

# PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 137305

Date: April 7, 1978

Title: Auxiliary Feedwater System Failure at Farley 1

The failure sequence was:

1. A low-low water level condition occurred in one steam generator and resulted in a reactor trip.
2. Both motor-driven auxiliary feedwater pumps started.
3. A low-low water level condition occurred in the second steam generator.
4. The turbine driven auxiliary feedwater pump failed to start.
5. The recirculation bypass valves were found open on all auxiliary feedwater pumps, rendering the operating motor-driven pumps ineffective.

Corrective action:

Isolation valves were closed restoring system to operable status.

Design purpose of failed system or component:

Prevent core damage upon loss of normal feedwater.

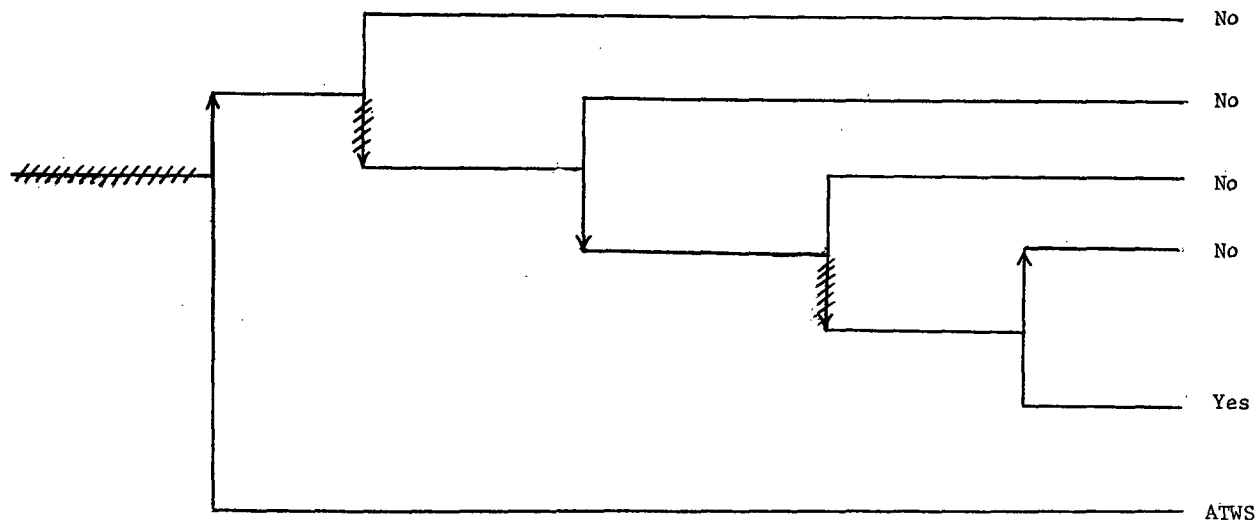
Unavailability of system per WASH 1400:\*  $3.5 \times 10^{-5}/D$

