

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

EXAMINATION REPORT NO. 84-30

FACILITY DOCKET NO. 50-317/50-318

FACILITY LICENSE NO. DPR-53/DPR-69

LICENSEE: Baltimore Gas and Electric Company  
Post Office Box 1475  
Baltimore, Maryland 21203

FACILITY: Calvert Cliffs Units 1 and 2

DATES: October 29, 1984 - November 2, 1984

CHIEF EXAMINER: <sup>Original Signed By:</sup> John Berry for N. Dudley Lead Reactor Engineer, Examiner JAN 8 1 1985  
Date

REVIEWED BY: <sup>Original Signed By:</sup> John Berry for R. M. Keller Chief, Projects Section 1C JAN 8 1 1985  
Date

APPROVED BY: <sup>Original Signed By:</sup> \_\_\_\_\_ Chief, Project Branch No. 1 JAN 8 1 1985  
Date

SUMMARY: Licensing examinations were given to 10 persons and 3 SRO and 6 RO licenses were issued. A few generic weaknesses were noted during the grading of the instrumentation and control section of the Reactor Operator examination. Overall, the candidates were well prepared and knowledgeable of plant operations.

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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	6/1	2/0	1/0	/
Oral Exam	6/1	2/0	1/0	/
Simulator Exam	/	/	/	/
Overall	6/1	2/0	1/0	/

1. CHIEF EXAMINER AT SITE:      N. Dudley

2. OTHER EXAMINERS:      G. Streier

J. Whittemore

3. PERSONS EXAMINED

- R. Bleacher
- C. Drumgoole
- L. Hubbard
- A. Houk
- R. Howarth
- P. Hurd
- T. Vorderbruggen
- D. Holm
- R. Somers
- W. Cartwright

1. Summary of generic strengths or deficiencies noted on oral exams:

Some candidates did not know:

- Who handles communications at Remote Shutdown panel.
- Who handles communications during the emergency action plan.
- What is in the safe shutdown locker.
- The reason a dropped control rod can not be withdrawn immediately.
- How long it takes for an emergency battery to be completely discharged.
- The relationship between primary hydrogen concentration and Volume Control Tank hydrogen pressure.

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

Some candidates demonstrated a lack of understanding of instrumentation and controls, including:

- Actions performed when the wide range nuclear instrument level 2 bistable trips on at  $10^{-4}$ % power.
- Functions provided by APD calculator.
- EHC system response to depressing the master reset pushbutton.
- Indications of an activity increase in the Reactor Coolant system.

Senior Reactor Operator candidates performed well on the written exam. One question concerning temporary changes to plant procedures was the only area indicating a generic weakness.

3. Comments on availability and candidate familiarization with plant reference material:

Candidates were familiar with and made use of the reference material available to them in the main control room. The SIAS system is contained on three separate prints which resulted in difficulties in using the P&ID's to evaluate the system.

## 4. Personnel Present at Exit Meeting:

NRC Personnel

N. Dudley  
D. Trimble

Facility Personnel

J. Hill  
J. Yoe

## 5. Summary of NRC Comments made at exit interview:

The names of clear passes and generic weaknesses noted on the oral examinations were presented. The expected changes to 10 CFR 55 and the possible elimination of the instant SRO examination were discussed. The renewal of licenses and the use of one 8 hour shift a month as a method of meeting the active use of a license criteria were discussed.

## 6. Summary of facility comments and commitments made at exit interview:

Facility requested information concerning the effect that changes to 10 CFR 55 would have on licensing Engineer Officers of the Watch and College graduates. Facility discussed acceptable methods for maintaining operating licenses for instructors.

Facility commented the written examination was too long, some questions were poorly formatted, and the printing was difficult to read. Facility explained that System Descriptions were written as Technical Manuals and that licensing candidates are not held responsible for all the material contained in the manuals.

## 7. Changes Made to Written Exam:

<u>Answer No.</u>	<u>Change</u>	<u>Reason</u>
1.02	Add "h. Shoulder gap clearance --- increase."	Addition, answer contained in License Amendment U-1 Cycle 7.
1.05b	Delete "the lower fuel temperature (Doppler)".	Doppler contribution to power change is minimal on a rod drop.
1.05b	Add "(Initially power will decrease due to the rod drop)".	Provides additional information without changing required answer.

<u>Answer No.</u>	<u>Change</u>	<u>Reason</u>
1.06b	Add "7. Power Defect".	Power defect is included in facility Shutdown Margin Calculation.
1.12	Delete reference to value of superheat.	Value of superheat was not required to answer question.
2.02	Change 895 psia to 905 psia.	Use correct control pressure for facility.
2.03a	Add "(will also accept four paths of CCW flow)".	Coolant can refer to primary or cooling water.
2.04b	Add "3. Cooling water to HPSI suction when HPSI is cavitating".	Provides additional function of the connection between RWT and CVCS.
2.08a	Delete reference to time delay.	Time delay has been removed from the control circuit.
5.09	Add "(lower 1/3 of core)".	Expand answer to accept less specific location of the maximum allowable Critical Heat Flux.
6.04b	Change 200 to "175-200".	Provides range of values around setpoint.
6.05a	Add "(These valves are already shut - they receive a shut signal)".	Provides additional information.
7.02a	Change "sec." to "min.".	Provides proper units.
7.05a	Add "7. Cont. Rad Monitor (area). 8. Cont. Hi Rad area monitor."	Expands answer to include area monitors.
7.05b	Change "3" to "available".	Corresponds to words in AOP-8.
8.09	Rewrite answer.	Corresponds to plant specific Technical Specifications.

