Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

DMB

December 3, 1985

Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: LaSalle County Station Units 1 and 2
Revised Response to Confirmatory Action
Letter Dated November 23, 1983, Item E
Qualification Plan
NRC Docket Nos. 50-373 and 50-374

Reference (a): C. W. Schroeder letter to J. G. Keppler
dated January 31, 1984.

Dear Mr. Keppler:

As required by the November 28, 1983 confirmatory action letter, Reference (a) provided our response to Item E, Plan and Schedule to obtain a fully qualified soft seal for the inboard feedwater check valves, B21-F010 A and B. That response stated that qualified soft seats would be installed no later than startup after the first refueling outage. This letter revises that commitment in that LaSalle has removed the soft seals from the Unit 2 inboard feedwater check valves, and plans on removing the soft seals in Unit 1 during the current refueling outage. If soft seals are installed in the future, qualified soft seals will be used.

The Station Nuclear Engineering Department (SNED) initiated a test program to qualify a soft seal material. One-and-a-half year qualification testing has been completed and two compounds have been determined to be acceptable. Three year qualification testing is still underway at Wyle Labs. The testing has assured us that, should soft seals be used in the future, qualified material will be available.

If there are questions regarding this matter please contact this office.

Very truly yours,

H. L. Massin
Nuclear Licensing Administrator

lm

cc: Dr. A. Bournia - NRR
NRC Resident Inspector - LSCS

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DEC 5 1985

Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

December 2, 1985

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC. 20555

Subject: Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2
Review of Fire Protection Requirements
NRC Docket Nos. 50-237, 50-249,
50-254 and 50-265

References (a): Letter from B. Rybak to H. R. Denton dated December 23, 1983.

(b): Letter from B. Rybak to H. R. Denton dated June 27, 1984

(c): Letter from G. Lear to Cordell Reed dated March 22, 1978.

(d): Letter from T. A. Ippolito to Cordell Reed dated July 27, 1979.

Dear Mr. Denton:

As indicated in references (a) and (b), Commonwealth Edison is currently engaged in a comprehensive review of our fire protection program. This review was initiated in October, 1983, in response to our concerns regarding the proper interpretation of fire protection requirements specified in 10 CFR 50.48, Appendix R, Branch Technical Position BTP APCSB 9.5-1 (and Appendix A), and related documents (e.g. the NFPA Codes). Although our review is still in progress, we have identified several discrepancies with respect to the NRC Safety Evaluations for Appendix A to BTP 9.5-1, transmitted by references (c) and (d) for Dresden and Quad Cities respectively. The purpose of this letter is to inform you of those discrepancies and request your review and approval of our proposed resolution.

Attachments 1 through 3 describe the discrepancies and their current status for Dresden and Attachment 4 for Quad Cities. The license conditions transmitted by references (c) and (d) require completion of certain modifications specified in the NRC Safety Evaluation Report (SER), in accordance with a schedule specified in the license condition for Dresden and in the SER for

Quad Cities. Since the requirements to complete the modifications were specified in license conditions, we feel it is necessary that the existing license conditions be revised on completion of your review to reflect the final resolution of these items. Attachments 6 and 7 identify the revisions to the license conditions for Dresden and Quad Cities respectively. To resolve the discrepancies identified in Attachments 1 through 4, we request you take the following actions:

Category 1: Modifications to achieve compliance with two Dresden SER items have been or will be initiated. Items in this category are described in Atachment 1. Scheduled completion dates and interim compensatory measures which are currently in place are identified where necessary. Attachment 6 provides a modified license condition for Dresden to reflect this schedule by means of a supplemental SER.

Category 2: Completion of these identified modifications is no longer appropriate, based on a review of the original intent of the requirements and on current safe shutdown analyses. Items in this category are described in Attachments 2 (Dresden) and 4 (Quad Cities). Attachment 5 provides additional information supporting our request for relief from these requirements. Attachments 6 and 7 request that you modify the existing license conditions or SERs to reflect these positions.

Category 3: We have complied with the requirements of these SER items. However, due to the brief generalized description of the modifications identified in the SER, we are clarifying our interpretation of the requirements in references (c) and (d). Should you feel that additional work is required in any of these areas, we request that you promptly notify us.

Since the issuance of the fire protection SERs for Appendix A, Commonwealth Edison has substantially upgraded the resources committed to assure the implementation and maintenance of an effective fire protection program. The fire protection SERs required that over 100 individual modifications or tasks for each site be completed. The vast majority of these requirements were met. The minor discrepancies identified thus far are few when compared to the numerous items related to this issue. Nevertheless, their inclusion as a part of an existing license condition requires this action to clarify and correct the correspondence between Commonwealth Edison and the NRC in this matter.

The proposed License Conditions in Attachment 6 and 7 have been On-site and Off-Site reviewed. Attachment 8 documents our determination that this request does not represent a significant hazards consideration. Commonwealth Edison will notify the State of Illinois of our request for this amendment and our appraisal on the question of no significant hazards by transmittal of a copy of this letter and its attachments to the designated State Official.

In accordance with 10 CFR 170, a fee remittance in the amount of $150.00 is enclosed.

Three (3) signed originals and thirty-seven (37) copies of this transmittal are provided for your use.

Very truly yours,

D. L. Farrar
Director of Nuclear Licensing

lm

Attachments

cc: J. G. Keppler - Region III
R. Gilbert - NRR
R. Bevan - NRR
Quad Cities Resident Inspector
Dresden Resident Inspector
M. C. Parker - State of Illinois

SUBSCRIBED AND SWORN to
before me this 2nd day
of December, 1985

Julia J. Mayo
Notary Public

0862K

ATTACHMENT 1

CATEGORY 1 DISCREPANCIES - DRESDEN

OUTSTANDING MODIFICATIONS REQUIRING COMPLETION

ITEM	SER REFERENCE	DESCRIPTION	PROPOSED RESOLUTION	COMPLETION DATE
1.1	3.1.18	Unit 2 and 3 DG engine air intake and exhaust ducts not sealed at ceiling.	SER Section 3.1.18 reads - "Piping penetrations in the diesel generator rooms including the Units 2 and 3 diesel generator exhaust duct will be sealed." The DG rooms are provided with automatic CO_2 suppression systems to extinguish a fire in the rooms. The intake air pipes to the DG2 and DG3 engines do not have a permanent seal where the pipe sleeves pass through the ceiling. The opening around these sleeves was found to be approximately two inches. This opening provides a certain amount of pressure relief for the room upon initiation of the CO_2 system. The DG2 and DG3 engine exhaust pipes have no such gaps as these pipes are wrapped with insulation. The safety significance of the intake pipe openings is minimal since there are no combustibles which pass through the openings nor any fixed combustibles directly adjacent to the openings which would allow a fire in the room to propogate outside. The CO_2 suppression system would prevent a fire in the room from growing to such proportions as to propagate through the ceiling.	3/31/86

ITEM	SER REFERENCE	DESCRIPTION	PROPOSED RESOLUTION	COMPLETION DATE
1.1	3.1.18 (cont'd)		The intake pipe sleeve gap has been temporarily patched with a ceramic fiber material. A review is being conducted to determine if permanent seals are necessary for these openings or if they should be left unsealed to provide pressure relief. Our current plans are to provide permanent seals by the completion date indicated. If our evaluation indicates the openings should remain unsealed, we will provide you with a revised submittal requesting relief from this SER requirement. Interim Action: Temporary seals installed for intake pipe. Existing insulation adequate for exhaust.	
1.2	3.1.5	Automatic sprinkler coverage was not extended to cover CRD and CCSW Pumps on Dresden 3.	SER Section 5.9.2.6 reads - "The licensee has proposed to provide automatic sprinkler coverage for the containment cooling service water (CCSW) pumps and control rod drive (CRD) pumps." SER Section 5.9.2.1 makes reference to Unit 2 safety-related cable trays but does not make a similar statement regarding Unit 3. Drawing M966 shows only a suppression system for Unit 2. In the September 28, 1978 letter from W. F. Naughton (CECo) to Director of Nuclear Reactor Regulation (NRC) only design drawings' 26-1750, Sheet 4 dated August 15, 1978, and hydraulic calculations for the Unit 2 Turbine Building 495 feet control rod drive feed pump wet pipe sprinkler area designation H, were submitted. This supports our belief that the commitment was intended for Unit 2 only.	3/31/86

ITEM	SER REFERENCE	DESCRIPTION	PROPOSED RESOLUTION	COMPLETION DATE
1.2	3.1.5 (Cont'd)		Suppression exists in both the areas above and below the CRD pump floor. These three elevations are isolated for the most part by substantial shield walls from the rest of the turbine building. However, a pipe hatch transverses all three elevations at both the east and west ends. These pipe hatches penetrate the floor above just outside the shield walls where there is no sprinkler protection. The west hatchway has a metal cover. The east hatchway enters the turbine building ground floor in an area with no safe shutdown cabling. Consequently, it is unlikely that a fire originating on the CRD pump floor would spread to other turbine building areas and effect redundant safe shutdown capability. Since the time of the 1978 SER, it has been determined as part of an on-going fire protection review, that the Unit 3 CRD pump area contains a similar arrangement to the Unit 2 area. In addition, Appendix R requires suppression and detection wherever credit for alternative shutdown is taken. Credit is taken for alternative shutdown in the Unit 3 CRD pump area, therefore, a suppression system is being installed in this area. (See Exemption Request Sections 5.4.4.2 dated September 1985.) A modification has been initiated to extend the sprinkler system to cover the CCSW pumps and CRD pumps on Unit 3. However, we feel we met the intent of the SER with installation of the sprinkler system on Unit 2. Interim Action: Once per shift surveillance	

ATTACHMENT 2

CATEGORY 2 DISCREPANCIES - DRESDEN

OUTSTANDING MODIFICATIONS - REQUEST RELIEF FROM COMMITMENT

ITEM	SER REFERENCE	DESCRIPTION	JUSTIFICATION FOR RELIEF
2.1	3.1.1	Fire detection not installed on Refuel Floor.	SER Section 3.1.1 states - "Automatic early warning detection will be provided in the....Reactor Building Refueling Floor." This was not accomplished since effective fire detection was not practical. There is no safe shutdown equipment and minimal fire loads in this area. See Attachment 5 page 1 for the fire hazards analysis. Based on this fire hazards analysis, relief from this commitment is requested. Interim Action: Twice per shift surveillance.
2.2	3.1.9	Electrical Supervision not provided for AEER and 2/3 DG to HPCI Room Doors.	SER Section 3.1.9 states - "Electrical supervision will be provided to actuate an alarm for doors to areas protected by automatic gas suppression systems." All access doors to the AEER room have self closing devices and are locked closed. These doors are fire doors and are maintained closed in accordance with BTP APCSB 9-5.1 Appendix A Section D.1.j criteria. It is felt that this level of control is adequate to ensure the doors are maintained in a closed position and that the intent of the SER was thus satisfied.

ATTACHMENT 2

CATEGORY 2 DISCREPANCIES - DRESDEN

OUTSTANDING MODIFICATIONS - REQUEST RELIEF FROM COMMITMENT

ITEM	SER REFERENCE	DESCRIPTION	JUSTIFICATION FOR RELIEF
2.2	3.1.9 (Cont'd)		The main normal access door to the 2/3 DG room is supervised. However, there are two doors in series leading from the 2/3 DG room into each HPCI room (4 doors total). These doors are normally closed and are not normal access routes. They were kept locked until recently when they were unlocked in order to provide a secondary emergency exit path from the 2/3 D/G room for life safety concerns. Another door also exists in the room which leads to a dead-ended pipe tunnel. This door is not an exit and is maintained locked. All these doors have self-closing devices. Consequently, relief from these commitments is requested. Furthermore, based on Appendix R analysis, even with the loss of both the 2/3 DG and HPCI rooms, a redundant safe shutdown path is available. Interim Action: Roving, continuous surveillance of doors instituted for AEER and once per hour surveillance for 2/3 DG room until relief is obtained

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ATTACHMENT 3

CATEGORY 3 DISCREPANCIES - DRESDEN

COMMITMENT MET

ITEM	SER REFERENCE	DESCRIPTION
3.1(a)	3.1.8	SER Section 3.1.8 states, "Fire doors will be provided...at the....diesel generator rooms." Fire doors were installed at the Turbine Building entrances to the DG2 and DG3 rooms. A fire door was not installed for the reactor building entrance to the 2/3 DG room through the secondary containment interlocked access corridor (heavy metal interlocked doors exist). Based on the brief description in the SER and previous correspondence, we believe a fire door was not intended here since this is an external door with no external combustible loads. The general policy used in the 1977 FHA was to install fire doors in external walls only when there was a clearly identified hazard outside. See Attachment 5 page 3 for the fire hazards analysis. See Figure 1.
3.1(b)	3.1.8	SER Section 3.1.8 states, "Fire doors will be provided...at the...diesel generator rooms." Since suppression exists in both the 2/3 DG and HPCI rooms, and two heavy metal doors are in place, a fire door was not intended and therefore not installed between the 2/3 DG room and the HPCI rooms. Refer to Section 2.3.9.7 of the 1977 FHA. See Attachment 5 page 3 for the fire hazards analysis. See Figure 1.
3.2	3.1.15	SER Section 3.1.15 states, "Curbs will be provided for the diesel generator room..." All doors in the DG rooms and Day Tank rooms have been provided with curbs except the entrance to the 2/3 DG room. A curb was not intended for this location since the entrance is 13 feet above floor level. See Attachment 5 page 3 for the fire hazards analysis. See Figure 1.
3.3	3.1.10	SER Section 3.1.10 states, "the following areas will be provided with fire dampers: ... (5) Diesel Generator Rooms (5.8)...." A Fire damper has not been installed in DG 2/3 HVAC penetrations. These penetrations are through an exterior wall. Consequently, this duct does not penetrate a fire barrier and does not require a fire damper. Fire dampers have been installed in DG2 and DG3 HVAC penetrations. See Attachment 5 page 3 for the fire hazards analysis.

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ITEM	SER REFERENCE	DESCRIPTION
3.4	3.1.15	SER Section 3.1.15 states, "Curbs will be provided at the entrance of the AEER room." The required curb was installed at the West door to the AEER to protect from potential transient combustibles in the Unit 2 trackway. A curb was not installed at the North door since curbs exist around adjacent 480V bus 25 and 26 transformers. These transformers are curbed and are the only fixed hazard in the vicinity. The north door does not access the Unit 2 trackway. See Figure 2.
3.5	3.1.4	SER Section 3.1.4 states, "Additional hose station will be provided at the following locations: ...at the entrance to the auxiliary electric equipment room (5.4)...". Section 5.4 indicate this should be a booster hose station. A hose station (rather than a booster hose station) was installed near the North door of the AEER. An additional hose station exists on the DG2 room outer wall with 100 feet of hose. These provide the required hose station coverage. In this area there is sufficient room to lay out the hose prior to fire attack in the AEER room.
3.6	3.1.20	SER Section 3.1.20 states, "Fire retardent coating will be applied to the cables in the auxiliary electric equipment room..." Existing cables in the AEER were fire coated. New cables subsequently installed meet IEEE-383 criteria and therefore will not be firecoated. This position was accepted by the NRR in a May 24 and 25 meeting at Dresden Station as documented by a trip report written by L. Derderian (NRR) dated June 16, 1977.
3.7	3.1.5(1)	SER Section 3.1.5(1) states, "A water deluge system will be installed in the high pressure coolant injection room." The water deluge system was installed in the HPCI room to meet the SER requirement but has been converted to a preaction suppression system due to subsequent inadvertent actuations of the deluge system.
3.8	3.1.1(12)	SER Section 3.1.1(12) states, "The fire detection system will be extended west of switchgear 25 and 26, and east of switchgear 35 and 36 to provide detection in the areas of redundant cable trays." An early warning fire detection system was installed above switchgear 25 and 26 in the Unit 2 Turbine Building and switchgear 35 and 36 in the Unit 3 Turbine Building. This detection system does not extend completely west in Unit 2 or completely east in Unit 3. Approximately twenty feet of redundant cable trays are not covered on both units due to excessive ceiling height which made detection impractical. CECo met the intent of the commitment to protect redundant divisions of electrical cables by placing transite barriers between the redundant divisions in the unprotected areas.

ITEM	SER REFERENCE	DESCRIPTION
3.9	3.1.1	SER Section 3.1.1 states, "Early warning automatic detection systems will be provided in the following areas: ...(7) In the consoles and control boards and in the general areas of the control room (5.3)...". The Station has installed a fire detection system in the general area of the Control Room. This modification was initiated subsequent to the issuance of the SER. Design drawings were developed, however, a detection system was not installed in the control boards for the following reasons: First, the consoles and control boards are designed to allow sufficient air circulation from the general area of the Control Room. Any fire in a console or control board would allow smoke movement toward the ceiling where it would be detected by the general area detection system. However, two free standing cabinets, which are isolated from other cabinets and each other are enclosed. A fire in either of these cabinets would be detected by the Control Room personnel at the center desk (only a few feet from these cabinets) or from the ceiling detection system. Secondly, this position was accepted on Quad Cities docket in 1979 and the Dresden Unit 1 docket in 1981.
3.10	3.1.15	SER Section 3.1.15 states, "Curbs will be provided at the diesel generator room...". Curbs were provided for the DG room doors except at the 2/3 DG to HPCI room door where the existing threshold provides an adequate barrier. The maximum flooding due to oil in this area would be approximately one-half inch. The one-half inch threshold at this doorway in conjunction with existing drains, would adequately handle an oil spill. Also, Appendix R analysis indicates a curb is not necessary since the same shutdown path is available for both the DG 2/3 room and HPCI room. See Attachment 5 page 3 for the fire hazards analysis.

ATTACHMENT 4

QUAD CITIES DISCREPANCIES
SUMMARY OF ALL CATEGORIES

CATEGORY	ITEM	SER REFERENCE	DESCRIPTION/RESOLUTION
2	2.1	3.1.1(5)	SER Section 3.1.1 states, "Early warning fire detection will be provided in the following areas: ...(5) Reactor Building Refueling Floor...". Fire detection was not installed on Refuel floor. Request relief from commitment. Effective fire detection is not practical. There is no safe shutdown equipment and minimal fire loads in this area. See Attachment 5. Interim Action: Twice per shift surveillance
2	2.2	3.1.9	SER Section 3.1.9 states, "Where cable trays of different divisions are closer than 3 feet horizontally or 5 feet vertically from each other" the cables will be protected with a flame retardent barrier. Five areas at Quad Cities Station exist which do not meet the above separation criteria. It is important to note that at the time of the Quad Cities FPSER, 10 CFR 50, Appendix R was being issued which outlined new separation criteria. In July 1978, CECo submitted a Safe Shutdown Analysis showing that Quad Cities could be safely shutdown using the RCIC system for reactor water makeup. In supplements dated September 1979 and January 1980, further information was provided to show that both hot and cold shutdown could be achieved. However, these analysis did not fully comply with the staff requirements in 10 CFR 50, Appendix R and NRR Staff Position (Generic Letter 81-12) on safe shutdown. These subsequent NRC requirements were addressed in the 1982 Associated Circuits report. Further clarifications (Generic Letter 83-33) of these requirements were addressed in the Quad Cities Station Exemption Requests submittal dated December 19, 1984. The coating of redundant safety related cables was not required to achieve separation to ensure safe shutdown in the event of a fire by any of these analyses. Based on Quad Cities compliance with the new separation criteria outlined in 10 CFR 50, Appendix R, relief from this commitment is requested. Interim Action: Temporary protective barriers have been installed where required.

CATEGORY	ITEM	SER REFERENCE	DESCRIPTION/RESOLUTION
2	2.3	3.1.4	SER Section 3.1.10 states, "The top of electrical cabinets, switchgear, and motor control centers will be protected to reduce the potential for water damage from hose streams used to combat cable fires as noted...for the following areas: (1) Auxiliary Electric Equipment Room, (2) Reactor Building Mezzanine Floor, (3) Reactor Building Ground Floor, (4) Turbine Building Mezzanine Floor, and (5) Turbine Building Main Floor. Water protection was provided as noted for all areas except the Turbine Building Mezzanine Floor. For the Turbine Building Main Floor six foot vertical water shields were installed at the motor generator (MG) sets to protect the 4kV switchgear from a discharge of the foam system protecting the MG sets. This vertical shield was installed in place of the overhead canopies mentioned in the FPSER. For the Turbine Building Mezzanine Floor, the FPSER indicated that protection from water should be provided for 4kV buses 13, 14, 23 and 24. This would reduce the potential for adversely affecting a Division II bus when extinguishing a fire in overhead or nearby Division I cable tray or adversely affecting a Division I bus when fighting a nearby Division II cable tray fire. The only safe shutdown equipment fed by buses 13, 14, 23, and 24 are the residual heat removal service water (RHRSW) pumps. However, a mechanical cross-tie with the other units Divison I RHRSW piping allow the other unit to provide Division I RHRSW in the event that both 4kV buses 13 and 14 or 23 and 24 are affected by fire/water. In order to utilize this Division I mechanical crosstie, both units 4kV buses 13-1 and 23-1 must be powered. A modification was installed in late 1984 to permit this to be done without a hot shutdown repair. This repair would be required to be performed within 3 hours. Consequently, loss of these buses do not prevent safe hot or cold shutdown. The top of these buses have ventilation openings. However, installation of a canopy is impractical due to the congested (e.g. HVAC and conduit) areas above. Request relief from commitment based on existence of both Division I and Division II (recently installed) RHRSW mechanical cross-ties which meet the commitment intent. See Figures 3 and 4. Interim Action: A temporary cover has been provided for these buses.

ATTACHMENT 5

FIRE HAZARDS ANALYSIS

DRESDEN
Item 2.1 - REFUELING FLOOR

A. HISTORY

References (a): M. S. Turbak letter to R. Bevan dated January 25, 1978 for Dresden.

(b): M. S. Turbak letter to R. Bevan dated April 10, 1978 for Quad Cities.

(c): R. F. Janecek letter to T. A. Ippolito dated February 25, 1980.

(d): L. Derderian (NRC) Telecon Record to M. Antonetti (Gage Babcock & Assoc.) dated March 18, 1980.

Commonwealth Edison Company planned in References (a) and (b) to provide fire detection systems on the refueling floors at the Dresden Units 2 and 3 and Quad Cities Station Units 1 and 2. These planned modifications are cited in the NRC Safety Evaluation Reports on fire protection for the two stations (March 1978 SER for Dresden, July 1979 SER for Quad Cities). The NRC stated in the SER's that "lack of fire detection prevents prompt response to fires."

Subsequent to the issuance of the SER's Commonwealth Edison began design of these detection systems. However, CECo was informed that due to the low fire loading, large volume of air, and radiation in the refueling floor area a detection system would not be effective. As a result, CECo provided justification via Reference (c) for not installing the refueling floor detection systems.

On March 18, 1980 a telephone conference was held (See Reference (d) for a record of this conference), during which CECo, in regard to the refueling floor, was requested to:

1. "Confirm that in the most heavily loaded situation, i.e., refueling periods, the loading will not exceed that necessary to cause structural failure."

2. "Confirm that structural concrete protection extends from the floor to some specified height."

3. Recalculate the average combustible loading subtracting out the pool areas.

Responses to these requests are provided in Section B (Fire Hazards Analysis).

CECo believes that this additional information confirms the conclusion of Reference (c) that fire detection on the refueling floor will not increase fire protection safety. Consequently, CECo is requesting relief from this fire protection SER requirement.

B. FIRE HAZARDS ANALYSIS

The refueling floors are not separated from each other by any wall or fire barrier. Three exterior walls as well as the ceiling are made of steel siding supported by unprotected steel columns. The lower portion of the other wall is a 9' 3-hour rated fire barrier. Above the fire barrier is an exterior wall made of steel siding supported by unprotected steel columns. The fire barrier separates the reactor building from the turbine building. The floor has unsealed mechanical penetrations and HVAC ducts without fire dampers. There is a 20-foot x 20-foot equipment hatch as well as a stairwell which are open between the refueling floor and the floor below.

The refueling floor is provided with manual hose stations and fire extinguishers. Fire detection is not installed on this floor because the height of the ceiling is approximately 45 feet and installed detectors would be ineffective with the minimal fixed combustibles present. The combustible loading of the entire refueling floor substracting the refueling pool areas is 210 and 260 Btu/ft for Dresden and Quad Cities. Transient loads are controlled by administrative procedures. There is no safe shutdown equipment or cabling on the refueling floor.

An analysis of the unprotected steel columns on the refuel floor at both Dresden and Quad Cities Station has been constructed. A general heating analysis for the ceiling level beams was unnecessary due to the negligible combustibles present on the refuel floor and the extremely large room volume. The conservative localized heating study simulated the result of combutibles being literally stacked around a column and allowed to burn freely exposing the column to a 1500°F flame impingement.

The results of the study were as follows:

Approximate time for Steel Failure (1100°)

Dresden Station		Quad Cities	
14WF145 columns supporting roof	14WF119 columns supporting crane	24WF160 columns supporting roof	14WF119 columns supporting crane
26 min.	24 min.	28 min.	24 min.

Based upon these calculations, it is unrealistic to envision a situation where sufficient combustibles would be present on the refuel floor to fuel a fire which would result in failure of the steel columns supporting either the roof or crane.

DRESDEN
Items 2.2, 3.1, 3.2, and 3.3 - Diesel Generator 2/3 Room

The diesel generator 2/3 room north wall separates this room from the Reactor Building (See Figure 1). This is a 3-hour rated fire barrier. The east, west and south walls and roof are exterior boundaries. These walls and roof are not fire rated. An unrated substantial metal door from the 2/3 diesel generator room eastwall opens to the secondary containment interlock corridor (See Figure 1). A door from the Unit 2 reactor building and from the exterior also opens into this corridor. The floor is a secondary containment boundary which separates the diesel generator 2/3 room from the Units 2 and 3 HPCI rooms. The floor is not fire rated. Unrated double doors provide access from the 2/3 diesel generator room to each HPCI room. The safety-related equipment in the diesel generator 2/3 room includes the 2/3 diesel generator, fuel oil transfer pump, and vent fans.

The 2/3 diesel generator contains 350 gallons of lube oil and its associated diesel fuel oil day tank contains 750 gallons of diesel fuel oil. Some of the panels in this zone have flex connections (10 pounds total). The remaining combustible material is 199 pounds of cable insulation in panels. With a floor of 2,818 ft^2 and a total heat of less than 1.66 x. 10^8 Btu, the fire loading is approximately 59,000 Btu/ft^2.

This fire zone is covered by complete thermal fire detection which alarms locally and in the control room. The fire zone is also protected by a complete, automatic, total flooding CO_2 suppression system. In addition, the diesel fuel day tank is also protected by wet pipe sprinkler protection. Hose stations are located on the ground floor of reactor buildings 2 and 3.

The Unit 2 reactor building door and 2/3 diesel generator east door, which open into the secondary containment interlocked access corridor, are considered exterior doors. These are heavy metal doors which are electrically interlocked. There is no continuity of combustibles across the access corridor. Furthermore, the access corridor is 13 feet above the 2/3 diesel generator room floor. This difference in elevation prevents any possibility for combustible liquid from communicating from the DG 2/3 room to the Reactor Building. Finally, the DG 2/3 room is protected with complete thermal fire detection and total flooding CO_2. Consequently, it is unlikely that a design basis fire in the 2/3 diesel generator room would spread from the DG 2/3 room to the Unit 2 reactor building.

There are two hollow metal doors in series leading from the 2/3 diesel generator room into each HPCI room (4 doors total). These doors are normally closed and provide a secondary containment boundary. There is no continuity of combustibles through these double doors. The maximum flooding height due to 750 gallons (day tank capacity) of oil being discharged into the room would be approximately one-half inch. This assumes both four inch drains are completely blocked. The existing one-half inch threshold at the HPCI access doorways in conjunction with the existing drains provide adequate protection in the event of an oil spill. Figure 1 shows that an oil line break could not directly impinge an access door. The two four inch drains divert oil into the HPCI room trench which empties into the HPCI room sumps. However, the 2/3 diesel generator rooms and each HPCI room have complete automatic detection and suppression. The HPCI rooms are protected by a preaction water system. Consequently, a fire originating in either room would be promptly detected and suppressed. Additionally, the existing separation between these rooms provides a substantial barrier to fire spread.

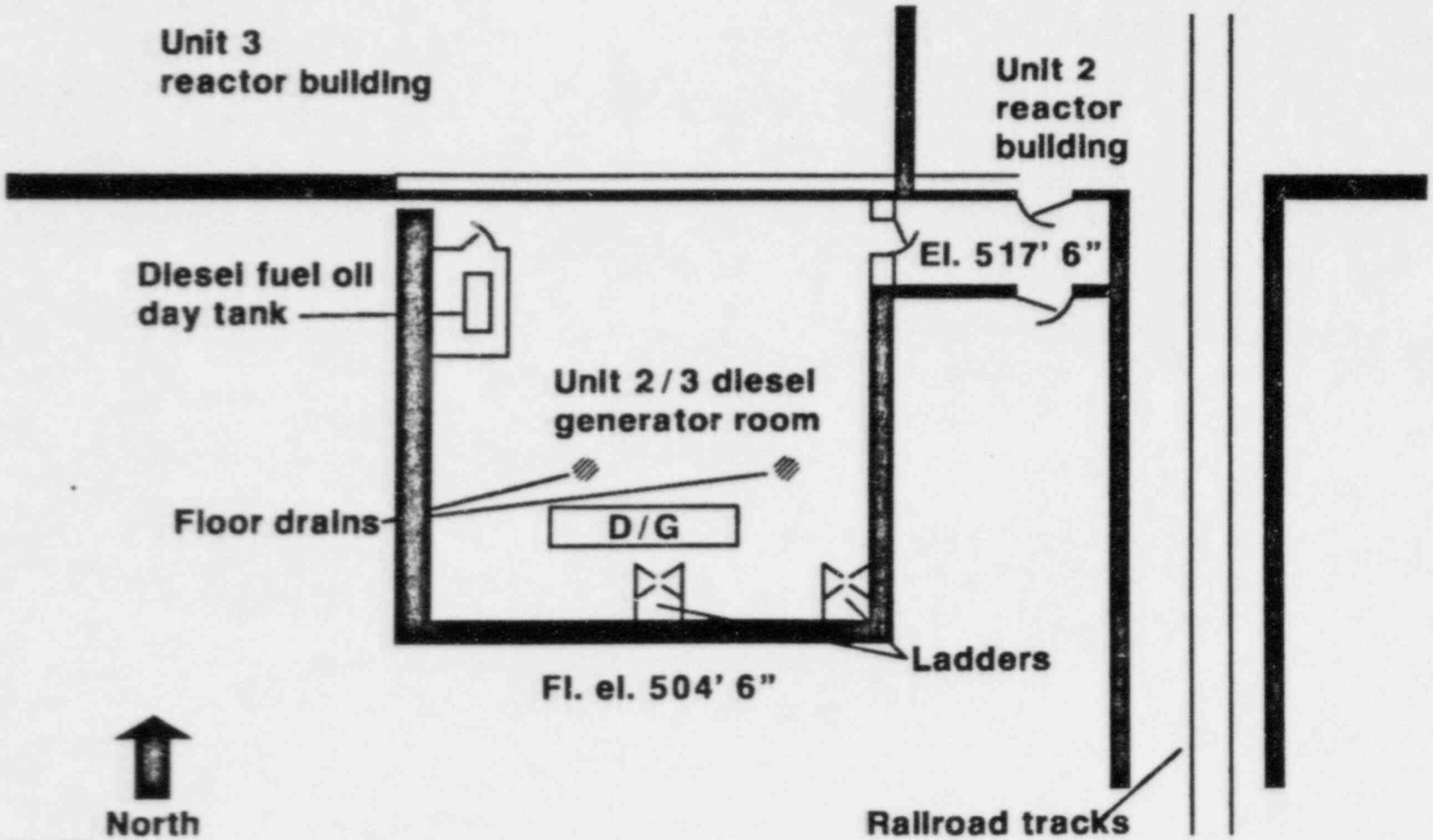
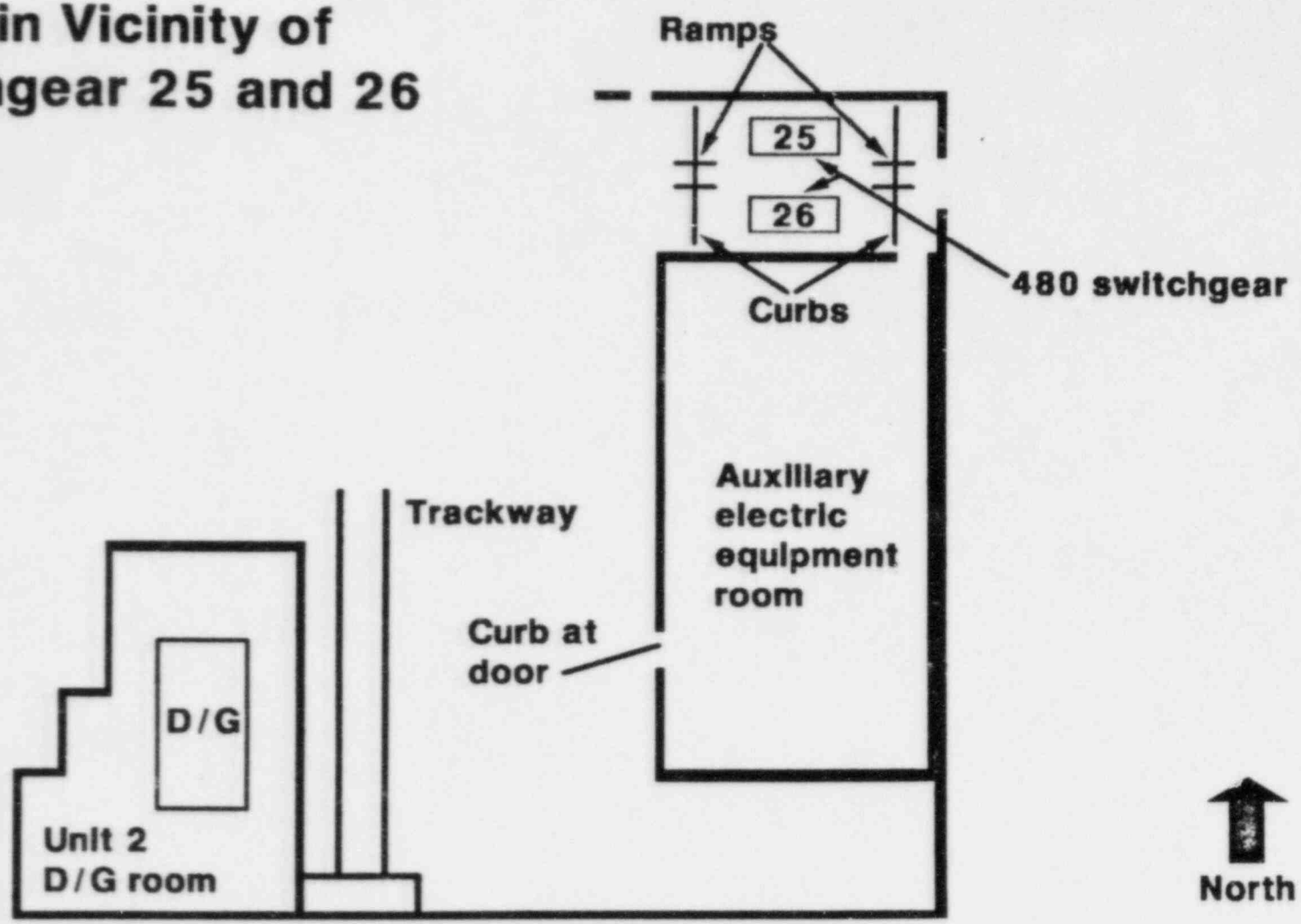

Unit 3
reactor building
Unit 2
reactor
building
El. 517' 6"
Diesel fuel oil
day tank
Unit 2/3 diesel
generator room
Floor drains
D/G
Ladders
Fl. el. 504' 6"
North
Railroad tracks
G5679V.003
11-85

FIGURE 1

Curbs in Vicinity of Switchgear 25 and 26



G5679V.002

FIGURE 2

Unit 2 Division I and II Cabling in Vicinity of 4 kV Switchgear 23 and 24

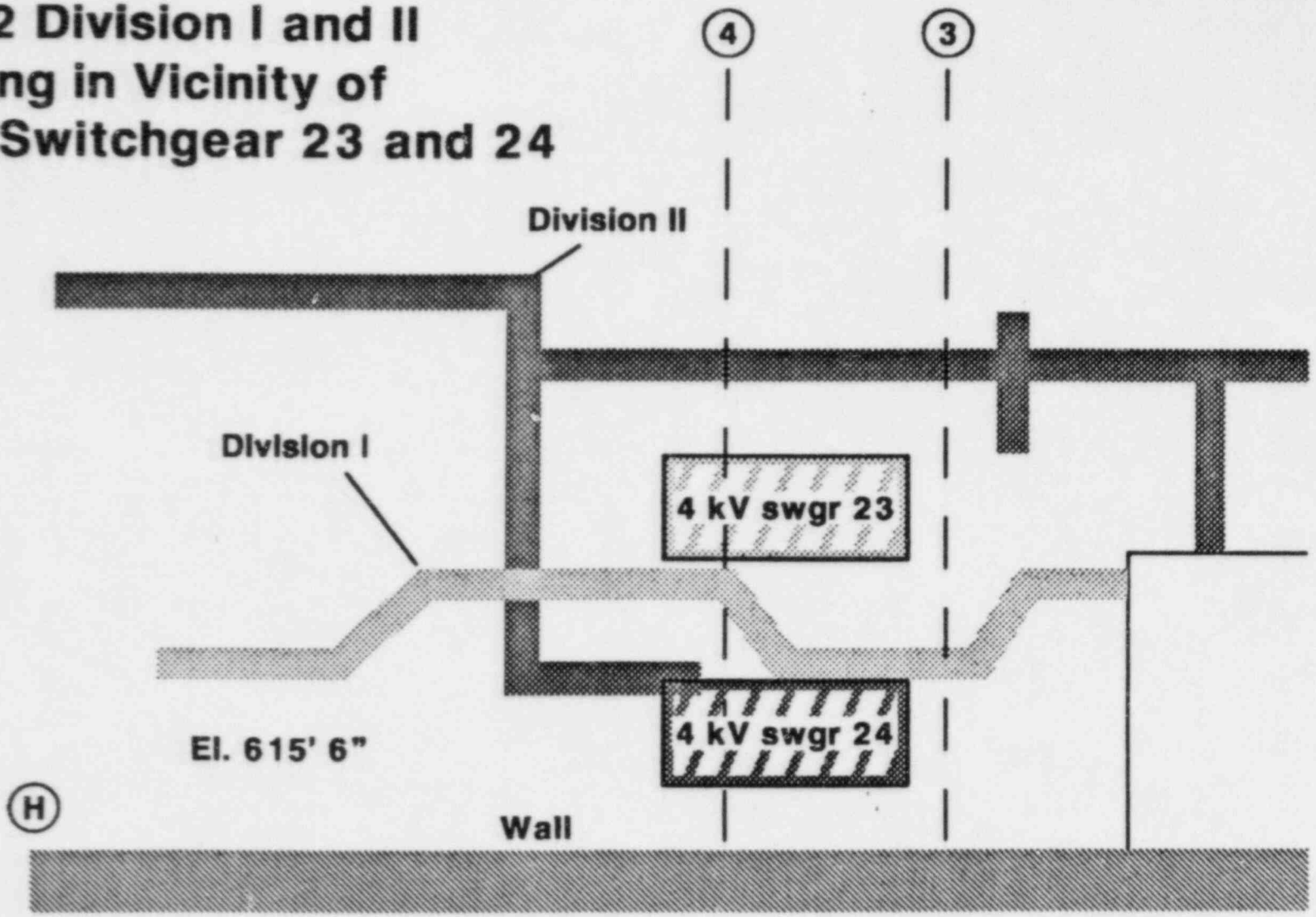


FIGURE 3

Unit 1 Division I and II Cabling in Vicinity of 4 kV Switchgear 13 and 14

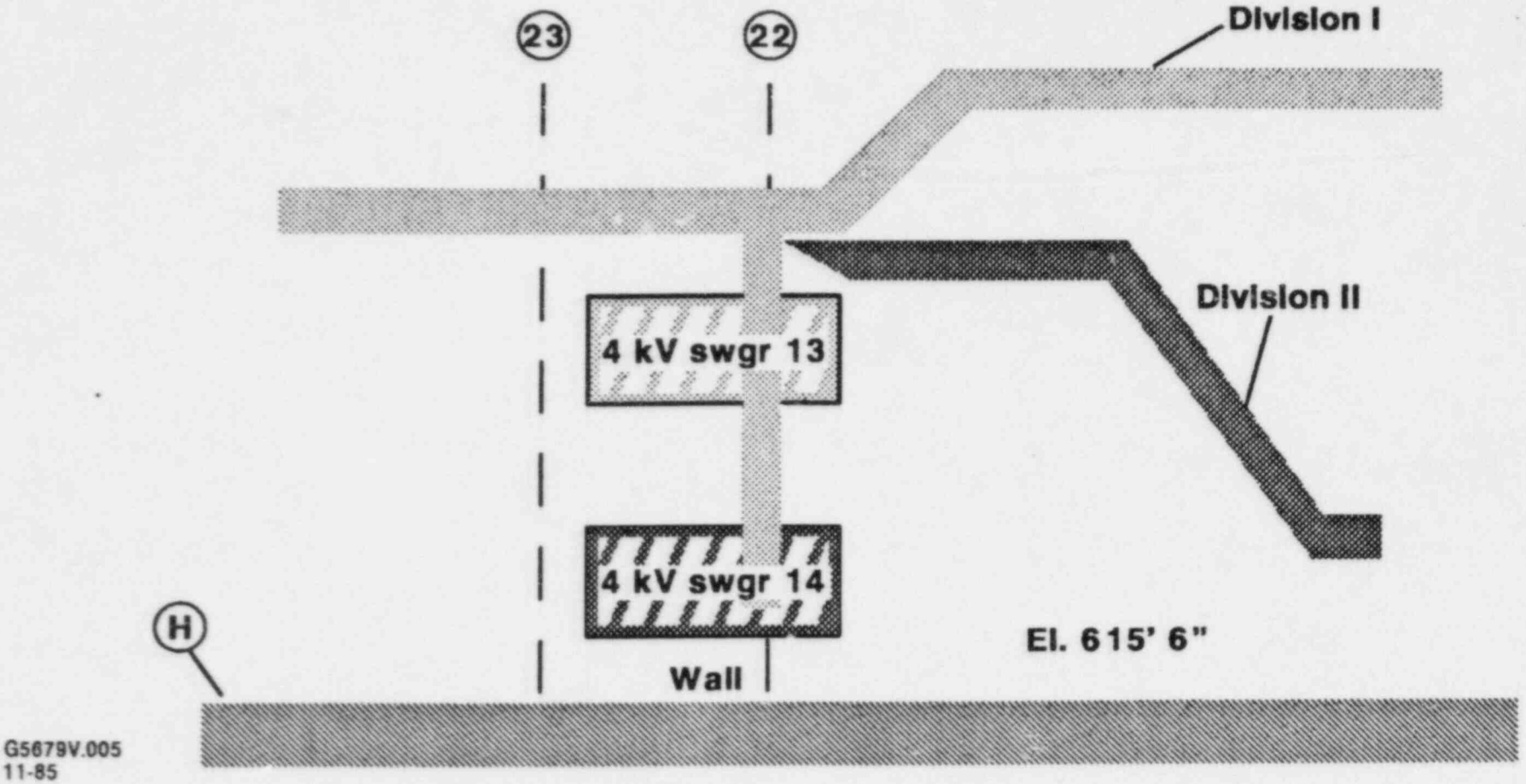


FIGURE 4

ATTACHMENT 6

PROPOSED LICENSE AMENDMENTS - DRESDEN

Unit/License	Affected Section
Dresden Unit 2 - DPR-19	Page 4, License Condition 3.H
Dresden Unit 3 - DPR-25	Page 4, License Condition 3.G

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3. F. Restrictions

Operation in the coastdown mode is permitted to 40% power. Should off-normal feedwater heating be necessary for extended periods during coastdown (i.e. greater than 24 hours) the Licensee shall perform a safety evaluation to determine if the MCPR Operating Limit and calculated peak pressure for the worst case abnormal operating transient remain bounding for the new condition.

Am. 58
3/31/81

G. Equalizer Valve Restriction

The valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation.

H. The licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.23 of the NRC's Fire Prtotection Safety Evaluation (SE) dated March 1978 or as modified by subsequent supplemental SE's. All modifications are to be completed in accordance with the schedules identified in the SE or supplements thereto. In addition, the licensee shall submit the additional information identified in Table 3.1 of the SE in accordance with the schedule contained therein. In the event these dates for submittal cannot be met, the licensee shall submit a report, explaining the circumstances, together with a revised schedule.

I. Physical Protection

The licensee shall full implement and maintain in effect all provisions of the following Commission approved documents, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). These approved documents consist of information withheld from public disclosure pursuant to 10 CFR 2.790(d).

(1) "Security Plan for the Dresden Nuclear Power Station", dated November 19, 1977 as revised May 19, 1978, May 27, 1978, July 28, 1978 and February 19, 1979.

Am. 56
2/11/81

(2) "Dresden Nuclear Power Station Safeguards Contingency Plan", dated March 1980, as revised June 27, 1980, submitted pursuant to 10 CFR 73.40. The Contingency Plan shall be fully implemented, in accordance with 10 CFR 73.40 (b), within 30 days of this approval by the Commission.

3. E. Restrictions

Operation in the coastdown mode is permitted to 40% power. Should off-normal feedwater heating be necessary for extended periods during coastdown (i.e. greater than 24 hours) the Licensee shall perform a safety evaluation to determine if the MCPR Operating Limit and calculated peak pressure for the worst case abnormal operating transient remain bounding for the new condition.

Am. 42
4/16/80

Am. 84
9/17/85

F. Deleted

G. The licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.23 of the NRC's Fire Prtotection Safety Evaluation (SE) dated March 1978 or as modified by subsequent supplemental SE's. All modifications are to be completed in accordance with the schedules identified in the SE or supplements thereto. In addition, the licensee shall submit the additional information identified in Table 3.1 of the SE in accordance with the schedule contained therein. In the event these dates for submittal cannot be met, the licensee shall submit a report, explaining the circumstances, together with a revised schedule.

H. Physical Protection

The licensee shall full implement and maintain in effect all provisions of the following Commission approved documents, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). These approved documents consist of information withheld from public disclosure pursuant to 10 CFR 2.790(d).

(1) "Security Plan for the Dresden Nuclear Power Station", dated November 19, 1977, as revised May 19, 1978, May 27, 1978, July 28, 1978 and February 19, 1979.

Am. 49
2/11/81

(2) "Dresden Nuclear Power Station Safeguards Contingency Plan", dated March 1980, as revised June 27, 1980, submitted pursuant to 10 CFR 73.40. The Contingency Plan shall be fully implemented, in accordance with 10 CFR 73.40(b), within 30 days of this approval by the Commission.

ATTACHMENT 7

PROPOSED LICENSE AMENDMENTS - QUAD CITIES

Unit/License	Affected Section
Quad Cities Unit 1 - DPR-29	Pages 4 and 5, License Condition 3.F
Quad Cities Unit 2 - DPR-30	Pages 4 and 5, License Condition 3.F

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D. Equalizer Valve Restriction

Am. 25
3/12/76

The valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation.

E. Physical Protection

Am. 64
3/19/81

The licensee shall fully implement and maintain in effect all provisions of the following Commission approved documents, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). These approved documents consist of information withheld from public disclosure pursuant to 10 CFR 2.790(d):

(1) "Quad Cities Nuclear Power Station Unit Nos. 1 and 2 Physical Security Plan" dated November 18, 1977, Revision 1 - May 19, 1978, Revision 2 - May 27, 1978, Revision 3 - July 28, 1978.

(2) "Quad Cities Nuclear Power Station Safeguards Contingency Plan," dated March 1980, as revised June 27, 1980, submitted pursuant to 10 CFR 73.40. The Contingency Plan shall be fully implemented, in accordance with 10 CFR 73.40(b), within 30 days of this approval by the Commission.

(3) "Quad Cities Nuclear Power Station Guard Training and Qualification Plan," dated August 18, 1979, as revised August 1980. This Plan shall be followed in accordance with 10 CFR 73.55(b)(4), 60 days after approval by the Commission. All security personnel, as required in the above plans, shall be qualified within two years of this approval. The licensee may make changes to this plan without prior Commission approval if the changes do not decrease the safeguards effectiveness of the plan. The licensee shall maintain records of and submit reports concerning such changes in the same manner as required for changes made to the Safeguards Contingency Plan pursuant to 10 CFR 50.54(p).

F. The licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.13 of the NRC's Fire Protection Safety Evaluation (SE), dated July 27, 1979 or as modified by subsequent supplemental SE's. These modifications will be completed in accordance with the schedule in Table 3.1 of the SE or supplements thereto.

F. In addition, the licensee shall submit the additional information identified in Table 3.2 of this SE in accordance with the schedule contained herein. In the event these dates for submittal cannot be met, the licensee shall submit a report explaining the circumstances, together with a revised schedule.

The licensee is required to implement the administrative controls identified in Section 6 of the SE. The administrative controls shall be in effect immediately, except for those modifications indicated in Section 3.1 of the SE, which shall become effective on the dates indicated in Table 3.1 of the SE or as modified by supplements to the SE.

G. Systems Integrity

Am. 61
2/06/81

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and

2. Leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

J. Iodine Monitoring

Am. 61
2/06/81

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel;

2. Procedures for monitoring, and

3. Provisions for maintenance of sampling and analysis equipment.

K. Provisions to allow operation with one recirculation loop out of service:

1. The steady-state thermal power level will not exceed 50% of rated

Am. 73
6/30/81

2. The Minimum Critical Power Ratio (MCPR) Safety Limit will be increased .03 to 1.10 (T.S. 1.1.A and 3.3.5C)

D. Equalizer Valve Restriction

Am. 12
4/21/75

The valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation.

E. Physical Protection

Am. 58
3/19/81

The licensee shall fully implement and maintain in effect all provisions of the following Commission approved documents, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). These approved documents consist of information withheld from public disclosure pursuant to 10 CFR 2.790(d):

(1) "Quad Cities Nuclear Power Station Unit Nos. 1 and 2 Physical Security Plan" dated November 18, 1977, Revision 1 - May 19, 1978, Revision 2 - May 27, 1978, Revision 3 - July 28, 1978.

(2) "Quad Cities Nuclear Power Station Safeguards Contingency Plan," dated March 1980, as revised June 27, 1980, submitted pursuant to 10 CFR 73.40. The Contingency Plan shall be fully implemented, in accordance with 10 CFR 73.40(b), within 30 days of this approval by the Commission.

(3) "Quad Cities Nuclear Power Station Guard Training and Qualification Plan," dated August 18, 1979, as revised August 1980. This Plan shall be followed in accordance with 10 CFR 73.55(b)(4), 60 days after approval by the Commission. All security personnel, as required in the above plans, shall be qualified within two years of this approval. The licensee may make changes to this plan without prior Commission approval if the changes do not decrease the safeguards effectiveness of the plan. The licensee shall maintain records of and submit reports concerning such changes in the same manner as required for changes made to the Safeguards Contingency Plan pursuant to 10 CFR 50.54(p).

F. The licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.13 of the NRC's Fire Protection Safety Evaluation (SE), dated July 27, 1979 or as modified by subsequent supplemental SE's. These modifications will be completed in accordance with the schedule in Table 3.1 of the SE or supplements thereto.

F. In addition, the licensee shall submit the additional information identified in Table 3.2 of this SE in accordance with the schedule contained herein. In the event these dates for submittal cannot be met, the licensee shall submit a report explaining the circumstances, together with a revised schedule.

The licensee is required to implement the administrative controls identified in Section 6 of the SE. The administrative controls shall be in effect immediately, except for those modifications indicated in Section 3.1 of the SE, which shall become effective on the dates indicated in Table 3.1 of the SE or as modified by supplements to the SE.

H. Systems Integrity

Am. 56
2/06/81

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and

2. Leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

I. Iodine Monitoring

Am. 56
2/06/81

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel;

2. Procedures for monitoring, and

3. Provisions for maintenance of sampling and analysis equipment.

J. Provisions to allow operation with one recirculation loop out of service:

1. The steady-state thermal power level will not exceed 50% of rated

Am. 66
6/30/81

2. The Minimum Critical Power Ratio (MCPR) Safety Limit will be increased .03 to 1.10 (T.S. 1.1.A and 3.3.5C)

ATTACHMENT 8

SIGNIFICANT HAZARDS CONSIDERATION

DESCRIPTION OF AMENDMENT REQUEST

These proposed amendments to the Operating Licenses for Dresden Units 2 and 3 and Quad Cities Units 1 and 2 modify existing license conditions addressing fire protection requirements. The revised license conditions reference a supplemental Safety Evaluation (SE) to be issued in response to Commonwealth Edison's request for relief from certain modification requirements specified in the original SE. In addition, revised completion dates for certain modifications would be identified in the Supplemental SE. A description of the specific relief requests and revised completion dates is provided in the other attachments to this transmittal.

BASIS FOR PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Commonwealth Edison has performed an evaluation of the hazards considerations associated with the proposed License Amendments utilizing the criteria in 10 CFR 50.92. Our evaluation of the three criteria if 10 CFR 50.92(c) is provided below.

The proposed amendments do not involve a signficant increase in the probability or consequences of an accident previously evaluated because they involve relief from previous modification requirements that have been shown to be unnecessary by current analyses. Relief requests are based on updated Fire Hazards analyses and/or current safe shutdown analyses. These analyses demonstrate that a fire in the affected area of the plant would not propagate to the extent of causing damage to safety-related equipment which could prevent safe plant shutdown. The revised schedules for modifications not yet complete are administrative provisions. Interim compensatory measures have been implemented where appropriate until each item is completed.

The proposed amendments do not create the possibility of a new or different kind of accident from any accident previously evaluated because they represent relief from a small fraction of the original SE requirements which all dealt with the issue of fire protection. The proposed amendment will not significantly impact the manner in which the facilities are operated or designed and do not authorize the installation of any equipment which could initiate an accident.

The proposed changes do not involve a significant reduction in a margin of safety because they do not affect requirements of the Technical Specifications which are provided to protect the margin of safety. Current safe shutdown analyses, evaluations of fire loadings, existing protection systems, and interim measures currently in place assure that damage due to fire would be limited and would not prevent safe plant shutdown.

For the reasons stated above, and based on the additional information provided with this transmittal, Commonwealth Edison finds that the proposed amendments do not involve a significant hazards consideration based on the criteria of 10 CFR 50.92(c). We, therefore, request approval of the proposed amendments under the provisions of 10 CFR 50.91(a)(4).

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