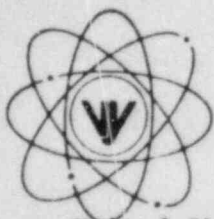


VERMONT YANKEE NUCLEAR POWER CORPORATION



RD 5, Box 169, Ferry Road, Brattleboro, VT 05301

September 12, 1984

FVY 84-109

REPLY TO:

ENGINEERING OFFICE

1671 WORCESTER ROAD

FRAMINGHAM, MASSACHUSETTS 01701

TELEPHONE 617-872-8100

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Office of Nuclear Reactor Regulation
Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing

References: (a) License No. DPR-28 (Docket No. 50-271)
(b) Letter, VYNPC to USNRC, FVY 84-24, dated March 14, 1984

Subject: Additional Information Submitted in Support of Request for
Exemptions - 10CFR Part 50, Appendix R

Dear Sir:

By Reference (b), Vermont Yankee Nuclear Power Corporation submitted requests for exemptions from certain requirements of 10CFR Part 50, Appendix R. In subsequent telephone conversations with members of your staff, Vermont Yankee was requested to supply additional information in support of Item 4 Reactor Building, Elevation 252', Northwest Corner, and Item 6 Reactor Building, Elevation 252', Northeast Corner, Vital MCCs. Specifically, further written discussion concerning the Northwest and Northeast 252' Elevation corners of the Reactor Building was requested. This information is provided in Attachment A to this letter.

Additionally, during the May 24, 1984 follow-up meeting on the findings of Inspection 50-271/83-26, an NRC reviewer asked which exemption request the RCIC control cable reroute would fall under. The answer to this question is exemption request Item 6 and a discussion is provided in Attachment B to this letter.

We trust that this information will allow you to complete your review of Reference (b). However, should you have any questions on this matter, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

Andrew C. Kadak

Andrew C. Kadak
Vermont Yankee Project Manager

ACK/kg

Attachment

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ATTACHMENT A

ADDITIONAL INFORMATION - Submitted in Support of the March 14, 1984 Request for Exemptions from 10CFR50 Appendix R: Items 4 and 6.

4. Reactor Building, Elevation 252', Northwest Corner

Vermont Yankee requested two exemptions from the requirements of Section III.G.2 of Appendix R for the Northwest Corner of the Reactor Building, Elevation 252'.

The first exemption requested pertained to the III.G.2.b requirement to have redundant trains separated by a horizontal distance of more than 20 feet with no intervening combustible or fire hazards. Additional information regarding intervening combustibles and safe shutdown equipment located in the area supporting the Reference (b) basis for this exemption is provided below.

As shown in the enclosed sketch (Figure 1), the trays are currently separated by approximately 20 feet, then diverge further. This area between the trays is shown in Photo 5, previously submitted with Reference (b). Additionally, intervening combustibles are slight, as evidenced by Photos 7 and 8 of Reference (b), which show the banks of trays for each train.

On the column at the center of the enclosed sketch are a power transfer switch and control switches for the RCIC steam line inboard and outboard valves. The cable and switches are enclosed in conduit and control boxes minimizing the concern for this area as a source of intervening combustibles. The controller for the inboard valve is out of this area, located on MCC 89B in the northeast corner of the building. The outboard valve is accessible for manual operation in the steam tunnel, which is entered by a door on the south side, out of the fire area. Therefore, any potential hot shorts affecting these controls could be overcome by manual action outside the fire area.

HPCI and RCIC outboard steam line valve controllers are located on the south end of this area, on the north wall of the steam tunnel, as shown in the sketch, (no photo taken). The HPCI outboard valve is also available for manual operation in the steam tunnel. Thus, in the unlikely event of hot shorts closing any of these normally open steam line valves, they could be opened by the operator outside the fire area.

Coupled with the additional suppression proposed which is discussed in Reference (b) for this area, we believe the probability of fire damage in this part of the Reactor Building to be very small and mitigated to the extent intended by the III.G.2.b separation requirement.

The second exemption requested in this area involved the III.G.2.c requirement to have redundant trains of equipment separated by a one-hour fire barrier with detection and suppression in the area. The additional requested information concerning separation between levels 232 and 252 supporting the Reference (b) basis for this exemption is provided below.

