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HQ

September 30, 1988

Mr. A. Bert Davis
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Dresden Station Units 2 and 3
Response to Open Items Concerning
Emergency Operating Procedures
NRC Docket Nos. 50-237 and 50-249

Reference: G.C. Wright letter to Cordell Reed dated
August 18, 1988 transmitting Inspection
Report 50-237/88012; 50-249/88014 Concerning
Emergency Operating Procedures

Dear Mr. Davis:

Dresden Station has taken actions to resolve open items identified in the referenced NRC report concerning the Dresden Emergency Operating Procedures (DEOP). The deficiencies noted are being addressed on both a short and longer term basis.

On a short term basis, to simplify their use, the station has eliminated the DEOP dual column format and now utilizes only the flow chart format procedures to execute steps that relate to the Emergency Procedure Guidelines (EPGs). Control room and simulator procedures are presented in a similar manner. Reference and typographical errors identified by the NRC team have been corrected. Accessibility problems mentioned in the report have been eliminated.

On a longer term, Dresden is currently working to upgrade the DEOPs to reflect Revision 4 of the generic Boiling Water Reactor Owners Group (BWROG) EPGs. Items that will be addressed in the DEOP upgrade include: a more detailed approach to incorporate human factor principles, precision limits of installed instrumentation, consistent format of support procedures, and multi-disciplinary involvement and maintenance of DEOPs.

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A.B. Davis

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September 30, 1988

The enclosed response addresses the resolution of each of the specific open items in the reference report, including our completion plans for any of the remaining longer term items.

Please note that a two week extension from the original schedule for this response was approved based on discussion with M.A. Ring on September 16, 1987.

Please contact this office should further information be required.

Very truly yours,



J. A. Silady
Nuclear Licensing Administrator

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Attachments

cc: B.L. Siegel - Project Manager, NRR
S.G. DuPont - NRC Senior Resident Inspector, Dresden

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COMMONWEALTH EDISON COMPANY'S

RESPONSE TO INSPECTION REPORT

50-237/88012; 50-249/88014 FINDINGS

Dresden Station has taken actions to resolve the open items identified in the above NRC inspection report. To ensure technical adequacy of Dresden Emergency Operating Procedures (EOPs), these items were reviewed by Dresden On Site Review No. 88-45. Resolution of these open items is described below:

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1. Open Item: 50-237/88012-01; 50-249/88014-01. Dresden has reviewed the documentation available for the Drywell Spray Initiation Pressure Limit Calculation. At the present time, Dresden believes the 5 psig differential pressure limit between torus and drywell (DW) is adequate based upon a study, PNPS Vent System Negative Pressure Capability, July 11, 1986, conducted by Boston Edison on the Pilgrim Station Mark I containment. This study verified a torus to DW differential pressure capability of 8 psid. Since the Pilgrim and Dresden containments were built of the same material and by the same constructor, the 5 psig differential pressure limit is considered a valid assumption. However, to further verify this, Dresden is conducting a study to generate a site specific number for Dresden containment. The site specific number will be input to the development of EOPs based on Emergency Procedure Guidelines (EPGs) Revision 4.
 2. Open Item: 50-237/88012-02; 50-249/88014-02. The Boiling Water Reactor Owner's Group (BWROG) EPGs require entry to the Primary Containment Control EOP when average drywell temperature exceeds the maximum normal operating average drywell temperature. Due to the location of the DW temperature sensors and the instrumentation installed at Dresden, a reading of average DW temperature cannot be practically obtained. ~~Examination of the printouts of DW temperature chart recorders 2(3)-1340-1 for the month of August, 1988 shows that~~ Due to geometric configuration of thermocouples and their location near equipment that has a higher than ambient temperature during operation, the 200°F is an appropriate Dresden Emergency Operating Procedure (DEOP) entry condition. The entry condition for Primary Containment Control will remain at 200°F DW temperature as indicated on any temperature point.

COMMONWEALTH EDISON COMPANY'S

RESPONSE TO INSPECTION REPORT

50-237/88012; 50-249/88014 FINDINGS

Dresden Station has taken actions to resolve the open items identified in the above NRC inspection report. To ensure technical adequacy of Dresden Emergency Operating Procedures (EOPs), these items were reviewed by Dresden On Site Review No. 88-45. Resolution of these open items is described below:

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3. Open Item: 50-237/88012-03; 50-249/88014-03. The Emergency Core cooling System (ECCS) Suction Nomographs were developed prior to the addition of torus pressure instrumentation with instrument taps at torus bottom. The intent of the ECCS suction nomograph in caution of DEOP 010 is to protect ECCS pumps from cavitation while pumping torus water which has been heated close to saturation temperature. A review of the data used to develop the ECCS Suction Nomographs shows that the correlation between Drywell and Torus Pressure may be incorrect when Torus Water Level is above 11 feet (level of DW vent openings). The ECCS Suction Nomograph has been revised to use newly installed Torus Bottom Pressure Indication which indicates from 0 to 100 psig. Consequently, the Drywell Pressure and Torus Level effects are no longer a concern.
4. Open Item: 50-237/88012-04; 50-249/88014-04. This item consists of twenty-eight parts. Dresden EOPs have been revised to correct items noted in parts 1, 3 to 6, 9 to 12, 14 to 24, 26, & 27. The remaining parts are resolved as follows:

Part 2: The PSTG Step that is identified in this part should actually be SP/T-4. The information missing from this step (SP/T-4) is due to a typographical error (one line of the step from the generic EPGs was inadvertently omitted). The PSTG step will be revised as part of the upgrade to EPGs, Rev. 4. The associated step of DEOP 200-3 is constructed consistent with the intent and full content of the corresponding step of the applicable generic EPGs.

Part 7: Authorization to bypass interlocks, if necessary, to operate drywell coolers has been incorporated into EPG Revision 4 (Step DW/T-1); therefore, retaining this instruction in DEOP-2 Step C2 is technically justified on a generic basis. Further, providing authorization to defeat isolation interlocks accommodates concurrent actions directed by other DEOPs (e.g., lowering RPV water level as specified in DEOP 400-4) that may otherwise preclude drywell cooler operation.

The 5 psig drywell pressure limit for operation of drywell coolers replicates the same operating limit imposed in the drywell cooler system operating procedure. Operation of drywell coolers at higher pressures (greater air density) may cause the fan motors to overheat. Actions taken to protect equipment are permitted whenever other overriding concerns do not preclude such actions.

Part 8: The first override in DEOP 200-1 has been revised for consistency with the PSTGs by deleting references to torus cooling.

The instruction to close the drywell spray valves is executed only after sprays have been initiated. The current placement of this instruction is consistent with the basic intent of the PSTGs; therefore, no change to DEOP 200-1 in this regard is necessary.

Part 13: The parallel construction in DEOP 100 for the various actions to insert control rods is consistent with that incorporated in EPG Revision 4 (Step RC/Q-7.2); therefore, this construction is technically justified on a generic basis. The sequence of actions appropriate to affect control rod insertion is event dependent, and the operator must consider relevant available information in order to determine the correct sequence.

Part 25: The intent of the DEOPs is to execute appropriate action steps before the torus airspace pressure reaches or exceeds the Pressure Suppression Pressure Limit, the Primary Containment Design Pressure Limit, or the Primary Containment Pressure Limit. When the DEOPs were originally developed there was no torus airspace pressure indication. Correction factors were applied to permit the use of DW pressure indication in the DEOPs instead of installing torus airspace pressure indication.

Examination of the calculations performed for DEOP development found an adjustment was made erroneously for the Pressure Suppression Pressure Limit and Primary Containment Design Pressure Limit curves. It was found that a level correction factor was inappropriately applied giving a lower than required DW pressure. No correction factor of any type was applied in the development of the Primary Containment Pressure Limit Curve. The end result is the Pressure Suppression Pressure Limit, Primary Containment Design Pressure Limit, and Primary Containment Pressure Limit curves are slightly on the conservative side justifying the use of these curves as they are now presented in the DEOPs.

Part 28: Dresden Administrative Procedure DAP 9-13, Procedural Response to Abnormal Conditions, was issued August 30, 1988. The procedure establishes a hierarchy of procedure categories to follow during abnormal conditions. DEOPs are given top priority followed by Dresden General Abnormals, Dresden Operating Abnormals and Annunciator Procedures. This provides the operator with guidance if conflicts between procedures arise during abnormal conditions.

5. Open Item: 237/88012-05; 249/88014-05. Dresden is currently working to upgrade the DEOPs to reflect BWROG EPG Revision 4. As part of this program, new procedures for maintenance and review of DEOPs are being developed. These procedures include separate stand-alone Validation and Verification Program procedures. Emphasis is being placed on incorporating human factors principles, properly accomodating precision limits of installed instruments, defining and implementing a consistent format for support procedures, a multi-disciplinary involvement in procedure development activities, and formally establishing a commitment for continued periodic management review. The DEOPs coordinator is actively working with the groups responsible for Detailed Control Room Design Review and the Plant Labeling Program. This will ensure that when DEOPs are upgraded to EPG Revision 4, the nomenclature in the DEOPs will match the nomenclature in the plant and control room. The station is also providing a controlled storage space for boron chemicals and has corrected the accessibility problems noted in Attachment B of the NRC report. The storage space will be established by December 1, 1988.

The issuance of an improved DEOP administrative program and implementation of upgraded DEOPs will resolve this open item.

A tentative schedule for completion of the corrective action is as follows:

December 16, 1988	Upgraded DEOP Administrative program approved by station.
March 31, 1989	DEOPs revised to BWROG EPG Revision 4.
April through June, 1989	Basic classroom Training on upgraded DEOPs.
June through December, 1989	Simulator training on upgraded DEOPs.
December 31, 1989	Full implementation of upgraded DEOPs.