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

EXAMINATION REPORT NO. 50-20/84-03

FACILITY DOCKET NO. 50-20

FACILITY LICENSE NO. R-37

LICENSEE: Massachusetts Institute of Technology 138 Albany Street Cambridge, MA 02139

FACILITY: MIT

EXAMINATION DATES: August 7-8, 1984

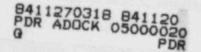
Original Signed By

CHIEF EXAMINER:

APPROVED BY:

Noel F. Dudley Reactor Engineer Examiner <u>4 Noel Sudley for</u> Chief, Project Section 1D <u>Noel Sudley for</u> Date <u>1//12/84</u> <u>Date</u> <u>1//12/84</u> <u>1//12/84</u> <u>Date</u> <u>1//12/84</u> <u>1//12/84</u>

SUMMARY: Five RO and SRO candidates were examined and all were issued licenses. All candidates displayed a strong grasp of reactor operations during the operating examination.



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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
2/0	3/0	/	1
2/0	3/0	/	1
1	/	/	1
2/0	3/0	1	1
	Pass/Fail 2/0 2/0 /	Pass/Fail      Pass/Fail        2/0      3/0        2/0      3/0        /      /	Pass/Fail      Pass/Fail      Pass/Fail        2/0      3/0      /        2/0      3/0      /        /      /      /

## 1. CHIEF EXAMINER AT SITE: Dr. Gordon Robinson

## 2. PERSONS EXAMINED

.

- J. Lang SRO
- L. Tripp SRO
- M. Anderson SRO
- S. Tucker RO
- J. Koonmen RO

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11/5/84DUDLEY - 0004.0.0 11/J8/84 1. Summary of generic strengths or deficiencies noted on oral exams:

No weaknesses were noted. All candidates displayed a very string understanding of the plant and operational procedures.

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

SRO candidates were weak in the area of immediate actions for abnormal procedures.

 Comments on availability of, and candidate familiarization with plant reference material in the control room:

All candidates located and used available reference material confidently.

 Comments on availability of, and candidate familiarization with design, procedure, and T. S. changes, and with LERs and recent significant events.

None

 Comments on interface effectiveness with plant training staff and plant operations staff during exam period.

Facility staff was very cooperative.

OFFICIAL RECORD COPY 11/5/84DUDLEY - 0005.0.0 11/08/84 6. Improvements noted in training programs as a result of prior operator licensing examinations/suggestions, etc:

None

7. Personnel Present at Exit Interview:

NRC Personnel

None

#### NRC Contractor Personnel

G. Robinson

Facility Personnel

J. Bernard

8. Summary of NRC Comments made at exit interview:

All candidates were clear passes on the operating examination.

9. CHANGES MADE TO WRITTEN EXAM DURING EXAMINATION REVIEW:

Question No.	Change	Reason
A.2.C	Change "(up to 80)" to "(up to 55 sec)"	Corrects value for half life of delayed neutron precursors.
B.1.E	Add "e. one path for ECCS"	Incorporates an additional function of the light water clean up system in the answer.

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B.2.A	Add "H <sub>2</sub> "	Incorporates an
		additional gas to the answer to provide completeness.
B.3	Change "CAF" to "140 gpm"	Includes facility provided flow rate.
D.1.b	Change to explain uncompensated ion chamber.	Facility uses uncompensated ion chamber vise compensated ion chamber.
D.2	Change "CAF" to "Primary piping between Hx outlets and inlet to core tank"	Includes facility provided answer.
E.2	Change "CAF" to "No separate alarm - will alarm when scram occurs"	Includes facility provided answer.
H.7	Change ".75" to "0.975"	Corrects Math.
H.8	Add "plus axial effects due to peaking of axial flux"	Includes consideration of effects on flux as well as power.
J.5.a	Change to "No change; too far away from core to see".	Corrects answer to reflect plant configuration.
K.1.a	Add "Radiation levels due to Na-24 in coolant".	Recognizes additional hazard due to radiation.
K.1.b	Add "Radiation exposure due to Na-24[0.6]"	Recognizes additional hazard due to radiation.
K.4.a	Reduce value to 0.5	Provides appropriate weighting to a multiple choice question.
K.4.b Question	Delete	Proper answer was not provided as a choice in the question.
K.6	Change "CAF" to "Safety and operating limits; Shut down margin; Routine or non- routine Startup; Worth of Fuel".	Includes facility provided answers.
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L.2.d

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Change "circulated" to "available".

More grammatically describes electricity.

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#### Attachments:

- Written Examination(s) and Answer Key(s) (SRO/RO)
  Facility Comments on Written Examinations made after Exam Reveiw

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