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

EXAMINATION REPORT NO. 84-27(OL)

FACILITY DOCKET NO. 50-336

FACILITY LICENSE NO. DPR-65

LICENSEE: Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06141-0270

FACILITY: Millstone 2

EXAMINATION DATES: December 10-13, 1984

CHIEF EXAMINER: Original Signed By: JAN 23 1985
Noel Dudley
Lead Reactor Engineer (Examiner)
Date

REVIEWED BY: Original Signed By: JAN 24 1985
Chief, Project Section 1C
Date

APPROVED BY: Original Signed By: FEB 5 1985
Chief, Project Branch No. 1
Date

SUMMARY: Twelve candidates were examined and seven RO and five SRO licenses were issued.

REPORT DETAILS

TYPE OF EXAMS: Initial ___ Replacement __X__ Requalification _____

EXAM RESULTS:

	RO Pass/Fail	SRO Pass/Fail	Inst. Cert Pass/Fail	Fuel Handler Pass/Fail
Written Exam	7/0	5/0	/	/
Oral Exam	7/0	5/0	/	/
Simulator Exam	/	/	/	/
Overall	7/0	5/0	/	/

1. CHIEF EXAMINER AT SITE: N. Dudley

2. OTHER EXAMINERS: J. Upton, PNL
   J. Boegel, PNL
   J. Smith, PNL

3. PERSONS EXAMINED

RO

J. M. Bergin
G. A. Beskop
C. D. Hackman
J. S. Kunze
J. W. Riley
W. H. Seifert
C. L. Zorn

SRO

J. D. Becker
D. A. Ekeren
J. J. Parillo
K. Truesdale
J. A. Sloan

1. Summary of generic strengths or deficiencies noted from grading of written exams:

   Weaknesses were found in a majority of candidates in the following areas:

   1. Reasons for programming pressurizer level in terms of design.
   2. Type of detectors used on radiation monitoring systems.
   3. The requirement for bypassing pressurizer high pressure trip on failure of pressurizer pressure instrument.
   4 Reasons for procedural cautions in the CVCS and quench tank operating procedures.
   5. The use of the EPIP in determining the types of notifications required.

2. Improvements noted in training programs as a result of prior operator licensing examinations/suggestions, etc:

   The facility has greatly improved the quality of candidates sitting for licensing examinations as demonstrated by the improved pass rate.

   The issuance of badges to examiners expedited the operational examinations.

3. Personnel Present at Exit Interview:

   NRC Personnel

   N. Dudley, Lead Reactor Engineer (Examiner)
   T. Shedlosky, Senior Resident Inspector

   Facility Personnel

   R. Test, Director Nuclear Training
   K. Parkinson, Training Supervisor
   M. Wilson, Assistant Training Supervisor, Unit 2

4. Summary of NRC Comments made at exit interview:

   The names of the persons who were clear passes on the oral portion of the examination will be provided to the training department by the NRC contract examiners upon completion of all oral examinations.

5. CHANGES MADE TO WRITTEN EXAM

Question No.	Change	Reason
1.08a	Change "inches" to "steps". Add "(Assume HFP Boron)".	Changes rod position indication units to be plant specific. Specifies boron concentration to eliminate requirement to interpolate on graph.
2.02 Answer	After "steam-generator water level will rise" add "then be returned to the set point by FWRCS." After "feed-water-flowrate will decrease." Add "(+0.2) since steam flow increases feed flowrate will eventually increase (0.3)."	Modify answer to incorporate the short term effect of swell and the long term effects of an increased steam flow.
2.06c Answer	Add "(RCP or letdown Cooling heat exchanger (300°F to 350°F)	Provides alternate answer for temperature band when the shutdown heat exchanger is not aligned by procedure.
2.10 Answer	Change "56.2% and 58.7%" to "1080 cu.ft. and 1190 cu.ft."	Provides SIT tank level requirements in units used in Technical Specifications.
3.02 and 6.04	Change "inches" to "steps" and "Tref" to "Tave".	Changes rod position indications to be plant specific. Provides parameter which will change if electrical output is constant.
3.02b Answer	Change "turbine" to "cycle".	Corrects answer to reflect difference between changes in cycle and turbine efficiency when condenser vacuum is increased.
3.04	Change "H_2O" to "#2".	Corrects identification of Steam Generators.
3.04b Answer and 6.06b Answer	Add "SRAS".	The Sump Recirculation Actuation Signal will be activated on an RWST level of 8%; ESAS system description, page 6.

Question No.	Change	Reason
3.05b Answer	Change "low reactor coolant flow" to "SG pressure".	Corrects answers from response for SG differential pressure instrument to proper response for SG pressure instrument.
3.05c Answer	Add "and TM/LP".	Includes TM/LP channel since it is tripped.
3.07 Answer and 6.09 Answer	Add "or mainfeed available"	Provides alternate answer in accordance with EOP 2537, Loss of ALL Feedwater.
4.01b Answer	Add "4. SG SBCS (+0.5) cooldown to <520°F and isolate (+0.5)".	Provides additional response for radioactive release from the steam side of the SG.
4.03a Answer	Add "change in MW".	Recognizes that electrical output will change with a change in condenser vacuum.
4.03b Answer	Add "8. Reduce load; 9. Verify proper operation of vacuum breakers".	Incorporates two additional actions contained in AOP 2574 Loss of Condenser Vacuum.
4.04d Answer	Change "3 MREM" to "1.25 rem".	Corrects exposure limit to value specified in 10 CFR 20.
5.02 Answer	Change "1326" to "1357" and "924" to "893".	Corrects math errors.
5.03	Change "inches" to "steps".	Changes rod position indication units to be plant specific.
6.04b Answer	Change to read "Increase (+0.5) because the reactor power had to increase due to decrease cycle efficiency (+0.5).	Corrects answer to reflect difference between changes in cycle and turbine efficiency when condenser vacuum increases.
6.04d Answer	Add "or increase due to change in ASI caused by rod pull."	Provides alternate answer for effects of plant parameters on TM/LP pressure set point.

Question No.	Change	Reason
7.08a Answer	Add "4. SJAE [0.5] align to EBFAS and Unit 1 stack [0.5]; 5. Atmospheric Dumps [0.5] reduce Tave and isolate SG".	Provides additional responses for radioactive release from the steam side of the SG.
8.01	Change "Tank" to "Pool".	Provides plant specific nomenclature for clarity.
8.01 Answer	Change first sentence to "Intent Procedure change is initiated".	Provides procedure and nomenclature specific to facility.
8.02	Add "at 500 MREM/hr" after "air-monitor alarm".	Provides additional information needed to classify the event.
8.05a Answer	Delete last sentence.	Information not required by question.
8.09a&e Answer	Change "one hour" to "immediate".	Correct classification to correspond to EPIP 4701 Emergency Plan Implementation Procedure requirements.

Attachments:

1. Written Examination(s) and Answer Key(s) (SRO/RO)
2. Facility comments