

DCS

JAN 26 1993

Docket No. 50-220

Niagara Mohawk Power Corporation  
ATTN: R. G. Smith  
Manager - Nuclear Training  
P. O. Box 32  
Lycoming, New York 13093

Dear Mr. Smith:

**SUBJECT: REQUALIFICATION INSPECTION MEETING**

The purpose of this letter is to confirm the meeting to be held on February 9, 1993, at 12:30 p.m. in the Region I office, based on a telephone conversation between yourself and Mr. R. Conte of my staff on January 19, 1993. The purpose of the meeting will be to discuss the implementation of Temporary Instruction (TI) 2515/117, "Licensed Operator Requalification Program Evaluation," at Nine Mile Point, Unit 1.

Enclosed is a copy of TI 2515/117. You should be prepared to discuss planning for the inspection at the meeting.

Should you have any questions regarding this information, please contact Richard Conte at (215) 337-5210.

Sincerely,  
Original Signed By:  
Lee H. Bettenhausen

Lee H. Bettenhausen, Chief  
Operations Branch  
Division of Reactor Safety

Enclosure: NRC Staff Temporary Instruction 2515/117

290047

OFFICIAL RECORD COPY G:NMP1TI11.MTG

9302010035 930126  
PDR ADDCK 05000220  
Q PDR

IFAZ 1/1  
11/10/93  
[Handwritten signature]



R. G. Smith

2

cc w/encl:

B. Ralph Sylvia, Executive Vice President - Nuclear

C. Terry, Vice President - Nuclear Engineering

J. Perry, Vice President - Quality Assurance

N. Carns, Vice President - Nuclear Generation

K. Dahlberg, Unit 1 Plant Manager

M. McCormick, Unit 2 Plant Manager

D. Greene, Manager, Licensing

J. Warden, New York Consumer Protection Branch

G. Wilson, Senior Attorney

M. Wetterhahn, Winston and Strawn

Director, Energy & Water Division, Department of Public Service, State of New York

C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law

K. Abraham, PAO (2)

Public Document Room (PDR)

Local Public Document Room (LPDR)

Nuclear Safety Information Center (NSIC)

NRC Resident Inspector

State of New York, SLO Designee

bcc w/encl:

Region I Docket Room (with concurrences)

L. Bettenhausen, DRS

C. Cowgill, DRP

R. Conte, DRS

J. Yerokun, DRP

L. Nicholson, DRP

S. Greenlee, DRP

W. Schmidt, SRI - Nine Mile

V. McCree, OEDO

R. Capra, NRR

J. Menning, NRR

D. Brinkman, NRR

D. Holody, EO

OL Facility File

DRS File

RI:DRS  
Walker/dmg  
TAW  
01/25/93

RI:DRS  
Conte  
01/27/93

RI:DRS  
Bettenhausen  
L.H.P.  
01/28/93





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

# NRC INSPECTION MANUAL

HDLB

---

TEMPORARY INSTRUCTION 2515/117

---

## LICENSED OPERATOR REQUALIFICATION PROGRAM EVALUATION

### SALP FUNCTIONAL AREA: PLANT OPERATIONS

**APPLICABILITY:** Two requalification programs each in Regions I, II, and III; one requalification program each in Regions IV and V.

#### 2515/117-01 OBJECTIVES

01.01 To determine what level of inspection or examination activity is required to assess the adequacy of the facility licensee's requalification program for licensed operators.

01.02 To verify that the facility licensee's requalification program for licensed operators incorporates requirements for both evaluating operator mastery of training objectives and revising program content in accordance with 10 CFR 55.

01.03 To assess the facility licensee's effectiveness in evaluating and revising the requalification program for licensed operators based on the operational performance of licensed operators, including requalification examinations, as required by 10 CFR 55.

#### 2515/117-02 BACKGROUND

SECY-92-100 informed the Commission of improvements the staff is considering for the licensed operator requalification examination program. Foremost among these was proposed rulemaking that would delete the requirement for the NRC to examine each licensed operator for purposes of license renewal. The rule change would allow the staff to use its resources more efficiently by inspecting facility requalification programs instead of administering individual requalification examinations as required by the regulations.

