UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 23 1979

MEMORANDUM FOR: A. Schwencer, Chief, Operating Reactors Branch #1, Division of Operating Reactors

FROM: G. Lainas, Chief, Plant Systems Branch, Division of Operating Reactors

SUBJECT: PRAIRIE ISLAND, UNIT 1 AND 2, REQUEST FOR ADDITIONAL INFORMATION FOR DEGRADED GRID VOLTAGE (TACS 10045 AND 10044)

Plant Name: Prairie Island, Unit Nos. 1 and 2
Docket Nos.: 50-282 and 50-306
Responsible Branch: ORB #1
Project Manager: M. Grotenhuis
Reviewing Branch: Plant Systems Branch
Status: Awaiting Information

In response to technical assistance request TACS 10045 and 10044, the Plant Systems Branch has reviewed the licensee's submittal of May 4, 1978 and found that additional information is required in order to complete our review.

The attached request for additional information should be forwarded to the licensee as soon as possible with a request for response within 45 days.

G. Lainas, Chief
Plant Systems Branch
Division of Operating Reactors

Contact:
S. Rhow, X28077
J. Ibarra, LLL

Enclosure:
As stated

NRC-POR



cc w/enclosure:
D. Eisenhut
W. Gammill
B. Grimes
M. Grotenuis
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D. Tondi
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REQUEST FOR ADDITIONAL INFORMATION

PRAIRIE ISLAND, UNITS 1 AND 2

DEGRADED GRID VOLTAGE

(TACS 10045 and 10044)

1. State the voltage setpoint and time delay for the second level of degraded votlage protection. These values, with tolerance, will have to be included in a Technical Specification change. Provide sufficient information (voltage drop analyses) to allow our independent verification that the undervoltage protection voltage setpoint and time delay selected will not cause spurious separation of safety buses from offsite power during all modes of plant operation (start-up, shutdown, operation and accident condition) due to automatic on manual starting of large motors, bulk or sequential loading or automatic transfer of electrical loads. The analyses should include conditions when the safety buses are supplied power from the Unit Auxiliary Transformer, the start-up/reserve transformer or other available offsite connections and assuming the need for electrical power is initiated by an anticipated transient (e.g., unit trip) or an accident, whichever presents the largest load demand.

2. In the Northern States Power Company's letter dated May 4, 1978, two alternatives are given to comply with Position 2, of NRC letter dated June 3, 1977 (Safety Evaluation and Statement of Staff Positions Relative to the Emergency Power Systems for Operating Reactors). The alternative selected for your final design and the appropriate Technical Specification change must be provided for our review and evaluation.

3. Describe your design for the case of bus de-energization, load rejection, voltage restoration, and load sequencing, given an onsite power interruption when the diesel generators are supplying power. Also, describe your test scheme and explain how the sequence of events can be verified by testing.