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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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Before the Atomic Safety and Licensing Board

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of:)	
)	Docket Nos. 50-329
CONSUMERS POWER COMPANY,)	50-330
)	
(Midland Plant, Units 1 and 2))	<u>Operating License</u>

RESUBMISSION OF CONTENTION 56
ON STATION BLACKOUT BY MARY SINCLAIR

September 20, 1982

This resubmission of Contention 56 on loss of A.C. power is in response to Board recommendation in the Supplement to Prehearing Conference Order (August 19, 1982, p. 33). NUREG-0510, (p. A-20), states that station blackout has been elevated to the highest priority as a safety issue as Generic Task A-44.

The loss of A.C. power resulting in station blackout is even more significant at the Midland site not only because of the many problems with the diesel generator building (DGB) which must be relied upon for on site power at such a time, but also because of many other circumstances which have already been demonstrated at numerous other operating plants (NUREG/CR/2497).

FES 4-10 states that "ice storms are not uncommon in the vicinity of the site." Furthermore, p. 5-6 states that because of the heavy fogging from the cooling pond, "during cold weather formation of ice on elevated objects also increases." This means that the cables, power lines and other equipment needed for the DGB will be more likely to fail due to ice formation than would normally be expected. This also means that more snow weight and ice will form on the DGB. Dr. Charles Anderson in his report on the DCB to the Advisory Committee on Reactor Safeguards on May 20, 1982, addressed the problem of additional heavy snow loads on the DGB saying that this could cause the building to collapse because it is so badly structurally impaired at the present time.

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NRC's response to Interrogatory 31.d, p. 51, states: "Diesel generator performance, in general, is not affected by the structure in which it is located, except for extremes such as total building failure, excessive differential movement between diesel generator and building foundations, or improper design of combustion air intake and exhaust systems."

All three of these conditions are likely to affect the DGB performance at Midland. For example, the failure of the building itself could be caused by ice and a heavy snow load, as Dr. Charles Anderson pointed out. Excessive differential movement between diesel generator and building foundations can also be expected. In his prepared statement on Soil/Structure Interaction Problems (May 20-21, 1982) Dr. Charles Anderson stated, "It appears that, in this case, especially the DGB--secondary settlement has not occurred. I believe settlement for the DGB is not yet completed, but will continue for some years causing further stress and cracking to the building."

The uneven settlement thus far indicates that more "differential" settlement can occur.

Thus, the Staff's conclusions (NRC's response to Interrogatory 31.d, p. 52, and SER2.5.4, and 3.8) that "the applicant's remedial efforts must result in a DGB which conforms to NRC acceptance and can withstand any design basis event without excessive differential movement between the foundations for the diesel generators and the diesel generator building" are made on assumptions that are false. They do not take into account secondary settlement. They are also conclusions drawn months before the hearings on the DGB have even been held which can yield further disclosures that would challenge the validity of these statements. The same is true, and for the same reasons, of Staff's conclusion that the DGB settlement will not impair the structural integrity and functional capability of the underground diesel fuel oil and service water lines entering and exiting the DGB. (Ibid)

To the extent that the Zack Co. was responsible for the design construction and installation of the combustion air intake and exhaust systems for the DGB, these cannot be relied upon to function properly either due to the well documented Zack quality control failures.

The Staff's conclusions that the design of the combustion air intake and exhaust system is acceptable (Ibid, SER 3.9.3 and 9.5.8) does not take into account the extensive disclosures made about Zack's quality control breakdowns on the HVAC system provided by Albert Howard in July, 1982, after the SER was issued in May, 1982. (also see Contention 6, 8 and 16 accepted by the ASLB on August 14, 1982).

Therefore, Staff's assumptions for these statements are based on false and incomplete data, and the resolution of these items remains uncertain.¹

In tracking the effectiveness of the A.C. on site emergency power system, the record shows that the NRC has found an unacceptable percentage of mis-routed cables, some of which could cause failure of the emergency portion of the on site power and distribution system which is relied upon in case of loss of A.C. power. (Gardner's testimony, Feb. 19, 1982)

Two start up transformers are to provide redundant, independent sources of off site power to the 4160-VESF buses of both Units 1 and 2. While the lines for these transformers have independent rights of way, they do share a common corridor near the Midland plant (SER 8-4). This means that they could both be affected simultaneously by the heavy icing that can be expected in the vicinity of the cooling pond, according to FES 9-19.

NUREG 0510 (A-20) states that besides requiring diverse power drives for the auxiliary feedwater pumps, studies are underway to determine whether specific time requirements should be required during which the plant must be capable of accommodating a station blackout.

The acceptance criteria for the auxiliary feedwater system at Midland states that the placement and orientation of each of the Midland turbine-generators is unfavorable with respect to the station reactor buildings and, therefore, could adversely affect the operation of the auxiliary feedwater system. (SFR, 3-9).

¹The above statements (¶ 2, p. 2, and ¶1 and 2, p. 3) constitute Intervenor Mary Sinclair's more complete response to Applicant's response to revised Contention 52 on the reliability of the DGB (p.14) and the Staff's response to Revised Contention 52 on p. 11.

In Applicant's response to Sinclair's "Discovery Question for Consumers Power Co. on New Contentions Accepted August 14, 1982" (Interrogatory I - Contention 3, a), the LER's from Palisades and Big Rock were included which were a part of the record used for the severe accident probability assessment report NUREG/CR/2497 (June, 1982), "Precursors to Potential Severe Core Damage Accidents: 1969-1979, a Status Report."

Seven of the 9 events reported involved a loss of off site power.

The first loss of power accident occurred at Palisades four months into operation. The accident included the loss of the off site power, as well as the failure of on site power (diesel generator 2 didn't load). Six of the nine loss of power events involved electrical malfunctions due to design errors or unknown causes.

The seventh loss of off site power event occurred at Big Rock. It was caused by an intense winter storm-rain changing to heavy snow and ice-high winds caused lines to sway causing what is referred to as "galloping conductors" in which line faults occurred as the lines move relative to one another. The line was de-energized for approximately two hours until repairmen, who were hampered by considerable blowing and drifting of snow, could make essential repairs. (These types of weather conditions also have significant implications for emergency planning).

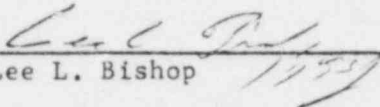
Since all these adverse conditions that can affect the performance of the DGB and the redundant emergency power systems which must operate to prevent station blackout are present at Midland, the findings required by 10 CFR §§50.57(a)(3)(i) and 10 CFR §§50.57(a)(6) cannot be made on the basis of this information.

Accordingly, we request Contention 56 as follows:

Contention 56

There is no basis for a finding of reasonable assurance that the Midland facility can be operated safely during a loss of all AC power and resulting station blackout.

Respectfully submitted,



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