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April 28, 1983

Mr. H. R. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. NUCLEAR REGULATORY COMMISSION  
Washington, D. C. 20555

Attention: Mr. R. A. Clark, Chief  
Operating Reactors Branch 3

Gentlemen:

DOCKET NOS. 50-266 AND 50-301  
APPENDIX R EXEMPTION REQUESTS  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

By letter dated June 30, 1982, as supplemented on September 29 and October 11, 1982, Wisconsin Electric Power Company (WE) requested exemption from the separation requirements of 10 CFR Part 50, Appendix R, Section III, for certain areas of the Point Beach Nuclear Plant. The NRC staff's draft Safety Evaluation (SE) dated January 14, 1983 recommended that two exemptions be granted and preliminarily recommended denial of the remaining exemption requests. By letter dated February 25, 1982, WE provided technical comments regarding the draft SE, provided technical justification for each exemption requested, and requested that a meeting be scheduled with the NRC staff to discuss our comments.

Discussions with the staff at a March 22, 1983 meeting in your offices in Bethesda and via telephone on March 25 and 31, 1983 have resulted in revisions to the scopes of requested exemptions and proposed modifications. Revisions to the scope of requested exemptions are the following:

1. The exemption request for Fire Zone 7 is modified to request exemption from the fire suppression requirements of Section III.G.3.b instead of the horizontal separation and fire suppression requirements of Section III.G.2.b.

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2. The exemption request for Fire Zone 11 is withdrawn.
3. A new exemption is requested to exempt the auxiliary building as a single fire area from the automatic fire suppression requirements of Section III.G.2.b.
4. A new exemption is requested to exempt the elevation 46-foot floor of the auxiliary building central area from the rated fire barrier requirements of Section III.G.2.

Revisions to the scope of proposed modifications are the following:

1. One division of CVCS system charging pump cables for each unit will be relocated to provide improved separation.
2. Partial zone automatic fire suppression capability will be provided in Fire Zones 1 and 4.
3. Local instrumentation capability will be provided independent of Fire Zone 7.
4. Emergency breaker crosstie capability for CVCS charging pumps will be provided.
5. An additional fire detection system will be furnished to provide redundant actuation of the automatic Halon suppression system in Fire Areas 5, 6, and 8.
6. An independent automatic Halon suppression system will be provided in tie breaker cabinets of safeguards switchgear in Fire Area 6.

A detailed discussion of the above revisions to the scope of modifications is contained in the enclosure to this letter.

On the basis of discussions held with the staff and the information presented in the enclosure, we believe that the staff will be able to take favorable action on the requested exemptions. We are confident that the enclosed information in conjunction with our previous submittals demonstrates that the level of safety provided in each instance will be equivalent to the technical requirements of Appendix R, Section III.G.2. We believe that under existing NRC guidance, our requested exemptions can be approved and there will be no necessity for further appeal.

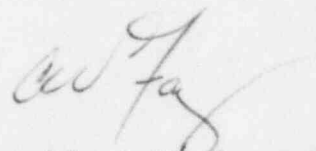
Mr. H. R. Denton

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April 28, 1983

We understand that submittal of the enclosed information within 28 days of the March 31 telephone discussion could permit the issuance of an SER which would not deny all remaining exemptions, and which would eliminate the need for WE to refile the requested exemptions per 10 CFR 50.12. WE expects that the proposed modifications, except alternate shutdown capability, which do not require plant shutdown will be completed nine months after the effective date of the staff's SER per 10 CFR 50.48(c)(2). Proposed modifications, except alternate shutdown capability, which require plant shutdown will be completed during the first refueling outage of the affected unit after the effective date of the staff's SER per 10 CFR 50.48(c)(3). WE will submit a detailed description of modifications for alternate shutdown capability within six months after this submittal (i.e., by October 27, 1983). The necessary modifications which require plant shutdown will be completed during the first refueling outage commencing 180 days after staff approval of the October 27, 1983 submittal per 10 CFR 50.48(c)(4).

Very truly yours,



Vice President-Nuclear Power

C. W. Fay

Enclosure

Copy to NRC Resident Inspector

ENCLOSURE

1.0 This enclosure describes the presently proposed status of individual fire zones for which exemptions have been requested. Exemption requirements, hot shutdown component requirements, and proposed modification requirements have been modified as a result of clarifying telephone conversations and a March 22, 1983 meeting between WE and the NRC staff.

2.0 Fire Zone 10, Unit 1 Containment Southeast Sector Elevation 21 Feet

Fire Zone 10 contains redundant divisions of pressurizer heater cables and redundant conduits for pressurizer pressure and pressurizer level instrumentation.

Enclosure 1 of the February 25, 1983 WE submittal stated that the Point Beach operating staff considered pressurizer heater cables to be desirable to facilitate safe plant shutdown, and WE requested an exemption from Appendix R separation requirements for these cables. WE has reevaluated the need for pressurizer heaters to achieve and maintain hot shutdown conditions. Pressurizer level can be increased through water addition by use of the CVCS system charging pumps. This would compress the bubble in the pressurizer and lead to a solid water condition. This condition can be maintained and the plant cooled down in a manner which is the reverse of that used during plant startup. Pressurizer instrumentation is routed in conduit independent of pressurizer heater cable trays and would not be affected by a common fire. WE has determined that hot shutdown can be achieved without the use of pressurizer heaters. Therefore, pressurizer heater cables are deleted from the scope of hot shutdown required components. The barriers which were proposed exclusively to protect pressurizer heater cables are not required and will not be installed. A specific procedure will be developed to accommodate safe plant shutdown without the use of pressurizer heaters.

Redundant pressurizer pressure and pressurizer level instrumentation conduits appear to have a minimum horizontal separation distance of 16 feet. The actual separation will be verified at the next scheduled Unit 1 refueling. Should the existing configuration not be in compliance with Appendix R, Section III.G.2.d, one division of conduit will be protected with a radiant energy shield (using a material such as the 3M fire barrier material) for a sufficient length to achieve the required separation.

With the proposed modifications, Fire Zone 10 will be in compliance with Appendix R requirements. However, because the present configuration may not be in compliance, WE believes that the existing exemption request for Fire Zone 10 is appropriate and remains unchanged.

### 3.0 Fire Zone 11, Unit 2 Containment Southeast Sector Elevation 21 Feet

Fire Zone 11 contains redundant divisions of pressurizer heater cables and redundant conduits for pressurizer pressure and pressurizer level instrumentation.

Enclosure 1 of the February 25, 1983 WE submittal stated that the Point Beach operating staff considered pressurizer heater cables to be desirable to facilitate safe plant shutdown, and WE has requested an exemption from Appendix R separation requirements for these cables. WE has reevaluated the need for pressurizer heaters to achieve and maintain hot shutdown conditions. Pressurizer level can be increased through water addition by use of the CVCS system charging pumps. This would compress the bubble in the pressurizer and lead to a solid water condition. This condition can be maintained and the plant cooled down in a manner which is the reverse of that used during plant startup. Pressurizer instrumentation is routed in conduit independent of pressurizer heater cable trays and would not be affected by a common fire. WE has determined that hot shutdown can be achieved without the use of pressurizer heaters. Therefore, pressurizer heater cables are deleted from the scope of hot shutdown required components. The barriers which were proposed exclusively to protect pressurizer heater cables are not required and will not be installed. A specific procedure will be developed to accommodate safe plant shutdown without the use of pressurizer heaters.

Our review of primary system instrumentation within the Unit 2 containment has shown such instrumentation to be in compliance with Appendix R, Section III.G.2.d.

As a result of the above considerations, the exemption request for Fire Zone 11 is withdrawn.

### 4.0 Fire Area 5, Auxiliary Feedwater Pump Room

Fire Area 5 contains:

1. Four auxiliary feedwater pumps (two 100% capacity unit dedicated steam driven, two 50% capacity shared electric motor driven).
2. Local control panels for operation of the motor driven auxiliary feedwater pumps, service water pumps, and containment cooling fans.
3. Redundant CVCS system charging pump power and local control cables.

The arrangement of required hot shutdown components is shown on Figure 4-1.

Any one auxiliary feedwater pump will provide sufficient flow to a unit to maintain hot shutdown conditions. The steam admission valves to the steam driven auxiliary feedwater pumps are located outside of and are independent of Fire Area 5. The motor driven auxiliary feedwater pumps can be aligned to serve either unit. Therefore, fire damage to three auxiliary feedwater pumps would be required to deprive either unit of the required supply. The separation distance between nonadjacent auxiliary feedwater pumps is 29 feet which WE considers to be satisfactory to Appendix R requirements.

Power and local control cables for three division "A" and three division "B" service water pumps are located in Fire Area 5. The minimum separation between cables of each division is 26 feet. Parallel cable trays exit the area between the service water trays but no perpendicular cable trays traverse the intervening space. A total of two service water pumps is adequate to satisfy hot shutdown requirements. WE considers the existing separation to be satisfactory to Appendix R requirements.

Divisions "A" and "B" local control panels are located on the east wall of Fire Area 5 at a height of approximately 5 feet. The lowest cable tray at the east wall is located at a height of 8'-6". All cable trays in the area run perpendicular to the east wall and no cable trays traverse the intervening space between the local control panels. The control room is decoupled from affected circuits at the local control panels. These panels are separated by a distance of approximately 31 feet as shown on Figure 4-1. WE considers the existing separation to be satisfactory to Appendix R requirements.

