

MAR 21 1985

Docket No. 50-410

Mr. B. G. Hooten
Executive Director, Nuclear Operations
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Dear Mr. Hooten:

SUBJECT: SAFETY PARAMETER DISPLAY SYSTEM (SPDS) PREIMPLEMENTATION AUDIT

The staff has determined that the review of the Nine Mile Point 2 SPDS has progressed to the point where a preimplementation audit can be scheduled. Accordingly, enclosed is information regarding this audit, including an agenda.

You are requested to review this information and within 60 days, propose a date for this audit. We will make every effort possible to accommodate your requested date. Please note that the proposed audit date should be at least 6 months prior to fuel load.

Sincerely,

/s/

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure: As stated

cc: See next page

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LB#2/DL/BC
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1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research.

2. The second part of the report is a detailed description of the methods used in the study. It includes a description of the sample, the data collection methods, and the statistical methods used.

3. The third part of the report is a presentation of the results of the study. It includes a description of the findings and a discussion of the implications of the results.

4. The fourth part of the report is a conclusion and a summary of the findings.

5. The fifth part of the report is a list of references.

6. The sixth part of the report is a list of appendices.

7. The seventh part of the report is a list of footnotes.



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

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RE Martin
A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure: As stated

cc: See next page

Nine Mile Point 2

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AUDIT PLAN FOR
EVALUATION OF THE
NINE MILE POINT 2
SAFETY PARAMETER DISPLAY SYSTEM

Background

Staff evaluation of safety parameter display systems (SPDS) consists of reviews of the applicant/licensee's documentation (i.e. safety analysis report and implementation plan) and audit meetings/site visits. Three separate audit meetings/site visits, as described below, may be arranged through the Division of Licensing Project Manager. As dictated by the comprehensiveness of the applicant/licensee's documentation and the schedule for design and implementation of the SPDS, the objectives of these audits may be met in fewer site visits.

Design Verification Audit: The purpose of this audit meeting is to obtain additional information required to resolve any outstanding questions about the Verification and Validation (V&V) Program, to confirm that the V&V Program is being correctly implemented, and to audit the results of the V&V activities to date. At this meeting, the applicant should provide a thorough description of the SPDS design process. Emphasis should be placed on how the applicant is assuring that the implemented SPDS will: provide appropriate parameters, be isolated from safety systems, provide reliable and valid data, and incorporate good human factors engineering practice.

Design Validation Audit: After review of all documentation, an audit may be conducted to review the as-built prototype or installed SPDS. The purpose of this audit is to assure that the results of the applicant/licensee's testing demonstrate that the SPDS meets the functional requirements of the design and to assure that the SPDS exhibits good human factors engineering practice.

Installation Audit: As necessary, a final audit may be conducted at the site to ascertain that the SPDS has been installed in accordance with the applicant/licensee's plan and is functioning properly. A specific concern is that the data displayed reflect the sensor signal which measures the variable displayed. This audit will be coordinated with and may be conducted by the NRC Resident Inspector.

Based on the advanced state of the Nine Mile Point design, the staff plans to do a combined Design Verification and Design Validation audit at a mutually agreeable date.

Audit Schedule

The staff anticipates that the [redacted] will take two full days. After reviewing this agenda the applicant should propose an appropriate date for the audit. The staff will attempt to accommodate any reasonable date between April 15 and September 30, 1985.

NRC Audit Team

The NRC Audit Team will consist of representatives from the Human Factors Engineering Branch, Procedures and Systems Review Branch, and from the Instrumentation and Control Systems Branch. In addition, the staff will be assisted in the audit by Lawrence Livermore National Laboratory (LLNL).

Agenda

Day 1:

8:30 AM - Introductions, short entrance briefing (10 minutes) by NRC,
10:30 AM overview of SPDS design program and current status by
Niagara Mohawk including:

- 1) human factors analysis, standards, and criteria used in the design process, with emphasis on plant-specific considerations used to modify the BWR0G design
- 2) reliability - a) design characteristics
b) methods used to estimate reliability
- 3) data validation methodology used in SPDS and necessary supporting systems, i.e.,; Digital Radiation Monitoring System (DRMS) and Gaseous Effluent Monitoring System (GEMS).

10:30 AM - Description of Verification of Validation (V&V) program
2:30 PM including:

- 1) description of V&V team and demonstration of independence from the design team
- 2) available documentation for completed tasks and phases
- 3) test cases for validation of SPDS parameters and how they demonstrate the representativeness and useability of selected parameters
- 4) human factors aspects
- 5) plans for or results of dynamic simulator testing

2:30 PM - NRC questions and review of V&V documentation
4:30 PM

Day 2:

8:30 AM - 9:30 AM	Short tour of control room or simulator
9:30 AM - 12:00 PM	Demonstration of SPDS page formats in TSC/EOF/Simulator. Walk-through of a plant-specific scenario* that involves confirmation of containment isolation, monitoring of area radiation level and trend, and monitoring of gases releases.
1:00 PM - 3:30 PM	NRC audit of displays, display formats, interface devices, access and response times, etc.
3:30 PM	NRC caucus
4:00 PM	Exit briefing

* The applicant should develop this scenario. The scenario should be walked-talked through by an operator that has been familiarized with SPDS operation. Upgraded emergency operating procedures should be used for the walk-through.

