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ILLINOIS POWER COMPANY



CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

October 25, 1985

Docket No. 50-461

Director of Nuclear Reactor Regulation
Attention: Mr. W. R. Butler, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Clinton Power Station
Fire Protection - Fireproofing of
Division 2 Switchgear Ducts

Dear Mr. Butler:

During the preparation of the Safe Shutdown Analysis (SSA) and the Fire Protection Evaluation Report submitted to the Staff on September 6, 1985, the need for fire wrap for the Division 2 Switchgear Room Ventilation supply and return ductwork was re-evaluated. Illinois Power Company (IP) committed to installing fire wrap for this ductwork in the earlier SSA submitted in IP Letter U-0586, dated December 16, 1982, and during a meeting with the Staff on February 16-17, 1983. In addition, the 3-hour fire rating for this duct wrap was discussed in IP Letter U-0629, dated April 4, 1983, and the testing reported in IP Letter U-0812, dated March 18, 1985, confirmed the adequacy of the proposed material. This fire wrap has not currently been installed on the referenced duct. Recent evaluations indicate that fire wrap for this duct is not required for safe shutdown of the plant.

The Division 2 Switchgear Room Ventilation ductwork passes through Fire Zone A-2n at elevation 781' of the Auxiliary Building. Fireproofing for this duct is not required for safe shutdown of the plant based on the justification provided on the attachment. A fire in zone A-2n will eliminate the use of the Remote Shutdown Panel Division 1 shutdown method. However, the Division 2 shutdown method remains available and temperatures in the affected rooms were conservatively calculated to remain below their respective maximum normal environmental temperature, and therefore, the safe shutdown equipment will function properly.


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Based on the material provided herein, IP considers adequate justification has been provided to eliminate the need for the affected duct fire wrap. This is further justified in Section 3.1.2 of the Safe Shutdown Analysis. As such, IP considers the commitment to install this fire wrap no longer necessary.

Following your review, please contact me if the Staff has any questions on the justification provided .

Sincerely yours,


F. A. Spangenberg
Manager - Licensing
and Safety

TLR/kaf

Attachment

cc: B. L. Siegel, NRC Clinton Licensing Project Manager
NRC Resident Office
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety

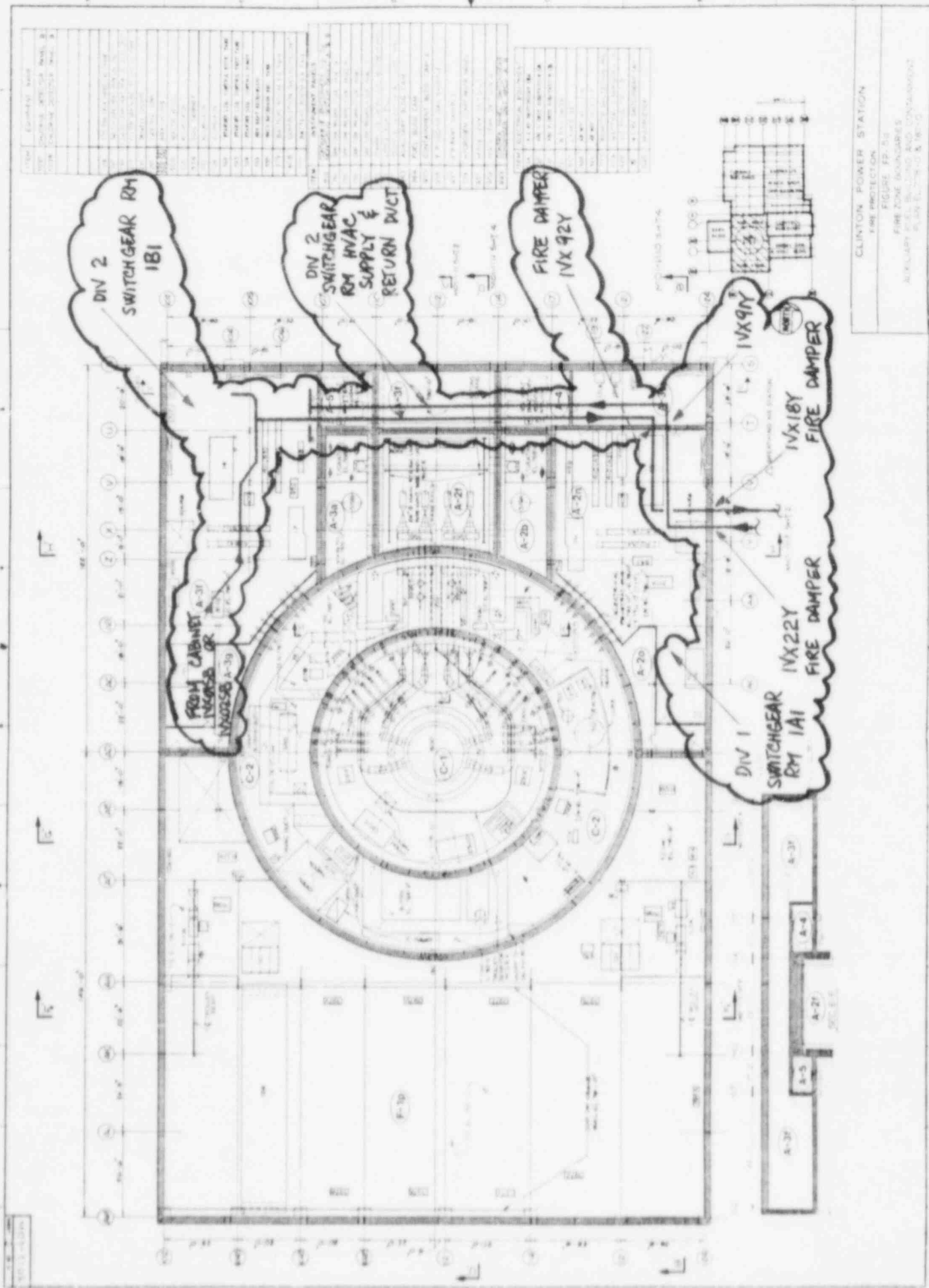
Justification for Not Fireproofing Division 2 Switchgear Ducts
Safe Shutdown Analysis

