OYSTER CREEK NUCLEAR GENERATING STATION

JCP&L / GPU

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To: DISTRIBUTION

Subject: PROMULGATION OF STATION TRAINING ADMINISTRATION MANUAL

This Training Administration Manual is promulgated for use at the Oyster Creek Nuclear Generating Station as of August 29, 1977. The training programs herein are approved by the Station Manager and are effective upon receipt.

This manual has been promulgated as a controlled distribution document. Space has been reserved for programs still being developed. These programs will be added by manual revisions as they are completed and approved.

The training programs will be revised as necessary. Program or editorial changes of a minor nature may be made by the Training Supervisor. Major changes in the training program, or changes in philosophy or objectives must be reviewed by the Director Station Administration and authorized by the Station Manager. New programs must follow the same review and approval route.

Revisions to any programs requiring review and/or approval by an agency outside the company, such as the U.S. Nuclear Regulatory Commission, must have the same review and approval as the original program.

Approved changes to the manual will be distributed via the Oyster Creek Document Control Center to the designated copy holders.

Recommendations for changes to the manual should be submitted on a "Station Controlled Distribution Document Request" Form 103-1.

SUBMITTED: _____ Training Supervisor — 7/24/80 Date

REVIEWED: _____ Director Station Administration — 7/28/80 Date

APPROVED: _____ Station Manager — 7-25-80 Date

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SECTION III: NRC LICENSED OPERATOR TRAINING

Under Federal Law certain requirements concerning personnel experience and training must be met in conjunction with the operation of a nuclear power plant. Prior experience and education requirements for key staff and operating personnel are delineated in ANSI standard N 18.1-1971. Title 10, Chapter 1, Code of Federal Regulations, Part 55 (10 CFR 55) outlines the process of operator licensing and the required requalification program. ANSI N-18.1, 1971 also lists the information required to be presented to all employees.

The programs in this section are the means by which the requirements of 10 CFR 55 and ANSI 18.1, 1971 will be fulfilled at the Oyster Creek Nuclear Generating Station.

OYSTER CREEK NRC REACTOR OPERATOR LICENSING PROGRAM

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Program: NRC Reactor Operator Licensing Program

1. Purpose:

This program provides training guidelines for exposure to theory, systems, regulations, procedures and practices for NRC Reactor Operator License candidates. This program assumes the candidate has no previous nuclear or power plant training. This program is intended to allow the candidate to upgrade required knowledge and skills to a level necessary to obtain an NRC Reactor Operator license and to safely and competently operate the Oyster Creek Nuclear Reactor.

This program is written to meet all presently existing U.S. Nuclear Regulatory Commission Requirements. This program supersedes and replaces the earlier NRC approved program as described in J. R. Molnar's September 4, 1975 letter to Mr. Paul F. Collins.

This program will be implemented immediately and become effective upon formal approval by the Nuclear Regulatory Commission. Changes to this program, such as additional NRC requirements, lecture title changes, or minor program alterations will not require formal NRC approval. Minor program alterations are changes to the program that result from lessons learned and operating experience. These are intended to improve the program over the long term and will not result in lowering of standards below that are required by the NRC.

2. Scope:

The requirements of this program apply to all U.S. N.R.C. Reactor Operator License candidates of the Oyster Creek Nuclear Generating Station. The program consists of a planned lecture series, on shift assignment as an extra control room operator, simulator training and simulator certification.

Lectures are to cover all NRC required topics.

The on shift assignment as an extra control room operator is intended to allow the candidate to apply the lessons learned in the lecture series. During this assignment the candidate will upgrade his knowledge of all plant systems and operations, especially as they relate to the control room operator's job.

The simulator training and simulator certification phase of this program is intended to provide the candidate with some practical operating experience and to satisfy the requirements of the demonstration portion of the NRC licensing examination.

3. References

3.1 ANSI N-18.1 - 1971

3.2 JCP&L Operational Quality Assurance Plan

3.3 10 CFR 55

3.4 NUREG-0094

3.5 Harold R. Denton's 3/28/80 letter - qualifications of Reactor Operators

4. Program Administration

4.1 Responsibilities

4.1.1 Manager of Training - The individual with overall responsibility for the organization's training activities, including training staff qualifications and the quality of training which is conducted.

4.1.2 Technical Training Manager - The individual responsible for the overall operation of technical training, including the planning and coordination of technical training, and the assignment and evaluation of technical training supervisors and programs.

4.1.3 Supervisor Operator Training - The individual responsible for the day to day operation of the operator training organization, including the planning and scheduling of operator training, and the assignment and evaluation of instructors. This individual's duties also include:

1. Scheduling topics to be covered in the lecture series.
2. Assigning lectures to appropriate departments or individuals.
3. Administering and grading of periodic tests and quizzes.
4. Scheduling simulator time.
5. Scheduling NRC examinations.
6. Scheduling on-shift assignments.
7. Recommending license candidates be administered an NRC Reactor Operator examination.
8. Scheduling medical examinations for license candidates.

4.1.4 The Supervisor-Station Operations is responsible for:

1. Assigning license candidates to shifts as an extra control room operator for training purposes.
2. Ensuring that license candidates are provided opportunities to actively participate, as trainees, in station operations.

4.1.5 The Group Shift Supervisors are responsible for:

1. Providing guidance and assistance to license candidates during their on-shift assignments.
2. Ensuring that license candidates are provided opportunities to actively participate, as trainees, in station operations.