In the SECY paper, the staff noted that it would develop a plan for conducting performance-based inspections at each facility during each systematic assessment of licensee performance (SALP) cycle. It was also stated that the inspection plan would include these three actions: (1) review selected written examinations and operating tests submitted by the facility licensee; (2) evaluate selected written examinations and operating tests by parallel grading using NRC examiners; and (3) review operational performance and either conduct an inspection of the facility's implementation of the requalification training program or administer an NRC-conducted requalification examination.



The staff intends to conduct an inspection each year. Therefore, current information regarding the adequacy of the requalification program can be incorporated into the SALP report. It also allows the staff the flexibility to conduct any necessary follow-up inspections within the same SALP cycle to develop a more complete assessment of the facility licensee's implementation of its requalification program.

This approach would allow the staff to allocate its resources efficiently based on the performance of each facility and to focus on evaluating the implementation of facility requalification programs. It would also allow the staff to pay more attention to those facilities having weaker requalification programs, thereby reducing the NRC's regulatory impact at many other facilities and increasing the overall level of operational safety.

2515/117-03 INSPECTION REQUIREMENTS ("\*" indicates a minimum inspection requirement)

03.01 Planning the Scope of the Inspection

- \* a. Regional management will determine whether to conduct the basic inspection, an augmented inspection or an NRC-administered requalification examination.
- \* b. Review recent events and evaluate test materials before the on-site visit and determine if significant concerns exist over operational safety.
  1. Consult with HDLB if something other than the basic inspection is to be accomplished.

03.02 In-Office Inspection Activities

- \* a. Assess the adequacy of selected facility licensee developed written and operating examinations.
  1. Analyze and compare the comprehension level tested on selected written and operating examinations to be administered during the period under review with the comprehension level tested on examinations administered previously.
  2. Determine whether an objective performance standard is utilized for selected comprehensive written and operating examinations.
  3. For selected written examinations, evaluate the examination's ability to discriminate at the appropriate level.
  4. Identify several recent procedure revisions or plant modifications and review selected test items to determine whether applicable modifications have been made to the question, Job Performance Measure (JPM) and simulator scenario banks.
  5. Verify that the FO and SFO questions on the written examination adequately sample the items stated in 10 CFR 55.41 and 10 CFR 55.43 and that the operating examination adequately samples the items stated in 10 CFR 55.45.
  6. Evaluate the quality and content of the written and operating examinations.





- \* b. Assess significant operator errors that have occurred since the last inspection to determine if the errors may be a result of ineffective training. Review pertinent information contained in:
  1. Most recent SALP Report.
  2. Recent examination and inspection reports (e.g., emergency preparedness or ECP inspections) related to operator training or performance.
  3. Resident inspector observations regarding operator performance.
  4. LERs.
  5. Other indications of potentially weak operator performance such as TS violations, internal event reports, ECCS actuations, safety system initiations, reactor scrams or trips.
- \* c. Determine if the facility licensee has identified operator performance deficiencies and incorporated them into the evaluation portion of the training program by evaluating the information from 03.02b above and reviewing the facility licensee's examinations.