Redundant divisions of CVCS system charging pump power and local control cables for each unit are located in Fire Area 5. The cables penetrate the ceiling to switchgear mounted on the floor above. The separation distance between penetrations is 11 feet. WE has proposed relocation of one division of cables for each unit to provide improved separation. The relocated cables will be IEEE-383 qualified and rerouted in conduit throughout the fire area. The conduits will be routed from the ceiling penetrations to a separation distance of 29 feet for Unit 1 and 27 feet for Unit 2. WE also proposed to wrap the entire length of conduit using a material such as a double wrap of 3M flexible fire barrier material.

A photoelectric fire detection system and a single failure proof automatic Halon fire suppression system are provided for Fire Area 5. WE has committed to providing an additional fire detection system using rate compensating thermal detectors in order to provide redundant actuation for the Halon suppression system.

A slide projection visual to describe Fire Area 5 was used at the March 22 meeting. Most views were in the north or south direction, transverse to cable tray routing, in order to show the long unimpeded aisle in front of individual auxiliary feedwater pump bays. Views of redundant safety cable trays were in the same direction which presented a distorted view of intervening cable trays. This implied that access to cable trays above the tunnel for manual fire suppression activity would be severely restricted. Intervening cable trays are generally routed parallel to redundant safety trays. The cable tray arrangement above the tunnel is shown on Figure 4-2. A significant quantity of conduit is routed near the ceiling and along the side of cable trays. This has been omitted from Figure 4-2 for reasons of clarity and would not significantly impede access to the cable trays. Figure 4-2 indicates that generally good access exists to cable trays above the tunnel.

While equipment powered from MCC's 1B32, 1B42, 2B32, and 2B42 is necessary to mitigate the consequences of an accident, this equipment is not required to achieve hot shutdown. The power supplies to the above MCC's are, therefore, deleted from consideration. Because of our determination that hot shutdown can be achieved without pressurizer heaters as discussed in Sections 1.0 and 2.0, these cables are also deleted from consideration. Consequently, the cable tray barriers proposed for Fire Area 5 prior to our proposal to relocate charging pump cables are no longer necessary and will not be installed.

Although the described configuration with proposed modifications for Fire Area 5 is considered to be adequate to meet the staff's concerns, 20 feet of horizontal separation without intervening combustibles in accordance with Section III.G.2.b is not provided for all cables. For this reason our existing exemption request for Fire Area 5 is appropriate and remains unchanged.

#### 5.0 Fire Area 6, 4160V Switchgear Room

Fire Area 6 contains redundant safeguards and nonsafeguards 4160V switchgear for both units and safety related cable trays, conduit, distribution panels, and battery chargers for the plant ESF batteries.

The switchgear configuration within the room is shown on Figure 5-1. Safeguards switchgear A05 and A06 for each unit is located end to end in the north half of the room with a bus tie cabinet between divisions. Each switchgear bus is composed of several individual switchgear cabinets. Circuit connections to the individual cabinets penetrate the cabinet

roof. There are no sidewall penetrations between individual cabinet device sections. Each cabinet has a vertical division wall between the frontal device section and the rear bus bar section. Insulated bus bar connections penetrate the division wall. The cabinet bus bar section sidewalls are slotted to accommodate the solid copper bus bar. The bus bar for one switchgear division is located in the top half of the cabinets and the bus bar for the redundant division is located in the bottom half of the cabinets. The bus bar section of the bus tie cabinet is constructed with one solid sidewall and a solid horizontal division plate to provide bus bar isolation. The device section of the bus tie cabinet is common to both divisions of safeguards switchgear. WE proposes to provide an independent Halon suppression system for this cabinet which will be actuated by smoke detectors located inside the cabinet.

Nonsafeguards switchgear A03 and A04 for each unit is located across the center aisle in the south half of the room. Switchgear cabinets are of similar construction and bus tie capability between the same division buses of each unit is provided.

The safeguards switchgear provides power to station service transformers and hot shutdown required 480V safety switchgear located in the cable spreading room. The nonsafeguards switchgear provides power to station service transformers and 480V nonsafety switchgear located remote from both the switchgear and cable spreading rooms. In the event of loss of off-site power, the nonsafety switchgear can be powered from the on-site gas turbine. Bus tie capability is provided between the 480V safety and nonsafety switchgear. Therefore, necessary hot shutdown power requirements can be provided by any one of the four 4160V switchgear sections for each unit in the switchgear room. Suitable electrical isolation is provided to prevent cascading damage from individual shorted circuits.

Because of the length of the switchgear room and the configuration of the cabinets therein, it is reasonable to conclude that only limited fire damage will occur and that at least one switchgear section for each unit will be available to provide 480V power required for hot shutdown. This conclusion is enhanced because of the single failure proof Halon automatic fire suppression system installed in the area. WE has committed to install an additional fire detection system using rate compensating thermal detectors in order to provide redundant actuation for the Halon suppression system.

Cable trays in Fire Area 6 are of open ladder construction and are installed at heights between 8'-6" and 15'-6" above



the floor. Many cable trays are located above the switchgear cabinets which provide some protection from a floor based exposure fire. Several cable trays, including some at low heights, traverse the aisle space between the switchgear cabinets and would be exposed to an exposure fire. WE proposes to install fire barriers on the bottom face of cable trays which are exposed to a floor based exposure fire using a material such as 3M sheet metal backed fire barrier material. This material has achieved an one-hour fire-rating in tested configurations. The following general guidelines will be used for cable tray protection:

1. All exposed trays at a height of less than 14 feet above the floor will be protected. Unprotected trays more than 14 feet above the floor penetrate the room ceiling and walls without any interface with switchgear or associated cables in the room.
2. Cable tray protection will extend a minimum of 12 inches inside the perimeter of switchgear cabinets.
3. The face of vertical riser trays exposed to the aisles will be protected.
4. Cable trays containing service water pump cables will be boxed in to the height adjoining horizontal cable tray barriers.

WE may substitute a vertical barrier and single tray cover for individual tray bottom barriers on lower elevation cable trays which are routed across the top of the switchgear cabinets. WE also proposes to wrap the conduits containing 4KV power feeds between the diesel generators and associated switchgear using a material such as a double wrap of 3M flexible fire barrier material.

More extensive specification of fire barrier protection for all cable trays susceptible to damage from a floor based exposure fire instead of individual safety cable tray protection is now proposed. Because loss of function of a switchgear section is postulated, the protection of devices mounted on the cabinet face is unnecessary. For these reasons, the cable protection specified above supersedes previously proposed fire barriers which will not be installed.

The described configuration with proposed modifications for Fire Area 6 is considered to be adequate to meet the staff's concerns. Our existing exemption request for Fire Area 6 is appropriate and remains unchanged.

## 6.0 Fire Area 8, Cable Spreading Room

Fire Area 8 contains safety related control and instrument cable, transformers, distribution panels, and relay cabinets for Units 1 and 2.

Cable trays in Fire Area 8 are of totally enclosed construction with sheet metal bottoms and covers and a one-half inch thick full width kaowool blanket on top of the cables. The lowest cable tray height is 7 feet above the floor. There are no power cables routed in these trays. Existing and proposed local control capability includes the provision for decoupling the control room. Therefore, hot shutdown can be achieved and maintained independent of the trays in the cable spreading room.

The general arrangement of Fire Area 8 is shown on Figure 6-1. Redundant divisions of 480V switchgear for each unit are located at the north and south ends of the room. Because of the large open room area between the redundant rows of switchgear, it is reasonable to conclude that only limited fire damage will occur and that one redundant set of switchgear will be available to provide the power necessary for hot shutdown. This conclusion is enhanced because of the single failure proof Halon automatic fire suppression system installed in the room. WE has committed to install an additional fire detection system using rate compensating thermal detectors in order to provide redundant actuation for the Halon suppression system.

Several safe shutdown systems at Point Beach are plant specific rather than unit specific which means that the redundant division power supplies do not originate at the same set of switchgear. Steam driven auxiliary feedwater pumps are independent of the cable spreading room. The division "A" motor driven pump receives power from the south set of switchgear while the division "B" pump receives power from the north set. Two division "A" and one division "B" service water pumps receive power from the south set of switchgear while one division "A" and two division "B" pumps receive power from the north set. Therefore, sufficient equipment for these systems will be available to achieve hot shutdown. The CVCS charging pumps, however, are unit specific and the loss of a redundant set of switchgear would leave one unit without this required equipment. WE proposes to provide emergency power crosstie capability so that one charging pump for each unit will be available. The modification consists of providing two key-locked breakers for one charging pump of each unit as shown on Figure 6-2. The key-lock feature provides protection against inadvertent paralleling of power supplies via the breaker crosstie. Because of our determination that

hot shutdown can be achieved without pressurizer heaters as described in Sections 1.0 and 2.0, these unit specific power supplies are deleted from consideration. No additional modification to the safeguards 480V power supplies is required to facilitate plant hot shutdown.

The described configuration with proposed modifications for Fire Area 8 is considered to be adequate to meet the staff's concerns. Our existing exemption request for Fire Area 8 is appropriate and remains unchanged.

## 7.0 Auxiliary Building Fire Zones

### 7.1 Fire Zone 1, Unit 1 Motor Control Center Room

Fire Zone 1 contains redundant divisions of Unit 1 CVCS charging pump power and control cables. WE has proposed to relocate the division "B" charging pump power and control cables and local control panel in a manner which will provide greater than 30 feet of horizontal separation between redundant cables. The proposed cable relocation is shown on Figure 7-1. While the proposed separation is satisfactory to Appendix R requirements, open ladder cable trays traverse the intervening space between redundant hot shutdown cables.

WE has requested exemption from the requirement to provide total zone automatic fire suppression capability because safeguards MCC 1B32 is located within the zone. Following our June 30, 1982 submittal, a partial height radiation shield wall has been constructed in the zone which would protect MCC 1B32 from discharge spray of a partial area automatic suppression system. Therefore, WE has proposed to install a partial zone automatic fire suppression system to provide coverage for one train of redundant cables and the intervening combustibles. The proposed suppression system will include specific doorway coverage to reduce the potential for fire propagation from an individual charging pump room. The area of proposed automatic fire suppression system coverage is shown on Figure 7-3.

The cable tray barriers proposed for Fire Zone 1 prior to our proposal to relocate charging pump cables are no longer necessary and will not be installed.

The described configuration with proposed modifications for Fire Zone 1 is considered to be adequate to meet the staff's concerns. Our existing exemption request for Fire Zone 1 is appropriate and remains unchanged.

### 7.2 Fire Zone 2, Safety Injection and Containment Spray Pump Room

Fire Zone 2 contains the continuation of redundant divisions of Unit 1 CVCS charging pump power and control cables. WE

has proposed to relocate division "B" charging pump power and control cable in a manner which will provide greater than 30 feet of horizontal separation between redundant cables as shown on Figure 7-1. The relocated cables will be IEEE-383 qualified cable routed in conduit through the zone. Intervening combustibles consist of three cable trays parallel to and 20 feet remote from the relocated circuit and individual conduits to specific containment spray system components.

WE has requested an exemption from the requirement for total zone automatic fire suppression system coverage because the existing partial zone suppression system provides coverage of one cable division, the proposed increased separation distance, and the less than 8,000 BTU/sq.ft. combustible loading in the area of the relocated cables.

While equipment power from MCC's 1B32 and 1B42 is necessary to mitigate the consequences of an accident, this equipment is not required to achieve hot shutdown. The power supplies to these MCC's are, therefore, deleted from consideration. Because of our determination that hot shutdown can be achieved without pressurizer heaters as discussed in Sections 1.0 and 2.0, these cables are also deleted from consideration. Consequently, the cable tray fire barriers proposed prior to our proposal to relocate charging pump cables are no longer necessary and will not be installed.

The described configuration with proposed modifications for Fire Zone 2 is considered to be adequate to meet the staff's concern. Our existing exemption request for Fire Zone 2 is appropriate and remains unchanged.

### 7.3 Fire Zone 3, Component Cooling Water Pump Room

Fire Zone 3 contains the continuation of Unit 1 division "B" charging pump power and control cables and redundant divisions of Unit 2 charging pump power and control cables. WE has proposed to relocate the Unit 1 division "B" cables in a manner which will provide 29 feet of horizontal separation between redundant cables as shown on Figure 7-1. WE has also proposed to relocate the Unit 2 division "A" cables in a manner which will provide 27 feet of horizontal separation between redundant cables as shown on Figure 7-2. Because the existing separation between redundant remote control cables which are routed to the control room is less than 20 feet, fire stops will be installed in the division "B" cable trays of each unit in order to maintain the necessary separation.

Intervening combustibles are present in Fire Zone 3. However, all Unit 2 division "B" charging pump cables are within the area of coverage provided by the existing component cooling

water pump area automatic fire suppression system. WE has requested an exemption from the requirements for total zone automatic suppression capability on this basis.

While equipment powered from MCC's 2B32 and 2B42 is necessary to mitigate the consequences of an accident, this equipment is not required to achieve hot shutdown. The power supplies to these MCC's are, therefore, deleted from consideration. Because of our determination that hot shutdown can be achieved without pressurizer heaters as discussed in Sections 1.0 and 2.0, these cables are also deleted from consideration. Consequently, the cable tray fire barriers proposed prior to our proposal to relocate charging pump cables are no longer required and will not be installed.

The described configuration with proposed modifications for Fire Zone 3 is considered to be adequate to meet the staff's concern. Our existing exemption request for Fire Zone 3 is appropriate and remains unchanged.

#### 7.4 Fire Zone 4, Unit 2 Motor Control Center Room

Fire Zone 4 contains redundant divisions of Unit 2 CVCS charging pump power and control cables. WE has proposed to relocate the division "A" power and control cables and local control panel in a manner which will provide greater than 25 feet of horizontal separation between redundant cables. The proposed cable relocation is shown on Figure 7-2. While the proposed separation is satisfactory to Appendix R requirements, open ladder cable trays traverse the intervening space between redundant hot shutdown cables.

WE has requested an exemption from the requirement to provide total zone automatic fire suppression capability because safeguards MCC 2B32 is located within the zone. Following our June 30, 1982 submittal, a partial height radiation shield wall has been constructed in the zone which would protect MCC 2B32 from discharge spray of a partial area automatic suppression system. Therefore, WE has proposed to install a partial zone automatic fire suppression system to provide coverage for one train of redundant cables and the intervening combustibles. The proposed suppression system will include specific doorway coverage to reduce the potential for fire propagation out of an individual charging pump room. The area of automatic fire suppression system coverage is shown on Figure 7-3.

The cable tray barriers proposed for Fire Zone 4 prior to our proposal to relocate charging pump cables are no longer required and will not be installed.

The described configuration with proposed modifications for Fire Zone 4 is considered to be adequate to meet the staff's concern. Our existing exemption request for Fire Zone 4 is appropriate and remains unchanged.

#### 7.5 Fire Zone 7, Containment Spray Additive and Monitor Tank Area

Fire Zone 7 contains redundant control cables for CVCS charging pumps for both units and redundant channels of primary system instrumentation for both units.

As part of the WE proposed charging pump cable relocation, all power and local control cables will be routed through the 8-foot elevation. Only remote charging pump control cable will be routed through Fire Zone 7 to the control room. Fire Zone 7 is on the 26-foot elevation and 3-hour, fire-rated penetration seals are installed in the floor. Therefore, required hot shutdown system operation can be achieved independent of Fire Zone 7. Because of our determination that hot shutdown can be achieved without pressurizer heaters as discussed in Sections 1.0 and 2.0, these cables are deleted from consideration. Consequently, fire barriers proposed previously for Fire Zone 7 are no longer necessary and will not be installed.

All channels of primary system instrument for each unit are routed through Fire Area 7. Each channel is routed in a separate totally enclosed cable tray having sheet metal covers and bottoms with a full width one-half inch thick kaowool blanket on top of the cables. The cable trays are located approximately ten feet above the floor and six feet below the ceiling. The instrument cable tray routing through Fire Zone 7 is shown on Figure 7-4. Crossovers of all instrument channels exist in one corner of the zone for each unit. Two instrument channels for each unit exit Fire Zone 7 through the floor and are routed to the containment on the 8-foot elevation. Therefore, WE proposes to provide local necessary instrumentation capability for one instrument channel on the 8-foot elevation.

With the proposed modifications, hot shutdown can be achieved independent of Fire Zone 7. Therefore, our exemption request is modified to read:

Per the provisions of 10 CFR 50.48(c)(6) and 10 CFR 50.12, Wisconsin Electric Power Company requests exemption from the specific requirements of Appendix R, Section III.G.3.b, i.e., from the requirement for a fixed fire suppression system in the zone under consideration.

## 7.6 Auxiliary Building Fire Area Boundary

The analysis for hot shutdown systems in the Point Beach auxiliary building was performed on the basis of fire zones. Cable tray and other combustible pathways through walls between fire zones have been sealed with three-hour fire-rated penetration seals. The floor at the 26-foot elevation has also been provided with combustible pathway seals. However, open archways, unsealed pipe penetrations, and open stairways exist between the auxiliary building fire zones. Therefore, each fire zone is not completely surrounded by a fire-rated barrier and does not qualify as a fire area. Appendix R, Section III.G.2.b, specifically states that an automatic suppression system shall be installed in the fire area.

Required hot shutdown systems located in the auxiliary building are the CVCS charging system and primary system instrumentation for both units. Two open stairways exist between the 8-foot and 26-foot elevations of the auxiliary building. Figures 7-1 and 7-2 show that the separation of redundant charging pump cables for each unit, which will be provided by the proposed relocation, would exist even if the fire zone division walls were omitted. Figure 7-1 shows that the 29-foot separation of Unit 1 charging pump cables is maintained at a location where both cable divisions are south of the open stairway. Similarly, Figure 7-2 shows that the 27-foot separation of Unit 2 charging pump cables is maintained at a location where both cable divisions are north of the open stairway. Therefore, the presence of the open stairway as a fire propagating pathway will not affect the separation of redundant charging pump cable divisions of either unit. The remote charging pump control cables are routed to the control room in trays which are provided with three-hour fire-rated penetration seals at the 26-foot elevation floor. Therefore, a fire on the 26-foot elevation would not burn back through these trays to affect redundant charging pump cables of either unit.

The routing of primary system instrumentation cables in Fire Zones 1, 3, and 4 is shown on Figures 7-1 and 7-2. These cables are located a minimum distance of 30 feet away from the open stairway.

Therefore, the stairway does not present a fire hazard to the redundant instrumentation cables of either unit. WE will install three-hour fire-rated penetration seals around these cables at the 26-foot elevation floor and unguarded floor openings (piping penetrations, etc.) which could present a hazard to redundant instrumentation cables.

WE has requested exemption from the requirements of Appendix R for individual fire zones. Based upon the above discussion which demonstrates that individual fire zone protection remains valid for the consideration of the auxiliary building as a single fire area, WE requests that the staff grant an exemption from the requirement for automatic suppression in the Point Beach auxiliary building as required by Appendix R, Section III.G.2.b.

#### 7.7 Auxiliary Building Fire Area

The Point Beach auxiliary building is composed of north wing, south wing, and central area structures. The north wing is a two-story structure of seismic design having floor elevations of 8 and 26 feet. Penetrations to other plant structures are provided with three-hour fire-rated seals. Doors which exit the structure are three-hour fire-rated. Normal access to the north wing is through open archways from the control area. The south wing is a two-story structure of seismic design having floor elevations of 8 and 26 feet. Penetrations to other plant structures and construction joints adjacent to other plant structures are provided with three-hour fire-rated seals. Doors which exit the structure are three-hour fire-rated. The main entrance to the auxiliary building is located in the south wing. Access between the south wing and the central wing is through open archways. The central area is a multi-story building of composite construction. The seismic portion of this building has floor elevations of (-19), (-5), 8, 26, and 46 feet as shown on Figure 7-5. Penetrations to other plant structures and construction joints adjacent to other plant structures from the seismic structure are provided with three-hour fire-rated seals. Doors which exit the central area are three-hour fire-rated. The top of the central area is a high bay building of nonseismic construction having floor elevations of 46 and 66 feet.

All safety related and safe shutdown required equipment in the auxiliary building is located on the 8 and 26 foot elevations. The specific fire zones addressed in the WE submittals are located in the following building sections: Fire Zone 1 is in the south wing, Fire Zone 4 is in the north wing, and Fire Zones 2, 3, and 7 are in the central area.

The Point Beach auxiliary building fire area has been established by totally enveloping the areas of seismic construction with three-hour fire-rated barriers except for the central area 46-foot elevation which contains open stairways, an open hatch, and open doorways to the boric acid tank room as shown on Figure 7-6. Therefore, the Point Beach auxiliary building does not satisfy the literal requirements of Appendix R, Section III.G.2.a for a fire area.



Floor penetrations in the filter rooms located on elevation 46 feet are provided with three-hour fire-rated penetration seals. These rooms are isolated from fire zones of the auxiliary building which contain equipment necessary for hot shutdown.

Access to the boric acid tank room located on elevation 46 feet is through two open archways. The entrance wall and floor of this room are provided with three-hour fire-rated penetration seals for combustible pathways. Other room boundaries are provided with three-hour fire-rated seals. The stairway out of this room terminates at elevation 26 feet in Fire Zone 7. Because hot shutdown can be achieved independent of Fire Zone 7, the stairway does not present a potential fire hazard to equipment required for hot shutdown.

The remainder of elevation 46 feet is open floor span. Floor penetrations are provided with three-hour fire-rated penetration seals except for the following openings: several hatches which are normally closed with concrete plugs exist in the open floor area to enable maintenance and removal of filter and ion exchanger equipment located on lower elevations. The plugs are fire resistive but the openings are not sealed in order to accommodate plug removal for necessary maintenance activities. In order to provide suitable access to the equipment for which the hatches have been provided, no combustibles, cable trays, or equipment are located in the intervening space. Therefore, the plugged hatches do not present a fire hazard to hot shutdown required systems.

The elevation 46 foot floor also contains an open stairway and one 13-foot by 15-foot open hatch. The open stairway is continuous to the (-19)-foot elevation. The stairway is located 45 feet west of Unit 2 division "A" charging pump cables at the 8-foot elevation. Therefore, the stairway does not present a fire hazard to hot shutdown systems. The open hatch No. 3 is continuous to the 8-foot elevation in Fire Zone 3. The hatch location relative to CVCS system charging pump cables is shown on Figures 7-1 and 7-2. Both divisions of Unit 1 charging pump cables are located to the east of the hatch opening as shown on Figure 7-1. Therefore, the presence of the hatch does not affect the horizontal separation of Unit 1 redundant cables. The Unit 2 division "A" charging pump cables are routed around the hatch opening as shown on Figure 7-2. However the location of the hatch is separated from division "B" cables by a horizontal distance of 46 feet. This is greater than the 27-foot horizontal separation of redundant cables and the presence of the hatch will not affect the horizontal separation of Unit 2 redundant cables.

The majority of the elevation 46-foot floor penetrations terminate in Fire Zone 7 on the 26-foot elevation. Alternate shutdown capability will be provided for Fire Zone 7 as discussed in Section 7.5. The above discussion demonstrates that the few continuous penetrations to the 8-foot elevation will not affect hot shutdown capability. Therefore, WE requests that the staff grant an exemption from the literal three-hour barrier requirement of Appendix R, Section III.G.2.a, for the elevation 46-foot floor of the Point Beach auxiliary building.

#### 8.0 Additional Requirements

WE is submitting the foregoing information in a manner which will allow affirmative action by the Chemical Engineering Branch for all exemption requests. WE recognizes that, on the basis of such action, additional descriptions of modifications will be required in order to obtain Auxiliary Systems Branch approval for certain proposed modifications. Proposed modifications, except alternate shutdown capability, which do not require plant shutdown will be completed nine months after the effective date of the staff's SER per 10 CFR 50.48(c)(2). Proposed modifications, except alternate shutdown capability, which require plant shutdown will be completed during the first refueling outage of the affected unit at least 180 days after the effective date of the staff's SER per 10 CFR 50.48(c)(3). WE will submit a description of modifications for alternate shutdown capability within six months after the date of this submittal. The necessary modifications which require plant shutdown will be completed during the first refueling outage of the affected unit commencing 180 days after staff approval per 10 CFR 50.48(c)(4).

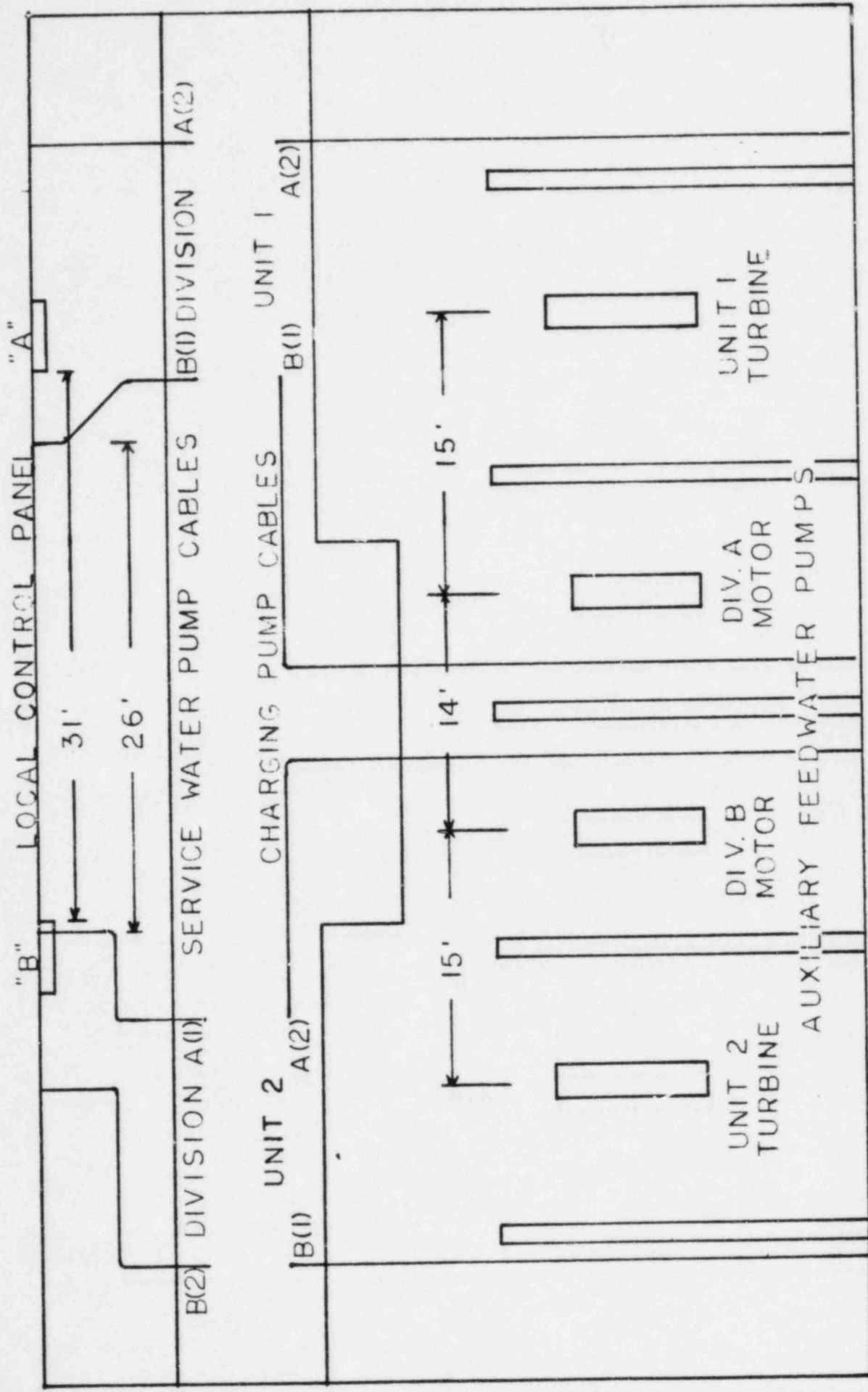
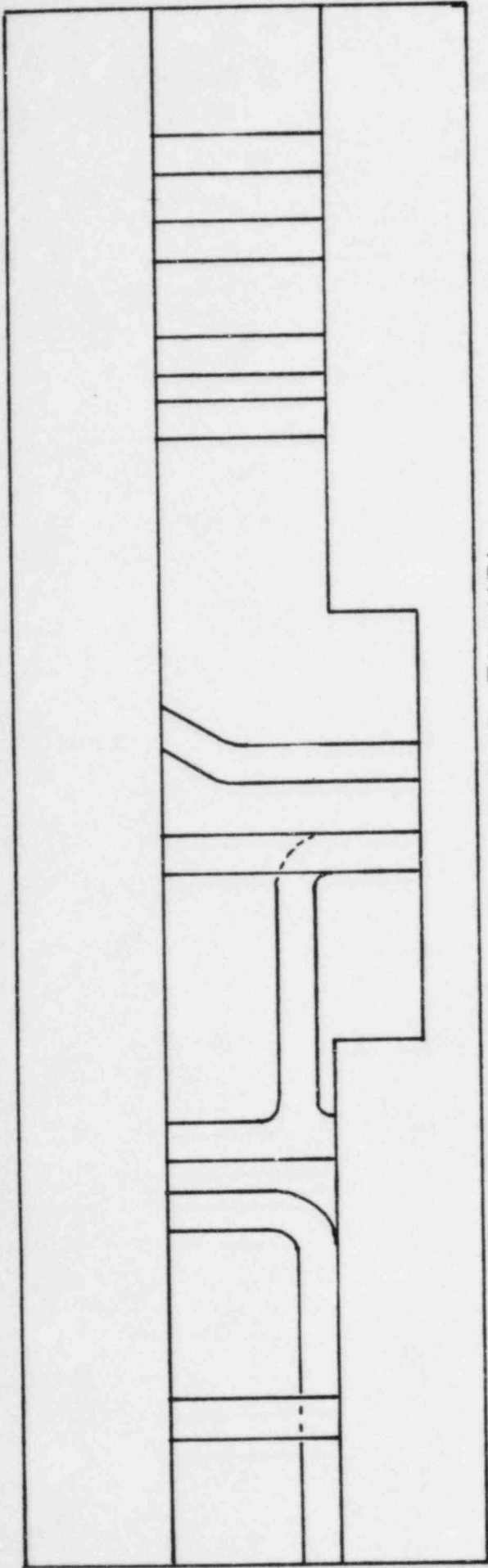
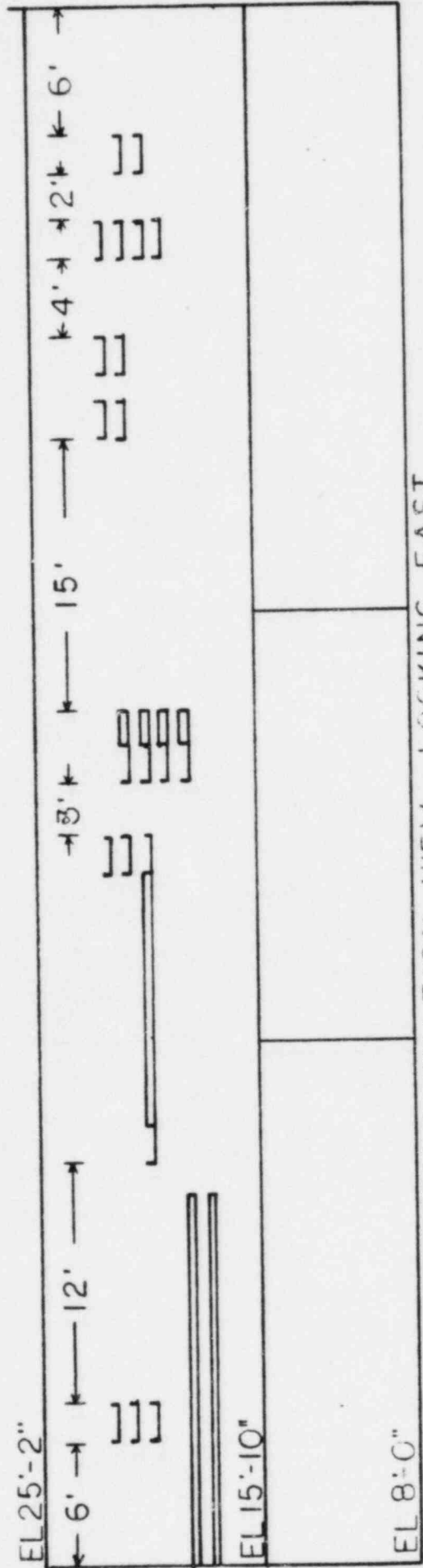


