



Northern States Power Company

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December 8, 1983

Director  
Office of Nuclear Reactor Regulation  
U S Nuclear Regulatory Commission  
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
Docket Nos. 50-282 License Nos. DPR-42  
50-306 DPR-60

Procedures to Assure  
Adequacy of Station Distribution System Voltages

On November 7 and 10, 1983 Mr John F Streeter, Chief, Engineering Branch #1, Region III, USNRC, visited the Prairie Island Nuclear Generating Plant as part of a special inspection into the circumstances surrounding an actuation of the degraded voltage protection logic at our Monticello Nuclear Generating Plant. After his visit Mr Streeter requested that the following actions, related to prevention of a similar event at Prairie Island be documented:

- a) Safety evaluation to support allowable ranges for substation voltages currently specified in procedures to maintain adequate safeguards bus voltages.
- b) Procedures issued following the Monticello event to be upgraded to provide more operator guidance.
- c) Review of historical low values in Prairie Island substation voltages.

A response by December 9, 1983 was requested by Mr Streeter.

A detailed safety evaluation has now been completed and reviewed by the Prairie Island Operations Committee to support currently specified allowable substation voltages. A copy of this evaluation is available on site for inspection. Copies have also been provided to Mr Streeter and the Prairie Island Project Manager in the Division of Licensing for their use.

Our temporary operating procedure issued following the Monticello event has now been upgraded and approved by the Prairie Island Operations Committee. A copy of this procedure is available on site for inspection. Copies have also been provided to Mr Streeter and the Prairie Island Project Manager in the Division of Licensing for their use.

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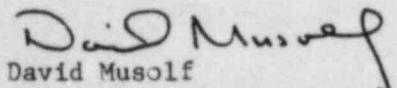
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Historical variations in the substation bus voltages have been reviewed. The scope and this review was limited to the current calendar year because of the short time allowed to complete our response. The results of this review are summarized in the attached table.

Please contact us if you have any questions related to the information we have provided.



David Musolf  
Manager - Nuclear Support Services

DMM/dab

c: J G Keppler  
NRC Resident Inspector  
NRR Project Manager, NRC  
G Charnoff

Attachment

TABLE 1 - Hours in 1983 When 345 Kv Bus Voltage 345 Kv or Less

UNIT 1				UNIT 2			
Total Plt MVAR	Date	Time 2400 hrs	Reactive Load MVAR	Voltage (KV)	Time 2400 hrs	Reactive Load MVAR	Voltage (KV)
-65	1/12/83	0600	None Taken	345	0600	-49.9	345
		0609	+7.4	342			
-106	2/27/83	1800	-109.9	343	1800	0.0	342
-100		1900	-110.6	343	1900	0.0	343
-130		2000	-133.6	344	2000	-0.1	342
-65	4/2/83	0900	-84.3	344	0900	-2.5	344
-85	5/8/83	2100	-78.1	344	2100	None Taken	345

NOTE: 161Kv bus voltage regulated at all times by load tap changer on No. 10 transformer to 168 ± 2Kv