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ACCESSION NBR:8208300035 DOC.DATE: 82/08/20 NOTARIZED: NO DOCKET #
FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316
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RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Submits status of five areas in each plant protected w/carbon dioxide suppression sys,but w/o dampers in all ventilation openings,Design review continues.

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August 20, 1982
AEP:NRC:0670B

Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
FIRE PROTECTION - VENTILATION OPENINGS IN CO_2 PROTECTED AREAS

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

Dear Mr. Denton:

As stated in our letter No. AEP:NRC:0670A dated July 2, 1982, we are currently reviewing CO_2 protected areas in the Cook Plant to verify proper control of their ventilation openings. This letter provides a status report concerning five areas in each Unit of the Plant which are protected with CO_2 suppression systems, but which do not have dampers in all of their ventilation openings.

Three of the five areas we have identified in our review have ventilation openings in their ceilings which are not equipped with dampers. These three areas in both Units 1 & 2 include the Switchgear Rooms, 609'-0" elevation (Fire Zones 40, 41, 42, 45, 46, and 47); the Switchgear Cable Enclosures, 625'-10" elevation (Fire Zones 55 and 60); and the Electrical Cable Penetration Tunnels - Quadrant 3M, 596' - 3½" elevation (Fire Zones 10 and 24). These ceiling openings are ducted to the outdoors and are away from any significant fire exposure. The CO_2 suppression systems employed in these areas are not affected by the lack of dampers since CO_2 is heavier than air and will not escape through these ceiling openings until the room is purged of air. In addition, previous concentration tests in these areas have demonstrated that an adequate CO_2 concentration is capable of being maintained. It is our conclusion that the present design of the fire protection systems employed in these areas is sufficient for fire protection purposes and represents sound fire protection engineering practice. As such, installation of dampers in these areas is not necessary or required. This rationale has previously been applied in our "Response to Appendix A to Branch Technical Position APCSB 9.5-1 for Unit Nos. 1 and 2", dated January 31, 1977, wherein we described the ventilation system installed

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in the Switchgear Cable Spreading Area (Section II.F.3.b.ii on Page 72) as not requiring dampers since the ventilation openings are at ceiling level and open to the outdoors.

The fourth area we have identified in our review is the Electrical Cable Penetration Tunnels - Quadrant 4, 596'-3½" elevation (Fire Zones 8 and 26) of each Unit which have 4' by 6' open grating hatches located in their ceilings. The 4' by 6' openings supply air to the Cable Penetration Tunnel complexes and communicate with the East Steam Valve Enclosures of each Unit (Fire Zones 33 and 34). While these openings did not negatively affect the performance of the CO_2 suppression systems, as demonstrated in previous concentration tests, there is a possibility that a fire in Fire Zone 8 or 26 could extend to Fire Zone 33 or 34, respectively, even though the fire loading in Zones 8 and 26 is low. As such, a Class B (1½ hour rated) fire damper will be installed in each of these openings as required by the fire loading.

In the course of our review of this area, we have noted that a Class B (1½ hour rated) fire damper exists in the ventilation openings in the common walls separating Fire Zones 8 and 7 (Unit 1) and Fire Zones 26 and 27 (Unit 2). These openings are identified in our Fire Hazards Analysis Report as being equipped with Class B dampers. Fire Doors 333 (Unit 1) and 334 (Unit 2), alongside these openings in these common walls, have previously been upgraded from Class B to Class A doors in accordance with our commitment to implement Item 11 of Table 1 of the NRC's Fire Protection Safety Evaluation Report dated July 31, 1979. At the time the Items in Table 1 were implemented, neither the NRC nor American Electric Power Service Corporation (AEPSC) applied the rationale that was used for upgrading of the doors to the dampers. Class A (3 hour rated) fire dampers will be installed in these openings to be consistent with the ratings of their common walls and fire doors.

The fifth area we have identified in our review is the Electrical Penetration Tunnels - Quadrant 2, 612'-0" elevation (Fire Zones 38 and 39) which have ventilation openings located in the walls. There are a total of four openings (two per Unit), none of which are equipped with dampers. One opening is ducted through the room while the second opening is used as a common exhaust point for the room and the duct from the first opening. The fire exposure in both cases is low and the openings did not affect the performance of the CO_2 suppression system, as demonstrated in previous concentration tests. We currently plan to install Class B (1½ hour rated) fire dampers in these four openings.

As stated in our letter No. AEP:NRC:0660 dated March 1, 1982, and in Mr. W. G. Smith, Jr.'s March 2, 1982 letter to Mr. J. G. Keppler, we are redefining the scope of Technical Specification 3/4.7.10 to include surveillance of fire doors and dampers as well as piping and cabling penetration fire seals. This Technical Specification will become applicable to those dampers presently installed in the Plant on

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

September 1, 1982. The requirements of this Technical Specification will be applied to the dampers we currently plan to install in the ventilation openings of the Diesel Generator Rooms, as discussed in our letter No. AEP:NRC:0670A, and in the ventilation openings of Quadrants 2 and 4 of the Electrical Penetration Tunnels, as discussed in this letter, when these dampers are installed.

We will keep you informed if other areas resulting in a similar situation are identified during our design review.

This document has been prepared following Corporate Procedures which incorporate a reasonable set of controls to ensure its accuracy and completeness prior to signature by the undersigned.

Very truly yours,

R. S. Hunter
Vice President

/os

cc: John E. Dolan - Columbus
M. P. Alexich
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R. C. Callen
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