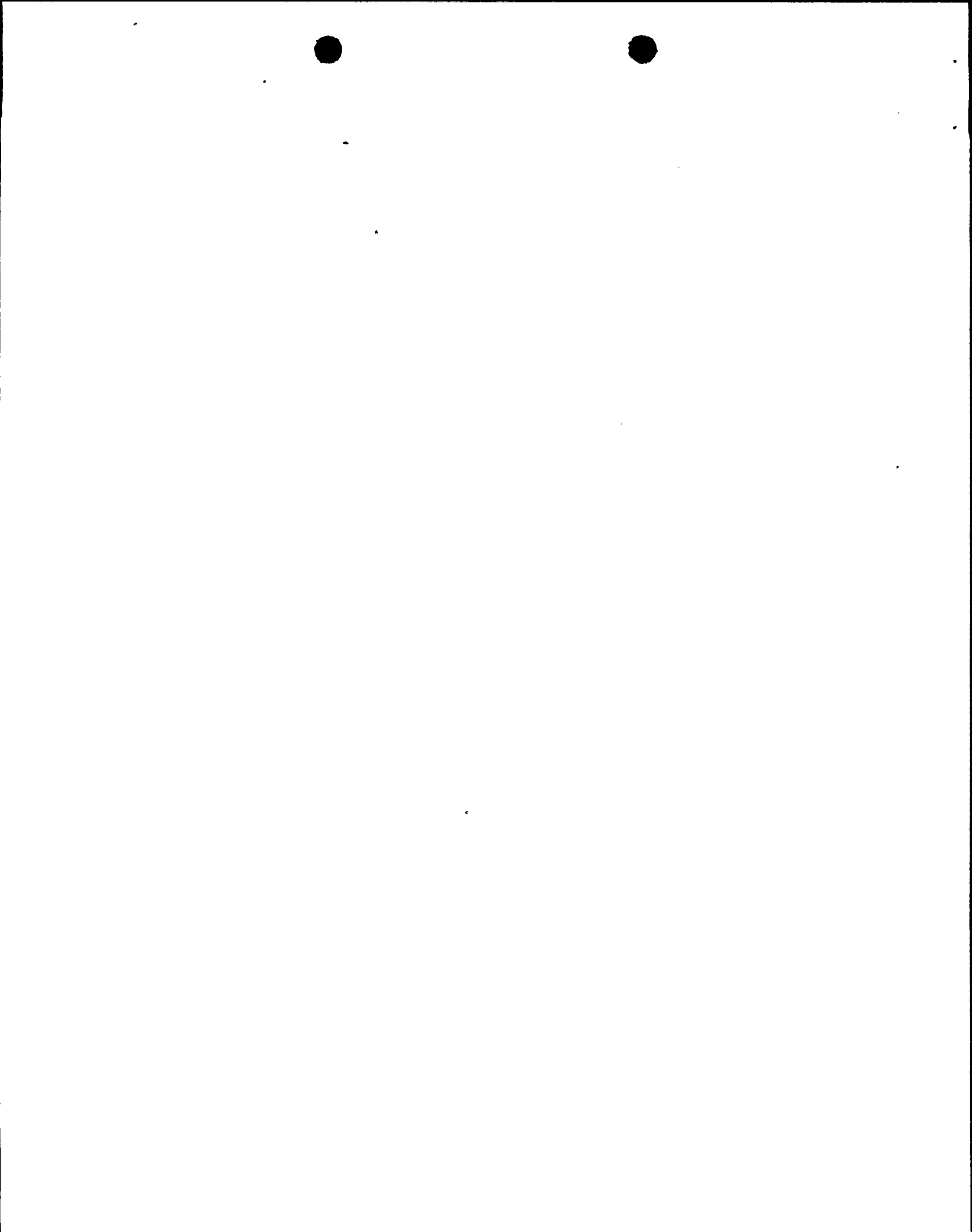
### 03.03 On-Site Inspection Activities

- \* a. Assess the adequacy of selected facility licensee developed written and operating examinations.
  1. Review the sample plan used by the facility to construct examinations.
  2. Determine whether the construction of the examinations is in accordance with the facility's sample plan.
  3. Verify that the facility licensee has used lesson plans and learning objectives for the requalification program under review to construct the examinations, as denoted in the facility's sample plan.
- \* b. Assess the facility licensee's effectiveness in conducting written examinations and operating tests to ensure operator mastery of program content.
  1. Observe examination activities most suited to the inspection goals.
  2. Interview selected operators regarding recent examinations.
  3. Determine whether:
    - (a) The examinations are conducted as planned and any errors in administration are detected and corrected for subsequent examinations.
    - (b) The facility licensee's examination schedule facilitated reducing undue operator stress.
    - (c) Crew and operator performance errors made during simulator evaluations are detected and adequately addressed by the



facility evaluators.

- (d) Any errors made by individual operators during the walkthrough examinations are detected and adequately addressed by facility evaluators.
  - (e) Critiques of operators and crews after the simulator examination are effective in denoting both strengths and weaknesses and accurately appraise the observed performance.
  - (f) Management guidance parallels the actual conduct of testing as it was observed.
  - (g) Current industry events applicable to the facility are incorporated into testing as appropriate.
  - (h) Facility evaluators effectively identify individuals and crews requiring rerediation; and appropriately indicate when removal from shift activities is warranted.
- \* c. Assess the facility licensee's use of objective performance standards when conducting evaluations and critiques of operators and crews to determine whether pass/fail decisions are made objectively.
- 1. Review written performance standards used for evaluations for clarity and relevance.
  - 2. Assess the facility evaluators' use of performance standards by parallel grading selected written examinations and operating tests, including observing discussions regarding crew and operator performance following the administration of simulator examinations.
  - 3. Determine whether the performance standards are used consistently and objectively.
  - 4. Interview instructors and training supervisors to determine their understanding of the application of performance standards.
- d. Evaluate the effectiveness of the licensee's process for revising its continuing training program to maintain it up-to-date, including the use of student feedback.
- 1. Verify that the facility licensee has effective procedures in place that allow the requalification program to adjust to changes in plant design and applicable procedures, changes in regulatory requirements, and the occurrence of plant or industry events. The timeliness of program revisions should be commensurate with the importance of the change or event.
  - 2. Evaluate the effectiveness of the licensee's use of student feedback.
- e. Evaluate the adequacy of the facility licensee's process to train and evaluate the licensed operator training staff.
- \* f. Assess the training conducted as a result of operator errors that have occurred since the last inspection to determine the effectiveness of the training.



- g. Evaluate previously administered remedial training to ensure it has adequately addressed licensed operator or crew performance weaknesses.
- h. Evaluate the facility's process for managing the requalification training program to ensure compliance with 10 CFR 55.
- \* i. Assess simulator performance and its fidelity to the reference plant to determine if it is adequate to support the requalification program. Assess the safety impact of any negative training caused by simulator inadequacies.
- \* j. Evaluate the adequacy of administrative procedures that are in place that ensure the integrity of examinations and tests. Observe examination activities and assess examination results for any indications of examination compromise.

#### 2515/117-04 INSPECTION GUIDANCE

General Guidance In order to assure public health and safety, facility licensees are required to maintain a continuous training program for NRC licensed individuals and operating crews. Each facility must have a program that meets the requirements specified in 10 CFR 55.59. This regulation requires licensed individuals to pass an annual operating test and a periodic comprehensive written examination. The Commission has specified that facility licensees may utilize a systems approach to training (SAT) for developing and implementing this training, in lieu of adhering to some of the specific guidance in 10 CFR 55.59.

This instruction is intended to guide the inspector in making an objective determination that a facility licensee's program provides sufficient training and evaluation of licensed individuals and crews to assure safe power plant operation. The inspector should be able to determine that the program will identify poor or marginally performing individuals or crews. The program should also provide for appropriate remedial corrective actions. The inspector should evaluate the facility licensee's ability to maintain the continuing training program up-to-date, including the use of licensed operator feedback.

#### Specific Guidance

##### 04.01 Planning the Scope of the Inspection.

The major portion of the inspection is to be conducted during the same time as the facility's annual operating test. The scope and content of the inspection are to be determined as discussed below.

The facility licensee may not administer a comprehensive written examination each year, so the inspection effort may center around the operating tests only. The level of the inspection to be conducted (basic or augmented) is determined by the regional management, taking into consideration such factors as operational performance since the last inspection or NRC-conducted requalification examination, recent inspection or requalification examination results, current SALP ratings in Plant Operations, the scope of the most recent requalification program inspection, and the length of time since there was NRC participation in developing and administering a facility's requalification examination.

At least every six years, the NRC intends to administer all or part of a facility's requalification examination in accordance with NUREG-1021. This



allows the staff to retain the examining skills required when conducting a requalification examination and it validates the results of the inspection process.

The NRC may also choose to administer all or part of a facility's requalification examination for cause. The rationale for making this decision should be based on potential training and evaluation deficiencies that have manifested themselves through an inordinate number of licensee events involving operator errors. Inspection results, feedback from the resident inspector, and other indicators may also be sufficient justification for the staff to conduct the requalification examination. Regional management should consult with HCLB when considering administering a requalification examination for cause.

- \* a. Unless the facility has had a recent history of operationally related events or its requalification program was evaluated as unsatisfactory during its most recent requalification program evaluation, only the basic elements of this TI need be conducted. If the region is considering conducting something other than a basic inspection, HCLB should be consulted.
- \* b. Review recent operational events and the test material submitted by the licensee. Unless there is a consistent pattern of operational errors or the test material is of such a poor quality that significant doubts exist over the quality of the training provided such that the safe operation of the facility may be affected, the NRC shall not interfere with the facility's requalification examination process by suggesting modifications to test items or examination schedules. The facility should be informed of the staff's concerns, but the staff shall not dictate the content of the examination. If safety concerns exist, the staff should consider actions such as holding management meetings, conducting operational evaluations, or issuing an order. HCLB should be consulted to help determine an appropriate course of action.

#### 04.02 In-Office Inspection Activities

- \*a. In order to adequately assess the examinations submitted by the licensee, the inspector needs to refer to the checklists in Appendix A for guidance. NUREG/BR-0122 and NUREG-1021 also provide information that is useful in evaluating the adequacy of an examination.

The inspectors should contact the resident inspectors, cognizant personnel from the Division of Reactor Projects and the NRR project manager to ascertain any substantial procedure or system modifications that should be incorporated into a continuing training program.

- b. No specific guidance provided.
- \*c. Identified performance deficiencies may be best evaluated in various aspects of the examination. Depending on the significance of the deficiency, it may be appropriate to have each examination for each crew contain test items to evaluate the effectiveness of the training. Also, facilities may make use of other methods to keep operators abreast of areas where performance deficiencies may have occurred, such as required reading or night orders. Therefore, you may have to verify some of the facility licensee's actions on-site. (See 03.03e/04.03e)





#### 04.03 On-Site Inspection Activities

- \*a. In order to adequately assess the examinations submitted by the licensee, the inspector needs to refer to the checklists in Appendix A for guidance. NUREG/BR-0122 and NUREG-1021 also provide information that is useful in evaluating the adequacy of an examination. Obtaining the facility's sample plan in order to link conducted training with the test items is an important aspect of reviewing the content of the examination.
- b. No specific guidance provided.
- \*c. Questions that may be effective in ascertaining the trainers and operators understanding of performance standards are:
  - 1. How are performance standards used in conducting evaluations formulated?
  - 2. How are the performance standards used in conducting evaluations communicated to the evaluators?
  - 3. How are the performance standards used in conducting evaluations communicated to licensed operators?
  - 4. How does training supervision assure that the performance standards are effectively implemented by the evaluators?
- d. To evaluate the effectiveness of the facility's use of student feedback, the following activities will provide assistance:
  - 1. Determine who is responsible for obtaining student feedback and comparing their understanding of their goals to the management expectations of the program.
  - 2. Review a representative sample of the student feedback to determine whether the feedback can be traced to a subsequent modification of the requalification training.
  - 3. Evaluate the program's consideration of the comments and recommendations made, and their implementation, if appropriate. Determine if requalification program modifications are backlogged and the cause. Determine whether program modifications are prioritized based on safety. Compare these findings with management expectations.
  - 4. Interview a selection of trainers and operators to determine whether they know of, use, and are satisfied with the system used to gather and implement feedback.
- e. When evaluating the facility licensee's program associated with requalification program instructors, the inspector should ascertain if the facility licensee has a policy or procedures detailing how instructors are trained and evaluated. Within these instructions there should be requirements for remediation of poorly performing instructors. The inspector should also review a sampling of records documenting periodic evaluation of requalification program instructors.



- \* f. In order to assess the effectiveness of training on previous operational deficiencies that have been incorporated into the program the inspector should:
  1. Interview an appropriate cross section of trainers, licensed operators and non-licensed operators.
  2. When possible, observe applicable classroom, simulator and JRM instruction to assess the effectiveness of the remedial training.
  3. Review lesson plans, reference materials and attendance documentation to assess the effectiveness of the remedial training.
- g. When evaluating any remedial training that has taken place, the inspector should:
  1. Select several examples of operator and crew performance weaknesses since the last inspection.
  2. Determine whether the root cause was identified and if corrective actions were implemented by the licensee:
  3. Determine if the licensee confirmed the effectiveness of the corrective actions at the completion of the retraining through an suitable evaluation method.
- h. Evaluating how well a requalification program is managed and whether it meets the requirements of 10 CFR 55 is a substantial task that is best accomplished by using the applicable elements of NUREG-1220. When concerns exist in this area, regional management should consider whether a training inspection (IP 41500) may be an appropriate method to assess the program.
- \* i. It is not intended that a simulator inspection be performed, but rather a record of discrepancies and a subjective evaluation. Completing a simulator fidelity report, as contained in ES-501 of NUREG-1021, is sufficient and should be filed as part of the inspection report.
- \* j. Determining whether the potential exists for compromising the examination is a subjective assessment on the part of the inspector. However, the guidance below may assist the inspector in this endeavor:
  1. Review the facility's administrative procedures that describe how to maintain integrity of examinations.
  2. Review examination administration and results to determine if there is any indication of examination compromise.
  3. Interview responsible training department managers and instructors to determine methods used for maintaining the integrity of requalification examinations. If problems were noted in the past, determine what corrective action(s) have been taken to preclude future occurrences.
  4. Interview licensed individuals to determine whether their perception and knowledge of examination integrity is consistent with administrative procedures.