The floor at level 252 is mostly thick reinforced concrete. There is a bolted steel plate hatch for machinery access, and a stairway as shown in the sketch (Figure 1). The stairway is enclosed by a heavy steel plate security enclosure. Power cables in the room below, at floor elevation 232'. This is discussed in Exemption Request No. 1 of Reference (b). Since there will be suppression in the rooms above and below this floor, and the power cables are not in contact with the underside of the floor and not directly under the hatch, but about six feet below [see Photos 22 and 23 of Reference (b)], the probability of a fire on either side of this floor affecting equipment on the other side is extremely small.

6. Reactor Building, Elevation 252', Northeast Corner, Vital MCCs

Additional information enclosed in support of this exemption request includes: a sketch (Figure 2) of the Reactor Building Elevation 252' Northeast Corner ground floor, which identifies the location of the modifications to be installed; and three photographs which illustrate the MCCs and cable trays in the northeast corner vicinity (These photos are views looking east and show the MCCs in question. These photos are identified on the enclosed sketch as Photo 10.a, 10.b, and 10.c, and provide an eastward view corresponding to the previously submitted Reference (b), Photo 10).

These MCCs contain control and power feeds for redundant AC motor-operated valves, some of which are located inside the inerted containment. There is approximately an 18-foot separation between the vital MCCs in question. The ceiling is approximately 27 feet high. There are two cable trays approximately 18 feet off the floor which run over MCCs 9D and 89A, and extend six feet toward MCC 89B. There are no other cable trays located between the MCCs. There are other cables installed in conduit in this overhead region. There are no other in situ combustibles either at the floor elevation or in the overhead region as addressed in the Fire Hazard Survey submitted on January 31, 1977.

To decrease the probability of a fire damaging these MCCs, we intend to install the following modifications:

We will install approved fire stops in all conduits that span the subject MCCs. These stops will be installed in those conduits which accept cables from the two cable trays that run part of the way between the MCCs. In addition, any other conduit that shares a common enclosure away from this area will also be fire stopped. With the installation of the above fire stops, a fire cannot propagate from the area of one MCC to the other MCC via cable nor can a fire concurrently propagate from another outside area to both of the MCCs.

We will also install a radiant heat shield between MCC 89A and 89B. This shield will extend up approximately 14 feet and at least four feet out from the wall as shown in Figure 2.

ATTACHMENT B

ADDITIONAL INFORMATION - Submitted in Response to the Question Raised During the May 24, 1984 Follow-up Meeting on the Findings of Inspection 50-271/83-26.

During the May 24, 1984 meeting, an NRC reviewer asked which exemption request the RCIC cable reroute would fall under. The RCIC control cable reroute is discussed in the attachment to letter VYNPC to USNRC, FVY 84-53, dated May 24, 1984 at Item 5, Reactor Building, Northeast HPCI/RCIC Inboard Containment Isolation Valves Control Cable Separation, Elevation 252'. The reroute would result in meeting the separation criteria; however, we did not state in our commitment to reroute the RCIC cable that the validity of this as a corrective measure depends upon approval of exemption request Item 6. Exemption request Item 6 involves Elevation 252', Northeast Corner - Vital MCCs.

RCIC and HPCI control cables for the inside containment steam line isolation valves both ran in the Northeast corner of the Reactor Building. The controllers for these motor-operated valves are located in MCC 89B and 89A, respectively. We have rerouted the RCIC cable to obtain sufficient separation, with a fire barrier in between (primary containment structure). However, the cable ends terminate in the MCCs in the Northeast Corner and must also be separated. Therefore, the RCIC reroute as a corrective measure depends upon approval of exemption request Item 6 for the proposed radiant heat shield to be located between MCCs 89B and 89A.

SUBJECT VERMONT YANKEE - REACTOR BLDG - PLAN, ELEV 252', NW CORNER

PREPARED BY _____ DATE _____ REVIEWED BY _____ DATE _____ WORK ORDER NO. _____

Not to scale - To illustrate principal features for fire protection concern.

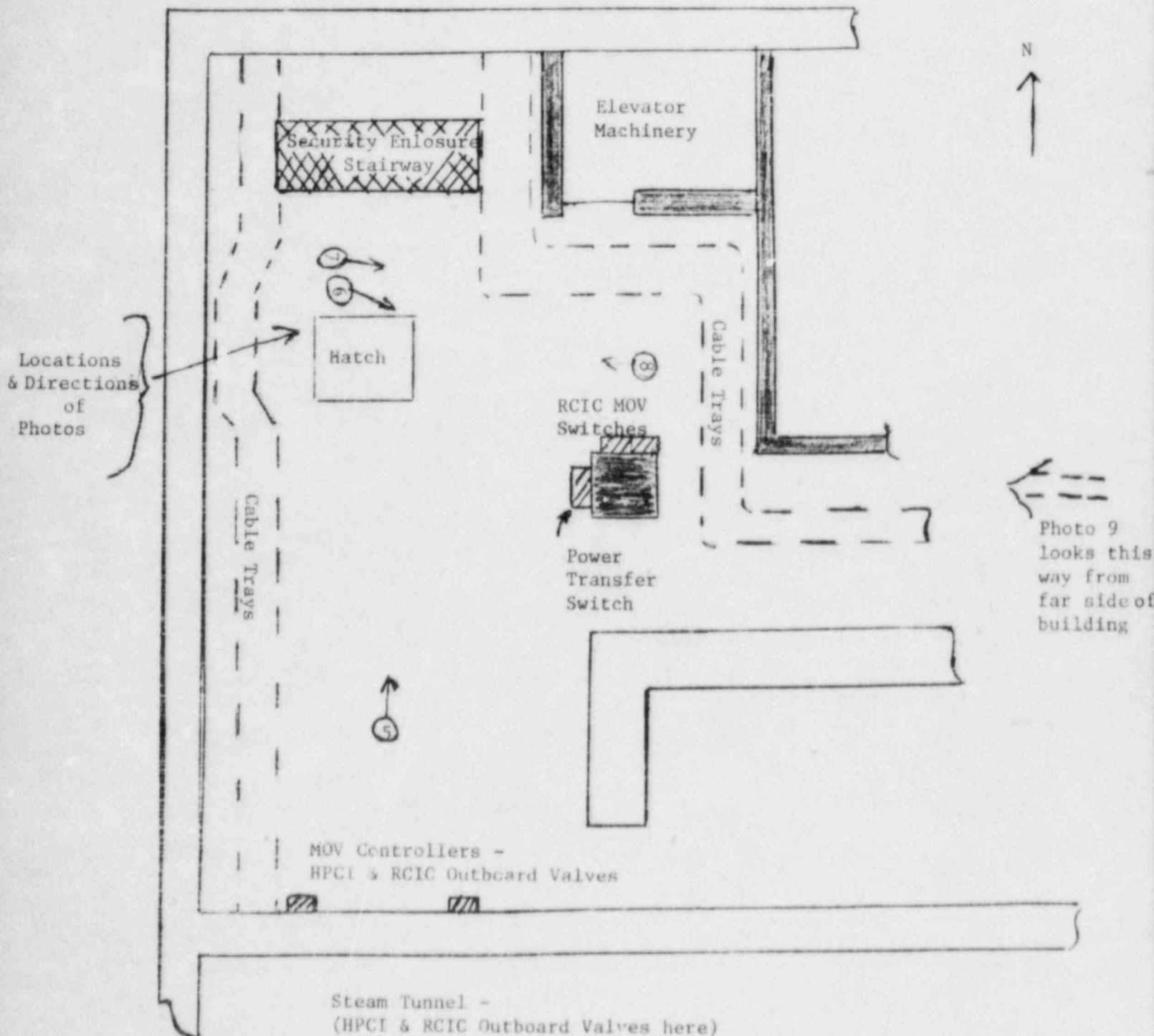
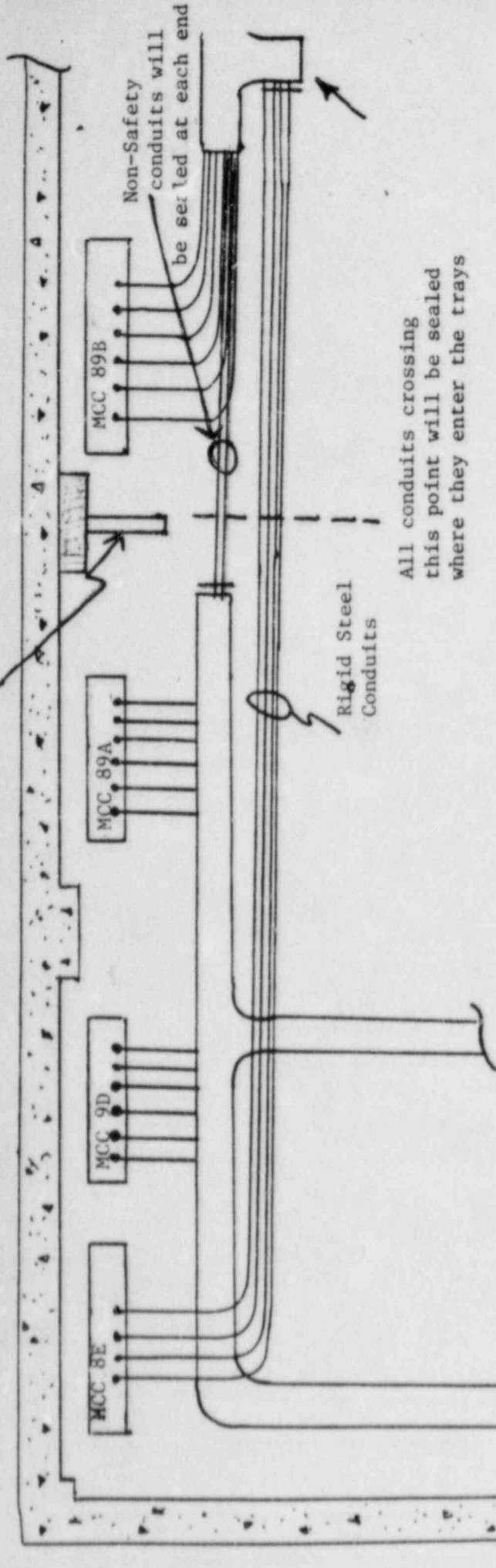