The following is the justification for not requiring fire wrap for the Division 2 Switchgear Room HVAC supply and return duct. Further justification for plant safe shutdown from a fire in the affected fire zone was provided in Section 3.1.2 of the Safe Shutdown Analysis (SSA) submitted to the Staff on September 6, 1985. The affected fire zone is Fire Zone A-2n, which is the Division 1 Switchgear area at elevation 781'-0" of the Auxiliary Building (see FSAR Figure 9.4-6 provided as pages 5 and 6 of 6 for identification of the portion of the Division 2 duct in Fire Zone A-2n).

- ° A fire occurs in Fire Zone A-2n and eliminates the use of the Remote Shutdown Panel - Division 1 shutdown method. The plant can still be safely shutdown using method 2 described on page 1.0-5 of the SSA. In this case, reactor cooldown and depressurization is accomplished through use of the Automatic Depressurization System (seven Safety Relief Valves). After vessel depressurization, Residual Heat Removal (RHR) pumps B and C can be used in the Low Pressure Coolant Injection mode to provide makeup water to the reactor. As needed, RHR Loop B could be diverted to provide suppression pool cooling. At about 125 psig in the reactor vessel, RHR Loop B pump and heat exchanger would be placed in shutdown cooling or alternate shutdown cooling for achieving cold shutdown.
- ° Due to the fire in Fire Zone A-2n, the temperature in the Division 1 Switchgear Room will increase. Consequently, the Division 2 ventilation air routed through this zone will heat up and be blown into the Center Cable Spreading Room and the Division 2 Cable Spreading Room (see page 4 of 6 for explanatory figure).
- ° When the duct temperature reaches 135°F, the fusible links of the dampers in ducts leading to the Division 2 Cable Spreading Room (dampers 1VX18Y and 1VX92Y shown on the page 3 of 6 figure) and back to the Division 2 Switchgear Room (dampers 1VX22Y and 1VX91Y shown on the page 3 of 6 figure) would melt and close the dampers. The fusible links currently installed are rated at 165°F. IP will remove these links and replace them with 135° fusible links for the four affected fire dampers.
- ° With the maximum air temperature of 135°F being returned to the Division 2 Switchgear Room before the dampers close, the maximum temperature in the Switchgear Room was then calculated to not exceed 104°F due to airflow from Switchgear Heat Removal Cabinet 1VX01SB or 1VX02SB. This is considered acceptable since 104°F is the room's maximum normal environmental temperature.

