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June 26, 1987

Mr. T. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Dresden Unit 2
"Systematic Evaluation Program IPSAR
Topic III-4.A - Tornado Missiles"
NRC Docket No. 50-237

Dear Mr. Murley:

During the Staff review of the subject topic, Mr. Dru Persinko (NRC) requested additional information concerning the following:

"The tornado missile PRA (Attachment 1) considered the probability of a tornado missile striking safety-related targets. One of the targets selected was an exterior wall on Column Line "C" between the Radwaste Building and the Turbine Building (See page 2 and 28 of the PRA; target #4). What safety-related equipment is behind this wall?"

To thoroughly address this concern, a review has been made of the entire wall along Column Line "C". This is the outermost, North wall of the Dresden 2 and 3 Turbine Building. Portions of wall are exterior surfaces and other portions abut the Radwaste Building. The Column Line "C" wall is constructed of different materials at different locations. Some sections of the wall are constructed of poured concrete. Other sections are constructed of steel columns and beams, removable precast concrete panels, block walls, and metal siding. Drawings B-155, B-156, B-585, and B-586 have been marked to identify the type of wall construction. Copies of these drawings are attachments 2-5. As indicated on these drawings, concrete walls 18 inches thick, and greater, are considered missile barriers. Walls which do not fit this category are considered vulnerable to tornado missiles.

Safety related piping and equipment located directly behind the vulnerable walls, is shown on the general arrangement drawings M-3 and M-4. Copies of these drawings are attachments 6 and 7. Equipment separated from vulnerable walls by interior building walls, is not shown. Safety related cable trays are not shown, however, the point at which cable trays come closest to the target wall (in the central corridor along Column 44) is shown.

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*Approval
To: Reg Files*

The safety related equipment behind the target wall is highlighted on Drawings M-3 and M-4. It consists of:

- 1) Standby Gas Treatment (SBGT) Units (M-3).
- 2) Instrument Rack 2223-28A, 28B, 29A (M-3).
- 3) Panels 2/3 A-7506 and 2/3 B-7506 (M-3).
- 4) LPCI Service Water Lines 3-1514-16", 3-1514-10", 2-1514-16", and 2-1510-16" (M3).
- 5) SBGT Line 2/3-7509-24" (M3 and M4)
- 6) Diesel Generator Cooling Water Lines 2/3-3930-8", 2-3930-8", and 3-3930-8" (M-4).

For the most part, the foregoing list of equipment is located between building columns 42 and 48 (see attachments 6 and 7). All of this safety-related equipment is between elevations 517' to 534' (Ground Floor) and 534' to 549' (Mezzanine Floor). This area establishes "Target 4" of the PRA.

Although the probability of a missile hit to Target 4 is essentially zero (Attachment 1, pages 26 and 27), an additional barrier wall exists which the PRA did not take credit for. Just inside the Radwaste Building, and running parallel to the "C" Column Line wall, is a 32 inch thick concrete barrier. This wall spans columns 40 to 45 and elevation 517' to 529'. Although this wall does not fully cover Target 4, it substantially reduces the missile window for the safety-related equipment on the ground floor. This wall is shown, highlighted in blue, on Attachments 6, 8 and 9.

It is believed that this letter thoroughly addresses the concern about Column Line "C", which is understood to be the remaining concern of SEP Topic III-4.A.

In conclusion, based upon the low probability of a tornado missile striking Target 4, and of the existence of the barrier wall in the Radwaste Building, the risk of a tornado missile impacting safety-related equipment behind the column line "C" wall is very low.

If you have any questions concerning this, please contact this office.

Very truly yours,



I.M. Johnson
Nuclear Licensing Administrator

cc: M. Grotenhuis - NRR
Resident Inspector - Dresden
A.B. Davis - Region III

Attachments

- 1) Probabilistic Assessment of Tornado Missile Hazard at Dresden Nuclear Generating Station - Units 2 & 3. Sargent & Lundy Report No. SAD-410, Rev. 1, March 18, 1983.
- 2) Turbine Building Framing Drawing - Columns; 35 to 38; Unit 2; - Drawing B-156.
- 3) Turbine Building Framing Drawing - Columns; 38 to 44; Unit 2; Drawing B-155.
- 4) Turbine Building Framing Drawing - Columns; 44 to 50; Unit 3; Drawing B-586.
- 5) Turbine Building Framing Drawing - Columns; 50 to 53; Unit 3; Drawing B-585.
- 6) General Arrangement Drawing - Ground Floor Plan; Elevation 534' to 549'; Drawing M-4.
- 7) General Arrangement Drawing - Mezzanine Floor Plan; Elevation 534' to 549'; Drawing M-3.
- 8) Turbine Building Piping Drawing - Unit 2; Drawing M-131.
- 9) Turbine Building Piping Drawing - Unit 3; Drawing M-443.