Figure 1

Radiant Heat Shield



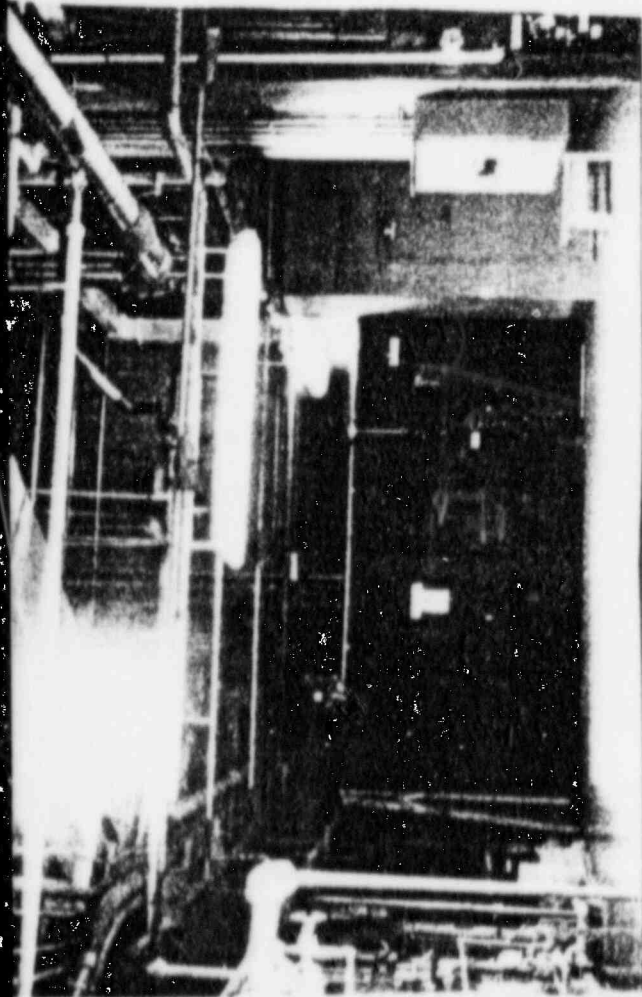
All conduits crossing
this point will be sealed
where they enter the trays

Rigid Steel
Conduits

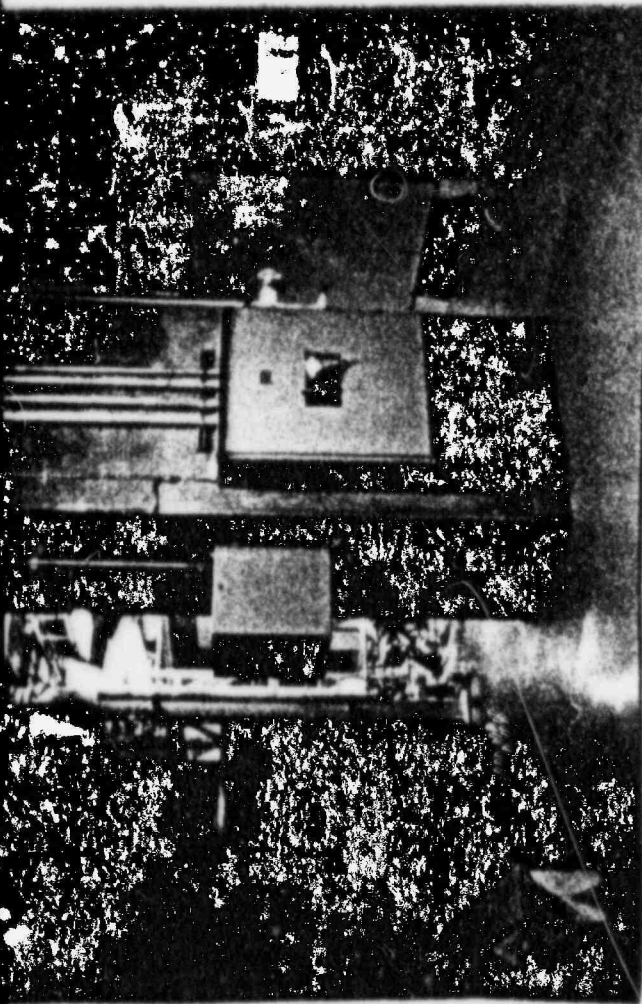
SII Tray System

REACTOR BUILDING ELEVATION 252'-0"
GROUND FLOOR
Not to Scale

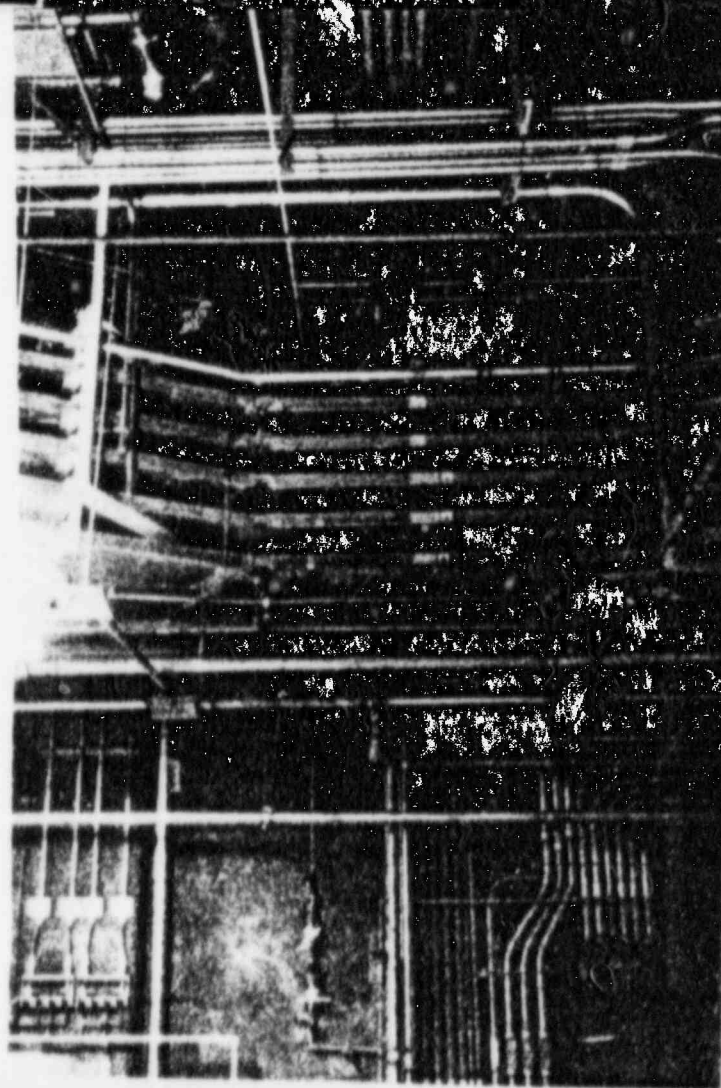
Figure 2



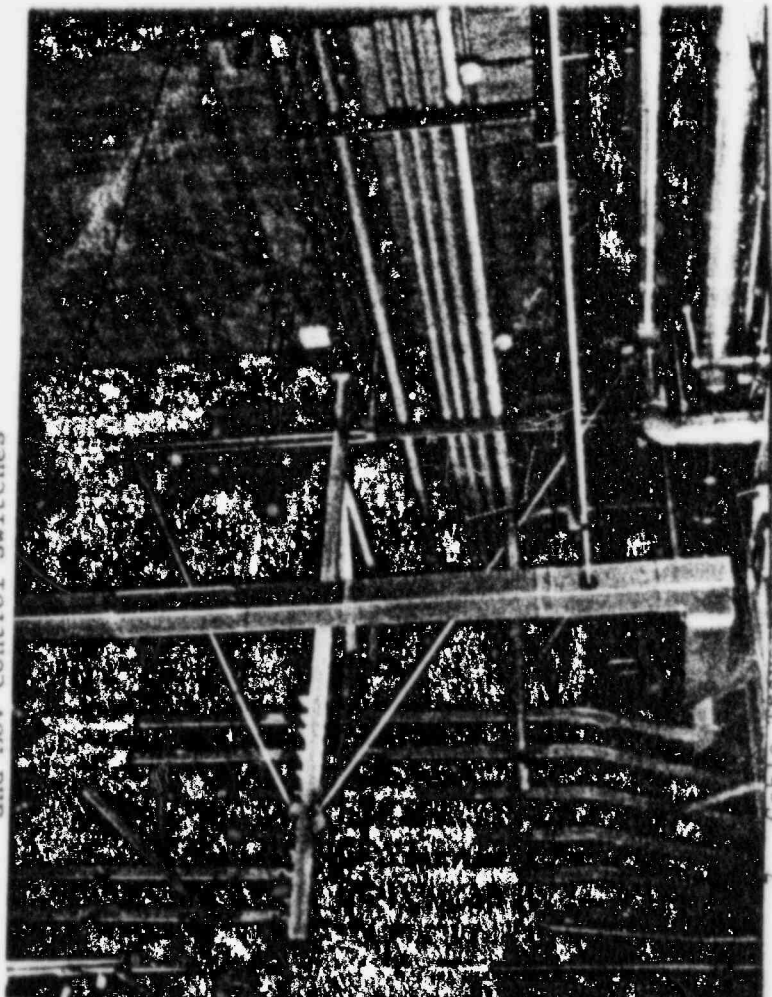
5. Security enclosure around stairway to RCIC room Cable trays overhead.