4.1.6 Assigned lecturers are responsible for lecture preparation, presentation, and with meeting the schedule.

4.1.7 Each reactor operator license candidate is responsible for:

1. System qualifications
2. Making up missed lectures with the lecturers
3. Maintaining a record of on shift training activities, particularly those involving significant reactivity manipulations.

4.2 Forms Usage

Forms are provided to document various aspects of the Licensing program. Their use and disposition is given below. Use of these forms is desired, but not mandatory. Other forms or formats may be used to fulfill the intended purposes.

4.2.1 SF-390, LECTURE ASSIGNMENT, is provided to promulgate lecture assignments to the designated lecturer or department head. The form is not normally retained.

4.2.2 SF-387, LECTURE ATTENDANCE, is provided to record attendance at a particular lecture, and is normally maintained in the licensing program file.

4.2.3 SF-401, ON-THE-JOB TRAINING RECORD, is provided to document the equipment operation and reactivity changes performed by an individual and becomes part of the individual's training file.

4.2.4 SF-403, LICENSED OPERATOR PERFORMANCE EVALUATION, is provided to document performance evaluations and becomes a part of the individual's training file.

4.2.5 SF-404, LICENSED OPERATOR ORAL EVALUATION, is provided to document oral evaluations (walk-thru's) and becomes a part of the individual's training file.

4.2.6 The program examinations, along with any answer or grading keys, are retained in the training program file. Each individual's grades are recorded on the exam cover sheet and retained in his training file with copies of his answer sheets. Any quizzes are similarly retained.

5. Program Requirements

5.1 Participation

The requirements of this program apply to all reactor operator license candidates.

5.2 Schedule

This program will be conducted as required to meet the licensed operator replacement needs of the station.

This program will consist of a minimum of 600 hours of lectures and a minimum of 520 hours assignment of shift training as an extra person in the control room.

Lecture time includes the live instructor presentation, self-study/system trace out time provided for in the schedule, examinations, and reviews.

Assignment as an extra control room operator does not mean that the candidate remain within the confines of the control room at all times. The on-shift assignment is intended to provide the candidate with first hand exposure to the operation of the station. There will be times that the candidate will leave the control room in order to participate in surveillances, testing, system trace outs, and other tasks that will add to the candidate's knowledge and ability to serve as a control room operator.

This program is designed to utilize a BWR simulator for additional hands on training and also to satisfy the requirements of the demonstration portion of the licensing examination. The utilization of a simulator adds 40 hours of classroom lecture and hands on experience to this program.

5.3 Lectures (600 hours minimum)

This portion of the program will consist of lectures given by plant staff and/or contractors and supplemented by video tapes.

5.3.1 Topics

The following topics will be included in the lecture series. Other topics may be included at the discretion of the Supervisor Operator Training. The hours recommended for each area are provided for guidance. The actual concentration, in hours, for each area may vary to meet the specific needs of the class being trained. Assigned instructors shall meet the qualification requirements of Section 5.3.4 of this program.

5.3.1.1 Academic Fundamentals (100 hours)

a. Mathematics (such as)

1) Number systems

2) Algebraic Expressions and Operations

3) Algebraic Equations

4) Logarithms and Logarithmic Expressions

5) Graphing

6) Geometry

7) Introduction to Trigonometry

b. Concepts in Physics (such as)

1) Units and Unit Conversion

2) Work, Energy and Power

3) Atomic Nucleus

4) Mass Energy Equivalence

5) Binding Energy and Nuclear Fission

6) Nuclear Stability

7) Linear Motion

8) Coulombs Law and the Electron Volt

9) Radioactive Decay

10) Nuclear Reactions

11) Nuclear Cross Sections

12) Interaction of Radiation with Matter

13) Introduction to Reactor Theory

c. Heat Transfer Fundamentals (such as)

1) Concepts in Energy

2) Properties of a Substance

3) Temperature and the Ideal Gas

4) Work and Heat

5) Introduction to Steam Tables

6) First Law of Thermodynamics

7) P-V Diagrams

8) Internal Energy

9) Enthalpy

10) Conservation of Mass and Energy

11) Second Law of Thermodynamics

12) Carnot Cycle

13) Entropy as a Property

14) T-S Diagrams

15) Vapor Power Cycles

16) Fluid Flow

17) Bernoulli's Equation

d. Waivers

Any of the 100 hours of academic fundamentals training may be waived providing all of the following conditions are satisfied.

1) The trainee has had prior schooling in the topic(s) (such as navy nuclear, college or other technical schooling)

2) The trainee has satisfactorily passed (>70%) an examination covering the topic(s) to be waived.

3) The Supervisor Operator Training grants the waiver of the topic(s). This waiver must be in writing and made a part of the trainee's licensing training file.

5.3.1.2 BWR Plant Fundamentals (100 hours)

a. BWR Heat Transfer (such as)

1) Heat Transfer Mechanisms

2) Fundamentals of Fluid Flow

3) Pool Boiling

4) Heat Transfer Regimes in the BWR

5) BWR Thermal Hydraulics

6) Core Orificing

7) Critical Power

8) LHGR

9) Peaking Factors

10) APLHGR, MAPLHGR

11) Heat Balances

b. BWR Operating Characteristics (such as)

1) