

March 30, 1992

Docket No. 50-305

Wisconsin Public Service
Corporation
Kewaunee Nuclear Power Plant
ATTN: Mr. C. A. Schrock
Manager - Nuclear Engineering
Post Office Box 19002
Green Bay, WI 54307-9002

Dear Mr. Schrock:

SUBJECT: EXAMINATION REPORT

On the week of February 24, 1992, the NRC administered examinations to employees of your organization who had applied for licenses to operate your Kewaunee Nuclear Power Plant. In addition, requalification examinations were administered to three licensed operators and a requalification retake examination was administered to one senior reactor operator who had failed the NRC requalification examination that was administered in August of 1991 (Report NO. 50-305/OL-91-02(DRS)). As a result of this evaluation, your requalification program has been assigned an overall program rating of satisfactory in accordance with the criteria of NUREG-1021, ES 601. At the conclusion of the examination, the examination questions and preliminary findings were discussed with those members of your staff identified in the enclosed report.

As detailed in Section 3.b of the attached report, communication between crew members during the simulator examinations was poor. The poor communications resulted in some confusion and delays in implementing recovery actions. Similar communication deficiencies have been previously identified by the NRC (See Reports No. 50-305/OL-91-01; No. 50-305/OL-91-02). Please submit a response addressing this issue to the Region III office within 30 days of the date of this letter including corrective actions which are deemed appropriate.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC Public Document Room.

The responses directed by this letter are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

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Should you have any questions concerning this examination, please contact us.

Sincerely,

original signed by T. Burdick
Geoffrey C. Wright, Chief ^{for}
Operations Branch

Enclosures:

- 1. Examination Report
No. 50-305/OL-92-01
- 2. Simulation Facility Report
- 3. Requalification Program
Evaluation Report
- 4. Examination and Answer Key
(SRO)

cc w/enclosures:

- C. R. Steinhardt, Senior
Vice President -
Nuclear Power
- Mark L. Marchi, Manager
Kewaunee Plant
DCD/DCB (RIDS)
OC/LFDCB
Resident Inspector, RIII
- Virgil Kanable, Chief
Boiler Section
- Charles Thompson, Chairman
Wisconsin Public Service
Commission
- Robert M. Thompson, Administrator
WI Div. of Emergency Government
- R. F. Zube, Plant Training Manager
- A. Hanson, Project Manager, NRR
- R. M. Gallo, Branch Chief, OLB

RIII	RIII	RIII	RIII
[.....]	SEE ATTACHED	CONCURRENCE	COPY
Lennartz/lc	Burdick	Hague	Wright
3/27/92	3/30/92	3/30/92	3/30/92

March 30, 1992

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Sincerely,

Geoffrey C. Wright, Chief
Operations Branch

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R. M. Gallo, Branch Chief, OLB

^{yes}
RIII

Lenhartz/cg
03/27/92

RIII

Burdick
03/31/92

^{yes}
RIII

Hague
03/30/92

RIII

Wright
03/30/92

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-305/OL-92-01(DRS)

Docket No. 50-305

License No. DPR-43

Licensee: Wisconsin Public Service Corporation
Post Office Box 19002
Green Bay, WI 54307-9002

Facility Name: Kewaunee Nuclear Power Plant

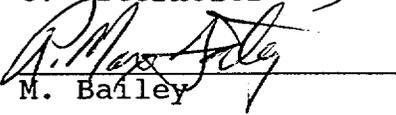
Examination Administered At: Kewaunee Nuclear Power Plant

Examination Conducted: Week of February 24, 1992

RIII Examiners:

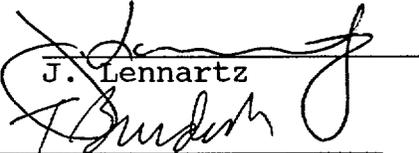

C. Osterholtz

3/27/92
Date


M. Bailey

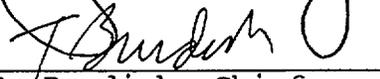
3/26/92
Date

Chief Examiner:


J. Lennartz

3/27/92
Date

Approved By:


T. Burdick, Chief
Operator Licensing, Section 2

3/30/92
Date

Examination Summary

Examination administered on the week of February 24, 1992 (Report No. 50-305/OL-92-01(DRS))

Initial written and operating examinations were administered to one senior reactor operator (SRO) instant and two SRO upgrade candidates. All of the candidates passed the written examination. The SRO instant and one SRO upgrade candidate passed the operating examination. One SRO upgrade candidate failed the operating examination.

Additionally, an initial simulator retake examination was administered to one reactor operator (RO) candidate who passed the examination.

Requalification examinations were administered to one SRO and one RO as well as a dynamic simulator only to one SRO. All three operators passed the examinations. One crew was evaluated during the requalification examinations and was considered to be satisfactory. Additionally, one SRO, who had failed the Job Performance Measure (JPM) walkthrough portion of the NRC administered requalification examination in August 1991, (Report No. 50-305/OL-91-02(DRS)) was administered a JPM retake examination. The SRO passed the JPM retake examination.

These requalification examinations combined with the requalification examinations administered in August 1991 (Report No. 50-305/OL-91-02 (DRS)) provide an adequate sample size to meet the requirements contained in NUREG-1021, "Operator Licensing Examiner Standards," ES-601, "Administration of NRC Requalification Program Evaluations." Based on these results, the requalification program is evaluated as satisfactory.

During both the initial and requalification operating exams communication between operators was poor. The communications lacked repeat backs and acknowledgements, as well as instances when the RO's failed to provide required information regarding plant status to the SRO. The communication deficiencies resulted in poor coordination of crew activities, and delayed recovery actions. Similar communication deficiencies have been previously identified by the NRC (See Reports No. 50-305/OL-91-01; No. 50-305/OL-91-02).

REPORT DETAILS

1. Examiners

J. Lennartz, NRC
C. Osterholtz, NRC
M. Bailey, NRC
J. Hansen, NRC

2. Exit Meeting

An exit meeting was held on February 28, 1992, between the NRC and licensee representatives to discuss the examiner observations contained in this report.

NRC representatives in attendance were:

J. Lennartz, Examiner
C. Osterholtz, Examiner
M. Bailey, Examiner
J. Hansen, Examiner
P. Castleman, Senior Resident Inspector

Licensee representatives in attendance were:

K. Evers, Manager, Nuclear Plant Support Services
M. Marchi, Plant Manager
T. Webb, Plant Licensing
D. Braun, Superintendent Plant Operations
P. Manning, Superintendent Nuclear Training
D. Rozell, Plant Licensing
R. Zube, Nuclear Training
D. Karst, Nuclear Training
G. Baldwin, Nuclear Training

The licensee representatives acknowledged the examiner observations discussed in Section 3 of this report as well as the items identified in Enclosure 2 of this report, the Simulation Facility Report.

3. Examiner Observations

a. Examination Development

The licensee's pre-review of the initial written examination was very thorough and considered very valuable in the development of a plant specific valid examination. No post exam comments or changes were required.

- The reference material sent to the NRC did not contain the current information regarding the Nuclear Instrumentation System in place at the facility.
- The requalification dynamic simulator examination proposed by the licensee did not meet the guidance contained in NUREG 1021, "Operator Licensing Examiner Standards", ES-604, in that each crew member was not responsible for at least two individual simulator critical tasks (ISCT). The examination team made the required changes to the dynamic simulator examination prior to examination administration.
- The questions associated with the JPM tasks and the written examination questions contained in the licensee's requalification examination bank have improved from previous examinations. Specifically some of the questions solicited information that was considered required knowledge and the operators were expected to answer these from memory.
- The licensee's training staff support during validation of the examination material was good.

b. Examination Administration

- The communication between crew members during the simulator examinations was poor. This deficiency was observed during both the initial and requalification examinations. Crew members were not being informed of important plant/system status in a timely manner which resulted in poor coordination of crew activities and delayed recovery actions. Similar communication deficiencies have been previously identified by the NRC (See Reports No. 50-305/OL-91-01; No. 50-305/OL-91-02).
- The licensee's training staff's scheduling of requalification examinations and support of initial examination administration was good.
- The overall evaluations on the requalification examinations were consistent between the NRC and the licensee evaluators.

c. Procedure Deficiencies

- A-RM-45, "Abnormal Radiation Monitoring System Operation" Step 4.1.3 for area monitor R-1 alarm directed the operator to go to step 3.23.3 if R-23 was not in service. However, step 3.23.3 did not exist and the procedure should have directed a transition to step 3.23.2. Additionally, step 3.23.2.b.2 directed the operator to manually start the Post Accident Recirc System but provided no guidance as to how this task should be accomplished.

