

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 88451

Date: February 1, 1974

Title: Total Loss of Station Service Power and Failure of Service Water Pumps for One Diesel-Generator to Start at Connecticut Yankee

The failure sequence was:

1. With the reactor at power during an ice storm, one of the two transmission lines providing station service power (line 772) tripped due to a faulted lightning arrestor on an adjacent line.
2. The second of two transmission lines providing station service power (line 1206) tripped due to improper blocking relay operation.
3. Both diesel generators started.
4. Diesel-generator A service water pump failed to start due to too rapid actuation of the pump breaker undervoltage devices.
5. Diesel-generator A service water pump was manually started.

Corrective action;

1. The exact cause of the improper blocking relay operation was still under investigation at the time the LER was written.
2. The time delay on the undervoltage device associated with the diesel-generator service water pumps was reset.

Design purpose of failed system or component:

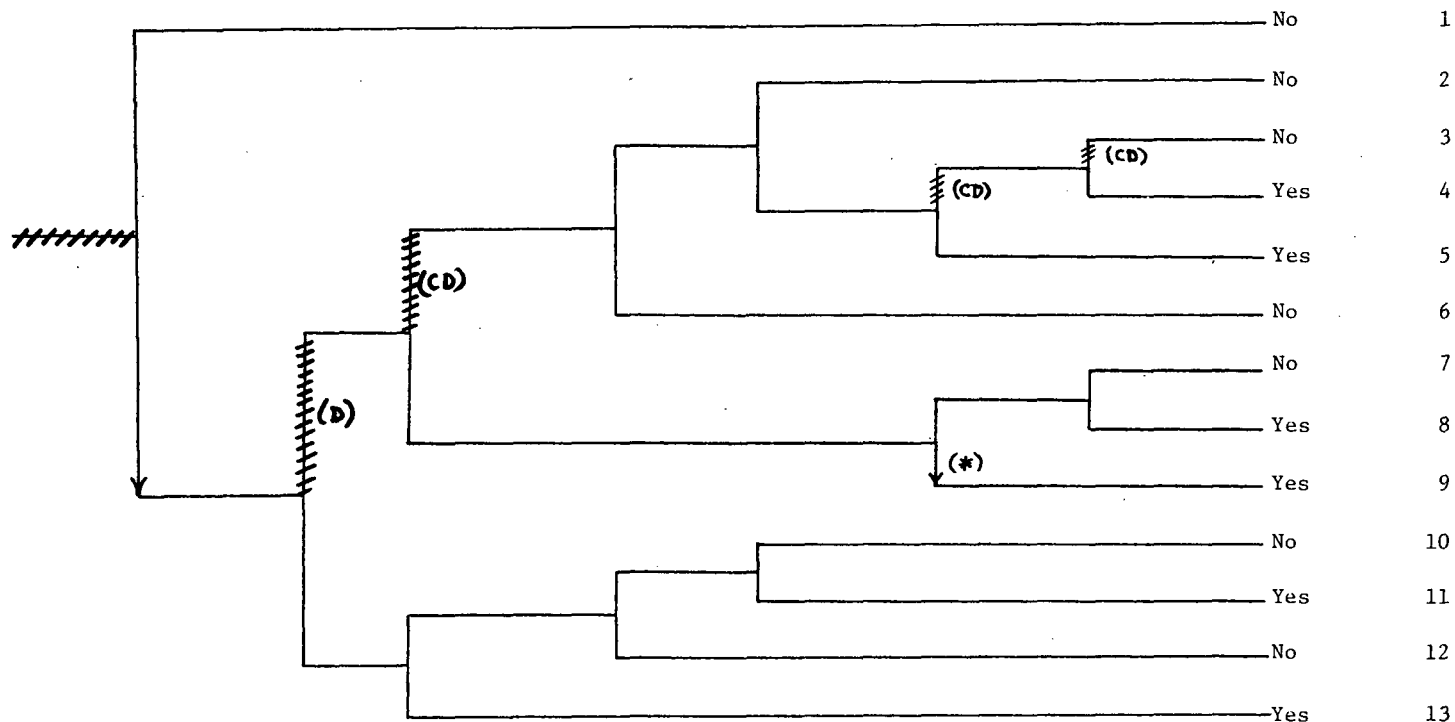
1. Station service power provides normal power to the station auxiliary loads.
2. The diesel-generator service water pumps provide cooling water for the diesel-generator during operation.

Unavailability of system per WASH 1400:* offsite power: $2 \times 10^{-5}/\text{hr}$

Unavailability of component per WASH 1400:* Diesel-generator: $3 \times 10^{-2}/\text{D}$

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

Loss of Offsite Power	Turbine Generator Runs Back and Assumes House Loads	Emergency Power	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 88451 - Sequence of Interest for Total Loss of Station Service Power and Failure of Service Water Pump for One Diesel-Generator at Connecticut Yankee

*Use of HPI following loss of AFW was not included in mitigation procedures.

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 88451

DATE OF LER: February 1, 1974

DATE OF EVENT: January 19, 1974

SYSTEM INVOLVED: Station service power (offsite power) emergency power

COMPONENT INVOLVED: Transmission lines

CAUSE: Both transmission lines tripped due to a faulted lightning arrester and an improperly operating blocking relay; the service water pump failed to start due to a SEQUENCE OF INTEREST: Loss of Offsite Power too rapidly operating under-voltage device.

ACTUAL OCCURRENCE: Loss of Offsite Power

REACTOR NAME: Haddam Neck

DOCKET NUMBER: 50-213

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 575 MWe

REACTOR AGE: 6.7 yr

VENDOR: Westinghouse

ARCHITECT-ENGINEERS: Stone and Webster

OPERATORS: Connecticut Yankee Atomic Power Co.

LOCATION: 13 miles east of Meridan, Conn.

DURATION: N/A

PLANT OPERATING CONDITION: at power

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

DISCOVERY METHOD: during operation

COMMENT: --