, reactor water conductivity exceeded the TS 3.6.C.4 limit
0 3 of 5.0 micromhos. Peak conductivity was 7.1 micromhos. Chloride ion concentration
0 4 in the reactor water remained normal at less than 100 ppb. No significant hazard
0 5 existed. See attachment for details.

0 9 | SYSTEM CODE: Z Z (11) | CAUSE CODE: B (12) | CAUSE SUBCODE: Z (13) | COMPONENT CODE: Z Z Z Z Z Z (14) | COMP. SUBCODE: Z (15) | VALVE SUBCODE: Z (16)

(17) LER/RO REPORT NUMBER | EVENT YEAR: 8 1 | — | SEQUENTIAL REPORT NO.: 0 7 4 | / | OCCURRENCE CODE: 0 3 | REPORT TYPE: X | — | REVISION NO.: 2

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
X (18)	X (19)	B (20)	Z (21)	0 0 0 0	Y (23)	N (24)	Z (25)	Z 9 9 9

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 A recent modification caused hot water in the waste collector tank resulting in
1 1 injection of decomposed ion exchange resin to the reactor vessel. Load reduction
1 2 and systems flow path re-arrangement reduced the resin injection rate and returned
1 3 conductivity to within TS limits approximately 5 hours later. See attachment
1 4 for details.

1 5 | FACILITY STATUS: E (28) | % POWER: 0 5 0 (29) | OTHER STATUS (30): NA | METHOD OF DISCOVERY: A (31) | DISCOVERY DESCRIPTION (32): Operator Observation

1 6 | ACTIVITY RELEASED: Z (33) | CONTENT OF RELEASE: Z (34) | AMOUNT OF ACTIVITY (35): NA | LOCATION OF RELEASE (36): NA

PERSONNEL EXPOSURES
1 7 | NUMBER: 0 0 0 (37) | TYPE: Z (38) | DESCRIPTION (39): NA

PERSONNEL INJURIES
1 8 | NUMBER: 0 0 0 (40) | DESCRIPTION (41): NA

LOSS OF OR DAMAGE TO FACILITY (43)
1 9 | TYPE: Z (42) | DESCRIPTION: NA

PUBLICITY
2 0 | ISSUED: N (44) | DESCRIPTION (45): NA | NRC USE ONLY

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POWER AUTHORITY OF THE STATE OF NEW YORK
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

ATTACHMENT TO LER 81-074/03X-2

During normal operation, on October 10, 1981, at approximately 1400 hours, personnel noted a sharp increase in reactor water conductivity from a normal value of approximately 0.3 microhmos/cm. Examination of various chart recordings, indicators and a review of recent plant activities did not provide an indication of the cause of increasing reactor water conductivity.

Water from auxiliary systems, which have been known to contribute to high reactor water conductivity problems in the past, were immediately rerouted. Condenser water box isolation procedures used to identify leak sources were initiated and at 1530 hours load was reduced to aproximately 50% of rated in an attempt to maintain reactor water conductivity within the 5.0 microhmo limit contained in Technical Specifications paragraph 3.6.C.4. Although these actions reduced the rate of conductivity increase they did not prevent conductivity exceeding the Technical Specification limit. Power was further reduced in preparation for shutdown.

Conductivity peaked at approximately 7.1 micromhos at approximately 2200 hours on October 10, 1981 and returned to less than 5.0 micromhos approximately five (5) hours after the initial increase above the Technical Specification limit. Conductivity continued to decrease with minor fluctuations until it went below 1.0 micromho on October 13, 1981.

An investigation of the event indicates the following:

a. Due to operation of a waste concentrator, relatively hot water (condensate) was being discharged to the waste collector tank in the radwaste building. In addition, as a result of a recent modification, the waste concentrator condensate receiver tank vent (containing some steam) was also routed to the waste collector. Other sources of water to the waste collector were small enough that the water in the collector tank increased to approximately 140° F.

b. Processing of the waste collector tank contents through the waste collector filter to a waste sample tank was initiated. Since the waste collector filter media in use was a powdered resin product, the hot water caused partial decomposition of the anion resin media. This decomposition resulted in the presence of amines in colloidal and/or solution in the effluent water. The presence of the amines did not have a significant effect on either the waste sample tank pH or conductivity and the water was transferred to the condensate storage tanks.

c. Since control rod drive hydraulic pumps take suction on the condensate storage tanks, a slow (60 gpm) injection of amine containing water to the reactor vessel began. Under the high temperature and neutron flux conditions present in the reactor, the amines breakdown into ammonia and weak nitric acid. The net result of this breakdown was a slight reduction in reactor water pH and a significant increase in conductivity.

In order to terminate the addition of decomposed resin products to the reactor, control rod drive hydraulic pumps were lined up to take suction from demineralized water (when possible) until the condensate storage tanks were cleaned up. Reactor water conductivity returned to normal and load was restored to the same level as before the event by October 13, 1981.

To prevent recurrence the following actions have been taken:

a. The concentrator condensate receiver contents (except the vent path) have been rerouted to allow additional cooling.

b. Personnel working in the radwaste facility have been made fully aware of the sequence of events involved and in the consequences of the event.

c. Modifications and repair of the waste concentrator will allow routing of the concentrator condensate receiver contents to the main condenser hotwell rather than the waste collector tank.

d. This LER will be included in the training for radwaste facility personnel.