

SEP 21 1988

In Reply Refer To:  
Dockets: 50-368

Arkansas Power & Light Company  
ATTN: Mr. Gene Campbell  
Vice President, Nuclear  
Operations  
P.O. Box 551  
Little Rock, Arkansas 72203

Gentlemen:

SUBJECT: OPERATOR LICENSING EXAMINATIONS AT ARKANSAS NUCLEAR ONE (ANO-2)

In a telephone conversation between Ed Force, Operations Training Superintendent and John Pellet, Chief, Operator Licensing Section, arrangements were made for the administration of operator license examinations at the ANO-2 facility during the week of December 12, 1988.

In order for NRC to meet the above schedule, it will be necessary for you to furnish the approved reference material, listed in Enclosure 1, "Reference Material Requirements for Reactor/Senior Reactor Operator Licensing Examinations," to the extent it is available at your facility, by October 7, 1988. Any delay in receiving properly bound and indexed reference material may result in a delay in administering the examinations. Examinations are scheduled far in advance; there is considerable planning required to utilize the limited examiner manpower and to meet the examination dates requested by the various facility licensees. Therefore, missing this deadline, even by a few days, may result in a long delay, because it may not be possible to reschedule examinations for other facility licensees. Mr. Force has been advised of our reference material requirements.

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

Enclosure 2 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 license candidates are aware of these rules.

The facility staff review of the written examination will be conducted in accordance with the specifications in Enclosure 3, "Requirements for Facility Review of Written Examination." Mr. Force has been informed of these requirements.

\*RIV:RI \*C:OLS D:DRP  
SLMcCroy JLPellet JLM:Moan  
/ 188 / 188 9/19/88

D:DRP  
LJCallan  
9/21/88

\*previously concurred

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Reactor operator and senior reactor operator license applications for all candidates should be submitted at least 60 days before the first scheduled examination date so that the NRC will be able to review the training and experience of the candidates, process medical certifications, and issue examiner assignments. If copies of the applications are not received at least 30 days before the examination date, it is likely that a postponement will be necessary. All training and qualification requirements must be met by each candidate prior to application submittal.

Until December 31, 1988, in order to allow you to modify your training program so that all training is completed prior to submission of an application, you are permitted to request an exemption of this certification requirement. This can be done by lining through the language in Item 19.b on the application, NRC Form 398, concerning completion of licensee requirements and by referencing a separate attachment to the application containing the following language:

The applicant has not yet successfully completed the licensee requirements to be licensed as an Operator/Senior Operator. However, he/she will have completed them prior to the examination. Upon completion of the requirements, a certification to that effect will be provided as a further addendum to this application. In the interim, it is requested, pursuant to 10 CFR 55.11, that the applicant be exempted from this requirement, as contained in 10 CFR 55.31(a)(4).

\_\_\_\_\_  
Printed Name and Signature-Training  
Coordinator

\_\_\_\_\_  
Printed Name and Signature-Senior  
Management Representative on Site

Once the applicant completes the training requirements, an addendum to NRC Form 398 is required. This addendum must be received prior to the examination date. The format and content of this addendum should read as follows:

Addendum to NRC Form 398

Application of \_\_\_\_\_

Facility Name

\_\_\_\_\_  
Printed Name and Signature-Training  
Coordinator

\_\_\_\_\_  
Printed Name and Signature-Senior  
Management Representative on Site

This is to certify that \_\_\_\_\_ has successfully completed the licensee requirement for licensing, as required under 10 CFR 55.31(a)(4).

This request for information was approved by the Office of Management and Budget under Clearance No. 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 either Messrs. J. L. Pellet, Chief, Operator Licensing Section, at (817) 860-8159 or S. L. McCrory, Operator Licensing Examiner, at (817) 860-8265.

Sincerely,

Original Signed By  
L. J. Callan

L. J. Callan, Director  
Division of Reactor Projects

Enclosures:

1. Reference Material Requirements
2. Written Exam Administration Requirements  
and NRC Rules and Guidelines for  
License Examinations
3. Facility Review Requirements

cc w/enclosures:

Arkansas Nuclear One  
ATTN: J. M. Levine, Director  
Site Nuclear Operations  
P.O. Box 608  
Russellville, Arkansas 72801

bcc to DMB (IE42)

bcc distrib. by RIV:

RRI  
RPB-DRSS  
LFMB-Facilities Section  
DRP  
RSTS Operator  
C. Harbuck, NRR Project Manager  
J. L. Pellet (2)  
S. L. McCrory Reading File

R. D. Martin, RA  
Section Chief (DRP/A)  
RIV File  
MIS System  
Project Engineer, DRP/A  
DRS  
S. L. McCrory

## 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 be in the form of 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:

- 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 interactions 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 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 of 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 protection 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. Technical data book and/or plant curve information as used by operators, and facility precautions, limitations, and set points (PLS) for the facility.
14. Questions and answers that the facility licensee has prepared (voluntary by facility licensee).
15. The following on the plant reference simulation facility:
  - 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., the 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 or problems that may impact the examination.

- f. Identification of unknown Performance Test Failures not yet completed.
  - g. Identification of significant differences between the simulator and the control room.
  - h. Copies of facility licensee-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 facility licensee).
  - i. Simulator instructor's manual (voluntary by facility licensee).
  - j. Description of the scenarios used for the training class (voluntary by facility licensee).
16. Additional material required by the examiners to develop examinations that meet the requirements of these standards and regulations.

The above reference material should be approved, final issued, 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

### Part I - 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 restroom 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, 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, nonprogrammable 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.

## Part II - 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 contact 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, etc.
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. DO NOT LEAVE ANY ANSWER 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.

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 date 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 for a later time.
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.