



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D. C. 20545

PDR

SEP 27 1972

Files (Docket No. 50-263)

THRU: D. L. Ziemann, Chief, ORB #2, L

D.L. Ziemann
MONTICELLO - ACRS SUBCOMMITTEE REVIEW FOR FULL-TERM OPERATING LICENSE

Members of the Monticello ACRS Subcommittee, H. Etherington and H. S. Isbin, met in Washington D. C., on September 11, 1972, with Northern States Power Company (NSP) and AEC Directorate of Regulation (DR) representatives to review the NSP application for a full-term operating license (FTOL) dated June 15, 1972, and the AEC Directorate of Licensing (DL) Safety Evaluation dated August 25, 1972. DL was questioned about General Electric report NEDO 10299 (January 1971), Flow Distribution Measurements in Monticello Core, specifically whether or not we had considered this report in the Monticello Safety Evaluation for a FTOL. We responded that the report had not been evaluated as part of the DL Safety Evaluation.

Mr. E. C. (Al) Ward was the spokesman for the NSP representatives when they joined the meeting and began their formal presentation. An agenda for the meeting and a list of NSP attendees was distributed while Mr. Etherington, Chairman of the Subcommittee, made his opening remarks which included plans for a second Subcommittee meeting prior to the full ACRS meeting which, at the conclusion of the meeting, was tentatively scheduled for October 5 or 6, 1972.

NSP followed the attached agenda with frequent references to their FTOL application. Dana Ditmore of General Electric (GE) presented the following comparative fuel information (not previously presented) as a basis for the conclusion that GE fuel clad creepdown is negligible and that, in accordance with GE NEDO 1050, "Fuel Irradiation Experience", supported by extensive visual, neutronic and gamma graph examination of GE irradiated fuel, there is no evidence of fuel clad collapse and none is expected.

Clad creepdown is an important clad collapse consideration, as GE sees it, based on the limited nonproprietary information on Ginna fuel clad collapse made available to them by the AEC.

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COMPARISON OF GE AND WESTINGHOUSE FUEL

	<u>Monticello</u>	<u>Ginna</u>
Fuel	UO ₂	UO ₂
Density (percent of theoretical)	95	90-92 & 94
Fuel diameter - inches	0.487	0.367
Gap - inches	0.012	0.0065
Clad	Zircaloy	Zircaloy
Clad diameter - inches	0.531	0.396
Clad thickness	0.032	0.024
Coolant pressure - psig	1015	2250
Mean clad temperature °F for top 1/3 core	585	660
Clad primary membrane stress psi	8600	18,500

GE representatives reported that 280 TIP scans were part of more than 7500 TIP scans reviewed by GE for evidence of nuclear signal perturbation that might be indicative of enlarged fuel pellet spacing gap or clad collapse. No such indications were expected or discovered. He also noted that total length of fuel columns had not changed by more than 0.5% and that this value may be lower because good preirradiation reference measurements were not made.

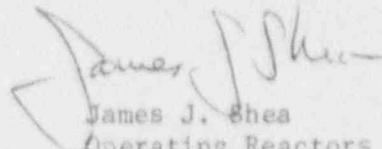
The Subcommittee requested:

1. NSP to furnish copies of all agreements with the State of Minnesota or other state agencies.
2. NSP to provide isotope release limits permitted by the State compared with proposed Appendix I to 10 CFR Part 50.
3. A point by point review of the P. A. Morris October 1971 letter to NSP.

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4. Reconsideration of the significance of the grinder caused torus damage.
5. Reevaluation of the effect on fuel life of transients such as primary system blowdowns. [GE had indicated that fuel rods with hydride blisters could pop earlier but that net (end of core life) fuel rod damage would not be increased by such blowdown incidents.]
6. A reanalysis by General Electric of the consequences of 1 second, or the fastest possible, isolation valve closure instead of the minimum assured time of 3 seconds as currently required by the Technical Specifications.
7. An evaluation by DR of comparative isolation valve closure and leak rates for operating BWRs.
8. An evaluation by DR of off-gas release experience as fuel depletes at other BWRs, and modifications that have been made at other operating BWRs.
9. An analysis of the effects of transient iodine releases during power level changes or blowdowns.