Unavailability of component per WASH 1400:\* -

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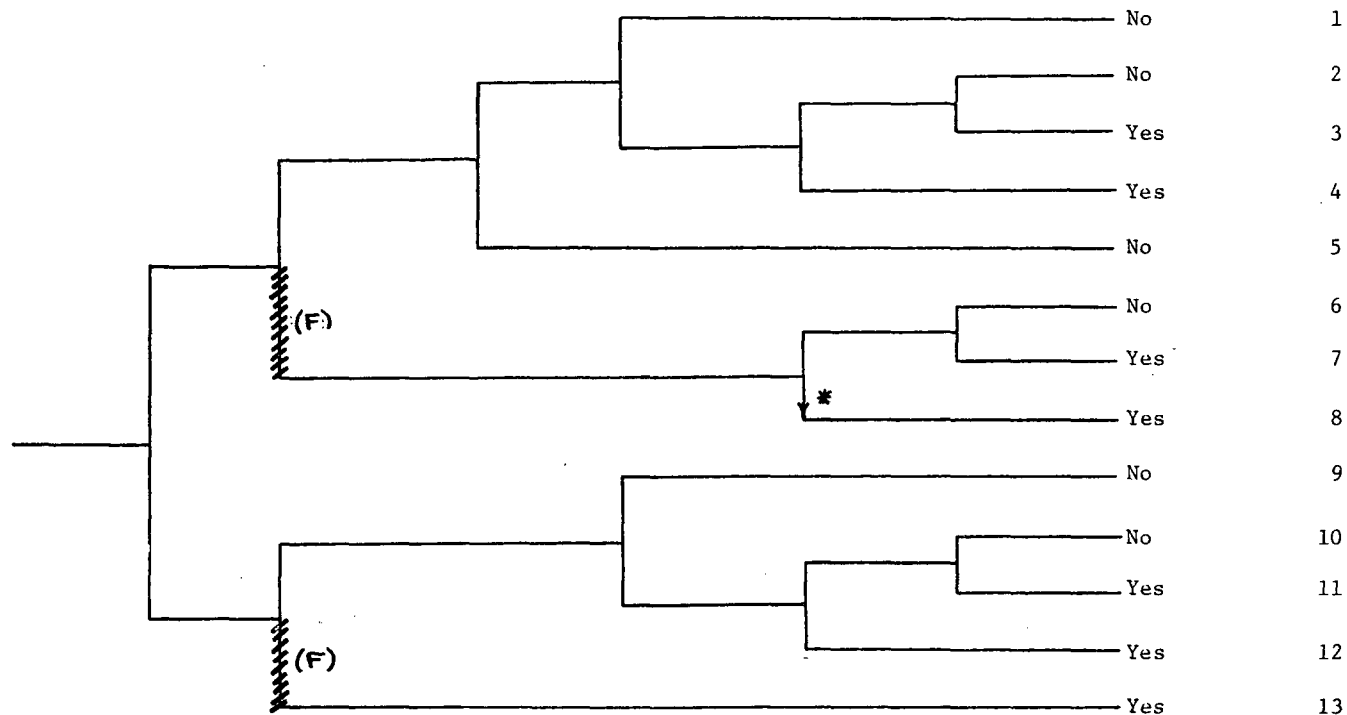
\* Unavailabilities are in units of per demand  $D^{-1}$ . Failure rates are in units of per hour  $HR^{-1}$ .

Low-Low water level in 1 steam generator	Reactor trip	1 of 2 motor driven aux feedpumps operable (1)	Water level in second steam generator maintained	Turbine driven aux feed pump operable	Operator intervention successful (2)	Potential Severe Core Damage
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NSIC 137305 - Actual Occurrence for Auxiliary Feedwater System Failures (1 & 2). (1) Recirc bypass valves were later found open (resulting in flow reduction) (2) opened a closed turbine trip/throttle valve.

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 137305 -- Sequence of Interest for Auxiliary Feedwater System Failures at Farley 1

\* not included in mitigation sequence

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 137305

DATE OF LER: April 7, 1978

DATE OF EVENT: March 25, 1978

SYSTEM INVOLVED: Auxiliary feedwater

COMPONENT INVOLVED: Valves

CAUSE: Human error - valves left open

SEQUENCE OF INTEREST: Loss of normal feedwater

ACTUAL OCCURRENCE: Low-low water level in one steam generator

REACTOR NAME: Farley 1

DOCKET NUMBER: 50-348

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 829 MWe

REACTOR AGE: 0.6 yr

VENDOR: Westinghouse

ARCHITECT-ENGINEERS: Bechtel

OPERATORS: Alabama Power Co.

LOCATION: 24 miles SE of Dothan, Ala.

DURATION: 360(a) hours

PLANT OPERATING CONDITION: 0% power

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

DISCOVERY METHOD: Operational event

COMMENT: -