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December 31, 1985

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

Subject: Dresden Station Unit 2
 Reliability of Offsite Power
NRC Docket No. 50-237

Reference: Letter from M.S. Turbak to H.R. Denton dated
 December 13, 1985

The referenced letter provided a discussion of the Dresden electrical distribution system with respect to General Design Criterion No. 17 requirements as a follow-up to the August 16, 1985 Dresden Unit 2 loss of normal AC power event. The letter also discussed the preferred source of power feed (bus 1 or 3) to the Dresden Unit 2 Reserve Auxiliary Transformer (TR22). This letter is provided to clarify and expand on the information provided in the reference which concluded that the choice of bus section 1 or 3 as the power feed to TR 22 should remain at the discretion of station management.

The referenced letter provided the results of a reliability study of bus 1 versus bus 3. This study indicated that bus 1 was somewhat more reliable than bus 3 due to the existence of Dresden 1 Transformer 12 which is normally tied directly to bus 3. In our letter, we stated that this reliability advantage was offset by concerns regarding potential low voltage conditions on bus 1. Our letter indicated that if bus 2 were lost for any reason, a low voltage condition on bus 1 would be expected, necessitating the transfer of power feed for TR 22 to bus 3. This statement requires clarification in that the loss of bus 2 in itself would not normally result in low voltage on bus 1. As shown in the attached figure from the Dresden Updated FSAR, bus 1 is fed by two 138KV lines. If bus 1 were disconnected from bus 2, bus 1 would be isolated and fed only by these two 138KV lines. This situation in conjunction with a heavy load period and/or reduced generating capacity at the stations feeding these lines could result in low voltage on bus 1. This consideration becomes more important during summer peak load periods, especially considering the reduction in reliability due to aging of the older generating units feeding the 138kV system.

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 AD - G. LAINAS (Ltr only)

December 30, 1985

By comparison, bus 3 has greater diversity and voltage support by virtue of its available ties to buses 2 and 4. In addition to 138KV feeds, buses 2 and 4 are tied to the 345KV system through transformers 83 and 81 respectively. This configuration allows disconnection of bus 2 (or 4) while maintaining a link to the 345KV system through bus 4 (or 2). This greater diversity in available power feeds to bus 3 represents an advantage over bus 1 from a voltage support standpoint.

The offsite electrical distribution system is obviously a dynamic system. Availability of equipment, generating units and transmission lines can change quickly and frequently. For this reason, it is important for us to maintain the flexibility to fully utilize the diversity in offsite power feeds available at Dresden. The reliability of bus 3 has been good over past years even considering the connection to Dresden Unit 1 Transformer 12. The August 16, 1985 event was the first occurrence of its type in approximately 15 years of Dresden 2 operation. In light of this we reiterate our previous conclusion that restricting the source of power feed to TR 22 is not warranted.

If you have any further questions regarding this issue, please contact this office.

Very truly yours,

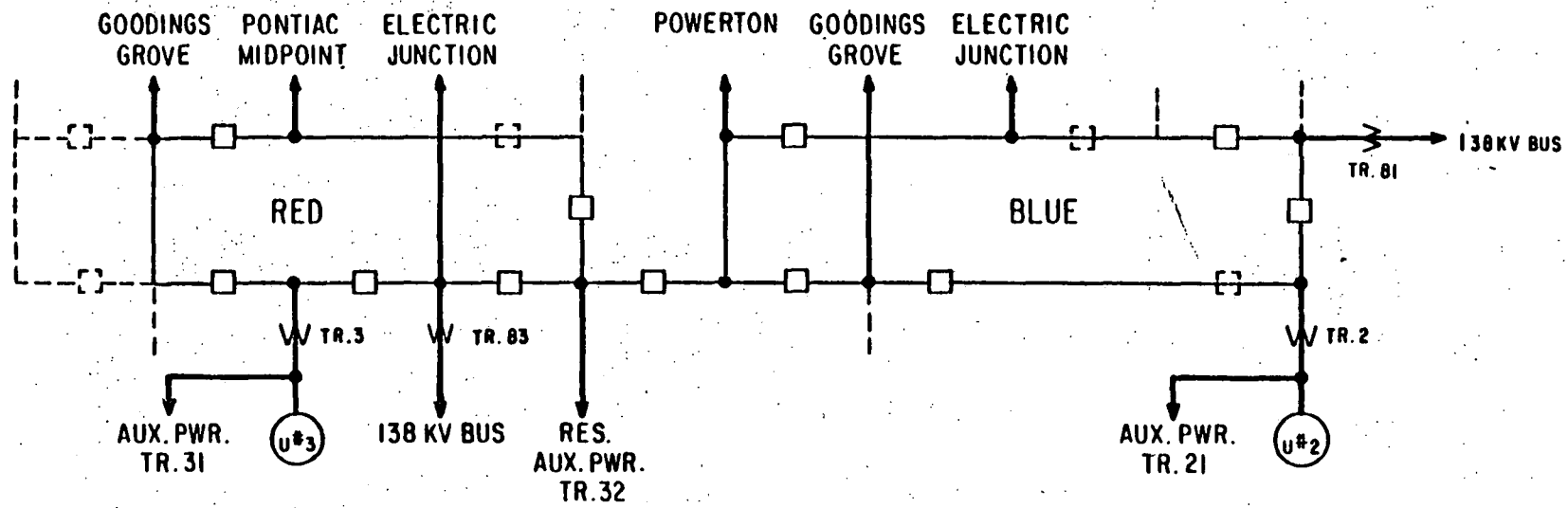


M. S. Turbak
Operating Plant Licensing Director

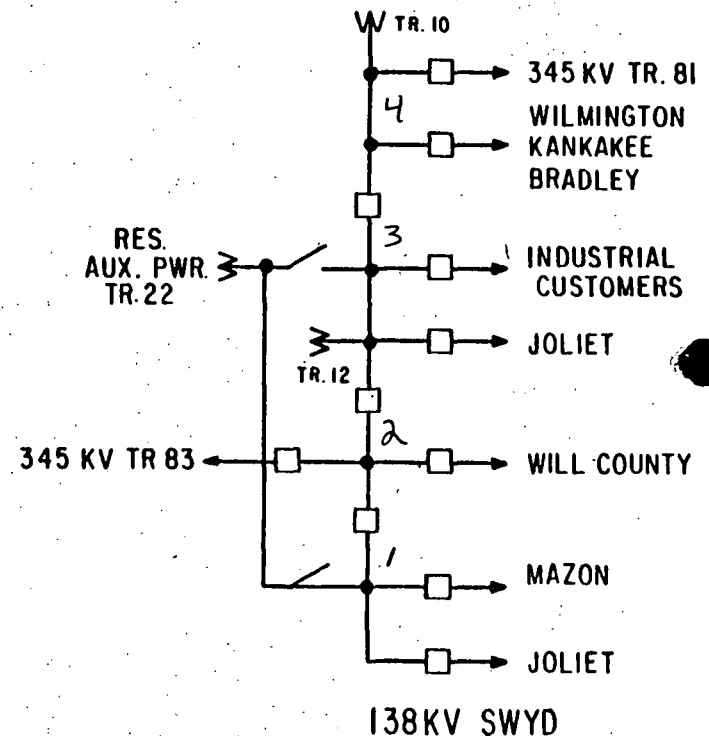
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cc: J. Streeter - Region III
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NRC Resident Inspector - Dresden

1058K



345KV SWYD



138KV SWYD

FIGURE 8.2.1-1 SINGLE LINE DIAGRAM 345KV, 138KV SWYD'S