FIGURE 4-1



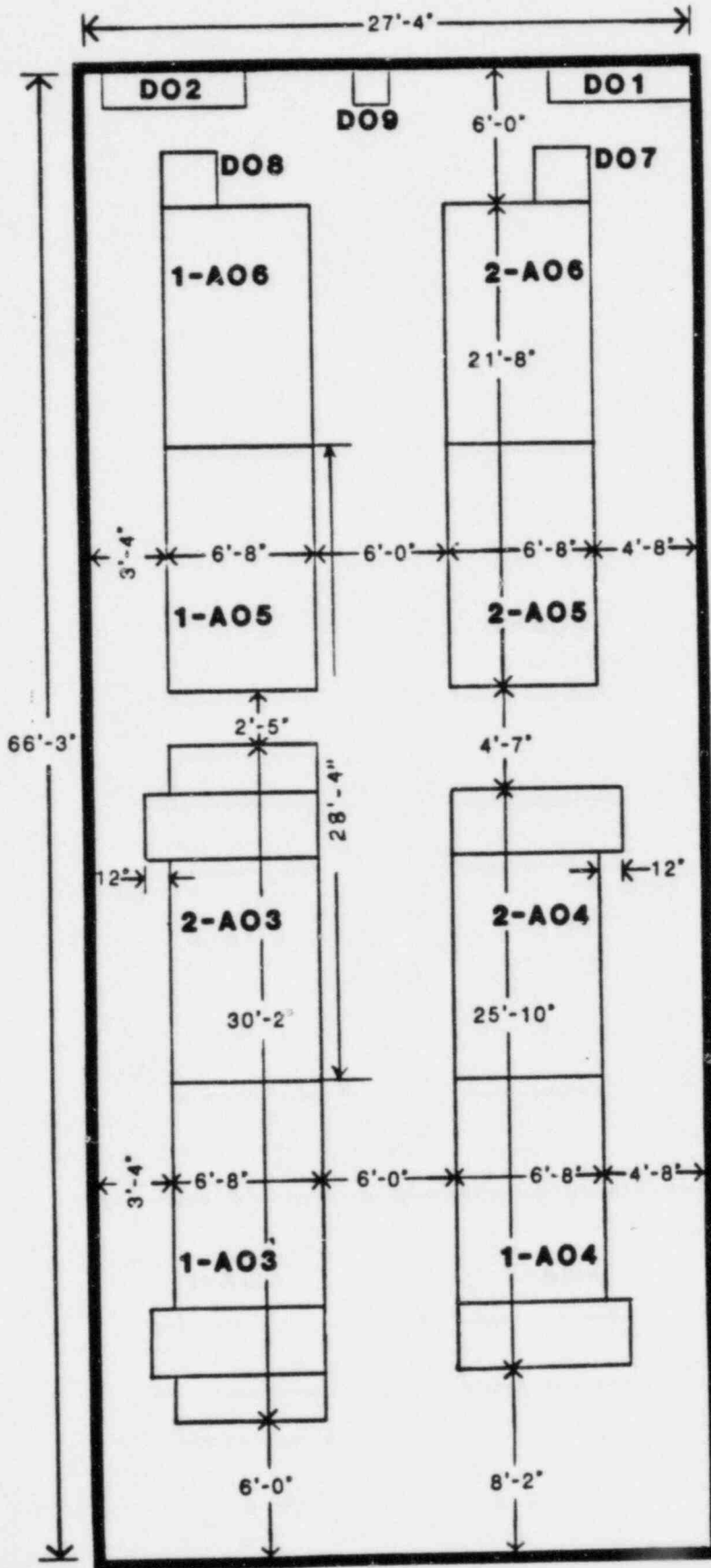
PLAN VIEW ABOVE TUNNEL



ELEVATION VIEW - LOOKING EAST

FIGURE 4-2  
AUXILIARY FEEDWATER PUMP ROOM

**FIGURE 5-1**  
**DIMENSIONS OF THE 4160 VAC**  
**SWITCHGEAR ROOM**



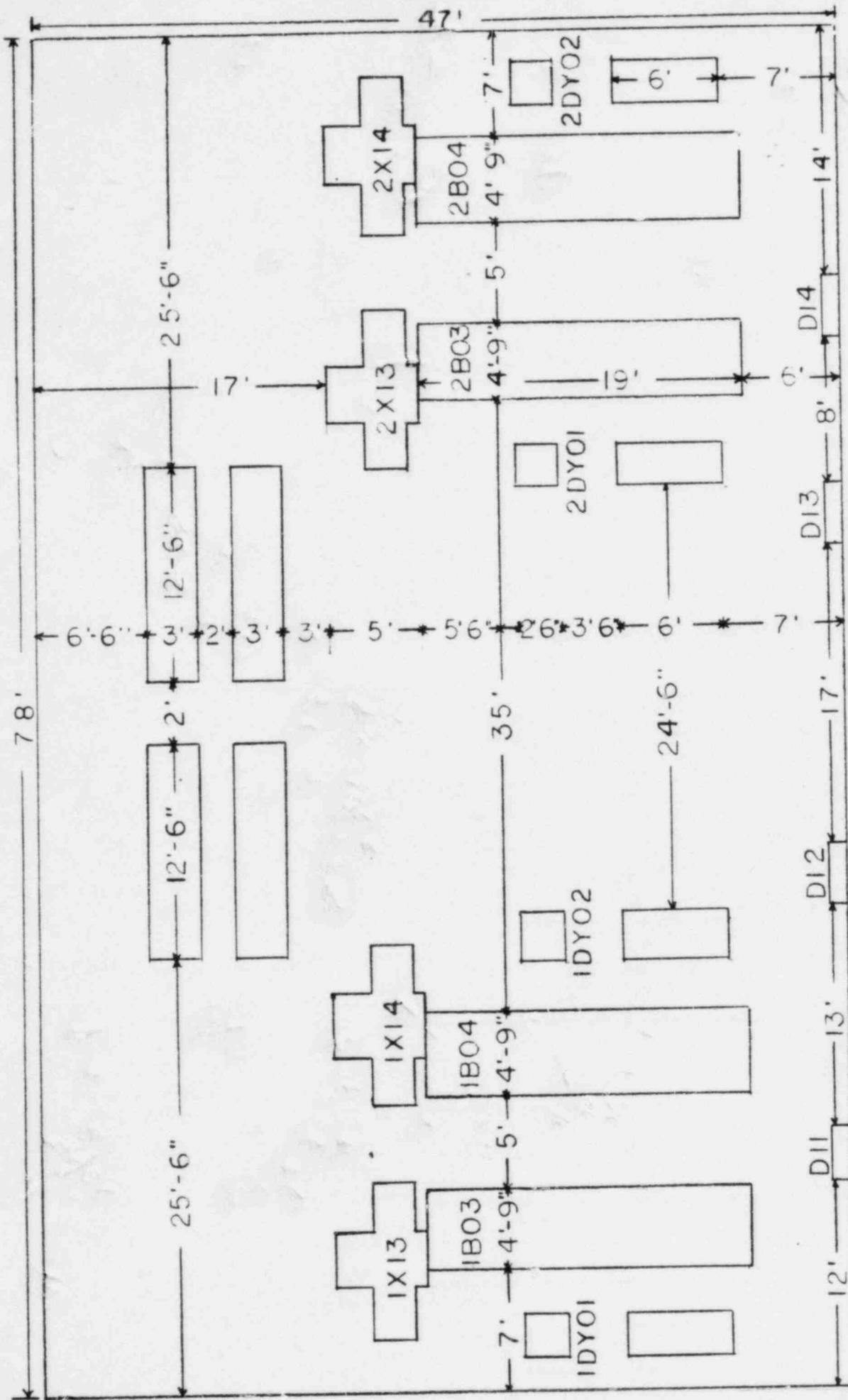
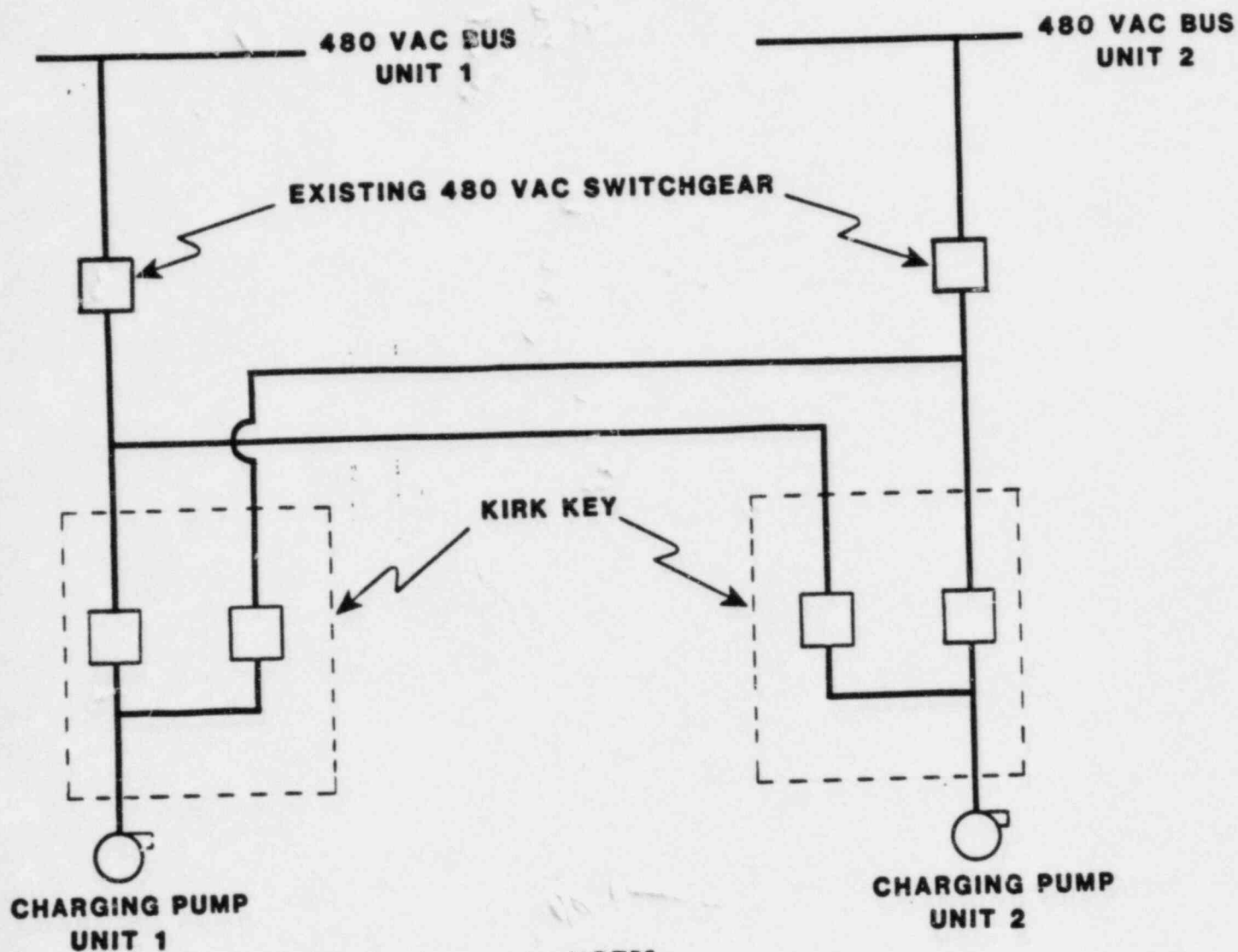


FIGURE 6-1  
CABLE SPREADING ROOM  
DIMENSIONS

**FIGURE 6-2**  
**MODIFICATIONS TO THE POWER CIRCUIT**  
**FOR THE CHARGING PUMPS**



NOTES

1. The kirk key assembly consists of two key locked breakers located inside a single enclosure. These breakers can only be closed with the key inserted and the key can not be removed until the breaker is re-opened. Only a single key is supplied with each set of breakers.
2. The existing 480 VAC switchgear is that which presently powers the respective charging pumps.

FIGURE 7-1  
ELEVATION 8'  
UNIT 1

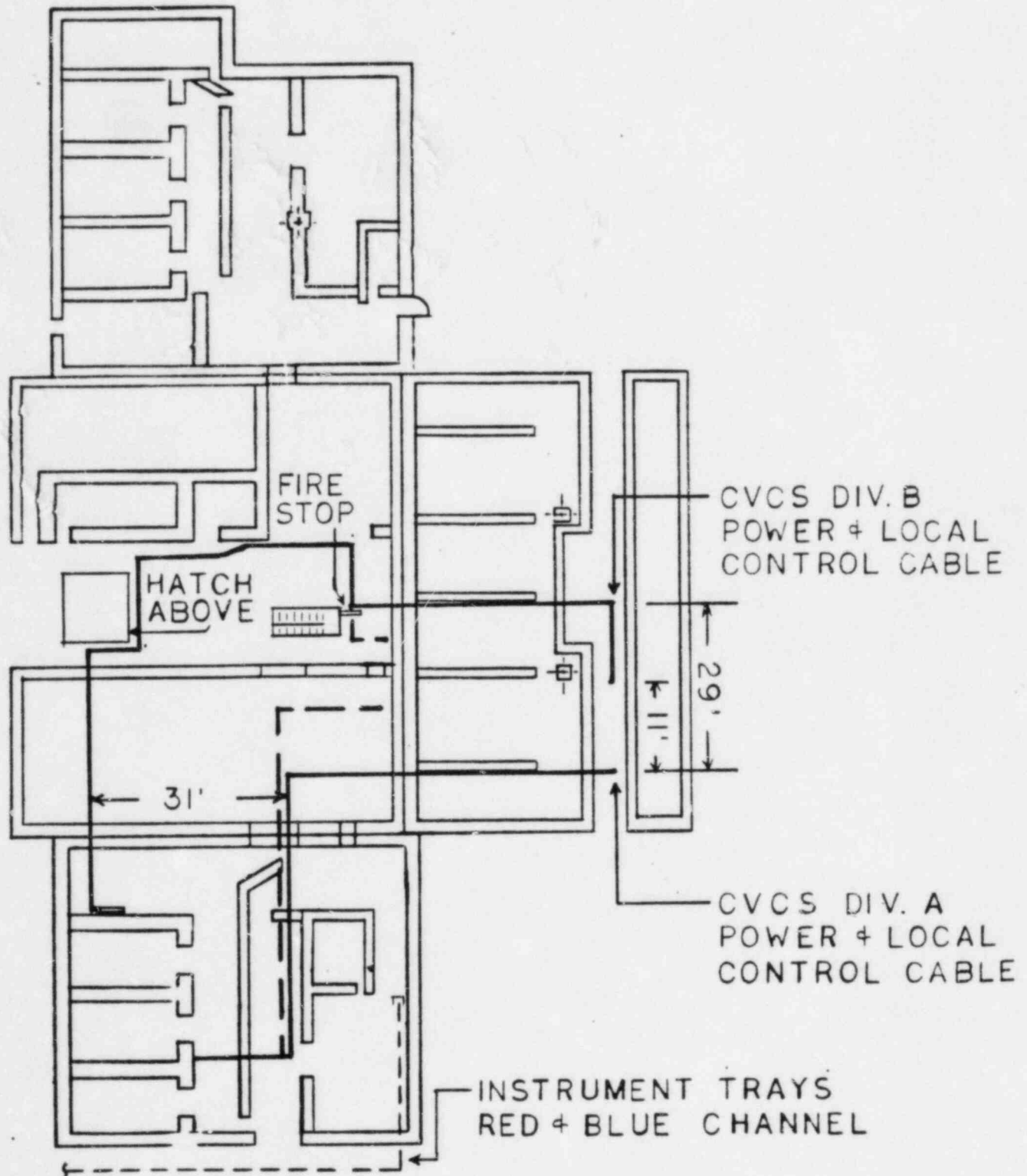




FIGURE 7-2  
ELEVATION 8'  
UNIT 2

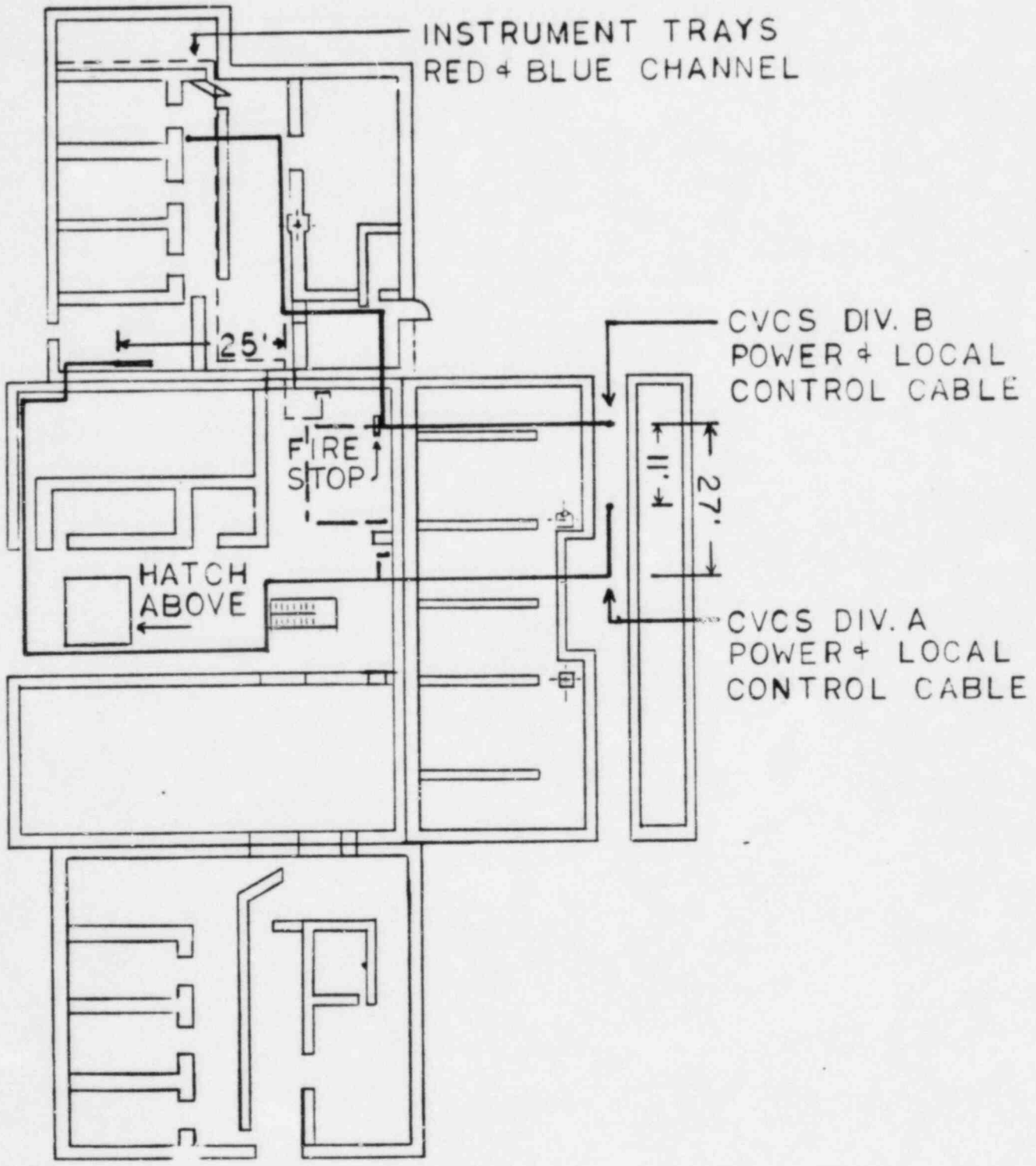


FIGURE 7-3  
AUXILIARY BUILDING  
ELEVATION 8'

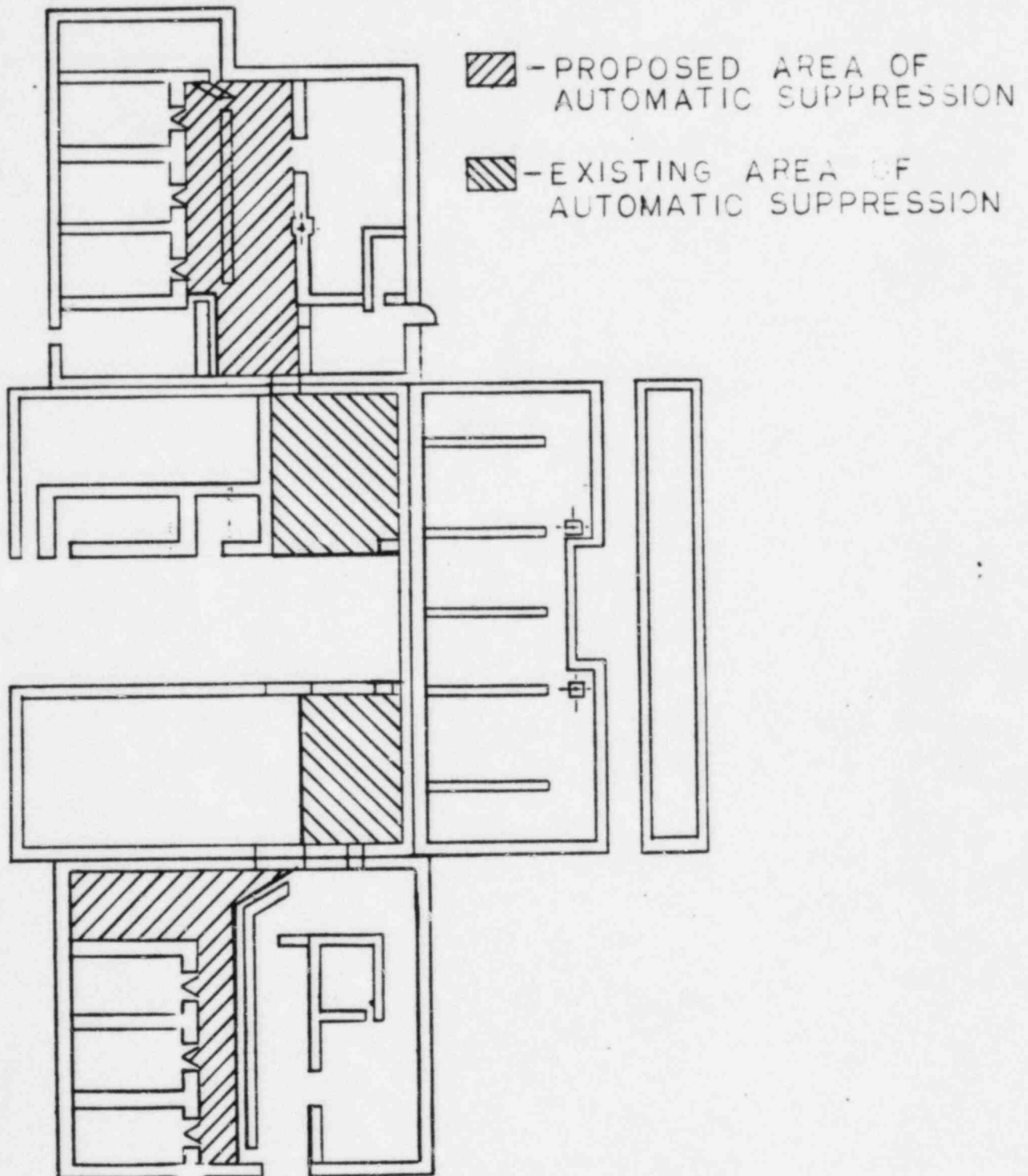


FIGURE 7-4  
AUXILIARY BUILDING  
ELEVATION 26'

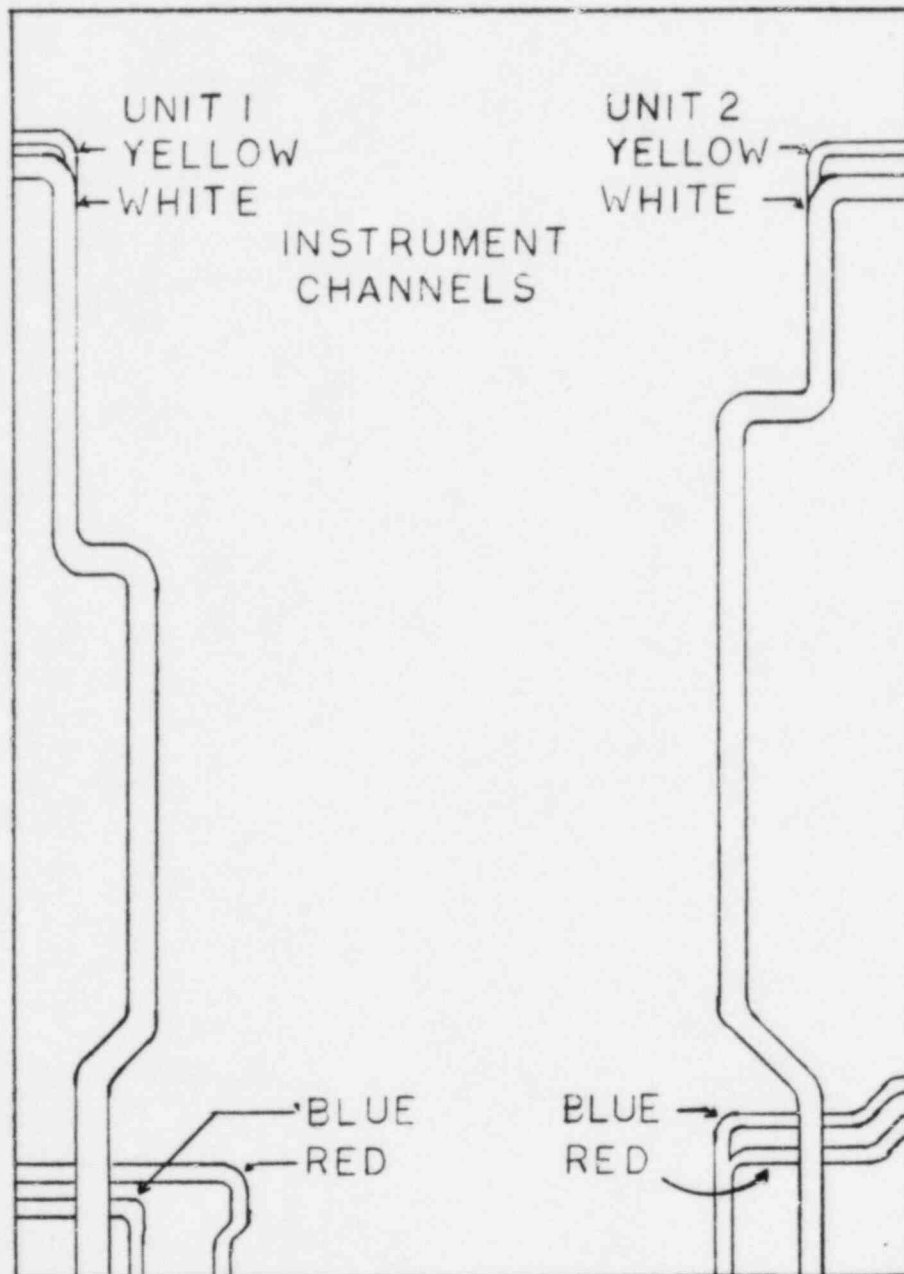


FIGURE 7-5  
AUXILIARY BUILDING  
CENTRAL AREA  
ELEVATION

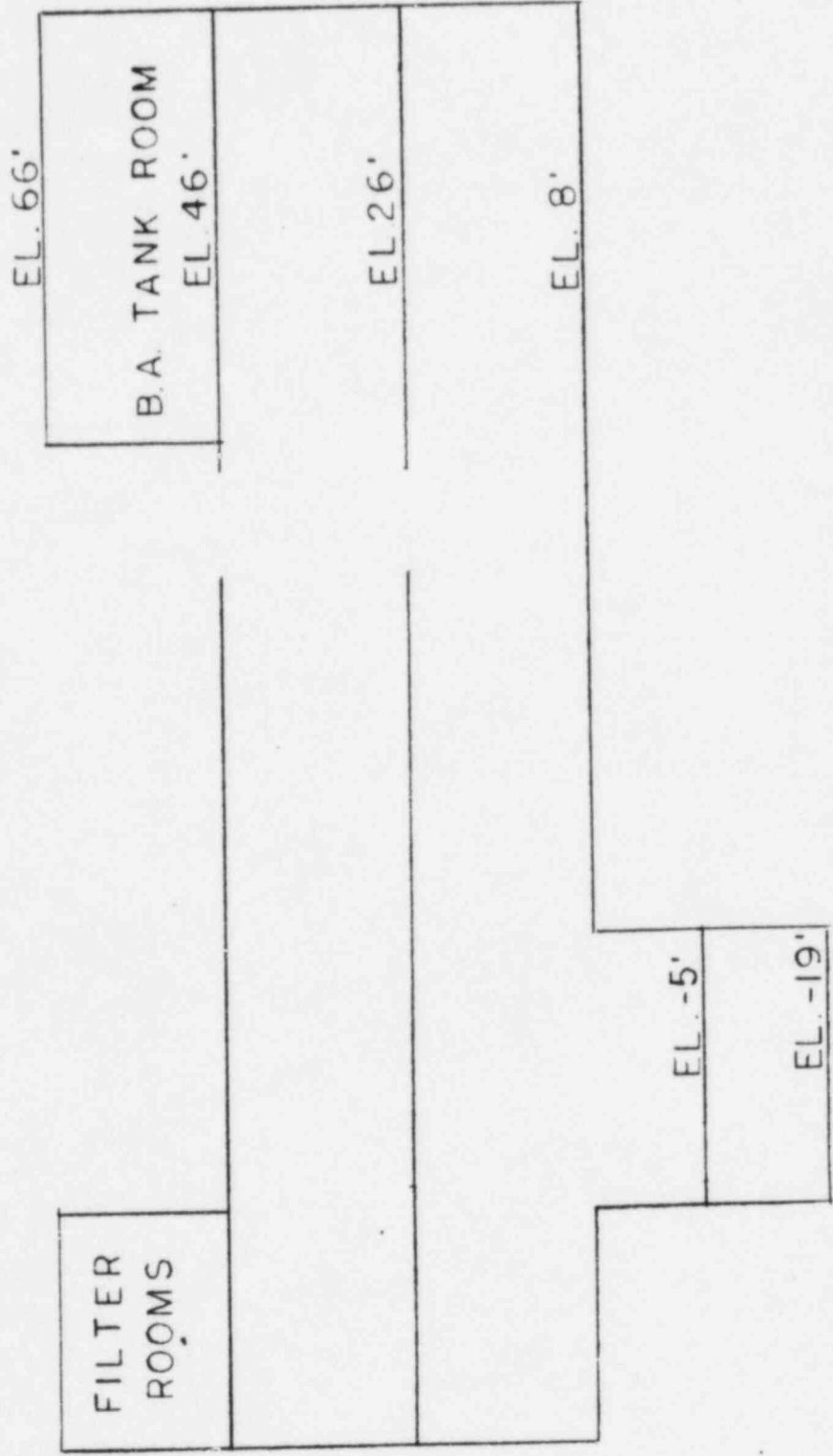


FIGURE 7-6  
AUXILIARY BUILDING  
ELEVATION 46'  
FLOOR LAYOUT

