

PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 132155

Date: November 29, 1977

Title: Diesel Generator Trips During Testing at Dresden 3

The failure sequence was:

1. Surveillance testing of diesel generator #2/3 was being performed when it tripped after 10 minute of operation. An investigation revealed that its cooling water pump had tripped and was inoperable. A mixture of oil and water had flooded the stator winding enclosure. The stator and associated bearings were ruined. The mixture leaked in through the conduit connected to the pump. No explanation was given for this.
2. An operability test of diesel generators 2 and 3 was immediately performed. Diesel generator 3 started but tripped 30 minutes after loading. A capacitor in the speed sensing circuit had shorted out.
3. An orderly shutdown of unit 3 was initiated.

Corrective action:

1. The damaged cooling water pump was replaced.
2. The shorted capacitor was replaced.

Design purpose of failed system or component:

Emergency power provides a.c. power when offsite sources are unavailable.

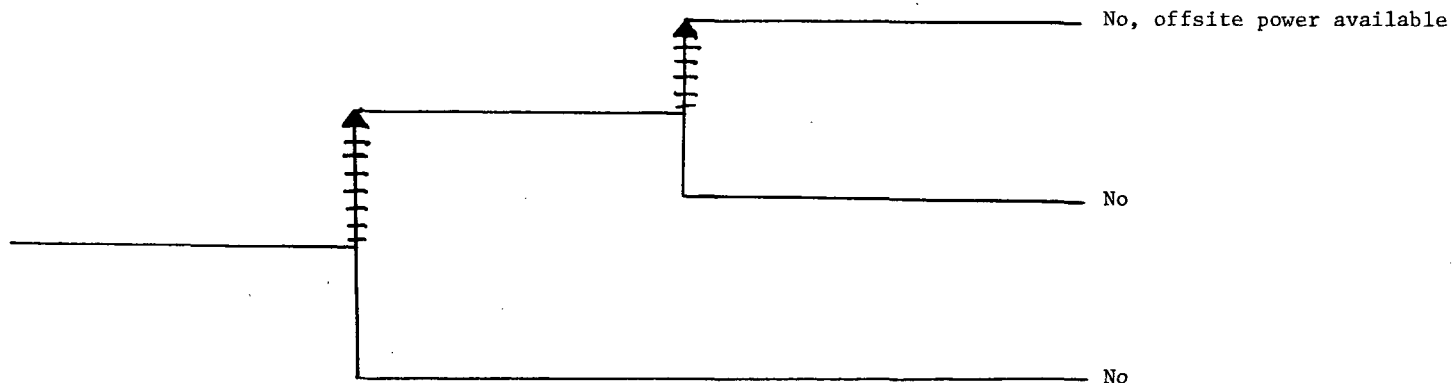
Unavailability of system per WASH 1400: * Emergency power: $10^{-2}/D$

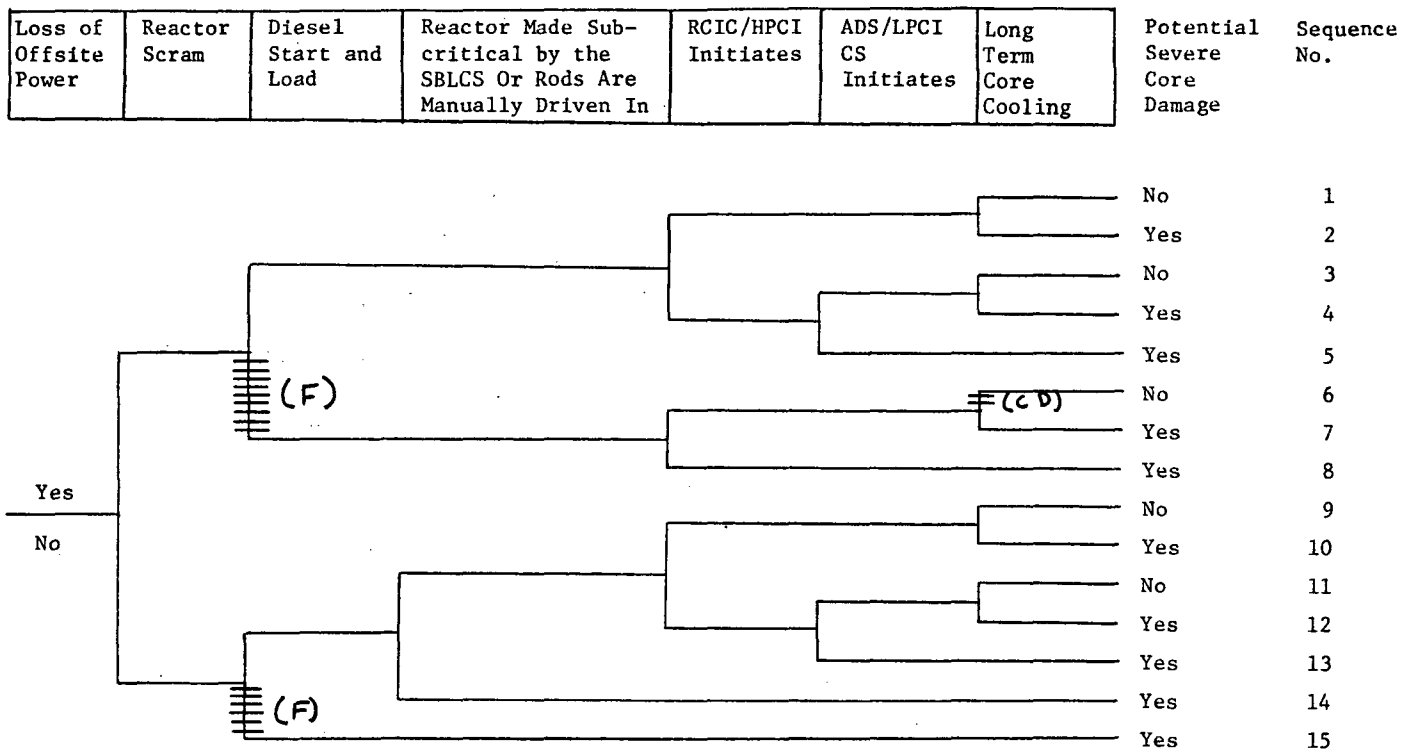
Unavailability of component per WASH 1400: * Diesel Engine failure to run:
 $3 \times 10^{-4}/hr$

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

Surveillance Testing Of Diesel Generator 2/3 Was Underway	Diesel 2/3 Tripped After 10 Minutes of Operation Due To A Failed Cooling Water Pump	Diesel Generator #3 Tripped Off Line After 30 Minutes Due To A Shorted Capacitor In Speed Sensor
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Potential
Severe
Core
Damage





CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 132155

DATE OF LER: December 13, 1977

DATE OF EVENT: November 29, 1977

SYSTEM INVOLVED: Emergency Power

COMPONENT INVOLVED: Diesel Generators

CAUSE: mechanical and electrical failures

SEQUENCE OF INTEREST: Loss of offsite power

ACTUAL OCCURRENCE: Diesel Generator Trips During Testing at Dresden 3

REACTOR NAME: Dresden 3

DOCKET NUMBER: 50-249

REACTOR TYPE: BWR

DESIGN ELECTRICAL RATING: 794 MWe

REACTOR AGE: 6.8 yr

VENDOR: General Electric

ARCHITECT-ENGINEERS: Sargent & Lundy

OPERATORS: Commonwealth Edison

LOCATION: Nine miles E of Morris, Ill.

DURATION: 360(a) hours

PLANT OPERATING CONDITION: 75% power

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

DISCOVERY METHOD: testing

COMMENT: