



## Public Service Company of Colorado

16805 Weld County Road 19 1/2, Platteville, Colorado 80651

November 9, 1979  
Fort St. Vrain  
Unit No. 1  
P-79267

Mr. Karl V. Seyfrit, Director  
Nuclear Regulatory Commission  
Region IV  
Office of Inspection and Enforcement  
611 Ryan Plaza Drive  
Suite 1000  
Arlington, Texas 76012

REF: Facility Operating License  
No. DPR-34

Docket No. 50-267

Dear Mr. Seyfrit:

Enclosed please find a copy of Reportable Occurrence Report No. 50-267/79-46/03-L-0, Final, submitted per the requirements of Technical Specification AC 7.5.2(b)3.

Also, please find enclosed one copy of the Licensee Event Report for Reportable Occurrence Report No. 50-267/79-46/03-L-0.

Very truly yours,

*Don Warembourg/jm*

Don Warembourg  
Manager, Nuclear Production

DW/alk

cc: Director, MIPC

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*Door 11*

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REPORT DATE: November 9, 1979

REPORTABLE OCCURRENCE 79-46

OCCURRENCE DATE: October 11, 1979

ISSUE 0

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FORT ST. VRAIN NUCLEAR GENERATING STATION  
PUBLIC SERVICE COMPANY OF COLORADO  
16805 WELD COUNTY ROAD 19 1/2  
PLATTEVILLE, COLORADO 80651

REPORT NO. 50-267/79-46/03-L-0

Final

IDENTIFICATION OF  
OCCURRENCE:

On October 11, 1979, it was determined that due to procedural inadequacies, a particular sequence of manual switching of the primary coolant low level dew point moisture monitors could have resulted in a degraded mode of LCO 4.4.1. This is reportable per Fort St. Vrain Technical Specification AC 7.5.2(b)3.

EVENT  
DESCRIPTION:

On October 11, 1979, with the plant operating at 60% thermal power and 190 MW electrical power, plant instrumentation personnel determined that it was possible to inhibit moisture monitor trip actions without putting the inoperable channels in a tripped condition. This had inadvertently been done while using the primary coolant moisture monitors to indicate primary coolant moisture levels.

See Figure 1. The normal operation of a moisture monitor on high moisture in the primary coolant would be a low reflected light level at the moisture transmitter (MT), (1), which would transmit a trip signal to the moisture monitor (MM), (2), moisture indicating switch (MIS), (3), and the moisture switch high (MSH), (4). This trip signal then goes to "and" circuits, (5), where if no inhibits are present the signal passes to the first in with lockout circuit, (6), which will allow the first trip signal to pass, but locks out any subsequent trip signals from the other loop instrumentation. This circuit prevents both loops from tripping on high moisture in the primary coolant. The trip signal then passes through an "or", (7), circuit and into the "two out of three" trip circuit, (8). If two out of three signals are present the trip signal is transmitted to the "and", (9), circuit where a two out of three low level moisture monitor trip and a high level moisture monitor trip is required to transmit a trip signal to the XCR's for a loop shutdown.

When using the moisture monitors to indicate the primary coolant moisture levels, the usual method was to trip the moisture monitor, normally MM-1118 and/or MM-1122, by going to light ground on the light control circuit, which simulated a low reflected light level and tripped the instrument channel by the above action. This locked out the complementary moisture monitor (the complementary monitors are those which share the same first in with lockout circuit). With one moisture monitor in the other loop locked out it would now require two of the remaining two moisture monitors to trip for a protective action to occur. This is not acceptable as LCO 4.4.1 requires a minimum degree of redundancy of one for these moisture monitor trips.

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EVENT

DESCRIPTION (continued):

This situation did occur during power operation because of problems experienced with analytical moisture monitors, MM-9306 and MM-9307, which did require the other moisture monitors to be used to follow primary coolant moisture levels. During this period there were no moisture ingresses that required the operation of the moisture monitor protective circuits.

CAUSE

DESCRIPTION:

An approved change (Field Change Notice 3738B) made the automatic trip upon moisture monitor system failure a manual action and revised the logic to permit individual manual trip of the associated moisture monitor (as opposed to disabling by pairs). This change added a switch to the system failure and test module which in the Plant Protective System trip position, (1), (see Figure 1) would place an inhibit on the "first in with lockout" circuit, (5), and a trip into the 2 out of 3 trip circuit, (8). This would prevent the complimentary monitor from being locked out when a monitor was in the tripped condition. However, with the revised circuit configuration, if the monitor was tripped before the system failure and test switch was placed in the Plant Protective System trip position, the complimentary monitor would be locked out.

CORRECTIVE

ACTION:

To correct this problem the system operating procedure was revised to show the correct switching sequence to trip the moisture monitor and prevent the first in with lockout circuit from locking out the other loop's instrument. See Figure 1. The system failure switch, (1), for whichever moisture monitor is to be tripped, is put in the Plant Protective System trip position which puts an inhibit on the "and" gate, (5), preventing the trip signal from locking out the complimentary monitor while putting a trip signal into the "or" gate, (7), and then into the 2/3 trip circuit.

No other corrective action is anticipated or required.

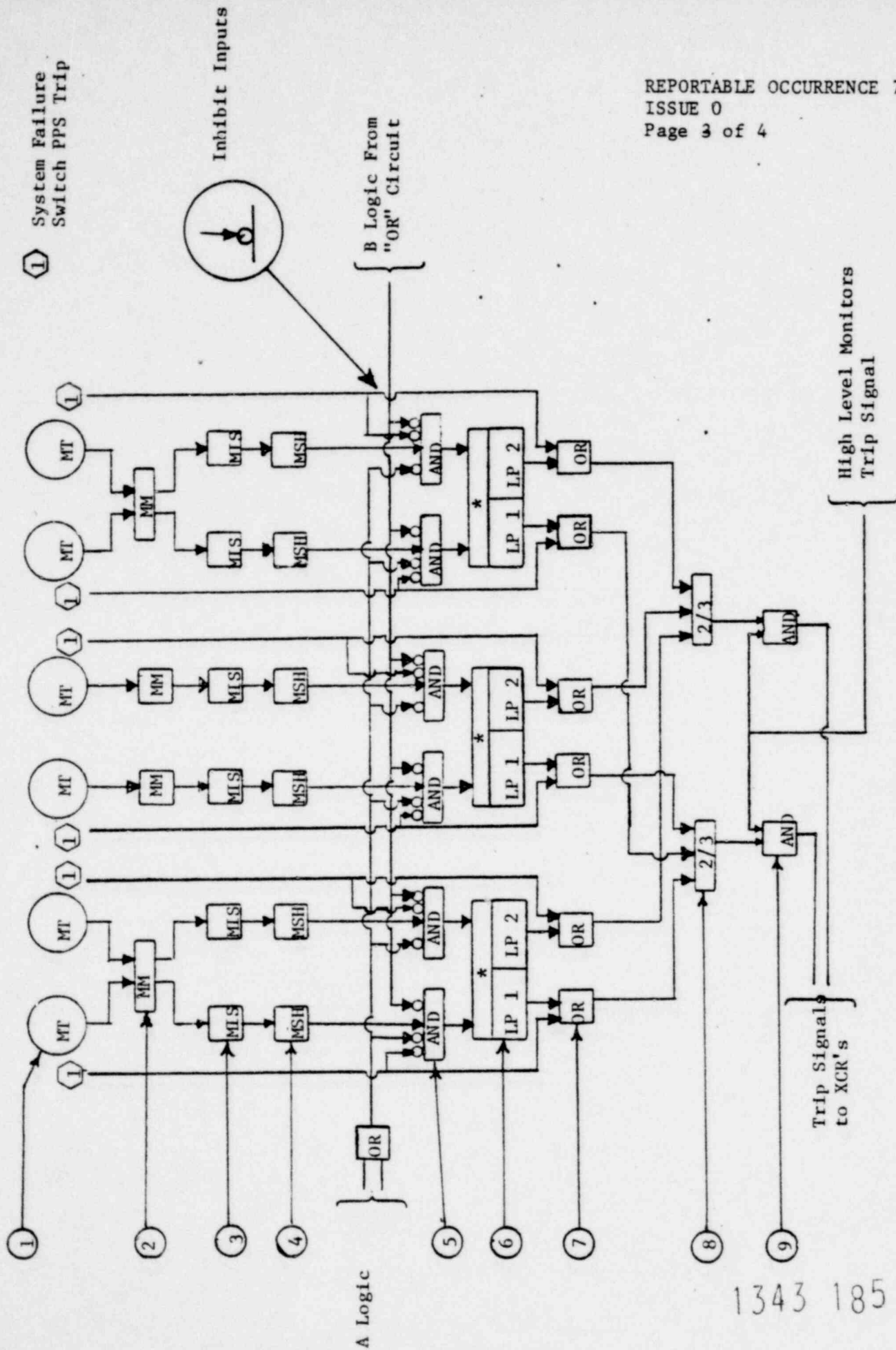


FIGURE 1

\*First In With Lockout

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