

NSIC Accession Number: 44751

Date: April 27, 1970

Title: Failure of Three of Four Safety System Sensors for Primary Drum Low Level Scram at Dresden 1

The failure sequence was:

During a routine test, three of four primary drum low level scram system sensors were found failed due to crud build-up in the switches. These failures would cause a failure to scram on low drum level if that were required.

Corrective action:

The switches were flushed and their proper operation was demonstrated. The switches were to be replaced with differential-type switches at the up-coming refueling.

Design purpose of failed system or component:

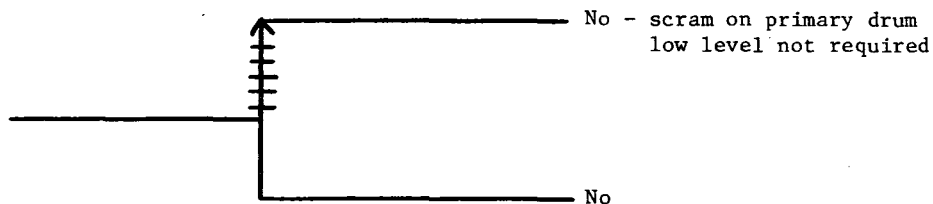
The switches provide trip input to the scram system for primary drum low level.

Unavailability of system per WASH 1400:* --

Unavailability of component per WASH 1400:* float switches not considered in WASH-1400.

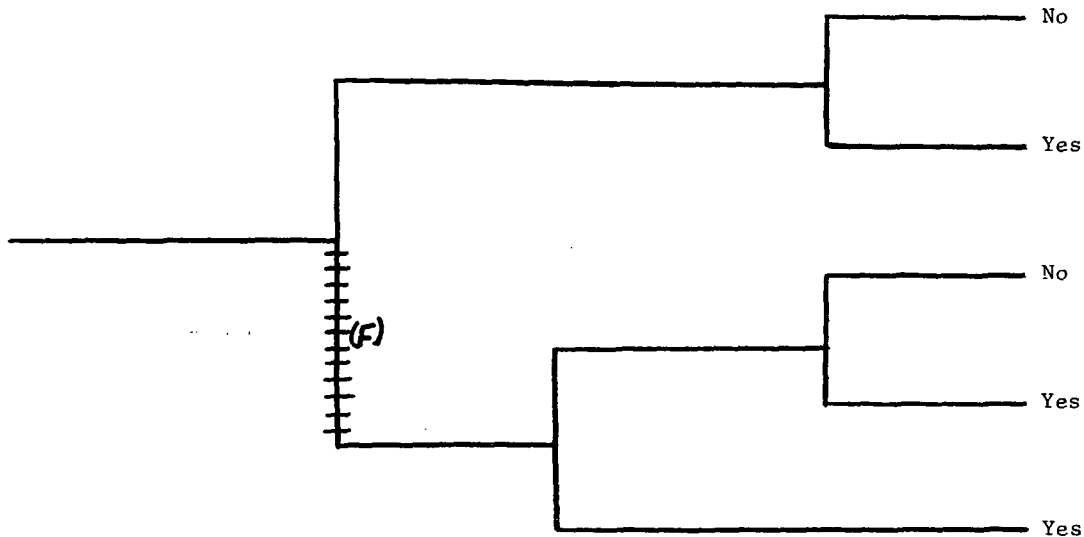
* Unavailabilities are in units of per demand D^{-1} . Failure rates are in units of per hour HR^{-1} .

(Reactor condition unknown) testing in progress	Three of four primary drum low level scram switches found failed	Potential Severe Core Damage
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NSIC 44751 — Actual Occurrence for Failure of Three of Four
Safety System Sensors for Primary Drum Level Scram at Dresden 1

Loss of feedwater due to inadvertent valve closure, etc. (feed system still pressurized normal loss of feedwater trip unavailable)	Reactor scram on low primary drum level	Operator detects low primary drum level and manually scrams reactor (or initiates secondary shutdown system)	Emergency condenser provides core cooling	Potential Severe Core Damage
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NSIC 44751 — Sequence of Interest for Failure of Three of Four Safety System Sensors for Primary Drum Level Scram at Dresden 1

CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 44751

DATE OF LER: April 27, 1970

DATE OF EVENT: unknown

SYSTEM INVOLVED: Reactor Protection System

COMPONENT INVOLVED: Primary Drum Level Float Switches

CAUSE: Crud buildup in the float chambers

SEQUENCE OF INTEREST: Loss of Main Feedwater

ACTUAL OCCURRENCE: Switch failure during testing

REACTOR NAME: Dresden 1

DOCKET NUMBER: 50-10

REACTOR TYPE: BWR

DESIGN ELECTRICAL RATING: 200 MWe

REACTOR AGE: 10.5 yr

VENDOR: GE

ARCHITECT-ENGINEERS: Bechtel

OPERATORS: Commonwealth Edison Co.

LOCATION: Nine miles E of Morris, Ill.

DURATION: 360 (a) hours

PLANT OPERATING CONDITION: unknown

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

DISCOVERY METHOD: during testing

COMMENT: only abstract available