PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 132927

Date: December 16, 1977

Title: Both 13.8 kV Buses De-energized at Davis-Besse 1

The failure sequence was:

1. Immediately following a reactor/turbine trip, the operator opened the main generator breakers and attempted a manual transfer to the two station start-up transformers. The applicable emergency procedure incorrectly called for manually tripping the turbine generator output breaker after trip, which did not allow for auto transfer to the startup transformer.
2. The diesel generators started and DG 2 supplied power to the D1 bus.
3. Diesel generator DG 1 tripped on overspeed due to the improper setting of the governor high speed limit switch.
4. Normal off-site power was returned within 11 seconds on the "B" bus and 25 seconds on the "A" bus.

Corrective action:

The applicable emergency procedure was revised to preclude manual tripping of the turbine generator breakers after a turbine trip.

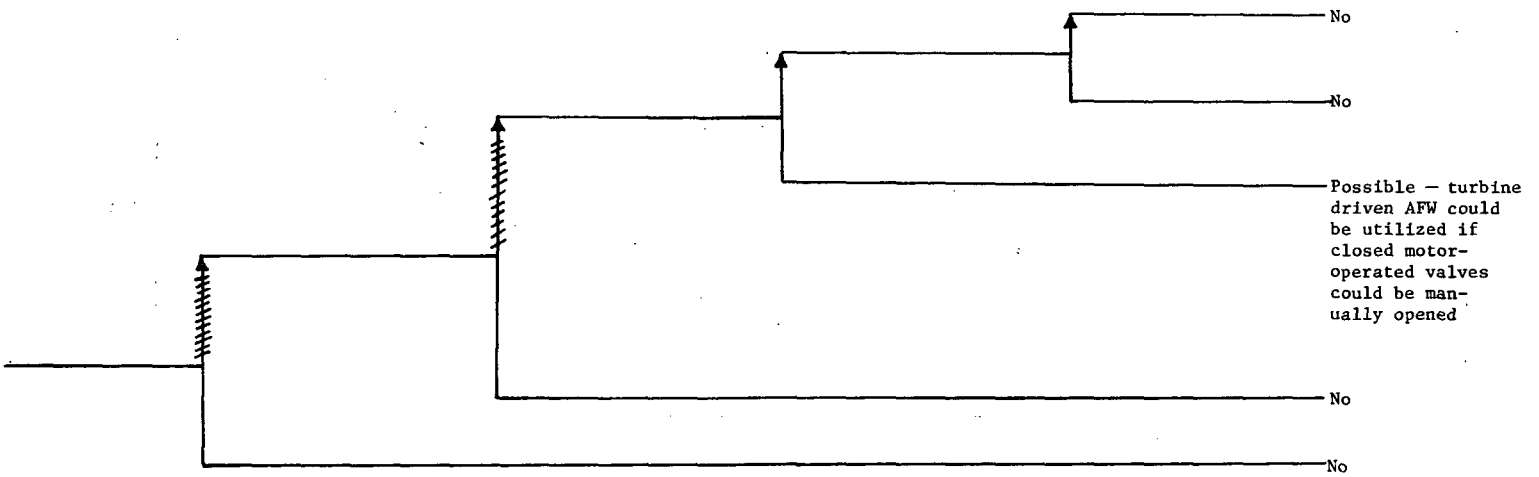
Design purpose of failed system or component:

