

Public Service Company of Colorado
P. O. Box 361, Platteville, Colorado 80651



January 14, 1975

Mr. E. Morris Howard, Director
Directorate of Regulatory Operations
Region IV, USAEC
P. O. Box 5039
White Settlement, Texas 76108

Dear Mr. Howard:

REF: Facility Operating License
No. DPR-34

Docket No. 50-267

Enclosed please find a copy of Abnormal Occurrence Report No. 50-267/74/24,
submitted per the requirements of the Technical Specifications.

Very truly yours,

Frederic E. Swart

Frederic E. Swart
Supt. Nuclear Production
Fort St. Vrain Nuclear
Generating Station

FES:il

cc: Mr. Angelo Giambusso

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COPY SENT REGION IV

REPORT DATE: January 7, 1975

ABNORMAL OCCURRENCE

OCCURRENCE DATE: December 22, 1974

FORT ST. VRAIN NUCLEAR GENERATING STATION
PUBLIC SERVICE COMPANY OF COLORADO
P. O. BOX 361
PLATTEVILLE, COLORADO 80651

REPORT NO. 50-267/74/24

Preliminary

IDENTIFICATION OF
OCCURRENCE:

The static seal on C-2101 ("A" helium circulator) was possibly accidentally released during removal of temporary jumpers following a test of the feedwater system. This is identified as an abnormal occurrence per definition 2.1.c of the Technical Specifications.

CONDITIONS PRIOR
TO OCCURRENCE:

<u>Steady State Power</u>	<u>Routine Shutdown</u>
<u>Hot Shutdown</u>	<u>Routine Load Change</u>
<u>X Cold Shutdown</u>	<u>X other (specify)</u>
<u>Refueling Shutdown</u>	<u>Plant essentially shutdown follow-</u>
<u>Routine Startup</u>	<u>ing initial performance of RT-241</u>
	<u>(feedwater system testing).</u>

The major plant parameters at the time of the event were as follows

Power	PTR <u>0</u>	MFth
	ELECT <u>0</u>	ME
Secondary Coolant	Pressure <u>0</u>	psig
	Temperature <u>N/A</u>	°F
	Flow <u>N/A</u>	#/hr
Primary Coolant	Pressure <u>25</u>	psig
	Temperature <u>101</u>	°F Core Inlet
	<u>101</u>	°F Core Outlet
	Flow <u>0</u>	#/hr

DESCRIPTION OF
OCCURRENCE:

The static seal on C-2101 helium circulator was possibly released while replacing plant protective system modules and jumpers previously required to run RT-241 (initial filling of the steam generators and feedwater control system test).

There are two seal release valves in series. A fuse blown while removing the jumpers caused one of those valves to open. Buffer-ridbuffer instrumentation indicated flow up the circulator shaft implying that the remaining seal release valve is leaking.

The normal buffer helium system was placed on the circulator to prevent any primary coolant leakage.

Analysis of the primary coolant taken on December 20, 1974 indicated no detectable gamma activity, therefore an accidental release of primary coolant would not have represented a hazard to plant personnel or the public. A continuous air monitor located at the FCRV support ring indicated background radiation levels. An analysis of primary coolant on December 23, 1974 indicated no increase in contaminants.

APPARENT CAUSE
OF OCCURRENCE:

<input checked="" type="checkbox"/> Design	<input type="checkbox"/> Unusual Service Cond. Including Environment
<input type="checkbox"/> Manufacture	<input checked="" type="checkbox"/> Component Failure
<input type="checkbox"/> Installation/Const.	<input type="checkbox"/> Other (specify)
<input checked="" type="checkbox"/> Operator	_____
<input type="checkbox"/> Procedure	_____

While removing a jumper across the "A" logic circulator brake and seal interlock contacts of C-2101, the jumper apparently contacted station ground resulting in a blown fuse. This de-energized a relay whose contacts hold the appropriate brake and seal valves closed or open as required.

Because of redundant valving in the system, valve HV-21191-3 had to be leaking for the seal release to occur.

ANALYSIS OF
OCCURRENCE:

Blowing a fuse in the brake and seal circuit should not in itself release the circulator seal. There are two series brake and seal release valves and the blown fuse would only affect one of the seal and one of the brake release valves. The seal and brake helium pressure supply valves are in parallel and are also separately fused, but the blown fuse would affect one brake and one seal supply valve.

The negative buffer mid-buffer differential pressure would indicate the remaining seal release valve was leaking and the seal had released and allowed flow of helium up the circulator shaft into the reactor.