At the conclusion of the meeting, the Chairman confirmed the necessity for another Subcommittee meeting prior to the full ACRS meeting early in October to review in detail (2-3 hours) with the DL staff the DL Safety Evaluation for Monticello, to consider NSP evaluation of a number of significant abnormalities such as those revealed by NSP in Attachment 7, and other generic items to be identified by Dr. Isbin and made available to NSP through the DL staff. Dr. Isbin was to consult with the full ACRS committee with regard to desirability for the DL staff or the ACRS to meet with state officials to review arrangements and agreements between NSP and State of Minnesota agencies as related to accidents at Monticello that could affect the health and safety of the public, and advise us of the outcome.



James J. Shea
Operating Reactors Branch #2
Directorate of Licensing

Enclosures:

1. Agenda
2. List of significant abnormalities

cc: See attached list

cc w/enclosures:

AGiambusso, L

DJSkovholt, L

TJCarter, L

DLZiemann, L

JJShea, L

RMDiggs, L

MONTICELLO ACRS SUBCOMMITTEE MEETING

September 11, 1972

AGENDA

- | | | |
|----|---|--------------------------------|
| 1 | Introduction | Al Ward |
| 2 | Status of State Agencies | Al Ward |
| 3 | Status of Intervenor | Gerald Charnoff |
| 4 | General Office Management and Plant Organizatic | Lee Mayer |
| 5 | Physical Changes to the Plant | Marc Voth |
| 6 | Significant Operating Abnormalities or Deficiencies | Morgan Clarity |
| 7 | Other Plant Incidents Related to Monticello | Morgan Clarity |
| 8 | Nuclear Fuel - Generic Status | Dana Ditmore |
| 9 | Nuclear Fuel - Monticello | Marc Voth |
| 10 | Post-Accident Hydrogen Control | Duane Fitzgerald ^{LD} |
| 11 | January 10, 1970 ACRS Letter Items - Status Report | Duane Fitzgerald |

Discussion Items

MONTICELLO ACRS SUBCOMMITTEE MEETING

September 11, 1972

Applicant Attendees

NSP

E C (Al) Ward, Director, Engineering Vice Presidential Staff

Lee Mayer, Director - Nuclear Support Services

Gerry Neils, General Superintendent - Nuclear Power Plant Operation

Chuck Larson, Monticello Plant Manager

Morgan Clarity, Superintendent - Monticello Plant Engineering & Radiation Protection

Leon Eliason, Monticello Radiation Protection Engineer

Marty Dinville, Monticello Plant Engineer - Operations

Marc Voth, Administrator - Nuclear Support Services

Don Bohn, Supervising Environmental Engineer

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LEGAL COUNSEL

Gerald Charnoff, Shaw, Pittman, Potts, Trowbridge & Madden

GENERAL ELECTRIC

Jack Benson, Manager of Safety and Licensing Operational Plants

Fritz Frauenholz, Specialist - Safety and Licensing

Dana Ditmore, Manager of NFD Fuel Applications

CONSULTANTS

Dr Duane Fitzgerald, Senior Staff Consultant - NUS Corporation

Dr John Robinson, Nuclear Engineering - Black & Veatch

JRG SUBCOMMITTEE MEETING 9-11-74

Summary Outline of Systems Involving
Significant Operating Abnormalities and Deficiencies

1. FW System and pump problems.
2. Moisture separator level problems.
3. HPCI system, including ΔP , problems.
4. Recirc pump and pump seal problems.
5. Relief and safety valve problems.
6. Air ejector water loop seal problems.
7. RHR service water system problems.
8. Core reactivity problem.
9. MS flow restrictor problems.
10. MSIV problems.