

## PRECURSOR DESCRIPTION AND DATA

NSIC Accession Number: 171939

Date: October 28, 1981

Title: Inadvertent Steam Dump Valve Opening and Safety Injection at North Anna 2

### The failure sequence was:

1. With the reactor at 100% power, a turbine trip and reactor trip occurred as a result of a failure in an electrohydraulic control line to No. 4 governor valve.
2. Three and one-half hours later, with the reactor at 2% power, it was observed that the steam dumps were in the  $T_{avg}$  mode in lieu of the steam pressure mode of operation.
3. The operator switched to the steam pressure mode of operation and shifted the steam dump controller to auto. All eight steam dumps opened.
4. The operator immediately shifted to manual on the controller and to the  $T_{avg}$  position on the steam dump selector switch.
5. Either this action or the low-low  $T_{avg}$  interlock closed the dump valves but not before safety injection was initiated.
6. All safety injection equipment operated as required, except the pressurizer liquid space inside isolation valve failed to close.
7. The specific cause for the high controller output was not determined, and an investigation of equipment failure and human error revealed no discrepancies.

### Corrective action:

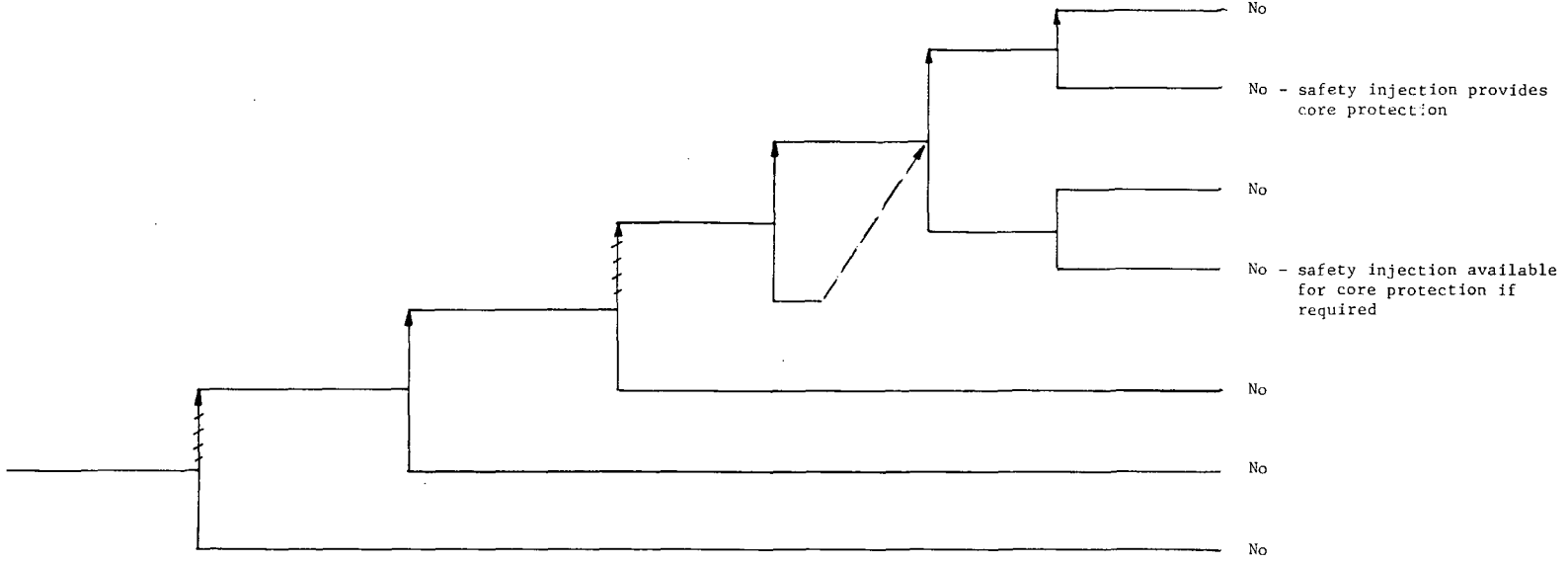
The event was reviewed for equipment failure and human error and no cause could be determined.

### Design purpose of failed system or component:

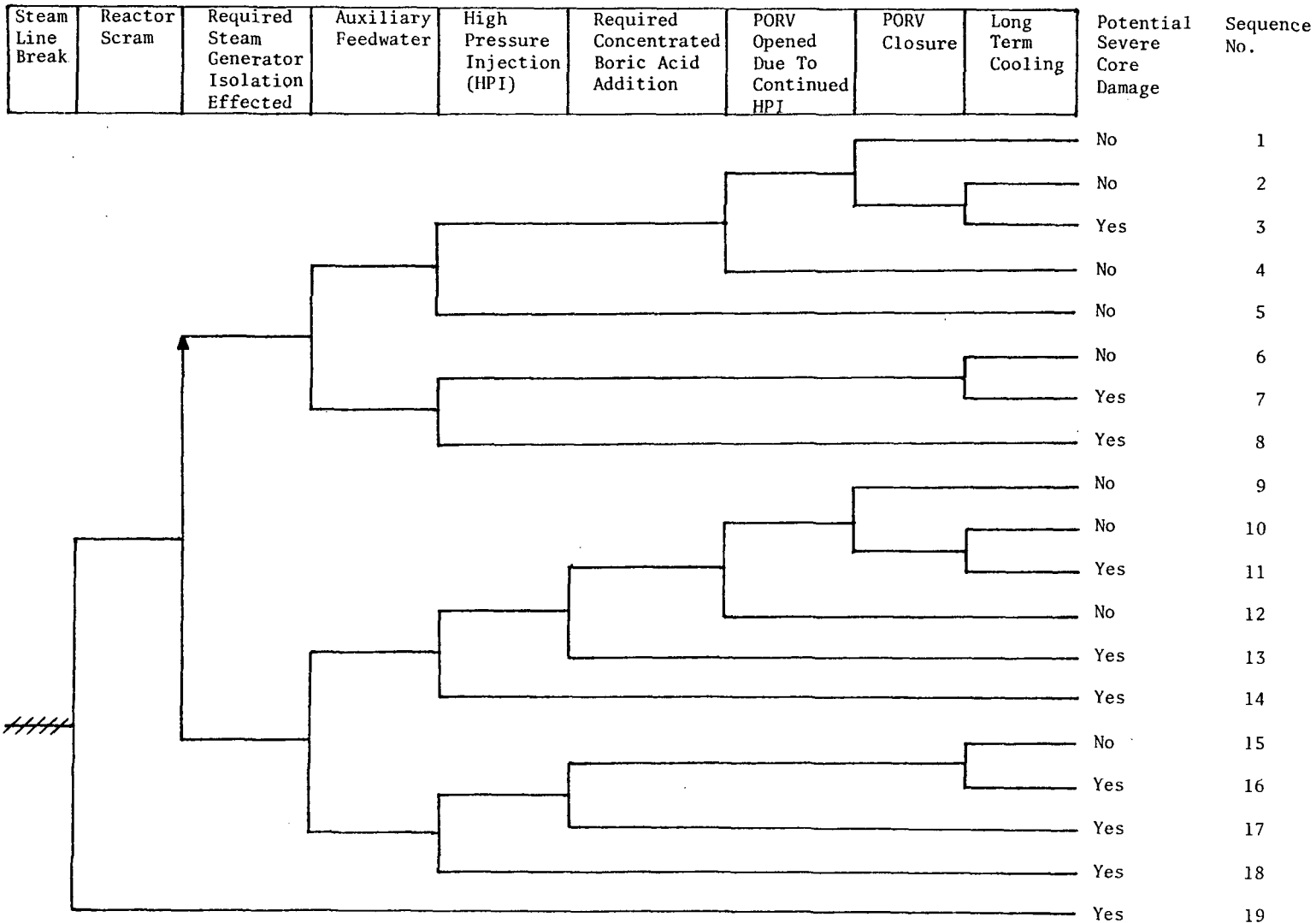
The steam dump valves provide for steam generator pressure control following plant trip by venting steam to the condenser.

Turbine/previous reactor trip due to EHC line failure to #4 governor valve	Operator observes steam dump selector in $T_{avg}$ mode in lieu of steam pressure mode (reactor at 2% power)	Operator switches to steam pressure mode and shifted the steam dump controller to auto	Inadvertent opening of all 8 atmospheric dump valves (cause not determined)	Operator immediately switches to manual on controller and to $T_{avg}$ on steam dump selector switch	Safety injection initiated	Dump valves closed due to either the operator's actions or to low-low $T_{avg}$ interlock
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Potential Severe Core Damage



NSIC 171939 - Actual Occurrence for Inadvertent Steam Dump Valve Opening and Safety Injection at North Anna 2



CATEGORIZATION OF ACCIDENT SEQUENCE PRECURSORS

NSIC ACCESSION NUMBER: 171939

LER NO.: 81-076

DATE OF LER: October 28, 1981

DATE OF EVENT: October 3, 1981

SYSTEM INVOLVED: Steam dump to condenser

COMPONENT INVOLVED: Dump valves

CAUSE: Inadvertent opening

SEQUENCE OF INTEREST: Main steam line break

ACTUAL OCCURRENCE: Eight opened dump valves

REACTOR NAME: North Anna 2

DOCKET NUMBER: 50-339

REACTOR TYPE: PWR

DESIGN ELECTRICAL RATING: 907 MWe (net)

REACTOR AGE: 1.3 years

VENDOR: Westinghouse

ARCHITECT-ENGINEERS: Stone and Webster

OPERATORS: Virginia Electric & Power Co.

LOCATION: 40 miles NW of Richmond, Virginia

DURATION: N/A

PLANT OPERATING CONDITION: 2% power following a trip

TYPE OF FAILURE: Inadequate performance

DISCOVERY METHOD: Operational event

COMMENT: