

September 18, 1986

Florida Power and Light Company
ATTN: Mr. C. O. Woody
Group Vice President
Nuclear Energy Department
P. O. Box 14000
Juno Beach, FL 33408

Gentlemen:

SUBJECT: OPERATOR AND SENIOR OPERATOR LICENSING EXAMINATIONS

In a telephone conversation between Mr. Mark Shepherd, Operations Training Supervisor, and Mr. Bill Dean, Operator Licensing Section, arrangements were made for administration of the operator and senior operator examinations at the St. Lucie Nuclear Plant.

The written and plant oral examinations are scheduled for the week of November 17, 1986.

In order for us to meet the above schedule, it will be necessary for the facility to furnish the selected reference material from the approved list in Enclosure 1 by October 1, 1986. Any delay in receiving this material will result in a delay in administration of the examinations. Our examinations are scheduled far in advance with considerable planning to utilize our present limited examiner manpower and to meet the examination date requested by the various facilities. Therefore, missing the October 1, 1986 deadline, even by a few days, will likely result in a long delay, since it would not be possible to reschedule examinations at other facilities. Mr. Shepherd has been advised of our selected 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.

This request for information was approved by the Office of Management and Budget under a blanket Clearance Number 3150-0101 which expires on 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.

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

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All operator and senior license applications should be submitted on Form NRC-398 at least 60 days prior to the first examination date 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.

Thank you for your consideration in this matter. If you have any questions regarding the examination procedures and requirements, please contact Mr. John F. Munro at 404/331-7188, or Mr. Bill Dean at 404/331-5601.

Sincerely,

(Original signed by D. M. Verrelli)

David M. Verrelli, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosures:

1. Reference Material Requirements
2. "Administration of Operator Licensing Written Examinations"

cc w/encls:

P. Fincher, Training Supervisor
D. Sager, Plant Manager

bcc w/encls:

Senior Resident Inspector
Document Control Desk
State of Florida

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PRS
PRShaw:sh
9/05/86

RII
WDean
WDean
9/5/86

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JFMunro
JFMunro
9/15/86

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SElrod
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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:

- a. 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.
 - b. 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.
 - c. Training material used to clarify and strengthen understanding of emergency operated procedures.
 - d. 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 related 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 control 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 licensee has prepared (voluntary by licensee)
16. 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 instructors manual (voluntary by licensee)
 - i. Description of the scenarios used for the training class (voluntary by licensee)
17. 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 OPERATOR LICENSING WRITTEN EXAMINATIONS

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 examination integrity as determined by the chief examiner. Minimum spacing should be one candidate per table, with a 3-ft. 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 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 examiner and/or proctor.
4. The facility staff shall be provided a copy of the written examination and answer key after the last candidate has completed and handed in his written examination. The facility staff shall then have five working days to provide formal written comments with supporting documentation on the examination and answer key to the chief examiner or to the regional office section chief.
5. The 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. All reference material needed to complete the examination shall 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 shall be allowed.
6. Only black ink or dark pencils should be used for writing answers to questions.