

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 153333

Date: November 15, 1979

Title: Flowpath from AFW Pump to Two Steam Generators Made Inoperable at Cook 1

The failure sequence was:

With the reactor at 100% power and the turbine driven AFW pump out of service for repair, the motor control center which provides power for valves which direct flow from one motor-driven AFW pump to two of the four steam generators was removed from service for inspection.

Corrective action:

The motor control center was returned to service.

Design purpose of failed system or component:

The motor control center provides power to the two motor operated valves associated with the AFW flow path from the motor-driven AFW pumps to two of the four steam generators.

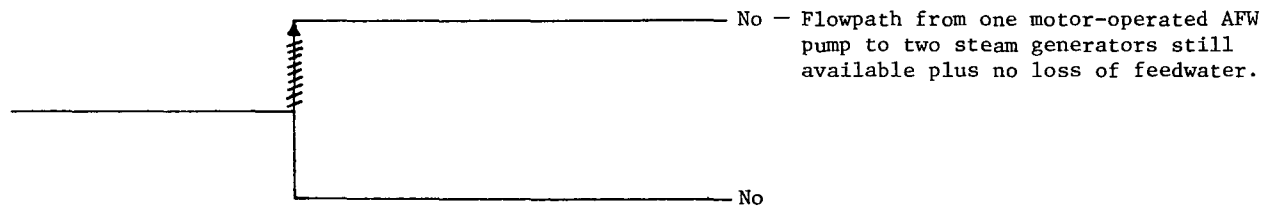
Unavailability of system per WASH 1400:* AFW (loss of net + 8 hrs): 2.5×10^{-4}

Unavailability of component per WASH 1400:* —

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

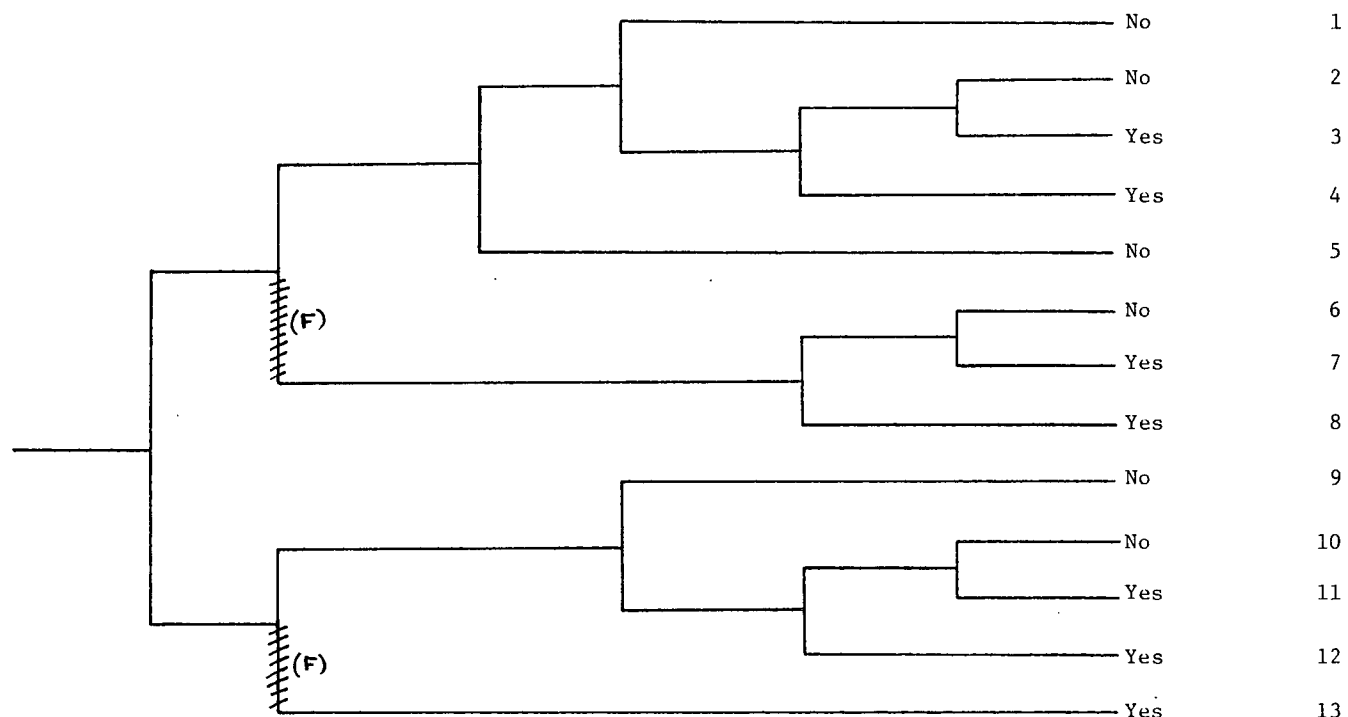
Reactor at 100% Power with Turbine- Driven AFW Pump Out of Service	Power Supply for Valves from Motor-Operated AFW Pump to Two of Four Steam Generators Removed from Service for Inspection
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Potential
Severe
Core Damage



NSIC 153333 - Actual Occurrence for Flowpath from AFW Pump to Two Steam Generators Made Inoperable at Cook 1

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 153333 - Sequence of Interest for Flowpath from AFW Pump to Two Steam Generators Made Inoperable at Cook 1

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 153333

DATE OF LER: November 29, 1979

DATE OF EVENT: November 15, 1979

SYSTEM INVOLVED: Auxiliary Feedwater

COMPONENT INVOLVED: Motor Operated Valves

CAUSE: Motor Control Center removed from service for inspection while the turbine-driven AFW pump was out of service for repair, human error

SEQUENCE OF INTEREST: loss of feedwater

ACTUAL OCCURRENCE: unavailability of two AFW system valves plus the turbine driven AFW pump

REACTOR NAME: Cook 1

DOCKET NUMBER: 50-315

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 1054 MWe

REACTOR AGE: 4.8 yr

VENDOR: Westinghouse

ARCHITECT-ENGINEERS: American Electric Power Corp.

OPERATORS: Indiana and Michigan Electric Co.

LOCATION: 11 miles south of Benton Harbor, Michigan

DURATION: 4 hours

PLANT OPERATING CONDITION: 100% power

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

DISCOVERY METHOD: operator observation

COMMENT: The Cook 1 FSAR states the LOFW analysis for Cook 1 assumes flow to all four steam generators. The failure reported herein resulted in flow to only two steam generators.