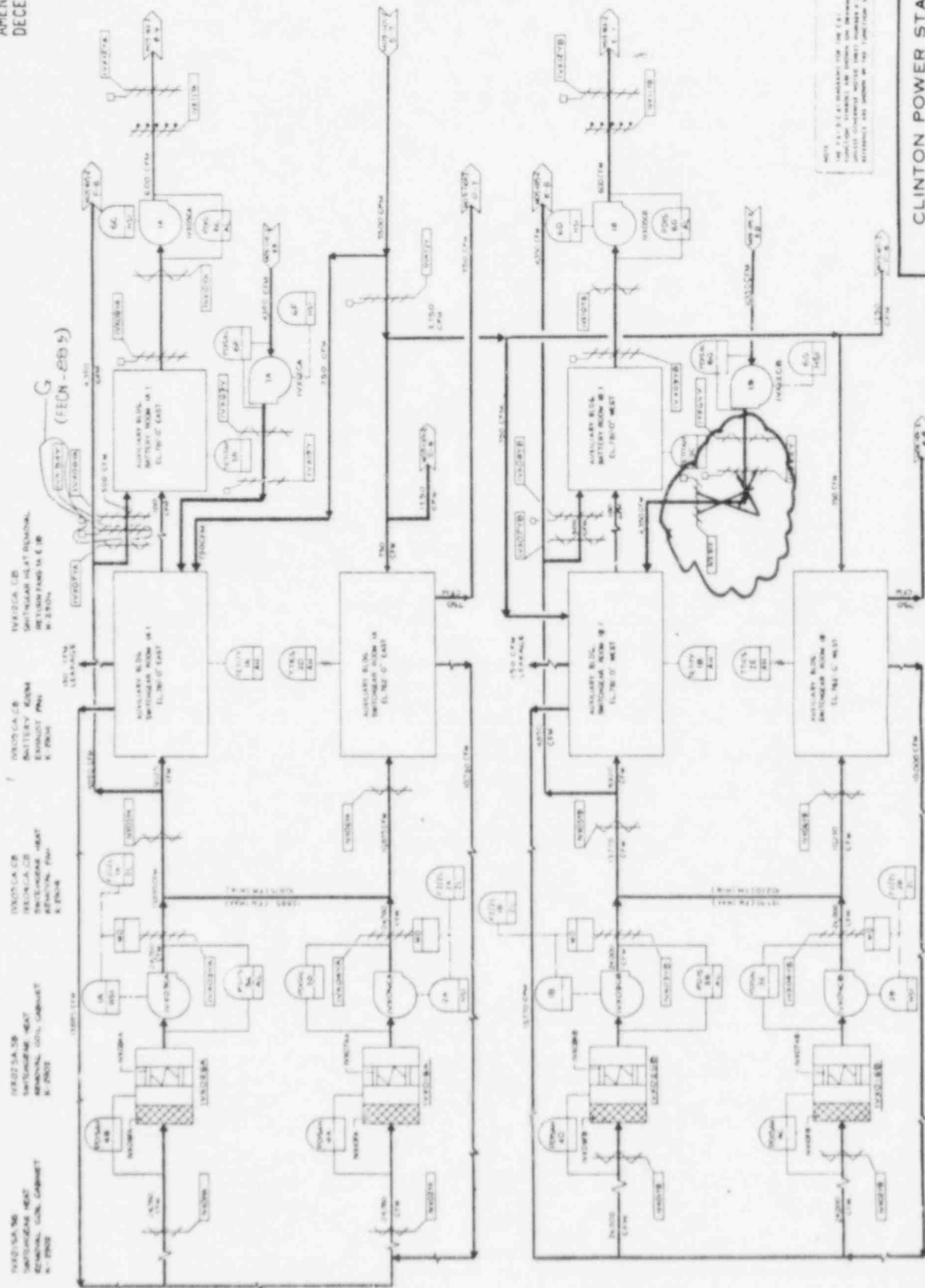
- ° The 135°F temperature of the Division 2 Cable Spreading Room will increase slowly. If the temperature rises to 165°F, which is unlikely since there is no heat generating equipment or power cables located in the room, the automatic suppression system would actuate and cool this room. Since there are no cable terminating points in the Division 2 Cable Spreading Room and the cable jacket material is not affected by the water spray, the Division 2 Cable Spreading Room would function properly.
- ° The Division 2 Inverter Room, housing the equipment required to perform a safe shutdown function, located inside the Center Cable Spreading Room, has its own dedicated cooler. The calculated temperature in the Division 2 Inverter Room would not exceed 122°F based on the conservative assumption that the Auxiliary Electric Equipment Room was at the 165°F auto-actuation setpoint for the sprinklers. This is considered acceptable since 122°F is the room's maximum normal environmental temperature.

Based on the above discussion, if a fire were to occur in Fire Zone A-2n, the capability for plant safe shutdown still exists through the use of safe shutdown method 2. The room temperatures for the areas affected by such a fire are calculated to remain at or below respective maximum normal environmental temperatures or results in benign effects on the function of these areas. As such, duct fire wrap on the Division 2 Switchgear Room HVAC supply and return duct is no longer considered necessary.





AMENDMENT 2,
DECEMBER 1982



CLINTON POWER STATION
FINAL SAFETY ANALYSIS REPORT

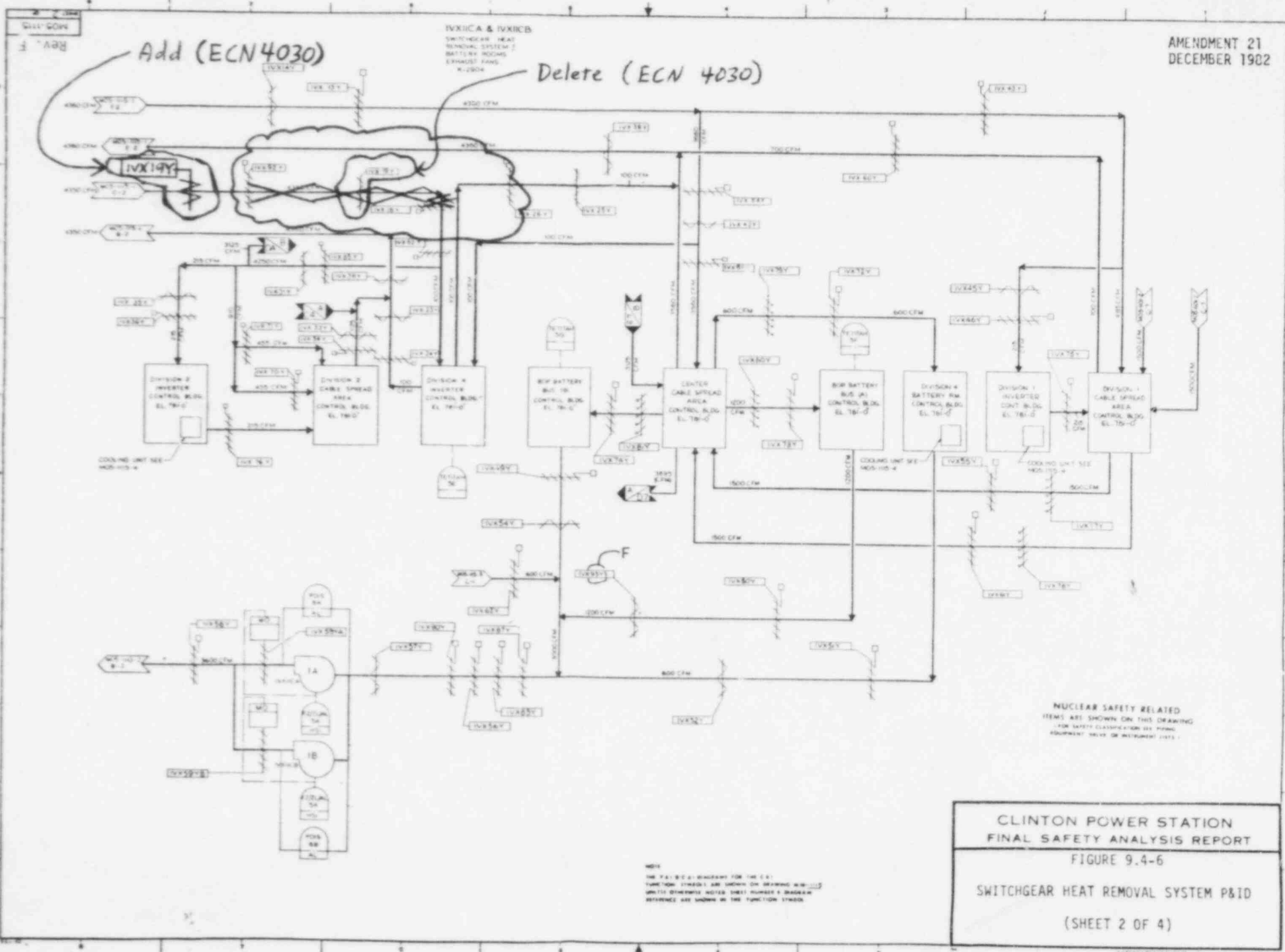
FIGURE 9.4-6

SWITCHGEAR HEAT REMOVAL SYSTEM P&ID

(SHEET 1 OF 4)

NUCLEAR SAFETY RELATED
ITEMS ARE SHOWN ON THIS DRAWING
ITEMS NOT SHOWN ON THIS DRAWING
ARE NOT NUCLEAR SAFETY RELATED

X - Portion of Div. 2 Duct in Fire Zone A-2n



AMENDMENT 21
DECEMBER 1902

NUCLEAR SAFETY RELATED
ITEMS ARE SHOWN ON THIS DRAWING
FOR SAFETY CLASSIFICATION SEE Piping
Equipment Index or Instrument Index

CLINTON POWER STATION
FINAL SAFETY ANALYSIS REPORT
FIGURE 9.4-6
SWITCHGEAR HEAT REMOVAL SYSTEM P&ID
(SHEET 2 OF 4)

NOTES
THE P&ID IS A DIAGRAM FOR THE C&I
FUNCTION SYMBOLS ARE SHOWN ON DRAWING 9.4-6
UNLESS OTHERWISE NOTED SHEET NUMBER 1. DRAWING
REFERENCE ARE SHOWN IN THE FUNCTION SYMBOL

X - Portion of Div. 2 Duct in Fire Zone A-2n