The bearing water surge tank equalizing line with the buffer helium recirculators is the discharge of the brake and seal release valves.

Sufficient time had elapsed for small valve leaks on A and B circulator brake and seals to pressurize the surge tank to above reactor pressure. This helium pressure would leak through the water check valve and the water isolation valve to pressurize the circulator cavity with helium.

When the seal possibly released this helium would slowly flow up the shaft into the reactor giving an indication on the buffer mid-buffer instrumentation. (See attached PI's).

CORRECTIVE

ACTION:

In the future, an attempt will be made to place jumpers on terminal boards that are in a convenient location. This would allow personnel installing and removing jumpers to function more efficiently.

The appropriate in-line valves will have to be checked for helium leakage. An analysis will also be made on the advisability of isolating the seal release line with already installed valves to prevent inadvertent seal release. The AP transmitter will also be checked.

FAILURE DATA/SIMILAR REPORTED OCCURRENCES:

Abnormal Occurrence 50-267/74/13 dealt with the inability of "A" helium circulator static seal to remain actuated. A ruptured actuating bellows was the cause of this abnormal occurrence.

PROGRAMMATIC IMPACT:

None

CODE IMPACT

None

Submitted by:

H. Larry Brey
H. Larry Brey, Superintendent-Operations

Approved by:

Frederic E. Stuart
Frederic E. Stuart
Superintendent Nuclear Production
Fort St. Vrain Nuclear
Generating Station

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U-210-1-09-1

U-210-1-05-1

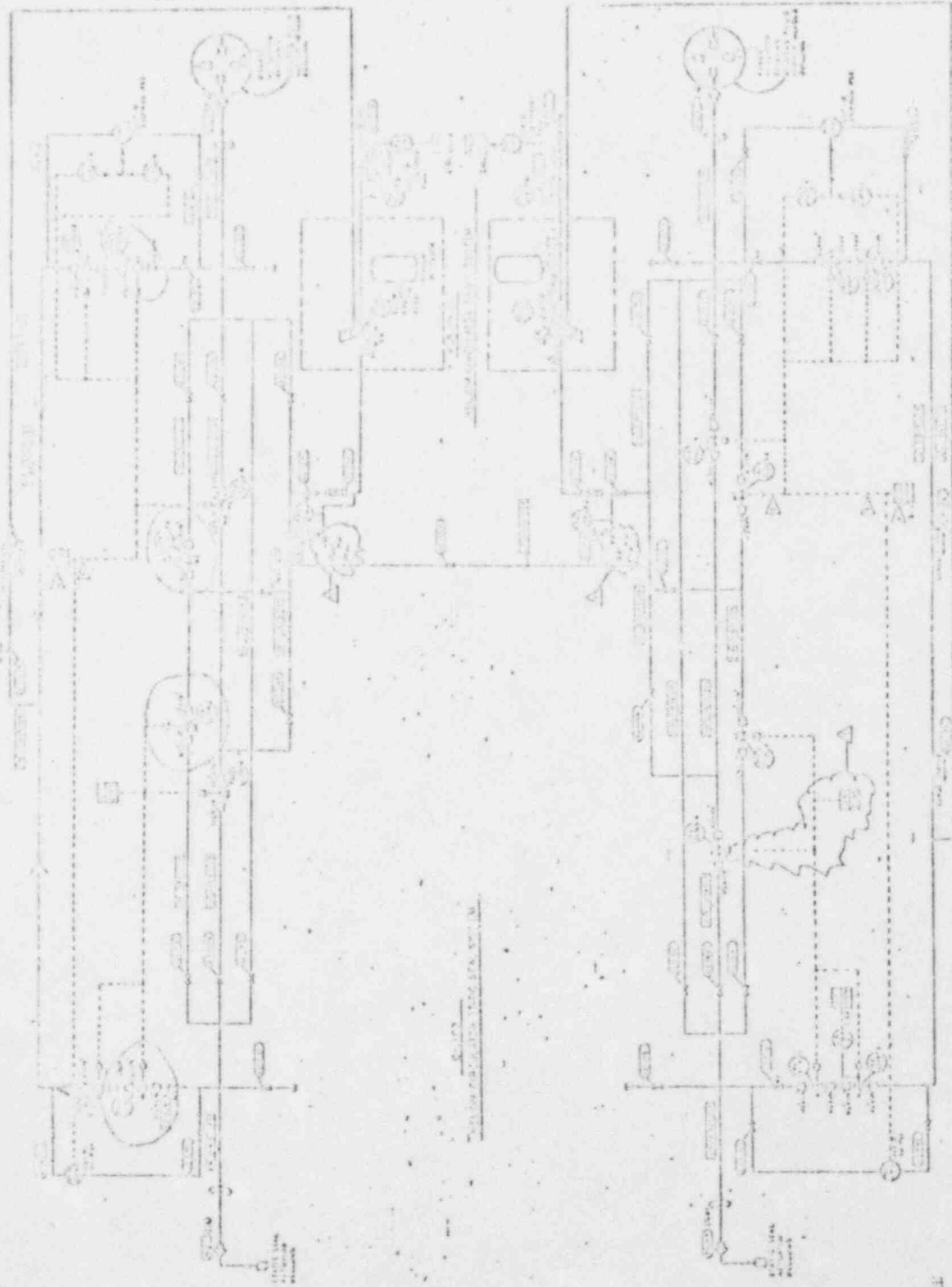
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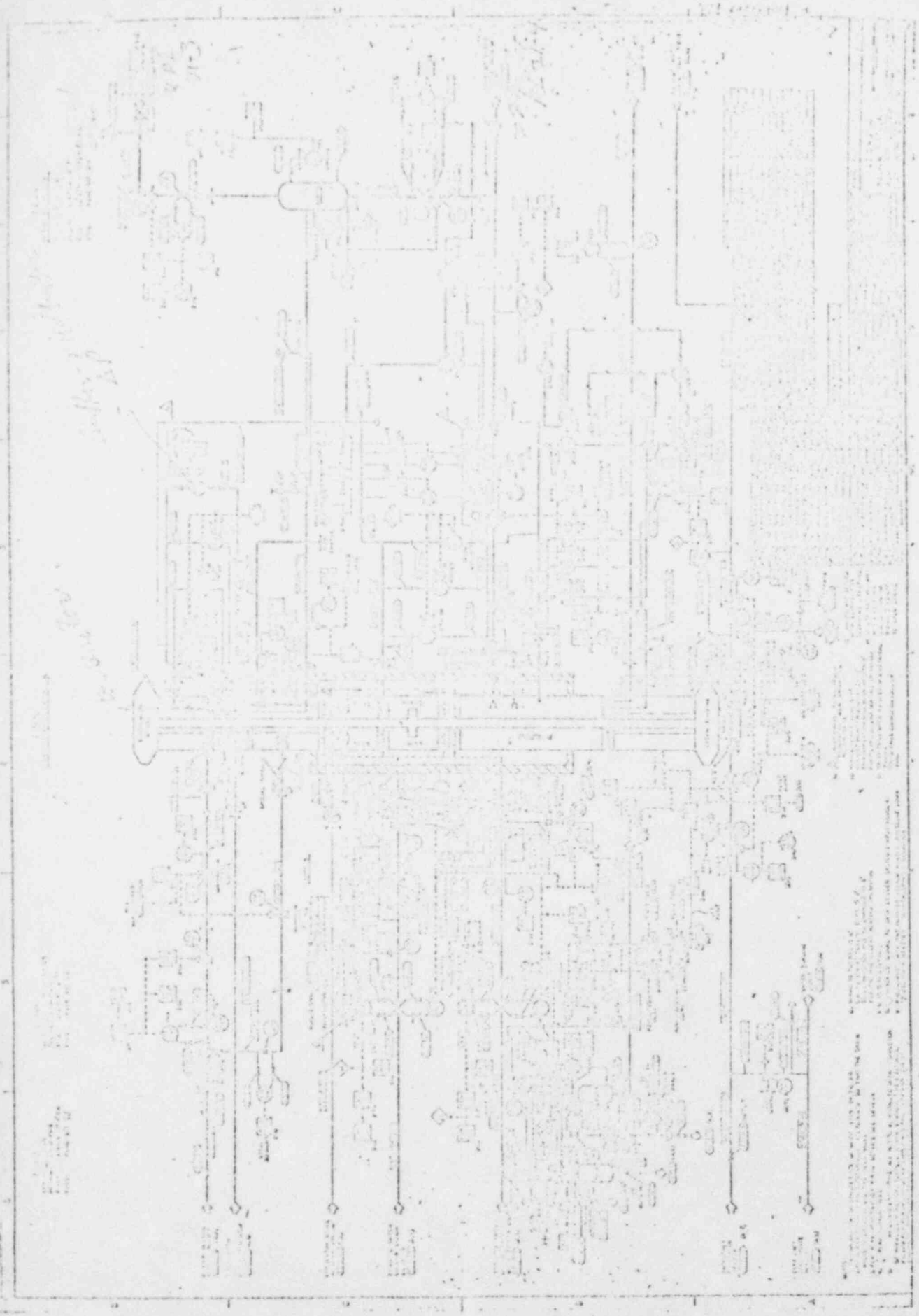