All of the initial candidates were required to respond to an area monitor R-1 alarm in accordance with A-RM-45, and all of the candidates performed the task unsatisfactorily. The procedure deficiencies were contributing factors to the candidates poor performance.

4. Written Examination Administration

The post exam review of the written examination by the NRC identified the following deficiencies in the candidates knowledge as evidenced by the majority of the candidates failing to provide the correct response for each particular knowledge area examined. This information is being provided as input to the licensee's system approach to training (SAT) process:

- The largest source of radiation dose to personnel during normal operations. (Question 005)
- The function of the Secondary Containment System. (Question 045)
- The design capacity of the Spent Fuel Pool Heat Removal System. (Question 055)
- Main Steam Isolation activation signal setpoints. (Question 056)
- The time required to ensure decay heat generation is less than 1% of rated power following 100 days of operation at 100% power. (Question 057)
- How steam generator pressures should be maintained relative to RCS pressure (and the basis) during execution of E-1, "Loss of Reactor or Secondary Coolant," step 20. (Question 072)

- The requirement to leak test the containment personnel air lock doors after the plant is heated up to 210 degrees fahrenheit following an outage. (Question 076)
- The ability to predict which reactor trip signal would trip the plant from 8% power if the pressurizer spray valves stuck open. (Question 085)
- The requirements in the Night Orders regarding Reactor Coolant Pump A operation limits with an upper thrust bearing temperature of 203 degrees fahrenheit. (Requalification Part A, Question 15)

5. Requalification Program Evaluation

The requalification examinations covered in this report combined with the NRC administered requalification examinations in August 1991, (Report No. 50-305/OL-91-02(DRS)) provide an adequate sample size to meet the guidance contained in NUREG-1021, "Operator Licensing Examiner Standards," ES-601, "Administration of NRC Requalification Program Evaluations. Based on the combined results of the requalification examinations, the licensee's requalification program is evaluated as satisfactory.

REQUALIFICATION PROGRAM EVALUATION REPORT

Facility: Kewaunee Nuclear Power Plant

Examiners: J. Lennartz, C. Osterholtz, M. Bailey

Date of Evaluation: Week of February 24, 1992

Areas Evaluated: Written, Oral, Simulator

Examination Results:

	<u>RO</u> <u>Pass/Fail</u>	<u>SRO</u> <u>Pass/Fail</u>	<u>Total</u> <u>Pass/Fail</u>	<u>Evaluation</u> <u>(S or U)</u>
Written Examination	2/0	11/0	13/0	S
Operating Examination				
Oral	2/0	11/1	13/1	S
Simulator	2/0	12/0	14/0	S
Evaluation of facility written examination grading				S

Crew Examination Results:

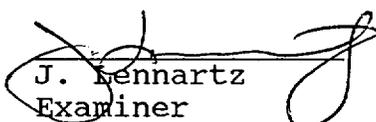
	<u>Crew 1</u> <u>Pass/Fail</u>	<u>Crew 2</u> <u>Pass/Fail</u>	<u>Crew 3</u> <u>Pass/Fail</u>	<u>Crew 4</u> <u>Pass/Fail</u>	<u>Evaluation</u> <u>(S or U)</u>
Operating Examination	Pass	Pass	Pass	Pass	S

Overall Program Evaluation

Satisfactory

The above program evaluation is based on the combined results of the August 1991 requalification examinations (Report No. 50-305/OL-91-02(DRS)) and the results of the requalification examination covered in this report.

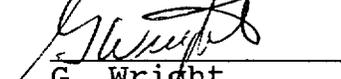
Submitted:


 J. Lennartz
 Examiner
 03/27/92

Forwarded:


 T. Burdick
 Section Chief
 03/30/92

Approved:


 G. Wright
 Branch Chief
 03/30/92

SIMULATION FACILITY REPORT

Facility Licensee: Kewaunee Nuclear Power Plant

Facility Licensee Docket No. 50-305

Operating Tests Administered On: Week of February 24, 1992

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

1. An existing malfunction that tripped the emergency diesel generator (EDG) without tripping the output breaker was not modeled correctly in that EDG load (Kw), voltage, and KVAR's did not change following the trip, and control of the EDG was maintained. This deficiency was identified during prep week and the licensee corrected the modeling for the malfunction prior to examination administration.
2. With pressurizer pressure approximately 2400 psig, and safety injection actuated, the PZR PORV open (red) status lights rapidly (approximately every second) energized and de-energized with no change in pressurizer pressure. (This item is being investigated by the licensee).
3. There is no existing malfunction to simulate a RHR system piping break (leak) inside or outside of containment. (The licensee stated that development of these types of malfunctions was being pursued.)

WPSC (414) 433-1598
TELECOPIER (414) 433-5544



*cc DeWright
+ Benedict
J. Fennerty*
NRC-92-051

EASYLINK 62891993

WISCONSIN PUBLIC SERVICE CORPORATION

600 North Adams • P.O. Box 19002 • Green Bay, WI 54307-9002

PRIORITY ROUTING	
First	Second
RA	RC
DRA	TEIC
DPE	SGA
ONE	ML
DSS	OL
DRMA	OT
	PAO

FILE *has*

April 29, 1992

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Examination Report

Reference: 1) "Examination Report" From G.C. Wright (US NRC) to C.A. Schrock (WPSC) Dated March 30, 1992

Pursuant to your request in reference 1, the attachment provides a response to the item of concern identified during the NRC examinations administered during the week of February 24, 1992. Included in the response are the actions which have been initiated to resolve this issue.

If further information or clarification is required, please feel free to contact a member of my staff.

Sincerely,

C.A. Schrock

C. A Schrock
Manager-Nuclear Engineering

DLR/jac

Attach.

cc - Mr. Patrick Castelman, US NRC
US NRC, Region III

MAY 4 1992

Attachment

to

Letter from C.A. Schrock (WPSC) to Document Control Desk (NRC)

Dated

April 29, 1992

Regarding

NRC Examination Report No. 50-305/OL-92-01 (DRS)

NRC Observation

"Communication between crew members during the simulator examinations was poor. The poor communications resulted in some confusion and delays in implementing recovery actions. Similar communication deficiencies have been previously identified by the NRC (see Reports No. 50-305/OL-91-01; No. 50-305/OL-91-02)."

WPSC Response

Meetings were held on March 24 and 26, 1992 by the Kewaunee Nuclear Power Plant (KNPP) Operations and Training Departments to discuss this issue. Comments made by operations training evaluators from simulated NRC requalification examinations were discussed. These comments addressed the six requalification competencies; annunciators/alarms, diagnosis, plant/system response, procedures, control board operations, and communications. Two strategies were developed to enable the training group to enhance crew performance in the competency of communications. First, simulator instructors will exhibit proper communication when communicating with crew members. The instructors will use directed communication and repeat backs as appropriate. Second, shift supervisors will be encouraged to take a more active role in facilitating scenario critiques. Operations and training management are collaborating on these efforts.

Operations and Training management also met to discuss how to improve control room communication and decided on a strategy. The following actions will be exhibited by the operation instructors during Licensed Operator Requalification, SRO and RO simulator sessions to improve communications:

1. Directed communication will be encouraged during normal and abnormal operations. During performance of Integrated Plant Emergency Operating Procedures operators should use directed communications.
2. Repeat backs are to be encouraged for complex directions to help eliminate communication errors.
3. Simulator booth operators can help improve communications by using repeat backs for complex instructions and using directed communication to the operators.
4. Operators will be expected to acknowledge communications that are directed toward them.
5. Communications will be emphasized throughout RO and SRO training classes.
6. Operations instructors will emphasize communication skills during simulator training and sessions will be stopped to correct communication problems.

Document Control Desk

April 29, 1992

Page 2

Operations management will discuss expectations regarding crew communications with all shift supervisors.

By emphasizing communication skills in training sessions and by having operations instructors model the level of communication skills expected during all training sessions, crew communication skills should improve and become a more integral part of their activities.