

JUN 10 1988

In Reply Refer To:
Docket: 50-274

U. S. Department of the Interior
Geological Survey
ATTN: Mr. H. T. Millard,
Reactor Administrator
Denver Federal Center (MS424)
P.O. 25046
Denver, Colorado 80225

Gentlemen:

SUBJECT: OPERATOR LICENSING EXAMINATIONS AT TRIGA MARK I FACILITY

In a telephone conversation between Mr. Don Rusling, Reactor Supervisor, and Mr. John Whittemore, Operator Licensing Examiner, arrangements were made for the administration of operator license examinations at the TRIGA MARK I Facility.

The examinations are scheduled for the week of August 22, 1988.

In order for the NRC to meet the above schedule, it will be necessary for the facility licensee to furnish the approved reference material listed in Enclosure 1, "Reference Material Requirements for Reactor/Senior Reactor Operator Licensing Examinations," by June 15, 1988. The material is needed by this date to avoid any delay in administering the examinations. Examinations are scheduled far in advance with considerable planning to utilize limited examiner manpower and to meet the examination dates requested by the various facility licensees. Failure to meet this date may result in a long delay because it may not be possible to reschedule examinations for other facility licensees. Mr. Rusling has been advised of our reference material requirements to support examination development.

The facility licensee management is responsible for providing adequate space and accommodations in order to properly conduct the written examinations. Enclosure 2, "Administration of Reactor/Senior Reactor Operator Licensing Written Examinations," describes NRC requirements for conducting these examinations. Mr. Rusling has also been informed of these requirements.

The facility licensee staff review of the written examination will be conducted in accordance with the specifications in Enclosure 3, "Requirements for Facility Review of Written Examination."

Preliminary copies of all reactor/senior reactor operator license applications should normally be submitted at least 60 days before the scheduled examination date so that the NRC will be able to review the training and experience of the

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JLPellet
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*D:DRS
JLMilhoan
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JLCallan
6/10/88

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candidates, process medical certifications, and issue examiner assignments. If the preliminary copies of the applications are not received at least 30 days before the examination date, it is likely that a postponement will be necessary. When all training and qualification requirements have been met by the candidates scheduled for the current license examination, final applications with all required signatures must be received by the Chief of the Operator Licensing Section not less than 1 week before the scheduled examination date. Significant differences between the preliminary and final applications may result in a candidate being removed from the examination.

This request for information was approved by the Office of Management and Budget under Clearance Number 3150-0101, which expires May 31, 1989. Comments on burden and duplication may be directed to the Office of Management and Budget, Reports Management Room 3208 New Executive Office Building, Washington, DC 20503.

Thank you for your consideration in this matter. If you have any questions regarding the examination procedures and requirements, please contact Messrs. David Graves, Chief Examiner, at (817)860-8168 or John Pellet, Chief, Operator Licensing Section, at (817)860-8159.

Sincerely,
Original Signed By
L. J. Callan

L. J. Callan, Director
Division of Reactor Projects

Enclosures:
As Stated

cc w/Enclosures:
U. S. Department of the Interior
Geological Survey
ATTN: D. H. Rusling
Reactor Supervisor
Denver Federal Center (MS424)
P.O. 25046
Denver, Colorado 80225

Colorado Radiation Control Program Director

bcc: (see next page)

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RIV File
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R. Hall-DRSS
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Inspector(s)
A. Adams, NRR Project Manager
Lisa Shea, RM/ALF
MIS Coordinator
DRS
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J. Pellet

ENCLOSURE 1

REFERENCE MATERIAL REQUIREMENTS FOR REACTOR/SENIOR REACTOR OPERATOR LICENSING EXAMINATIONS

1. Existing learning objectives and lesson plans (including training manuals, plant orientation manual, system descriptions, reactor theory, thermodynamics, etc.).

Training materials should include all substantive written material used for preparing candidates for initial RO and SRO licensing. The written material should be inclusive of learning objectives and the details presented during lecture, rather than outlines. Training materials should be identified by plant and unit, bound, and indexed. Failure to provide complete, properly bound and indexed reference material will result in canceling and rescheduling of the examinations. Training materials which include the following should be provided:

- o System descriptions including descriptions of all operationally relevant flow paths, components, controls and instrumentation. System training material should draw parallels to the actual procedures used for operating the applicable system.
- o Complete and operationally useful descriptions of all safety system interactions, and where available, BOP system interactions under emergency and abnormal conditions, including consequences of anticipated operator error, maintenance error, and equipment failure.
- o Training material used to clarify and strengthen understanding of emergency operating procedures.
- o Comprehensive theory material that includes fundamentals in the area of theory of reactor operation, thermodynamics, heat transfer and fluid flow, as well as specific applications to actual in-plant components. For example, mechanical theory material should include pump theory as well as descriptions of how these principles actually apply to major plant pumps and the system in which they are installed (i.e., reactor coolant pumps, all ECCS pumps, recirculation pumps, feedwater and emergency feedwater pumps). Reactor theory material should include descriptions that draw explicit ties between the fundamental and actual operating limits followed in the plant (e.g., reactor theory material should contain explanations how principles relate to the actual curves used by operators to verify shutdown margin or calculate an ECP).