## 2515/117-05 REPORTING REQUIREMENTS

Document inspection findings in a routine inspection report. In addition to routine regional distribution, send a copy to the Director, Division of Reactor Controls and Human Factors, the Chief, Operator Licensing Branch, the Chief, Human Factors Assessment Branch, and all other regional Directors, Division of Reactor Safety (Division of Reactor Safety and Projects in Region V).

In addition to the routine inspection report, the region shall also provide the Director, Division of Reactor Controls and Human Factors, a written summary of the inspection team's experiences in using the temporary instruction. This summary should include information regarding the expenditure of hours as reported in the Regulatory Information Tracking System (RITS), any aspects of the inspection that should be evaluated for deletion, any items of concern that should be included in the inspection, and any recommendations for improving the inspection guidance.

## 2515/117-06 COMPLETION SCHEDULE

There are to be eight inspections conducted using this temporary instruction. This includes two inspections each in Regions I, II, and III and one inspection each in Regions IV and V. These inspections, including report writing and summary feedback reporting, should be completed by the end of June 1993.

## 2515/117-07 EXPIRATION

This temporary instruction is to remain in effect until 12 months after the date of issuance. At that time, either a revised TI or an inspection procedure (IP) will be issued.

## 2515/117-08 CONTACT

Questions regarding the technical aspects of this TI should be addressed to the Chief, Operator Licensing Branch, at 301-504-1031.

## 2515/117-09 STATISTICAL DATA REPORTING

The direct inspection effort (DIE) for this TI should be reported against 2515/117 for RITS data with an inspection procedure element (IPE) code of "SI" (Safety Issues Program).

## 2515/117-10 ORIGINATING ORGANIZATION INFORMATION

10.01 Organizational Responsibility. The Operator Licensing Branch (HOLB/NRR) initiated this TI.

10.02 Resource Estimate. In order to complete the basic inspection requirements, it is anticipated that two inspectors will spend four days each on site, for a total of 64 on-site inspection hours. However, some direct inspection effort will be expended in reviewing licensee examinations and test materials prior to going to the site. It is expected that this direct inspection effort in the office will take another 32 hours. Additional preparation effort, data analysis,



management briefings, follow-up activity, travel and report writing are expected to encompass another 100 hours. Therefore, it is expected that a total of 196 hours, of which nearly 50% is direct inspection effort (DIE), will be expended in conducting the basic inspection.

If a region chooses to do an augmented inspection at a specific plant, the inspection may require substantially more time. It is anticipated that an additional six staff weeks may be required to evaluate on-going training and testing activities. There would be a commensurate increase in the time spent on other aspects of the inspection, particularly preparation, follow-up, and management briefing activities. A total inspection effort of 544 hours is anticipated, with 304 of these hours being DIE (256 of them on site.)

10.03 Enforcement. Facility licensees are required by 10 CFR 50.54(i-1) to have in effect an operator requalification program which must as a minimum, meet the requirements of 10 CFR 55.59(c). However, since the Commission may approve a program developed by using a systems approach to training in lieu of the requirements of 10 CFR 55.59(c) (2), (3), and (4), any proposed enforcement action shall be forwarded to headquarters for review before issuance. The checklists in Appendix A are for the evaluation of facility testing material and are not necessarily requirements of 10 CFR 55.59.

10.04 Other. IP 41500, "Training and Qualification Effectiveness" can be used to assess all aspects of the facility licensee's continuing training program. This TI focuses on the evaluation phase and can be augmented to evaluate any other aspect of the program by using IP 41500.

#### 2515/117-11 REFERENCES

10 CFR 50.54

10 CFR Part 55

Site Specific Technical Specifications, Training

ANSI/ANS 3.1, 1981, "Selection, Qualification, and Training of Personnel for Nuclear Power Plants."

Regulatory Guide 1.8, Rev 2, "Qualification and Training of Personnel for Nuclear Power Plants."

NUREG-1021, "Operator Licensing Examiner Standards."

NUREG-1220, Revision 1, "Training Review Criteria and Procedures."

NUREG/BR-0122, "Examiners' Handbook for Developing Operator Licensing Examinations"

Inspection Procedure 2515, "Light-Water Reactor Inspection Program - Operations Phase"

Inspection Procedure 41500, "Training and Qualification Effectiveness."

END

Enclosures:

Appendix A, "Checklists for Evaluating Facility Testing Material"





## APPENDIX A

### NRC Checklist for Open-Reference Test Items

1. Does each test item have a documented link to important licensee tasks, K/As, and/or facility learning objectives?
2. Is each question operationally oriented (i.e., is there a correlation between job demands and test demands)?
3. Is the question at least at the comprehension-level of knowledge? (See NUREG/BR-0122)
4. Is the context of the questions realistic and free of window dressing and backwards logic?
5. Does the item require an appropriate use of references (i.e., use of analysis skills or synthesis of information either to discern what procedures were applicable or to consult the procedures to obtain the answer)?
6. Is the question a "direct look-up" question? A "direct look-up question" is defined as a question that immediately directs an operator to a particular reference where the answer is readily available.
7. Does the question possess a high K/A importance factor (3 or greater) for the job position?
8. Does the question appear to have the ability to discriminate a competent operator from one who is not?
9. Is the question appropriate for the written examination and the selected written examination format (e.g., short answer; multiple choice)?
10. Are there questions given in a static scenario setup that take advantage of the simulator control room setting?
11. Does any question have the potential of being a "double-jeopardy" question?
12. Is the question clear, precise, and easy to read and understand?
13. Does there appear to be only one correct answer to the question?
14. Does the question pose situations and problems other than those presented during training?
15. Does the question have a reasonable estimated response time?



APPENDIX A

Job Performance Measure (JPM) Quality Checklist

- 1. Is the task supported by facility's job task analysis?
- 2. Is the task operationally important (meets threshold criterion of K/A 3 or as determined by the facility)?
- 3. Is the task designed as either SFO only, RO/SFO or AO/RO/SFO?
- 4. Does each JPM include:
  - Initial conditions
  - Initiating cues
  - References, including associated procedures
  - Performance standards which are specific in that exact control and indication nomenclature and criteria (switch position, meter reading) are specified, even if these criteria are not specified in the procedural step
  - System response cues in the performance standards that are complete and correct so that the examiner can properly cue the operator, if asked
  - Statements describing important actions or observations that should be made by the operator
  - Criteria for successful completion
  - Identification of the critical steps and their associated performance standards
  - Validated time limits (average time allowed for completion)
  - JPMs identified as time critical or not time critical by the facility Operations Department
  - Restrictions on the sequence of steps



## APPENDIX A

### Simulator Scenario Review Checklist

#### Qualitative Attributes

1. Does the scenario have clearly stated objectives?
2. Are the initial conditions realistic, in that some equipment and/or instrumentation may be out of service, but it does not cue crew into expected events?
3. Does the scenario consist mostly of related events?
4. Does each event description consist of--
  - the point in the scenario when it is to be initiated
  - the malfunction(s) that are entered to initiate the event
  - the symptoms/cues that will be visible to the crew
  - the expected operator actions (by shift position)
  - the event termination point
5. Is no more than one non-mechanistic failure (e.g., pipe break) incorporated into the scenario without a credible preceding incident such as a seismic event?
6. Are the events valid with regard to physics and thermodynamics?
7. Is the sequencing/timing of events reasonable, and does it allow for the examination team to obtain complete evaluation results commensurate with the scenario objectives?
8. Has the simulator modeling been altered?
9. Can each rating factor in each crew competency be evaluated?
10. Has the scenario been validated?
11. If the sampling plan indicates that the scenario was used for training during the requalification cycle, has the facility evaluated whether it should be modified or not used?



APPENDIX A

Simulator Scenario Review Checklist (continued)

Note: The following criteria list scenario traits that are numerical in nature. A second set of numbers indicates a range to be met for a set of two scenarios. Therefore, to complete this part of the review, the set of scenarios must be available.

Quantitative Attributes

- 12. Total malfunctions inserted: 4-8/10-14
- 13. Malfunctions that occur after EOP entry: 1-4/3-6
- 14. Abnormal Events: 1-2/2-3
- 15. Major Transients: 1-2/2-3
- 16. EOPs used beyond primary scram response EOP: 1-3/3-5
- 17. EOP Contingency Procedures used: 0-3/1-3
- 18. Approximate scenario run time: 45-60 minutes (one scenario may approach 90 minutes)
- 19. Crew Critical Tasks: 2-5/5-8
- 20. Are Technical Specifications exercised during the test?

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

END



1