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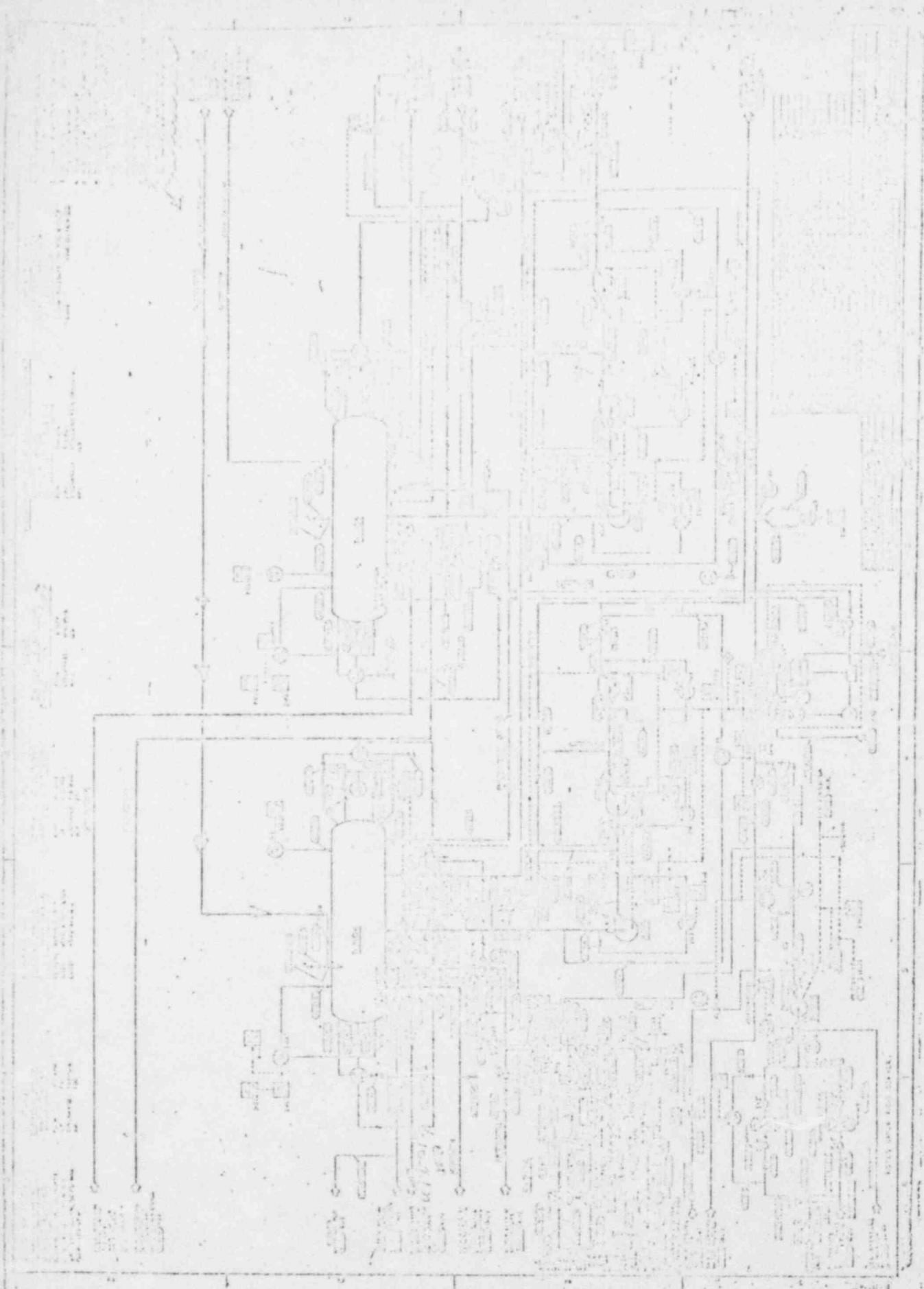
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U-210-1-02-1
U-210-1-01-1
U-210-1-00-1



