



Northern States Power Company

414 Nicollet Mall  
Minneapolis, Minnesota 55401  
Telephone (612) 330-5500

June 18, 1984

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

Information Related to Procedures Generation Package

In a letter dated May 11, 1984 from Mr James R Miller, Chief, Operating Reactors Branch #3, Division of Licensing, USNRC we were requested to provide additional information in five areas related to our May 31, 1984 generation package for emergency procedures. The purpose of this letter is to provide the requested information.

Attachment (1) is a copy of the information requested by the NRC Staff. Attachment (2) contains our responses prepared by the Prairie Island Nuclear Technical Services group.

Please contact us if you require additional information related to this issue.

David Musolf  
Manager - Nuclear Support Services

DMM/dab

c: Regional Administrator - III, NRC  
NRR Project Manager, NRC  
Resident Inspector, NRC  
G Charnoff

Attachments

8406260137 840618  
PDR ADOCK 05000282  
F PDR

ADD!  
11

Director of NRR, USNRC  
June 18, 1984  
Attachment (1)

REQUEST FOR ADDITIONAL INFORMATION  
PRAIRIE ISLAND NUCLEAR GENERATING PLANT UNIT NOS. 1 AND 2

The staff is reviewing the Procedures Generation Package (PGP) for Prairie Island Unit Nos. 1 and 2 submitted by letter from David Musolf to the Director of the Office of Nuclear Reactor Regulation dated May 31, 1983. We have determined that additional information is needed to conduct a detailed review of the Plant-Specific Technical Guidelines and Validation/Verification portions of the PGP. The staff is currently conducting a detailed review of the two remaining portions of the PGP, the plant-specific writer's guide and the training program. So that we may continue our review of the Plant-Specific Technical Guidelines and the Validation/Verification Program, the following information should be provided as a revision to the PGP.

1. A description of the process used to determine the applicability of the actions specified in the generic technical guidelines to your plant. This should be a detailed description of the engineering evaluation or analysis, to the specific operator task level, that was performed to modify the generic guidelines and apply them to Prairie Island Unit Nos. 1 and 2.
2. If the process described in item 1 identifies any safety significant deviations from, or additions to the generic technical guidelines (because of different plant equipment operating characteristics or design), the PGP should: (1) describe the evaluation performed to determine the safety significance of the deviations, (2) identify the safety significant deviations or additions, and (3) provide the technical justification (i.e., engineering evaluation or analysis, as appropriate) for the plant-specific approach.
3. Describe the process for using the generic guidelines and background documentation to identify the characteristics of needed instrumentation and controls. For the information of this type that is not available from the ERG and background documentation, describe the process to be used to generate this information (e.g., from transient and accident analyses) to derive instrumentation and control characteristics. This process can be described in either the PGP or Detailed Control Room Design Review Program Plan with appropriate cross-referencing.
4. For potentially safety-significant plant-specific deviations from the ERG instrumentation and controls, provide in the PGP a list of the deviations and their justification. These should be submitted in the plant-specific technical guideline portion of the PGP, along with other technical deviations.
5. Provide a description of the methods that Northern States Power Company will use to validate/verify emergency operating procedures developed by this program.

The information is needed to provide assurance that a sound basis, and a formal, documented process are used for making current and future modifications to emergency operating procedures.

Director of NRR, USNRC  
June 18, 1984  
Attachment (2)

1. To determine the applicability of actions specified in the generic technical guidelines to Prairie Island, a comparison was performed between the reference plant, used for development of the generic guidelines, and Prairie Island.

The reference plant is described in the Westinghouse Emergency Response Guideline (ERG) background information. It describes each of 25 separate plant systems to the extent necessary to provide technical guidance on the operation of plant system in response to an emergency transient but not in a detail which exceeds that specifically identified in the ERGs. Each of these system descriptions was then compared to Prairie Island and a list of differences was obtained. Review of this list indicates no safety significant differences exist between Prairie Island and the reference plant.

The method used to generate procedures from the generic guidelines, involved review of the guidelines, supporting background information, existing plant emergency, abnormal, and normal operating procedures and other plant reference material as necessary (Technical Specifications, FSAR, Flow and Logic Diagrams). The ERGs are generally specific in what operator tasks are required to perform a required step. In some areas the ERGs require that plant specific means or setpoints be entered. These were researched by reviewing existing procedures, system drawings or discussions with operators and system engineers. Appropriate tasks were written and entered into the procedure. Consolidation of certain ERG steps were done to assist in operator performance of the tasks. For example, three steps are used in the ERGs to assure auxiliary feedwater flow: 1. Verify AFW pumps running, 2. Verify AFW flow, and 3. Verify AFW valve alignment. These were consolidated into one step dealing with AFW flow. Setpoints are another area which required input into the ERGs to create plant specific Emergency Procedures. These were researched through review of plant documentation and a setpoint document was created for use in procedure development to insure consistent and accurate application of the setpoint information.

2. As described in item 1 above, no safety significant deviations to the generic guidelines were identified.

3. The process of using the generic guidelines and background documentation to identify the characteristics of needed instrumentation and controls will be described in our Detailed Control Room Design Review Summary Report. Our approach to performing Systems Review and Task Analysis was described in the program plan submitted in June, 1983 and audited during the control room design review NRC in-progress audit performed in March, 1984. Unless further clarification is received from the NRC, we plan on meeting the intent of the NRC memorandum summarizing the meeting held with the Westinghouse Owners Group Procedure Subcommittee and NRC staff representatives on March 29, 1984. (NRC memorandum dated April 5, 1984 from H. Brent Clayton to Dennis L. Ziemann).
4. No safety significant plant-specific deviations from the ERG instrumentation and controls have been identified. Further work is being done, by the Control Room Design Review Program, in this area consistent with the intent of the NRC memorandum summarizing the meeting held with the Westinghouse Owners Group Procedure Subcommittee and NRC staff representatives on March 29, 1984 (NRC memorandum dated April 5, 1984 from H. Brent Clayton to Dennis L. Ziemann).
5. The plant specific procedures have undergone several validations/verification processes.
  - 1) Table-top validation/verification of the procedures during operator requalification training session which consisted of each shift compliment (control room reactor operators, senior reactor operator, and shift supervisor) reviewing each procedure and providing comments. Procedures were reviewed for readability, completeness, accuracy, and technical content.
  - 2) Use of the procedures by licensed operators and licensed engineers during simulator training in the 1983 operator requalification program.
  - 3) Comparative evaluation to ensure that consistency was maintained between the procedures and the background documents.

4) Human Factor assessment utilizing an interdisciplinary team with engineering, operations, and human factors expertise performing walk/talk-through of the procedure at a full scale control board mockup. This assessment included component availability and arrangement and movement patterns. As a further compliment to the above validation/verification processes, the procedures are now being exercised on the plant-specific simulator during the 1984 licensed operator and licensed engineer requalification program. Recommended changes will be processed in accordance with our normal plant administrative control directive for procedure control. In addition the procedure will undergo a detailed human engineering review during the control room design review. The review will study:

- o Arrangement of related controls and displays
- o Traffic patterns
- o Component availability
- o Component labelling
- o Direct feedback verification of control position
- o Procedural sequence validity
- o Component suitability
- o Procedure-label consistency
- o Communication requirements
- o Manpower

A set of Human Engineering Deficiencies will be developed and evaluated in accordance with our Detailed Control Room Design Review Plan.