



Northern States Power Company  
Prairie Island Nuclear Generating Plant  
1717 Wakonade Dr. East  
Weich, Minnesota 55089

October 24, 1995

U S Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

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

Response to Request For Additional Information  
Regarding An Issue Raised in June 5, 1995 2.206 Petition

By letter dated September 25, 1995, the NRC Staff requested additional information related to the reactor vessel head cracking issue raised in the June 5, 1995 2.206 petition for the Prairie Island Nuclear Generating Plant. The response to that request for additional information is attached.

This letter contains no new Nuclear Regulatory Commission commitments. Please contact Gene Eckholt (612-388-1121) if you have any questions related to the information provided.

Michael D Wadley  
Plant Manager  
Prairie Island Nuclear Generating Plant

c: Regional Administrator - Region III, NRC  
Senior Resident Inspector, NRC  
NRR Project Manager, NRC  
J E Silberg  
Prairie Island Coalition Against Nuclear Storage  
Nuclear Information & Resources Service

Attachment: Response to September 25, 1995 Request For Additional Information

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## **Response to September 25, 1995 Request For Additional Information**

### **NRC Question:**

Have any demineralizer resin intrusions occurred at Prairie Island?

### **Response:**

There have been no demineralizer resin intrusions into the reactor coolant systems at Prairie Island.

### **NRC Question:**

If so, has Northern States Power Company assessed the demineralizer resin intrusion incident at the Zorita Plant and what are its implications regarding the Prairie Island Nuclear Generating Plant?

### **Response:**

Northern States Power assessed the Zorita Plant resin intrusion event for applicability to Prairie Island in response to a Westinghouse Nuclear Safety Advisory Letter. The advisory letter was found to be not applicable because there have been no resin intrusions at Prairie Island.

### **NRC Question:**

How much resin, expressed as explicit impurity concentrations, may enter the clean-up system when resin beds are replenished?

### **Response:**

System design and resin replacement procedures isolate the chemical and volume control system from the mixed bed demineralizer during resin replacement. Waste resin, as well as new resin flush and conditioning water, goes into the liquid waste system and not into the reactor coolant system. In addition there is a purification filter downstream of the demineralizers to catch any lost resin beads if a problem develops with the demineralizer screens. This filter will prevent resin beads from getting in to the reactor coolant system, and will alert us to any problem with the resin screens.

If resin did reach the reactor coolant system, with the system at normal operating temperatures, approximately 200ml of resin would be required to elevate the reactor

coolant system sulfate concentration to our administrative limit of 50ppb. Such an increase in the reactor coolant system sulfate concentration would be evaluated to determine the cause and any necessary corrective action would be taken. To this date, there have been no reactor coolant system chemistry changes indicative of a resin intrusion.

**NRC Question:**

What are the primary system water chemistry limits for such impurities as sulfates and chlorides?

**Response:**

Prairie Island Technical Specification 3.1.E specifies the following limits:

<u>Contaminant</u>	<u>Steady State Limits (ppm)</u>	<u>Transient Limits (ppm)</u>
Chloride	0.15	1.5

The chloride limits are the same for reactor coolant system temperature > 250°F, or <250°F. There are currently no requirements for sulfate concentrations in the Prairie Island Technical Specifications.

Prairie Island Administrative Procedures specify the following limits:

<u>Contaminant</u>	<u>Steady State Limits (ppm)</u>
Chloride	0.050
Sulfate	0.050

**NRC Question:**

What other primary water impurities are monitored?

**Response:**

Prairie Island Technical Specification 3.1.E requires monitoring of oxygen and fluoride in addition to chlorine for comparison to steady state and transient limits.

Prairie Island Administrative Procedures require monitoring of silica and conductivity, in addition to the above, for use as a diagnostic tool.

**NRC Question:**

If demineralizer resin intrusions have occurred at Prairies Island, what are Prairie Island's plans for an integrated, long-term inspection and monitoring program for CRDM penetrations?

**Response:**

There have been no resin intrusions at Prairie Island.