

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 108078

Date: November 14, 1975

Title: Auxiliary Feedwater Pump Flows Restricted at Kewaunee

The failure sequence was:

1. Resin beads were leaking from a mixed-bed demineralizer in the makeup water system and travelling to the condensate storage tank..
2. During a unit startup, AFW pumps 1A and 1B suction strainers became clogged with resin beads, resulting in low pump flow.
3. The turbine-driven AFW pump (1C) suction strainer was also clogged, which resulted in low flow from that pump also.

Corrective action;

1. The condensate storage tank and the pump suction strainers were cleaned and returned to service.
2. At a later date the fine mesh strainers were to have been removed.

Design purpose of failed system or component:

1. The auxiliary feedwater pumps provide water to the steam generators for reactor cooling in the event the main feedwater system is not operable.

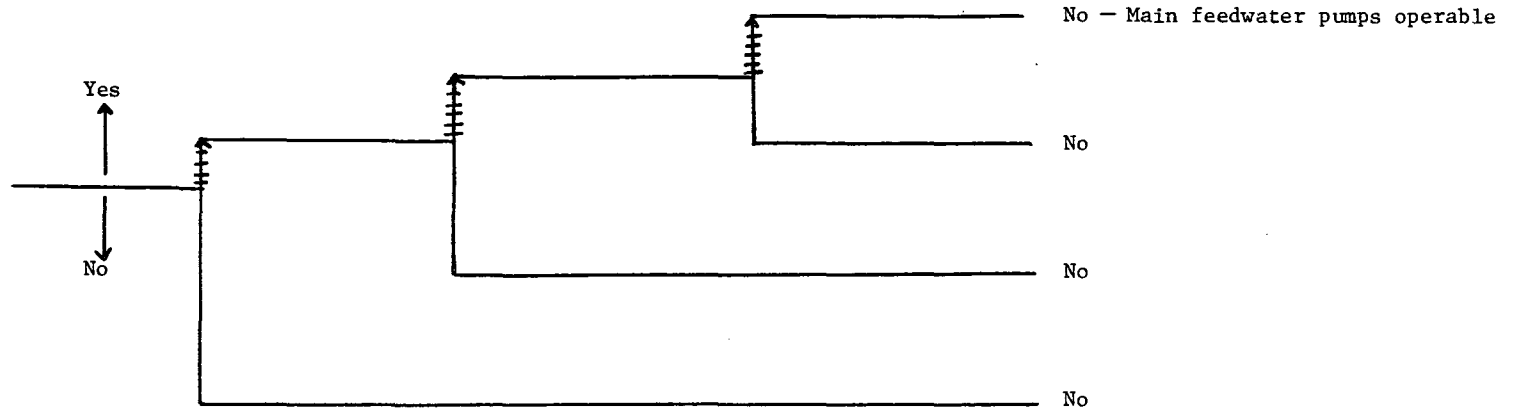
Unavailability of system per WASH 1400:^{*} auxiliary feedwater: 2.5×10^{-4}
(start + 8 hours)

Unavailability of component per WASH 1400:^{*} strainers not included
pumps, failure to start: $1 \times 10^{-3}/D$
pumps, failure to run: $3 \times 10^{-5}/hr$

^{*}Unavailabilities are in units of per demand D^{-1} . Failure rates are in units of per hour HR^{-1} .

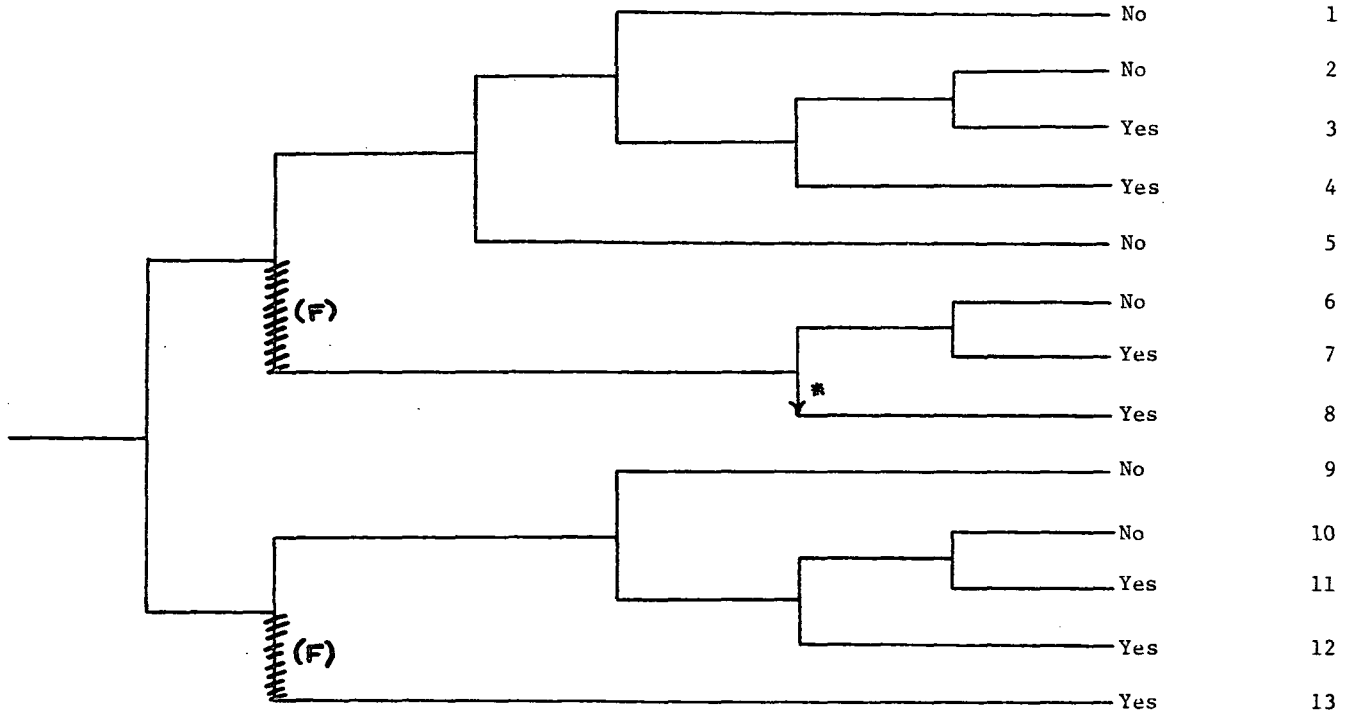
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|----------------------------|--|--|---|
| Unit in startup operations | Mixed-bed demineralizer leaking resin beads to condensate storage tank | Reduced auxiliary feedwater flow from 1A and 1B motor-driven AFW pumps due to suction strainers clogged with resin | Reduced auxiliary feedwater flow from 1C turbine-driven AFW pump due to suction strainer clogged with resin |
|----------------------------|--|--|---|

Potential Severe Core Damage



NSIC 108078 - Actual Occurrence for Auxiliary Feedwater Pump Flows Restricted at Kewaunee

| Loss of Main Feedwater | Reactor Trip | Auxiliary Feedwater and Secondary Heat Removal | PORV Demanded | PORV or PORV Isolation Valve Closure | High Pressure Injection | Long Term Core Cooling | Potential Severe Core Damage | Sequence No. |
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NSIC 108078 - Sequence of Interest for Auxiliary Feedwater Pump Flows Restricted at Kewaunee

*not included in mitigation procedures

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 108078

DATE OF LER: November 14, 1975

DATE OF EVENT: November 5, 1975

SYSTEM INVOLVED: Auxiliary Feedwater

COMPONENT INVOLVED: AFW Pump Strainers

CAUSE: Strainers clogged with resin beads

SEQUENCE OF INTEREST: Loss of feedwater

ACTUAL OCCURRENCE: Inoperable AFW pumps during plant startup

REACTOR NAME: Kewaunee

DOCKET NUMBER: 50-305

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 535 MWe

REACTOR AGE: 1.9 yr

VENDOR: Westinghouse

ARCHITECT-ENGINEERS: Pioneer Services

OPERATORS: Wisconsin Public Service Corp.

LOCATION: 27 miles east of Greenbay, Wisc.

DURATION: 360(a) hours

PLANT OPERATING CONDITION: Plant startup

SAFETY FEATURE TYPE OF FAILURE: (a) inadequate performance; (b) failed to start;
(c) made inoperable; (d) _____

DISCOVERY METHOD: during operation

COMMENT: -