6. Alternate Shutdown Power transfer switch and MOV control switches

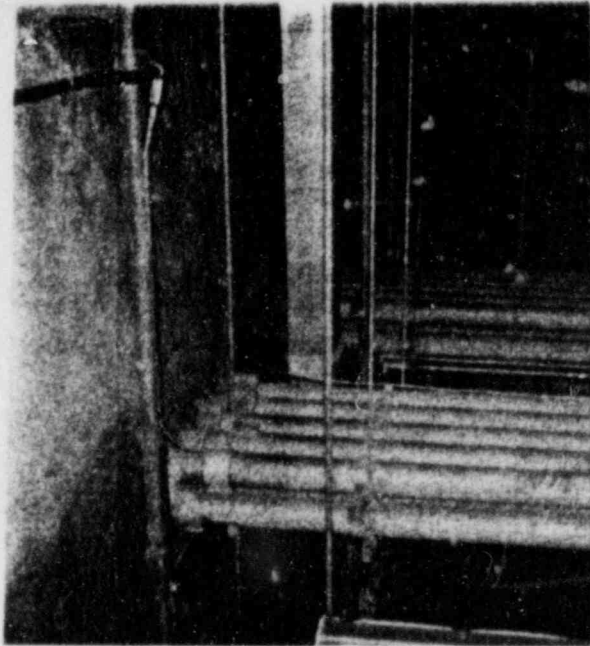


8. Cable Trays - Shutdown Train SI

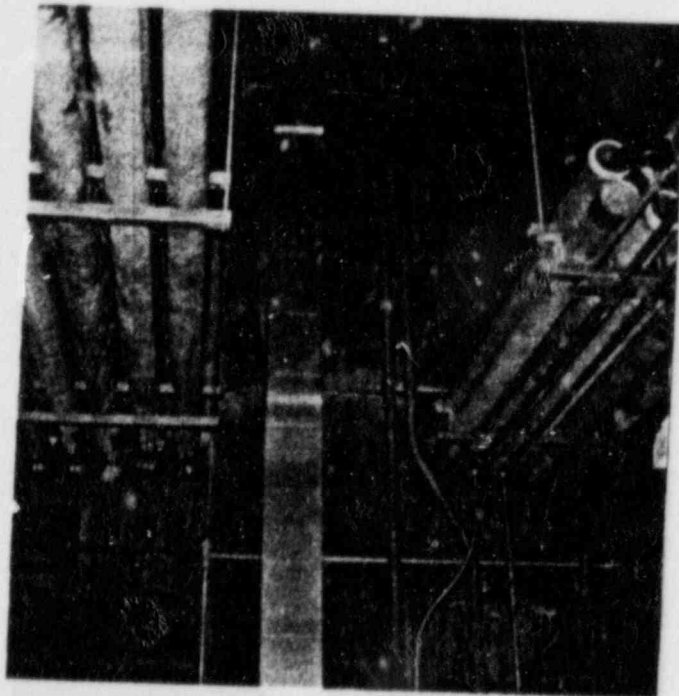


7. Cable Trays - Shutdown Trains

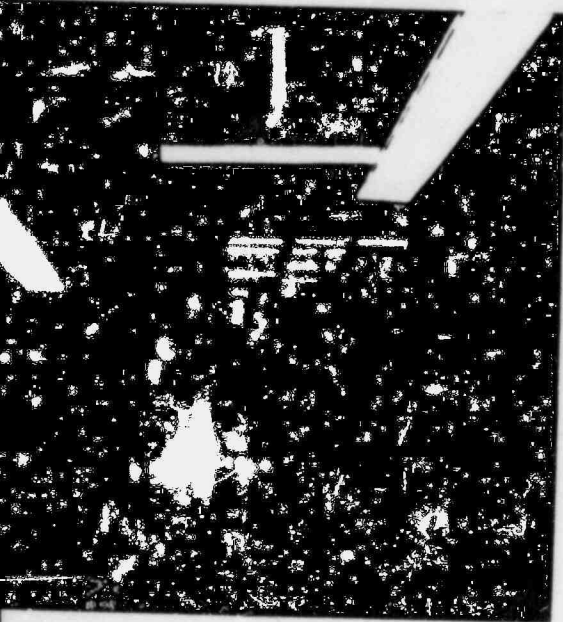
^ Top



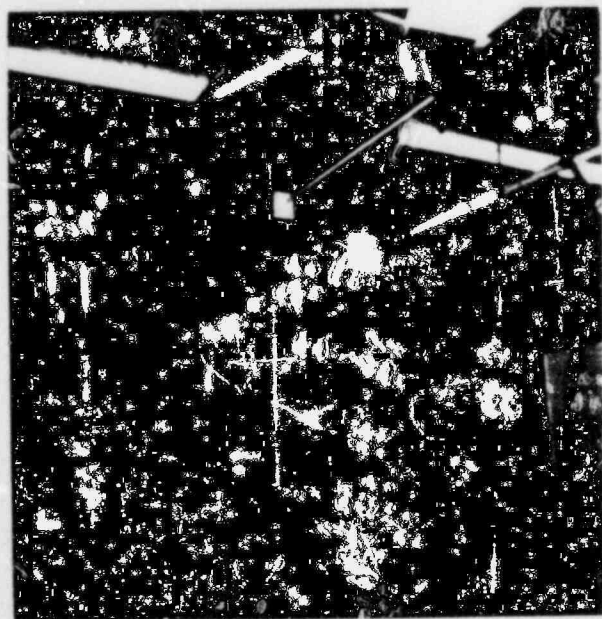
22. SI & SII power cables - top view
NW corner room elevation 232'



23. SI & SII power cables - bottom view



①



Reactor Building Elevation 256 2
North East Corner

Eastward View

10a = M10 SE + 95

10b = M10 10 + 97A

10c = Spacing between M10 10 + 97A