

## INSTRUMENTATION

### 3/4.3.7 MONITORING INSTRUMENTATION

#### RADIATION MONITORING INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.7.1 The radiation monitoring instrumentation channels shown in Table 3.3.7.1-1 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3.7.1-1.

#### ACTION:

- a. With a radiation monitoring instrumentation channel alarm/trip setpoint exceeding the value shown in Table 3.3.7.1-1, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION required by Table 3.3.7.1-1. \*
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.3.7.1 Each of the above required radiation monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the conditions and at the frequencies shown in Table 4.3.7.1-1.

\* Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative control.

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TABLE 3.3.7.1-1

## RADIATION MONITORING INSTRUMENTATION

INSTRUMENTATION	MINIMUM CHANNELS OPERABLE	APPLICABLE CONDITIONS	ALARM/TRIP SETPOINT	ACTION
1. Main Control Room Ventilation Radiation Monitor	2/intake	1,2,3,5 and *	$\leq 5000$ cpm	70
2. Area Monitors				
a. Criticality Monitors				
1) New Fuel Storage Vault	2	#	$\leq 5$ R/h(a)	71
2) Spent Fuel Storage Pool	1	##	$\leq 20$ mR/h	71

## TABLE NOTATIONS

\*When the main condenser air evacuation system is in operation.

#With fuel in the new fuel storage vault.

##With fuel in the spent fuel storage pool.

(a) ~~Alarm only.~~ Alarm setpoint set IAW 10 CFR 70.24.a.1.

## ACTION STATEMENTS

## ACTION 70 -

- intake*
- a. With one of the required monitors inoperable, ~~place the inoperable channel in the tripped condition within 1 hour; restore the inoperable channel to OPERABLE status within 7 days, or, within the next 6 hours, initiate and maintain operation of the control room emergency filtration system in the pressurization mode of operation.~~ *manually isolate the associated remote air*
- b. With both of the required monitors inoperable, initiate and maintain operation of the control room emergency filtration system in the pressurization mode of operation within 1 hour.

- ACTION 71 - With the required monitor inoperable, assure a portable continuous monitor with the same alarm setpoint is OPERABLE in the vicinity of the installed monitor during any fuel movement. If no fuel movement is being made, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.



3/4.3.5 REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

The reactor core isolation cooling system actuation instrumentation is provided to initiate actions to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without providing actuation of any of the emergency core cooling equipment.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is equal to or less than the drift allowance assumed for each trip in the safety analyses.

3/4.3.6 CONTROL ROD BLOCK INSTRUMENTATION

The control rod block functions are provided consistent with the requirements of Specifications 3/4.1.4, Control Rod Program Controls, 3/4.2, Power Distribution Limits and 3/4.3.1 Reactor Protection System Instrumentation. The trip logic is arranged so that a trip in any one of the inputs will result in a control rod block.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is equal to or less than the drift allowance assumed for each trip in the safety analyses.

3/4.3.7 MONITORING INSTRUMENTATION3/4.3.7.1 RADIATION MONITORING INSTRUMENTATION

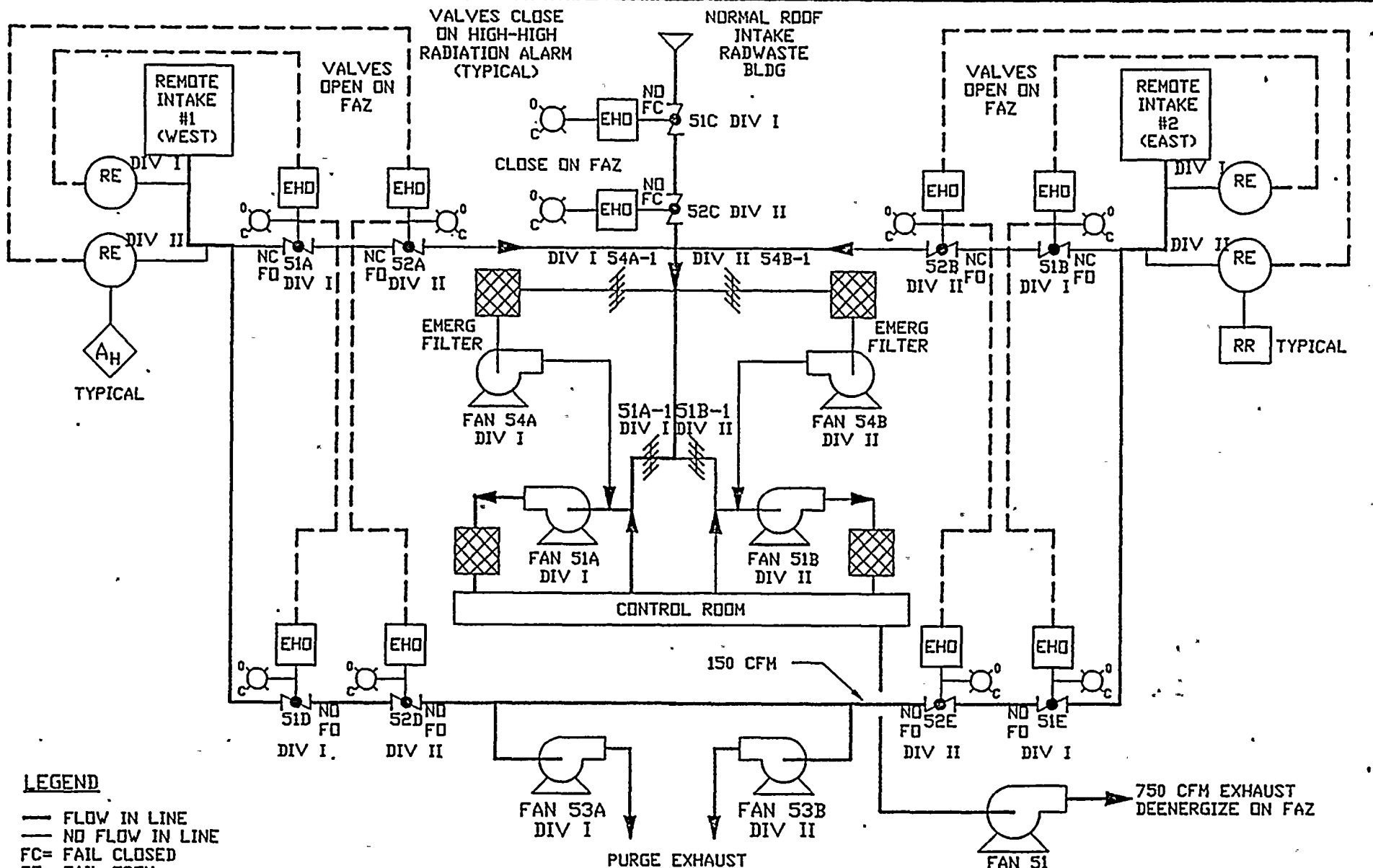
The OPERABILITY of the radiation monitoring instrumentation ensures that; (1) the radiation levels are continually measured in the areas served by the individual channels; (2) the alarm ~~or automatic action~~ is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with 10 CFR Part 50, Appendix A, General Design Criteria 19, 41, 60, 61, 63, and 64.

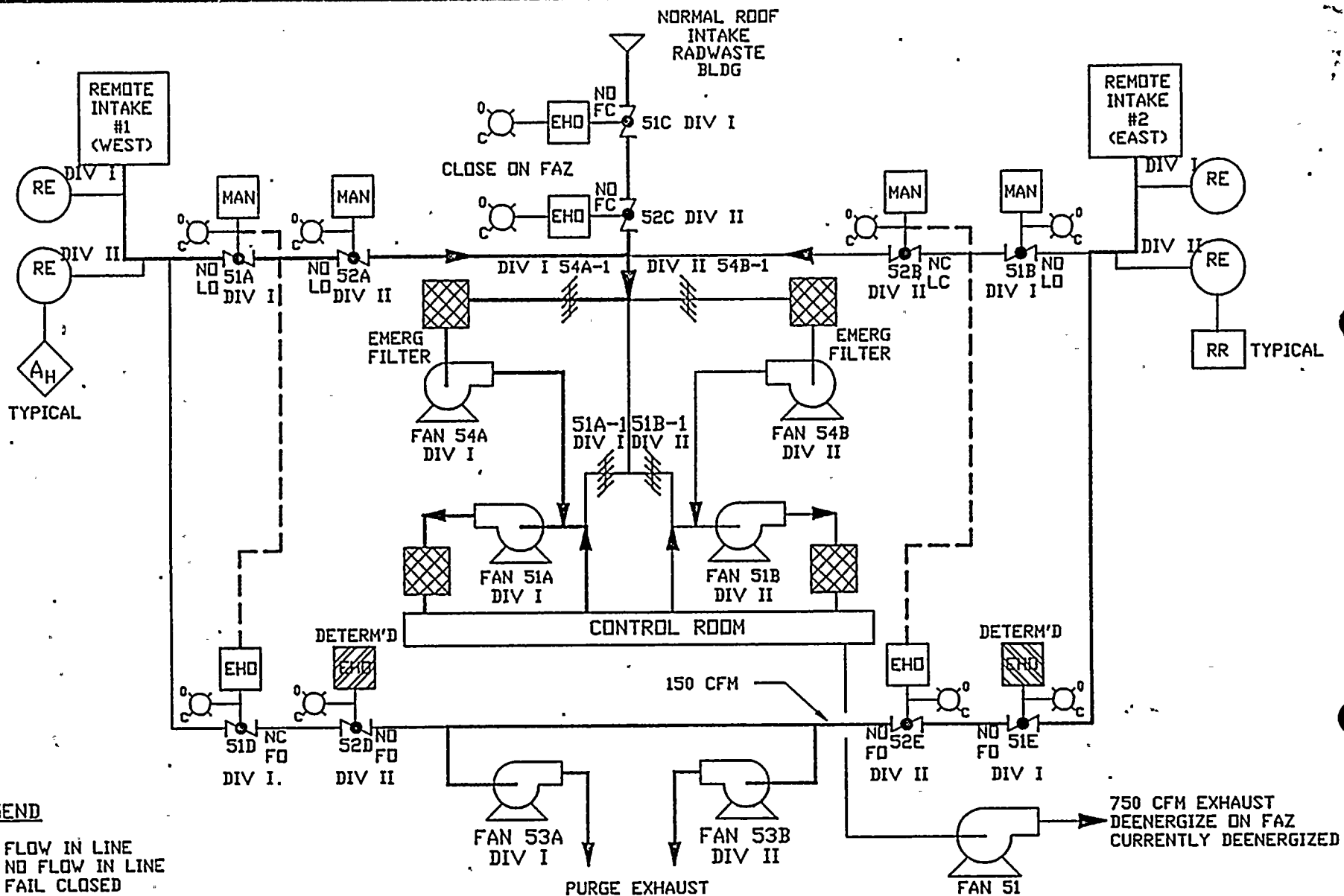
The criticality monitor alarm setpoints were calculated using the criteria from 10 CFR 70.24.a.1 that requires detecting a dose rate of 20 Rads per minute of combined neutron and gamma radiation at 2 meters. The alarm setpoint was determined by calculational methods using the gamma to gamma plus neutron ratios from ANSI/ANS 8.3-1979, Criticality Accident Alarm System, Appendix B and assuming a critical mass was formed from a seismic event, with a volume of 6' x 6' x 6' at a distance of 27.7 feet from the two detectors. The calculated dose rate using the methodology is 5.05 R/hr. The allowable value for the alarm setpoint was, therefore, established at 5R/hr.

3.4.3.7.2 SEISMIC MONITORING INSTRUMENTATION

The OPERABILITY of the seismic monitoring instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the unit. This instrumentation is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.





**LEGEND**

— FLOW IN LINE  
 — NO FLOW IN LINE  
 FC= FAIL CLOSED  
 FO= FAIL OPEN  
 NC= NORMALLY CLOSED  
 NO= NORMALLY OPEN  
 LO= LOCKED OPEN  
 LC= LOCKED CLOSED  
 AH= ANNUNCIATOR HI  
 RE= RAD ELEMENT  
 RR= RAD RECORDER  
 EHO=ELECTRO HYDRAULIC OPERATOR  
 MAN=MANUAL OPERATOR

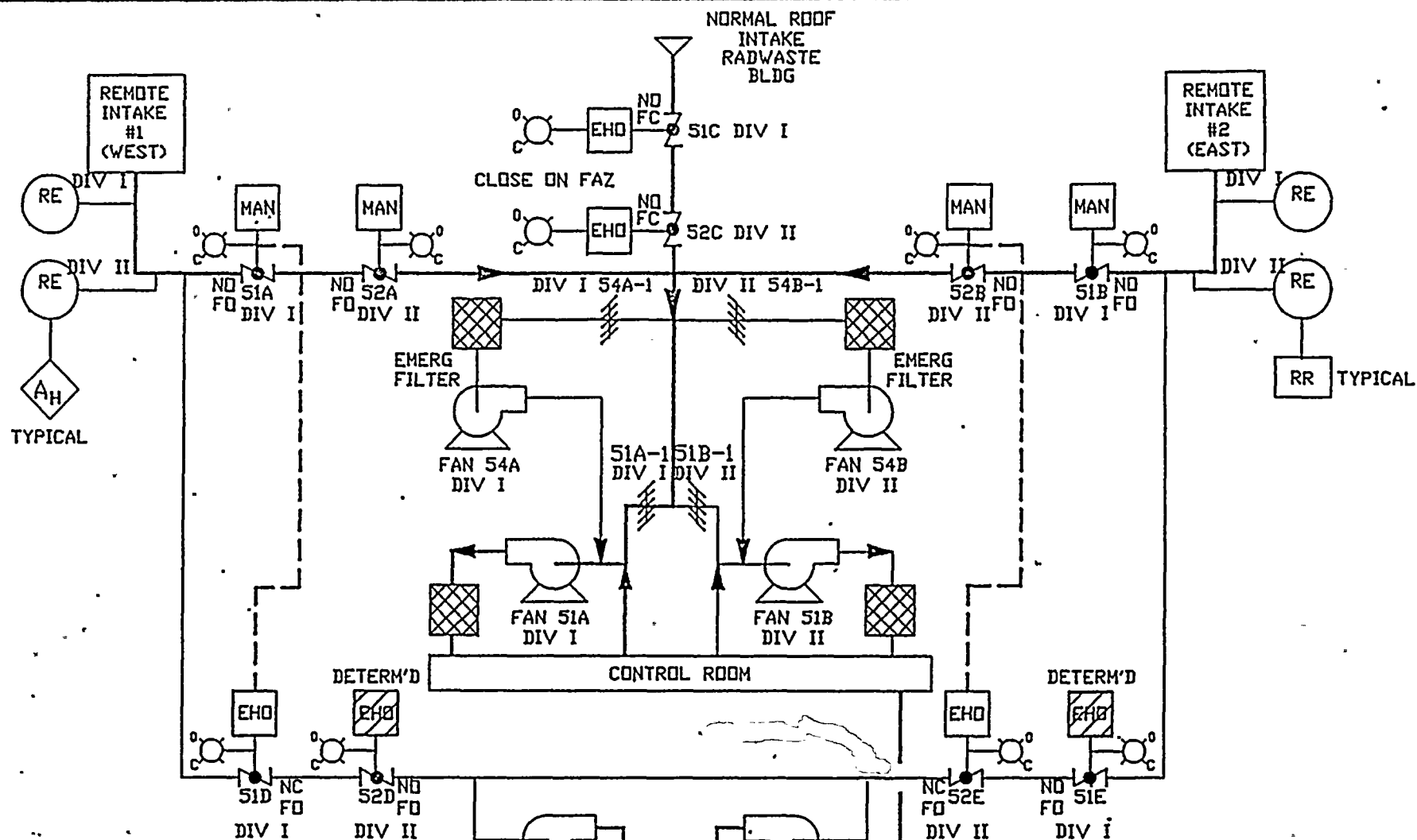
FAZ= HIGH DRYWELL PRESSURE, LOW REACTOR VESSEL WATER LEVEL, REACTOR BUILDING VENTILATION EXHAUST HIGH RADIATION.



WASHINGTON PUBLIC POWER  
**SUPPLY SYSTEM**  
 RICHLAND, WASHINGTON 99352-0968

INFORMATION DRAWING ONLY SEPT 22, 1988


TITLE  
 CURRENT WNP-2 PARTIAL CONTROL ROOM VENTILATION SYS.



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VESSEL WATER LEVEL, REACTOR BUILDING  
VENTILATION EXHAUST HIGH RADIATION.



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SUPPLY SYSTEM**  
RICHLAND, WASHINGTON 99352-0968

INFORMATION DRAWING ONLY SEPT 22, 1988

TITLE  
PROPOSED WNP-2 PARTIAL CONTROL ROOM VENTILATION SYS



2-1-55



10-1-55