Unavailability of system per WASH 1400:* Loss of offsite power: 2×10^{-5}/hr

Unavailability of component per WASH 1400:* -

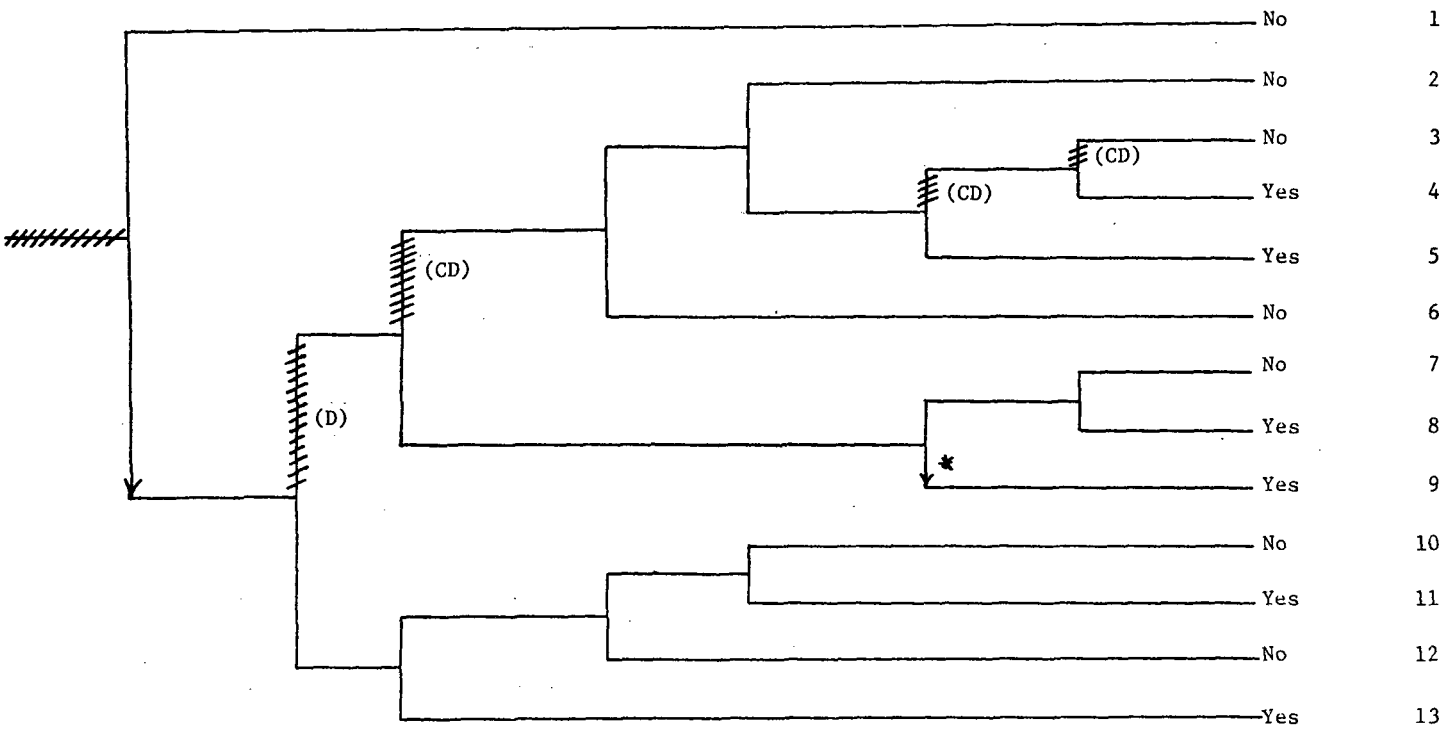
*Unavailabilities are in units of per demand D^{-1}. Failure rates are in units of per hour HR^{-1}.

Reactor in Hot Shutdown Immediately Following a Reactor/Turbine	Reactor Operator Follows Incorrect Procedures and Manually Opens Main Generator Breakers to Manually Transfer Station Loads to the Startup Transformer	Diesel Generator 1 Trip on Overspeed Due to an Improperly Set Governor High Speed Limit Switch	Diesel Generator 2 Starts and Provides Power to D1 Bus	Normal Offsite Power Returned on "A" Bus in 25 Seconds and "B" Bus in 11 Seconds	Potential Severe Core Damage



NSIC 132927 — Actial Occurrence for Both 13.8 kv Buses De-Energized at Davis-Besse 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.
								No	1
								No	2
								No	3
								Yes	4
								Yes	5
								No	6
								No	7
								Yes	8
								Yes	9
								No	10
								Yes	11
								No	12
								Yes	13



NSIC 132927 — Sequence of Interest for Both 13.8 kv Buses De-Energized at Davis-Besse 1

*Not included in operating procedures.

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 132927

DATE OF LER: December 16, 1977

DATE OF EVENT: November 29, 1977

SYSTEM INVOLVED: Electric Power

COMPONENT INVOLVED: Diesel Generator

CAUSE: Operator incorrectly attempted manual transfer to startup transformers, incorrect setting of diesel generator governor high speed limit switch.

SEQUENCE OF INTEREST: Loss of offsite power

ACTUAL OCCURRENCE: Operator error induced loss of offsite power with subsequent diesel generator overspeed trip.

REACTOR NAME: Davis-Besse 1

DOCKET NUMBER: 50-346

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 906 MWe

REACTOR AGE: .30 yr

VENDOR: Babcock & Wilcox. Co.

ARCHITECT-ENGINEERS: Bechtel

OPERATORS: Toledo Edison Co.

LOCATION: 21 miles east of Toledo, Ohio

DURATION: N/A

PLANT OPERATING CONDITION: immediately following trip

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

DISCOVERY METHOD: operational event

COMMENT: