

# 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:<sup>\*</sup> auxiliary feedwater:  $2.5 \times 10^{-4}$   
(start + 8 hours)

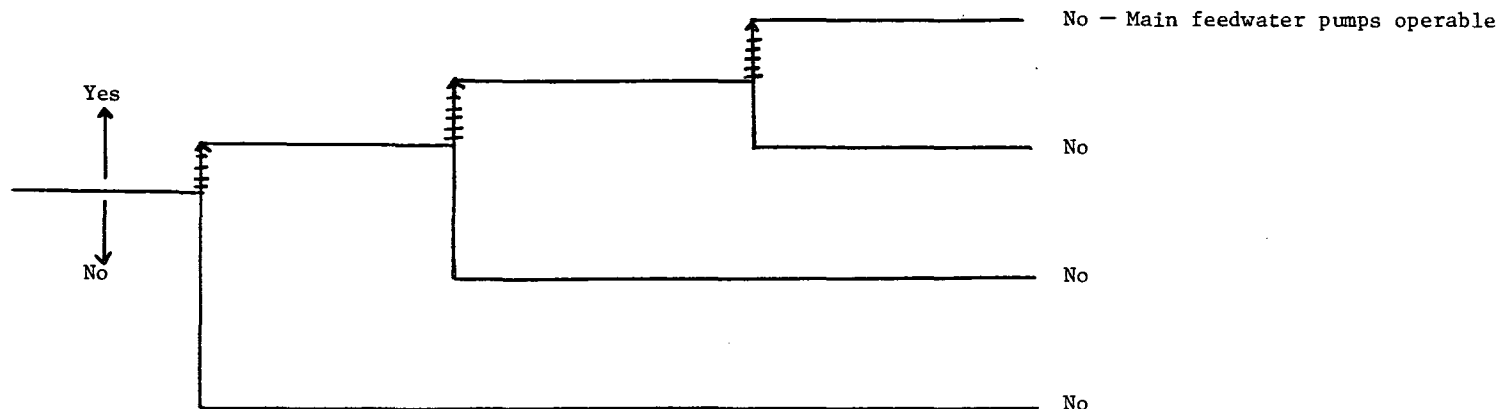
Unavailability of component per WASH 1400:<sup>\*</sup> strainers not included  
pumps, failure to start:  $1 \times 10^{-3}/D$   
pumps, failure to run:  $3 \times 10^{-5}/hr$

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<sup>\*</sup>Unavailabilities are in units of per demand  $D^{-1}$ . Failure rates are in units of per hour  $HR^{-1}$ .

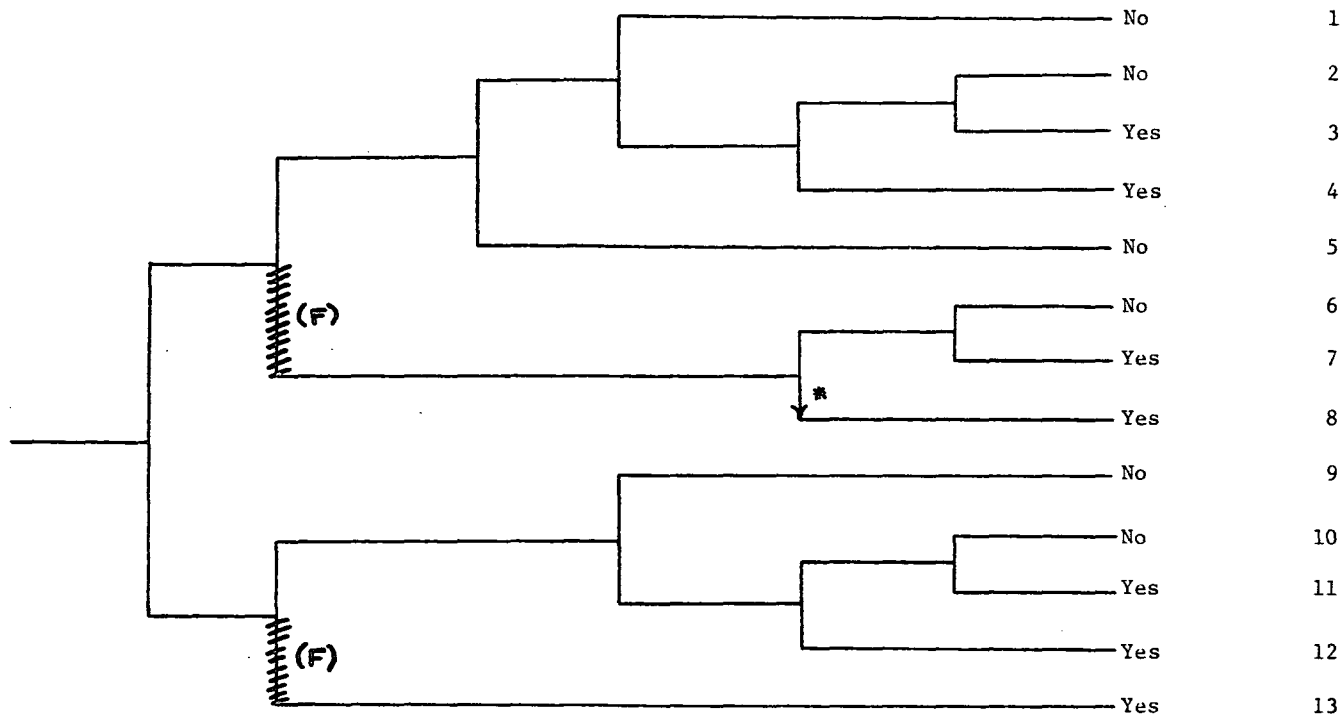
Unit in startup operations	Mixed-bed demineralizer leaking resin beads to condensate storage tank	Reduced auxiliary feedwater flow from 1A and 1B motor-driven AFW pumps due to suction strainers clogged with resin	Reduced auxiliary feedwater flow from 1C turbine-driven AFW pump due to suction strainer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