2. Procedure Index (alphabetical by subject).
3. All administrative procedures (as applicable to reactor operation or safety).
4. All integrated plant procedures (normal or general operating procedures).
5. Emergency procedures (emergency instructions, abnormal or special procedures).
6. Standing orders (important orders that are safety-related and may supersede the regular procedures).
7. Fuel handling and core-loading procedures, (initial core-loading procedure, when appropriate).
8. Annunciator procedures (alarm procedures, including set points).
9. Radiation protection manual (radiation protection manual or procedures).
10. Emergency plan implementing procedures.
11. Technical Specifications.
12. System operating procedures.
13. Piping and instrumentation diagrams, electrical single-line diagrams, or flow diagrams.
14. Technical data book, and/or plant curve information as used by operators and facility precautions, limitations, and set points (PLS) for the facility.
15. Questions and answers that the facility licensee has prepared (voluntary by facility licensee).

The above reference material should be approved, final issues, and so marked. If a plant has not finalized some of the material, the chief examiner is responsible for ensuring that the most complete, up-to-date material is available and that agreement has been reached with the facility licensee for limiting changes before the administration of the examination. All procedures and reference material should be bound or IN THE FORM USED BY THE CONTROL ROOM OPERATORS, WITH appropriate INDEXES or TABLES OF CONTENTS so that they can be used efficiently.

ENCLOSURE 2

REQUIREMENTS FOR ADMINISTRATION OF WRITTEN EXAMINATIONS

1. A single room shall be provided for completing the written examination. The location of this room and supporting rest room facilities shall be such as to prevent contact with all other facility licensee and/or contractor personnel during the duration of the written examination. If necessary, the facility licensee should make arrangements for use of a suitable room at a local school, motel, or other building. Obtaining this room is the responsibility of the facility licensee.
2. Minimum spacing is required to ensure examination integrity as determined by the chief examiner. Minimum spacing should be one candidate per table, with a 3-foot space between tables. No wall charts, models, and/or other training materials shall be present in the examination room.
3. Suitable arrangements shall be made by the facility licensee if the candidates are to have lunch, coffee, or other refreshments. These arrangements shall comply with Item 1 above. These arrangements shall be reviewed by the chief examiner and/or proctor.
4. The facility licensee shall provide pads of 8 1/2- by 11-inch lined paper in unopened packages for each candidate's use in completing the examination. The examiner shall distribute these pads to the candidates. The facility licensee shall provide unmarked steam tables for candidate use as requested by the chief examiner. When requested by the chief examiner the facility licensee shall also prepare copies of large documents (i.e., Technical Specifications, Emergency Plan Implementing Procedures, Emergency Operating Procedures, etc.) for use by the candidates. Such requests will normally be made known to the facility licensee the working day prior to the written examination. All other reference material needed to complete the examination shall be furnished by the examiner. Candidates may bring pens, pencils, nonprogramable calculators, or slide rules into the examination room. No other equipment or reference material shall be allowed.
5. Only black ink or dark pencils should be used for writing answers to questions.

ENCLOSURE 3

REQUIREMENTS FOR FACILITY REVIEW OF WRITTEN EXAMINATIONS

1. There shall be no review of the written examination by the facility licensee staff before or during the administration of the examination. Following the administration of the written examination, the facility licensee staff shall be provided a marked-up copy of the examination and the answer key.
2. The facility licensee will have five (5) working days from the day the written examination is given to submit formal comments. The formal comments will be approved by the highest level of corporate management for plant operations, e.g., Vice President for Nuclear Operations, and submitted to the Region IV office with a copy to the Section Chief for Operator Licensing. Comments not submitted within five (5) working days will be incorporated into the grading process on a case-by-case basis as determined by the Section Chief. No grading will be done until the formal comments are received and resolved. If the formal comments are not received by the deadline, the final examination results may be delayed several weeks since the grading may have to be rescheduled in a later time slot.
3. The following information shall be provided for each individual comment:
 - a. NRC question number
 - b. Facility licensee comment
 - c. Copy of supporting documentation (the reference may be cited if the document is held by the Operator Licensing Section)

- NOTES:
- (1) No change to the examination will be made without submittal of, or proper reference to, complete, current, and approved reference material.
 - (2) Comments made without a clear, concise facility licensee recommendation will not be addressed.