

U.S. NUCLEAR REGULATORY COMMISSION REGION I
OPERATOR LICENSING EXAMINATION REPORT

EXAMINATION REPORT NO. 89-20 (OL)
FACILITY DOCKET NO. 50-410
FACILITY LICENSE NO. NPF-69
LICENSEE: Niagara Mohawk Power Corporation
301 Plainfield Rd.
Syracuse, New York 13212

FACILITY: Nine Mile Point Unit 2

EXAMINATION DATES: November 28, 1989

EXAMINERS: M. Daniels, Sonalysts

CHIEF EXAMINER: Tracy Walker 12/19/89
Tracy Walker, Senior Operations Engineer Date

APPROVED BY: Richard J. Conte 12/19/89
Richard J. Conte, Chief, BWR Section Date
Operations Branch, Division of Reactor Safety

EXECUTIVE SUMMARY

Operating tests were administered to one (1) senior reactor operator (SRO) candidate and one (1) reactor operator (RO) candidate. Both of the candidates passed the examinations.

Several problems with simulator fidelity were identified during the examination process. The scenarios prepared by the NRC had to be modified prior to use due to the limitations of the plant specific simulator.



DETAILS

1.0 INTRODUCTION AND OVERVIEW

The NRC examiners administered replacement examinations to one (1) senior reactor operator (SRO) applicant and one (1) reactor operator (RO) applicant. The examinations were administered in accordance with NUREG 1021, Examiner Standards, Rev. 5.

Prior to administration of the examinations, the scenarios used for the examinations were prepared by the NRC and run on the plant specific simulator prior with the assistance of a facility supplied simulator operator. All facility individuals involved with the review of the examination materials signed security agreements to ensure that there was no compromise of the examination.

2.0 PERSONS CONTACTED

- * A. Rivers, Superintendent of Training
- * R. Abbott, Unit Superintendent, Unit 2
- * R. Seifried, Assistant Superintendent of Training
- * G. Weimer, Supervisor - Operations Training, Unit 2
- * G. Bridges, Instructor
- * D. Haas, Instructor
- * R. Straka, Regulatory Compliance

* Denotes those present at the exit interview on November 30, 1989.

3.0 EXAMINATION RELATED FINDINGS AND CONCLUSIONS

3.1 Summary of Results

	RO Pass/Fail	SRO Pass/Fail
Written	N/A	N/A
Operating	1 / 0	1 / 0
Overall	1 / 0	1 / 0



3.2 Operating Examinations

No generic strengths or weaknesses were noted on the operating tests due to the limited number of examinees. Both of the examinees were evaluated on their system knowledge and ability to operate the Radiation Monitoring System (RMS), specifically the DRMS CRT display in the control room. This knowledge and ability had been identified as a generic weakness in a previous replacement examination. The results of the examinations indicated that the applicants had been adequately trained to operate the RMS.

3.3 Plant Specific Simulation Facility

Several problems with simulator fidelity were identified as a result of the examination process. The specific problems are discussed in Attachment 1 to this report. The scenarios prepared by the NRC had to be modified prior to use due to the limitations of the simulator. A number of instructor overrides (IOs) were required to simulate the desired malfunctions or transients, especially in the area of Secondary Containment Control. It was not possible to realistically simulate conditions that would test some of the intended examination areas, so these areas had to be covered orally during followup questioning. In several cases, even though the IOs were available to simulate the desired effects, the simulator did not function properly when multiple IOs were used.

3.4 Reference Material

The Lessons Learned Book submitted at the request of the NRC for preparation of the examinations was difficult to use due to duplication of information and no apparent organization of the material. This book is a valuable tool in examination preparation and, therefore, should be organized so that the information that it contains is readily available.

4.0 Exit Interview

An exit interview was conducted on November 30, 1989 following the administration of the examinations. The licensee representatives that attended the meeting are listed in section 2.0 of this report.

There were no problems with access to the plant and Operations personnel were cooperative. The findings related to the RMS noted on the operating examinations were presented (see section 3.2 of this report). The problems with simulator fidelity (discussed in Attachment 1) and the reference material (see section 3.4) were discussed. The licensee agreed to review the copy of the Lessons Learned Book in the control room to ensure that it did not have the same organizational problems as the copy



submitted to the NRC.

The results of the examinations would not be presented at the exit meeting but would be contained in the Examination Report. Every effort would be made to send the applicant's results in approximately 30 working days.

Attachments:

1. Simulation Facility Report



ATTACHMENT 1

SIMULATION FACILITY REPORT

Facility Licensee: Niagara Mohawk Power Corporation
Nine Mile Point Unit 2

Facility Docket No.: 50-410

Operating Tests Administered on: November 28, 1989

This form is to be used only to report observations. 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 preparation and administration of the operating tests, the following items were observed:

<u>ITEM</u>	<u>DESCRIPTION</u>
RX04	The malfunction for power oscillations did not always become active when the restricted zone was entered as designed.
MSIV	There is no malfunction available to prevent both MSIVs in one steam line from closing. An instructor override can be used to make the outboard valve appear to be open, but the simulator model does not recognize that the valve is open. Plant parameters (i.e., steam flow, reactor pressure) do not respond as if the valve was open, therefore, this method cannot be effectively used for training or evaluation purposes.
MSIV Leakage Control	It was not possible to develop a realistic scenario to test the operators' ability to utilize the Emergency Operating Procedure (EOP) for MSIV Leakage Control. A combination of high main steam line radiation and a radiation release is required to enter the MSIV Leakage Control EOP. The malfunction for fuel cladding failure is dependent upon power level which made it difficult to design a scenario that would result in high radiation levels in the main steam lines. Using an instructor override to force the instrumentation to indicate high radiation levels did not provide a realistic simulation. It was not possible to simulate a realistic radiation release, because of the inability to stick open the MSIVs (as discussed above).



RMS

The only radiation monitoring system that is simulated is the Main Steam Line radiation monitors. Evaluation of the operators' knowledge of Technical Specifications related to other radiation monitoring systems is limited by the lack of simulated instrumentation. The lack of the DRMS computer in the simulator also effects evaluation and training on the Secondary Containment Control EOP. Area radiation levels cannot be monitored in the simulator and, therefore, must be supplied verbally by the simulator operator.

Secondary
Containment
Control

Very few malfunctions are available that challenge secondary containment. Only one of these malfunctions can be used without enhancements (IOs) to evaluate the operators on use of the EOP for Secondary Containment Control. The steam line rupture outside primary containment and the steam leak outside primary containment do not discharge to secondary containment. It is not possible to realistically simulate a discharge to secondary containment using these malfunctions, because the breaks are isolated when the MSIVs close (which cannot be prevented as discussed earlier). The water leak outside primary containment that is available takes a long time to develop to the point that it is a challenge to containment. The only malfunction that is effective for evaluation and training on secondary containment control is a rupture of the scram discharge volume (SDV). The leak, in this case, can be isolated by resetting the scram, therefore another malfunction must be used to extend the time that the challenge to containment is present.

Instructor overrides can be used to actuate flooding alarms and simulate an increase in area temperatures that would indicate a challenge to secondary containment. The simulator did not always function properly when multiple IOs were used and would not accept an IO for the area temperature indicators.