1. This drawing is a plan view of the building shown in the title block. It shows the layout of the building, including the location of the entrance, the location of the rooms, and the location of the corridors. It also shows the location of the stairs and the location of the elevators. The drawing is oriented horizontally on the page, but the text and labels are oriented vertically, suggesting it might be a rotated page from a document.



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	ELECT <u>0</u>	<u>100e</u>
Secondary Coolant	Pressure <u>0</u>	<u>psig</u>
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PROGRAMMATIC IMPACT:

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CODE IMPACT

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Submitted by:

H. Larry Broy
H. Larry Broy, Superintendent-Operations

Approved by:

Frederic E. Swart
Frederic E. Swart
Superintendent Nuclear Production
Fort St. Vrain Nuclear
Generating Station

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not

V-21191-6-01/01

V-21191-2-01/01

V-21203-1-01/01

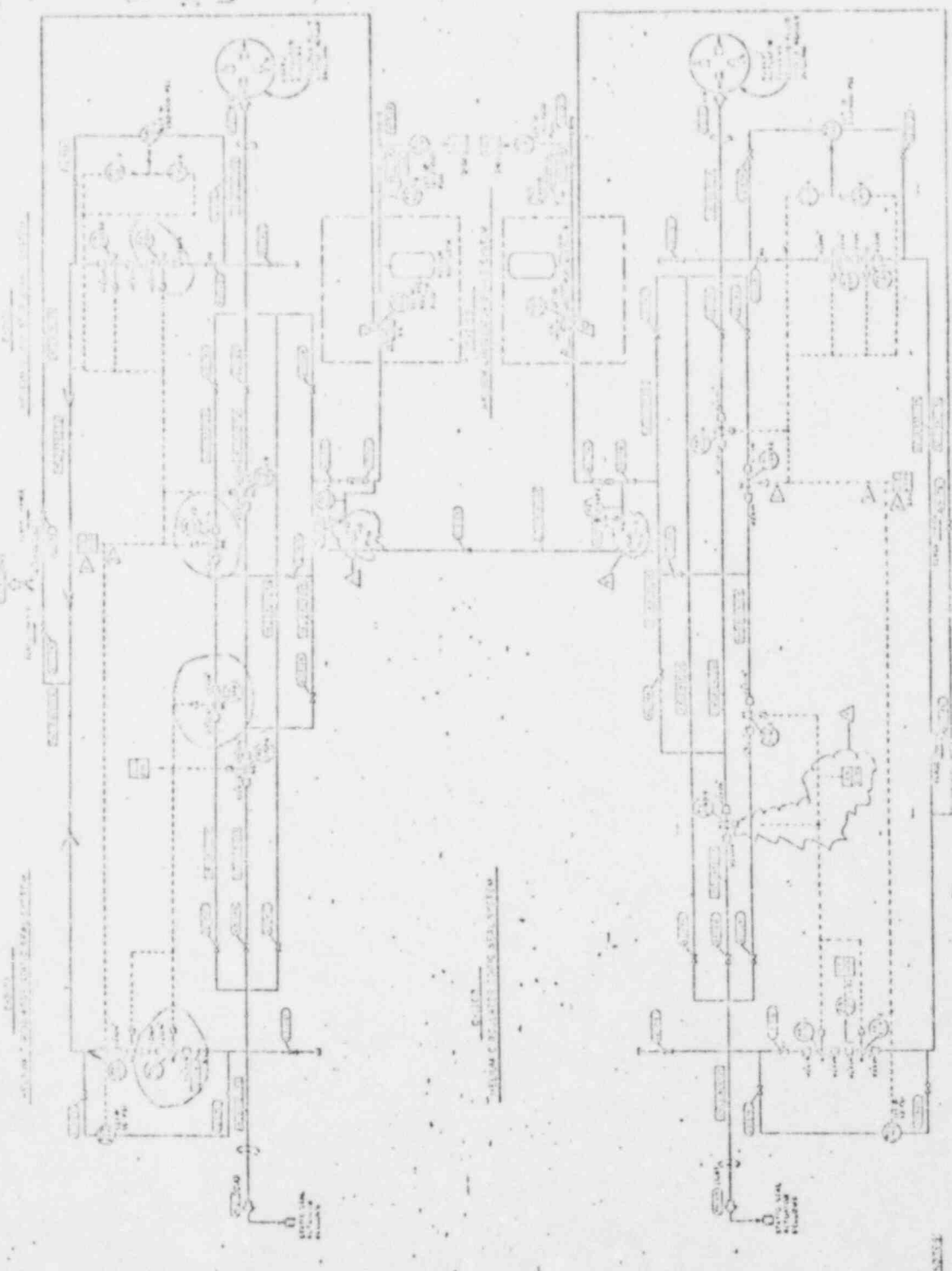
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