

JUL 8 1986

Docket No. 50-373
Docket No. 50-374

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Dear Mr. Reed:

SUBJECT: OPERATOR AND SENIOR OPERATOR LICENSING EXAMINATIONS

In a telephone conversation between Mr. R. D. Lanksbury, Chief Examiner, and Mr. R. Crawford, Training Supervisor, arrangements were made for the administration of examinations at the LaSalle County Station.

The written and oral examinations are scheduled for the week of October 27, 1986.

In order for us to meet this schedule, it will be necessary for the facility to furnish the approved reference material listed in Enclosure 1 "Reference Material Requirements for Operator/Senior Operator Licensing Examinations" by August 22, 1986. Any delay in receiving properly bound and indexed reference material will result in a delay in administering the examinations. Our examinations are scheduled far in advance with considerable planning to best utilize our limited examiner manpower and to meet the examination dates requested by the various facilities. Therefore, missing the August 22, 1986, deadline, even by a few days, will likely result in a long delay since it may not be possible to reschedule examinations at other facilities. Mr. Crawford has been advised of our reference material requirements, the number of reference material sets that are required, and the examiners' names and addresses where each set is to be mailed.

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

In addition, to better document simulator examinations, the chief examiner will have the facility simulator operator record prespecified plant conditions (i.e., plant pressure, temperature, pressurizer level, etc.), for each simulator scenario. The candidate will be responsible for providing this information, along with any appeal of his simulator operating examination.

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Therefore, the facility training staff should retain the simulator examination scenario information until all candidates taking the examination have either passed the operating examination or all appeals filed by the candidates who failed the operating examination have been completed.

Enclosure 3, also contains the Rules and Guidance that will be in effect during the administration of the written examination. The facility management is responsible for ensuring that all candidates are aware of these Rules.

All reactor operator and senior reactor operator license applications should normally be submitted at least 60 days prior to the first examination dates so that we will be able to review the training and experience of the candidates, process the medical certifications, and prepare final examiner assignments after candidate eligibility has been determined. If the applications are not received at least 30 days prior to the examination dates, it is likely that a postponement will be necessary.

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, D.C. 20503.

Thank you for your consideration in this matter. If you have any questions regarding the examination procedures and requirements, please contact Mr. R. D. Lanksbury at (312) 790-5579.

Sincerely,

~~Original~~ Signed By C. W. Hehl
Charles W. Hehl, Chief
Operations Branch

Enclosures:

1. Reference Material Requirements
for Reactor/Senior Reactor Operator
Licensing Examinations
2. Administration of Operator
Licensing Written Examinations
3. NRC Rules and Guidelines For
License Examinations

See Attached Distribution

RIII Copy
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Distribution

cc w/enclosures:

D. L. Farrar, Director
of Nuclear Licensing

G. J. Diederich, Plant
Manager

R. Crawford, Training
Supervisor

DCS/RSB (RIDS)

Licensing Fee Management Branch

Resident Inspector, RIII

Phyllis Dunton, Attorney

General's Office, Environmental
Control Division

cc w/o enclosures:

A. Bournia, Project Manager, NRR

B. A. Boger, Branch Chief, OLB

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 plant reference material will result in canceling and rescheduling of the examinations. Training materials which include the following should be provided:

- 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.
 - Complete and operationally useful descriptions of all safety-system interactions and, where available, BOP system inter-actions under emergency and abnormal conditions, including consequences of anticipated operator error, maintenance error, and equipment failure.
 - Training material used to clarify and strengthen understanding of emergency operating procedures.
 - Comprehensive theory material that includes fundamentals in the area of theory of reactor operation, thermodynamics, heat transfer and fluid flow, as well as specific application to actual in-plant components. For example, mechanical theory material on pumps should include pump theory as well as descriptions of how these principles actually apply to major plant pumps and the systems in which they are installed (i.e., Reactor Coolant Pumps, all ECCS pumps, Recirculation pumps, Feedwater pumps, and Emergency Feedwater pumps). Reactor Theory material should include descriptions that draw explicit ties between the fundamentals and the actual operating limits followed in the plant (i.e., 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. Radiation protection manual (radiation control manual or procedures).
9. Emergency plan implementing procedures.
10. Technical Specifications.
11. System operating procedures.
12. Piping and instrumentation diagrams, electrical single-line diagrams, or flow diagrams.
13. Questions and answers that licensee has prepared (voluntary by licensee).
14. The following on the plant reference simulator:
 - a. List of all readily available initialization points.
 - b. List of all preset malfunctions with a clear identification number. The list should include cause and effect information. Specifically, for each malfunction a concise description of the expected result, or range of results, that will occur upon implementation should be provided. Additionally, an indication of which annunciators are to be initially expected should be given.
 - c. A description of simulator failure capabilities for valves, breakers, indicators and alarms.
 - d. Where the capability exists, an explanation of the ability to vary the severity of a particular malfunction should be provided, i.e., ability to vary the size of a given LOCA or steam leak, or the ability to cause a slow failure of a component such as a feed pump, turbine generator or major valve (e.g., drifting shut of a main feedwater control valve).
 - e. An indication of modeling conditions/problems that may impact the examination.
 - f. Identification of significant differences between the simulator and the control room.

- g. Copies of facility generated scenarios that expose the candidates to situations of degraded pressure control (PWR), degraded heat removal capability (PWR and BWR) and containment challenges (BWR) may be provided (voluntary by licensee).
 - h. Simulator instructor's manual (voluntary by licensee).
 - i. Description of the scenarios used for the training class (voluntary by licensee).
15. Additional material required by the examiners to develop examinations that meet the requirements of these standards and the regulations.

The above reference material should be approved, final issues and should be so marked. If a plant has not finalized some of the material, the chief examiner shall verify with the facility that the most complete, up-to-date material is available and that agreement has been reached with the licensee for limiting changes before the administration of the examination. All procedures and reference material should be bound with appropriate indexes or tables of contents so that they can be used efficiently.

ENCLOSURE 2

Administration of Reactor/Senior Reactor Operator Licensing Written Examinations

Operator Licensing Branch requirements are:

1. A single room shall be provided for completing the written examination. The location of this room and supporting restroom facilities shall be such as to prevent contact with all other facility and/or contractor personnel during the duration of the written examination. If necessary, the facility should make arrangements for the use of a suitable room at a local school, motel, or other building. Obtaining this room is the responsibility of the licensee.
2. Minimum spacing is required to ensure exam integrity as determined by the chief examiner. Minimum spacing should be one candidate per table, with 3 foot spacing between tables. No wall charts, models, and/or other training materials shall be present in the examination room.
3. Suitable arrangements are to be made by the facility if the candidates are to have lunch, coffee, etc. These arrangements shall comply with Item 1 above. These arrangements will be reviewed by the examiner and/or proctor.
4. A copy of the written examination and answer key shall be given to the utility training department after the last candidate has turned in his completed examination. The utility shall then have five working days to provide formal written comments with supporting documentation to suggest changes or corrections to the examination and answer key. The utility may provide these comments in writing to the Chief Examiner before he leaves the site or forward them to the Operator Licensing Section Chief in the appropriate regional office.
5. The licensee will provide pads of 8-1/2 x 11" lined paper in unopened packages for each candidate's use in completing the examination. The examiner will distribute these pads to the candidates. All reference material needed to complete the examination will be furnished by the examiner. Candidates can bring pens, pencils, calculators or slide rules into the examination room and no other equipment or reference material is allowed.
6. Only black ink or dark pencils should be used for writing answers to questions.

ENCLOSURE 3

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination means an automatic denial of your application and could result in more severe penalties.
2. Restroom trips are to be limited and only one candidate at a time may leave. You must avoid all contacts with anyone outside the examination room to avoid even the appearance or possibility of cheating.
3. Use black ink or dark pencil only to facilitate legible reproductions.
4. Print your name in the blank provided on the cover sheet of the examination.
5. Fill in the date on the cover sheet of the examination (if necessary).
6. Use only the paper provided for answers.
7. Print your name in the upper right-hand corner of the first page of each section of the answer sheet.
8. Consecutively number each answer sheet, write "End of Category ___" as appropriate, start each category on a new page, write on only one side of the paper, and write "Last Page" on the last answer sheet.
9. Number each answer as to category and number, for example, 1.4, 6.3.
10. Skip at least three lines between each answer.
11. Separate answer sheets from pad and place finished answer sheets face down on your desk or table.
12. Use abbreviations only if they are commonly used in facility literature.
13. The point value for each question is indicated in parentheses after the question and can be used as a guide for the depth of answer required.
14. Show all calculations, methods, or assumptions used to obtain an answer to mathematical problems whether indicated in the question or not.
15. Partial credit may be given. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWERS BLANK.
16. If parts of the examination are not clear as to intent, ask questions of the examiner only.

17. You must sign the statement on the cover sheet that indicates that the work is your own and you have not received or been given assistance in completing the examination. This must be done after the examination has been completed.
18. When you complete your examination, you shall:
 - a. Assemble your examination as follows:
 - (1) Exam questions on top.
 - (2) Exam aids - figures, tables, etc.
 - (3) Answer pages including figures which are a part of the answer.
 - b. Turn in your copy of the examination and all pages used to answer the examination questions.
 - c. Turn in all scrap paper and the balance of the paper that you did not use for answering the questions.
 - d. Leave the examination area, as defined by the examiner. If after leaving, you are found in this area while the examination is still in progress, your license may be denied or revoked.