

November 5, 2004

Mr. William O'Connor, Jr.
Vice President
Nuclear Generation
Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMIL POWER PLANT, UNIT 2
NRC INITIAL LICENSE EXAMINATION REPORT
NO. 05000341/2004301(DRS)

Dear Mr. O'Connor:

On September 24, 2004, the NRC completed initial operator licensing examinations at your Fermi Power Plant, Unit 2. The enclosed report presents the results of the examinations.

NRC examiners administered the operating test during the week of September 20, 2004. Members of the Fermi Power Plant training staff administered the written examination on September 20, 2004. Four reactor operator and four senior reactor operator applicants were administered license examinations. The results of the examinations were finalized on October 22, 2004. All eight applicants passed all sections of their respective examinations and were issued reactor operator and senior reactor operator licenses.

Although all eight applicants performed satisfactorily and passed the NRC initial license examination, the overall submittal of the examination material and the administration of the examination by your training staff was considered outside the acceptable quality range expected by the NRC in accordance with NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Draft. Specifically, the operating test material was outside the 20 percent acceptable margin for quality in accordance with NUREG 1021. This was based on the fact that 13 out of 37 items (6 out of 18 Job Performance Measures and 7 out of 19 scenario events) or approximately 35 percent of the operating examination material required either replacement or extensive modifications. Furthermore, the written examination material, although within the 20 percent acceptable margin, required significant enhancements and modifications to ensure an adequate level of quality for an NRC license examination. This determination was based on the fact that 18 percent of the written questions were identified as unsatisfactory with an additional 29 percent that required enhancements prior to the administration of the examination.

In addition, during the administration of the NRC license examination, significant problems occurred that required immediate corrective actions to adequately ensure proper examination of the applicants. First, during the administration of the written examination by your training staff,

a potential written examination compromise occurred. A security guard violated a posted NRC examination security boundary by using a secure restroom designated only for license applicants. The examiners also noted the potential vulnerability of the layout of the written examination area to written examination compromise. Furthermore, during the operating test, several simulator setup problems occurred which caused delays and required immediate corrections to appropriately examine the applicants (e.g., expected simulator malfunctions were not entered and simulator operational problems occurred).

In general, the overall submittal of the examination material was determined to be outside the acceptable quality range expected by the NRC. Future examination submittals and examination administration should incorporate any lessons learned from this evaluation.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

We will gladly discuss any questions you have concerning this examination.

Sincerely,

/RA/

Cynthia D. Pederson, Director
Division of Reactor Safety

Docket No. 50-341
License No. NPF-43

Enclosures: 1. Operator Licensing Examination
Report 05000341/2004301(DRS)
2. Simulation Facility Report
3. Written Examinations and Answer
Keys (RO & SRO)

cc w/encls 1 & 2: N. Peterson, Director, Nuclear Licensing
P. Marquardt, Corporate Legal Department
Compliance Supervisor
R. Whale, Michigan Public Service Commission
Michigan Department of Environmental Quality
Monroe County, Emergency Management Division
Emergency Management Division
MI Department of State Police

cc w/encls 1, 2 & 3: E. Kokosky, Training Manager

a potential written examination compromise occurred. A security guard violated a posted NRC examination security boundary by using a secure restroom designated only for license applicants. The examiners also noted the potential vulnerability of the layout of the written examination area to written examination compromise. Furthermore, during the operating test, several simulator setup problems occurred which caused delays and required immediate corrections to appropriately examine the applicants (e.g., expected simulator malfunctions were not entered and simulator operational problems occurred).

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Cynthia D. Pederson, Director
Division of Reactor Safety

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-341
License No: NPF-43

Report No: 05000341/2004301(DRS)

Licensee: Detroit Edison Company

Facility: Fermi Power Plant, Unit 2

Location: 6400 N. Dixie Highway
Newport, MI 48166

Dates: September 20 through 24, 2004

Examiners H. Peterson, Chief Examiner
D. McNeil, Examiner
N. Valos, Examiner
D. Reeser, Examiner In Training
C. Moore, Examiner In Training

Approved by: R. Lanksbury, Chief
Operations Branch
Division of Reactor Safety

Enclosure 1

SUMMARY OF FINDINGS

ER 05000341/2004301(DRS); 09/20/2004-09/24/2004; Fermi Power Plant, Unit 2; Initial License Examination Report.

The announced operator licensing initial examination was conducted by regional examiners in accordance with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Draft.

A. Examination Summary

- Four reactor operator (RO) and four senior reactor operator (SRO) applicants were each administered an initial license operating test and written examination.
- All eight applicants (four RO and four SRO) passed all sections of their respective examinations and were issued applicable reactor operator and senior reactor operator licenses. (Section 4OA5.1)

B. Licensee-Identified Violations

A violation of very low safety significance, which was identified by the licensee was reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. The violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA5 Other

.1 Initial Licensing Examinations

a. Examination Scope

The NRC examiners conducted an announced operator licensing initial examination during the week of September 20, 2004. The facility's training staff used the guidance established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Draft, to prepare the examination outline and to develop the written examination and operating test. Members of the Fermi training staff administered an initial license written examination on September 20, 2004. The NRC examiners administered the operating test on September 21 through September 24, 2004. Four senior reactor operator and four reactor operator applicants were examined.

b. Findings

Written Examination

The licensee developed the written examination. The NRC examiners determined that the written examination, as originally submitted by the licensee, was within the acceptable quality range expected by the NRC in accordance with NUREG-1021, Revision 9, Draft. However, the written examination material required significant improvements to ensure an adequate level of quality for an NRC license examination. This determination was based on the fact that 18 out of 100 written questions required replacement or significant modifications. This included 13 out of 75 RO questions (17 percent) and 5 out of 25 SRO questions (20 percent) identified as unsatisfactory. The minimum requirement to determine an adequate quality range, assessed separately for each RO and SRO examinations in accordance with ES-501 of NUREG-1021, was 20 percent or fewer questions identified as unsatisfactory. In addition, 29 questions (24 RO and 5 SRO questions) needed enhancements which were required to be completed prior to administration of the examination.

The licensee graded the examination on September 27, 2004, and conducted a review of each question to determine accuracy and validity of the examination questions. The licensee submitted no post-examination question changes.

Operating Test

The licensee developed the operating test. The NRC examiners determined that the operating test, as originally submitted by the licensee, was outside the acceptable quality range expected by the NRC in accordance with NUREG-1021, Revision 9, Draft. This determination was based on the fact that 13 out of 37 items (6 out of 18 Job Performance Measures (JPMs) and 7 out of 19 scenario events) or approximately

35 percent of the operating examination material required either replacement or extensive changes. The minimum requirement to determine an adequate quality range for the operating examination, in accordance with ES-501 of NUREG-1021, was 20 percent or fewer items that required replacement or significant modification.

The quality problems identified with the operating test material included, but were not limited to, the following items: (1) simulator scenario events and JPMs that did not require the applicant to perform sufficient verifiable actions to provide insight to the applicant's competence; (2) designation of incorrect JPM safety function; (3) insufficient level of detail for required operator actions for simulator scenario events in accordance with NUREG-1021; (4) scenario malfunctions that did not work as expected; (5) credit for scenario malfunctions incorrectly given to positions that required no actions; (6) incorrect identification of JPM critical steps; (7) inaccurate JPM validation times; (8) JPMs with low level of difficulty or low discriminatory value; and (9) significant number of editorial and typographical errors (e.g., wrong description and title of events, incorrect numbering of JPM steps, missing information on expected scenario events, etc.). Examination changes, agreed upon during the examination validation week of August 23 through 27, 2004, and subsequent verification of changes on September 9, 2004, between the NRC and the licensee, were made according to the guidance contained in NUREG-1021.

In addition, the examiners identified flaws during the examination administration week that required corrective actions to adequately examine the applicants. The problems with the administration of the examination included, but were not limited to, the following: (1) the expected malfunction for the core spray valve JPM was not inserted during the examination for one applicant which required the examiner to insert an additional failure of the pumps to achieve the required alternate path; (2) the expected drain valve manipulation for the reactor feed pump normal evolution for one scenario was not in the position as validated which required additional time to allow the applicant to roll the feed pump to adequately give credit for the normal evolution; and (3) a JPM malfunction for the Reactor Building Closed Cooling Water System temperature controller failure occurred earlier than required which resulted in the simulator being reset and the JPM restarted.

In general, the overall submittal of the examination material was determined to be outside the acceptable quality range expected by the NRC. Future examination submittals and examination administration should incorporate any lessons learned from this evaluation.

Examination Results

Four senior reactor operator and four reactor operator applicants were administered written examinations and operating tests for initial operator licensing. All eight applicants passed all portions of their respective examinations and were accordingly issued senior reactor operator and reactor operator licenses.

.2 Examination Security

a. Inspection Scope

The NRC examiners observed the licensee's implementation of examination security and integrity measures (e.g., physical barriers, sequestering, security agreements, sampling criteria, bank use, and test item repetition) throughout the examination process.

b. Findings

The licensee's implementation of examination security requirements during examination preparation and administration were acceptable and met the guidelines provided in NUREG-1021, Revision 9, Draft. However, during the facility licensee's administration of the written examination on September 20, 2004, an examination security incident occurred which had the potential to affect the integrity of the written examination.

During the written examination, an applicant who was allowed to make a restroom visit found a security guard using the secure restroom facility. The restroom facility was appropriately bounded by a security sign, "NRC Exam in Progress, STOP-DO NOT ENTER," and a roped barrier. The security guard apparently assumed that he was not impacted by the posted examination area and entered the restroom. The applicant immediately exited the restroom and informed the licensee's examination proctors of the incident. One of the two proctors immediately confronted the security guard and informed him that he was in a restricted area. The facility licensee documented the incident in the corrective action program as Condition Assessment Resolution Document (CARD) 04-24308, "Failure to Observe a Stop Sign." The NRC examiners were notified of the incident on September 21, 2004, the day following the incident and at the start of the operating test. The licensee performed a cause determination investigation which was documented in a supplement to CARD 04-24308, "Training Department's Investigation and Corrective Actions Related to the NRC Initial License Written Examination Security Incident."

The examiners reviewed the licensee's investigation and assessed the overall incident for possible violation of 10 CFR 55.49, "Integrity of Examinations and Tests." The examiners found that the length of time the applicant was exposed to the security guard was approximately 10 seconds and that no other incidents had occurred during the administration of the written examination. All the applicants and the security guard were interviewed by the facility licensee's training management to assess any possibility of examination compromise or integrity issues. The examiners reviewed the licensee's investigation results, including an assessment and matrix of the overall written examination grades to that of the pre-license audit examination. The examiners also reviewed the licensee's immediate corrective action to post a training program supervisor at the roped barrier. In addition, the licensee implemented a change to the examination security procedure, Nuclear Training Work Instruction, 5.09, "Proctoring and Grading Written Exams," to include positive accountability using escorts for restroom breaks, in addition to signs and barriers, to maintain a secure examination area. Based on the overall results of the licensee's investigation and the examiners' assessment of the written examination grades, the examiners determined that there was

no indication of examination compromise with the written examination. In conclusion, no violations of 10 CFR 55.49 occurred during the examination preparation and administration.

Although there was no violation of 10 CFR 55.49, the examiners informed the facility licensee of the potential vulnerability of only relying on signs and barriers for maintaining a secure examination area, especially if the examination area was not always in direct sight of the proctors, as was the case in the above noted incident. In addition, the licensee was informed that this incident was noted as a licensee identified violation of plant procedures, in that, the security guard failed to follow posted signs for examination security protocol. (Section 4OA7)

4OA6 Meetings

.1 Exit Meeting

The chief examiner presented the examination team's preliminary observations and findings on September 24, 2004, to Mr. W. O'Connor and other members of the Operations and Training Department staff. No proprietary items were identified during the administration of the examination nor during the exit meeting with the licensee. The licensee acknowledged the observations and findings presented.

4OA7 Licensee-Identified Violations

The following violation of very low significance was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Manual, NUREG-1600, for being dispositioned as a Non-Cited Violation.

Cornerstone: Mitigating Systems

Technical Specification 5.4.1, "Administrative Controls - Procedures," requires that written procedures shall be established, implemented, and maintained covering activities and procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, Item 1(d) of Appendix A requires administrative procedures focusing on procedural adherence. Licensee procedure, Nuclear Training Work Instruction, 5.09, "Proctoring and Grading Written Exams," required examination security posting to ensure the integrity and security of the NRC license examination. Contrary to the above, a licensee security guard, failed to adhere to a roped barrier and an examination security sign that read, "NRC Exam in Progress, STOP-DO NOT ENTER," and proceeded to use the restroom facility which was located on the other side of the security barrier. The licensee entered this issue into the corrective action program as CARD 04-24308, "Failure to Observe a Stop Sign," dated September 20, 2004. The violation was determined to be of very low safety significance (Green) since no actual compromise of the NRC license examination was identified based on verification of the licensee's investigation and overall assessment of the written examination results.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

W. O'Connor, Vice President - Nuclear Generation
D. Cobb, Plant Manager
T. Barrett, Operations Training Supervisor
S. Bollinger, Operations Training Instructor
M. Cadden, Operations Training Instructor
M. Doucet, Training Program Supervisor
E. Kokosky, Training Manager
R. Libra, Director - Nuclear Engineering
A. Mann, General Supervisor Operations Training
J. Pendergast, Principal Engineer - Licensing
N. Peterson, Manager - Nuclear Licensing
M. Philippon, Operations Manager

NRC

R. Lanksbury, Chief, Operations Branch
S. Campbell, Senior Resident Inspector, Fermi 2

ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

ADAMS	Agency-Wide Document Access and Management System
DRS	Division of Reactor Safety
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
RO	Reactor Operator
SRO	Senior Reactor Operator
JPM	Job Performance Measure
CARD	Condition Assessment Resolution Document

SIMULATION FACILITY REPORT

Facility Licensee: Fermi Power Plant, Unit 2

Facility Docket No.: 50-341

Operating Tests Administered: September 21-24, 2004

The following documents observations made by the NRC examination team during the initial operator license examination. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of non-compliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the simulator portion of the operating tests, the following items were observed:

ITEM	DESCRIPTION
Reactor Mode Switch Key	The key was not available for the simulator to require locking of the mode switch for the mode switch JPM.
Simulator Froze	During the first running of scenario No. 2, the simulator froze approximately 20 minutes after the start of the scenario. The simulator had to be re-booted twice before the simulator was up and operational. The problem caused approximately 30 minutes delay in administering the examination.
Source Range Period Indicators	During the simulator initial condition setting for J11-350 PSIG, the source range period monitors periodically exhibits short periods with moderate intermediate range monitor oscillations. This also appears to coincide with oscillations in jet pump developed head, cause unknown. Training work request (TWR) 19970751.
Heater Drain	N22, suction indication on heater drains, N22R808A, does not function. TWR 20040071.
Safety Relief Valve	B21, Automatic depressurization system inhibit keylock logic B switch sometimes sticks in the mid position. TWR 20040073.
Condensate System	N20, Green discharge indicator for N20R809A on H11 P805 panel does not work. TWR 20040077.
Integrated Plant Computer System (IPCS)	C96, IPCS display for drywell pressure does not indicate red when greater than 1.68 psig. TWR 20040080.

SIMULATION FACILITY REPORT

Neutron Monitoring System	C51, Rod Block Monitor (RBM) does not show two strings of local power range monitors (LPRMs) when an edge rod is selected that has two adjacent LPRM strings. This is not in accordance with the design of RBM. TWR 20040081.
Main Condenser and Auxiliaries	N61, Condenser pumps continue to operate with low hotwell level (-8 inches indicated) with a loss of station air at the time. TWR 20040083.

WRITTEN EXAMINATIONS AND ANSWER KEYS (RO/SRO)

RO Initial Examination ADAMS Accession # ML043000355

SRO Initial Examination ADAMS Accession #ML043000377