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50-282 Prairie Island Nuclear Station, Unit 1, Northern Stat 50-306 Prairie Island Nuclear Station, Unit 2, Northern Stat AUTHOR AFFILIATION

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MAYER, L.O. Northern States Power Co. RECIPIENT AFFILIATION RECIP.NAME

Office of Nuclear Reactor Regulation, Director

SUBJECT: Submits addl info on NUREG-0737, Item I, A, 1.1, "Shift Technical Advisor," re education & training qualifications. Requirements for non-degreed senior reactor operator qualifying as shift technical advisor encl.

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March 29, 1982

Director
Office of Nuclear Reactor Regulation
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Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

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



Shift Technical Advisor Education and Training Qualifications

In a letter dated February 24, 1982 from Mr Domenic B Vassallo, Chief, Operating Reactors Branch #2, Division of Licensing, we were requested to provide additional information on how our Shift Technical Advisors (STA's) meet the NRC requirement that they have the equivalent of a bachelor's degree. Specifically, for those candidates that do not hold a bachelor's degree, we were asked to justify in detail our basis for determining equivalency for a bachelor's degree in a scientific or engineering discipline and adequacy for general technical education as specified in the Commission's September 13, 1979 letter.

A description of Northern States Power Company's Shift Technical Advisor Program was provided in our letters dated January 30, 1981 and November 12, 1981. Our requirements are as follows:

A non-degreed \underline{SRO} $\underline{\text{licensed individual}}$ may qualify as Shift Technical Advisor by meeting either of the following criteria:

- (1) Possess an Engineer-in-Training certificate, pass a comprehensive written examination covering those subjects listed in Section 3.1 of the Program and complete the training described in Section 3.3 of the Program.
- (2) Possess five years of commercial nuclear plant operations experience, one year of which is control room experience (NSSS specific), pass a comprehensive written examination covering those subjects listed in Section 3.1 of the Program and complete the training described in Section 3.3 of the Program.



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An individual possessing a bachelor's degree in any field (not science or engineering) must have one year of commercial nuclear power plant experience, complete a Navy officer reactor engineering or nuclear power school (or the equivalent Bettis Atomic Power Laboratory, Knolls Atomic Power Laboratory, or Combustion Engineering training programs), and complete the plant specific training described in Sections 3.2 and 3.3 of the Program.

Approval of the Manager - Production Training, General Manager - Headquarters Nuclear Group, and General Manager - Nuclear Plants is required for a non-degreed SRO licensed individual meeting the aforementioned criteria to be qualified as STA. While we have not yet assigned a non-degreed individual to STA duties, we believe it is important to have the flexibility to do so in the case of exceptionally qualified and capable non-degreed senior licensed individuals. Knowledge gained through participation in the operator training and requalification program, independent study, and many years of experience in reactor operation provides, in many cases, a technical education unmatched by any college program.

Section 3.1 of the Program is a comprehensive list of science and engineering subjects in the area of reactor physics, chemistry, materials, reactor thermodynamics, fluid mechanics, heat transfer, radiation safety, and instrumentation and controls. This section generally includes the areas in the category "General Technical Education" in the Commission's September 13, 1979 letter. Section 3.2 of the Program is a comprehensive list of subjects in the area of reactor operations including plant systems, engineered safeguards, instruments and controls, and support systems. This section generally includes the areas in the category "Reactor Operations Training" in the Commission's September 13, 1979 letter. Emphasis is placed on operation of these systems from the control room. Section 3.3 of the Program consists of specific detailed training in transient and accident response, including simulator training, as required by the Commission's September 13, 1979 letter.

To provide assurance that the guidelines of the Commission's September 13, 1979 letter are satisfied with respect to depth of knowledge of fundamentals, we propose the additional requirement that a passing grade on the comprehensive written examination covering those subjects listed in Section 3.1 of the Program (General Technical Education) demonstrate at least the equivalent of 60 semester hours of college level instruction.

With the additional requirement noted above, we believe our methods for establishing the "equivalence" of a bachelor's degree for purposes of

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qualifying for the position of Shift Technical Advisor meet the intent of the Commission's guidelines. Please contact us if you require additional information related to this issue.

L O Mayer, PE

Manager of Nuclear Support Services

LOM/DMM/bp

cc Regional Administrator - III, USNRC
 Project Manager, NRC (Monticello & Prairie Island)
 Resident Inspector, NRC (Monticello & Prairie Island)
 G Charnoff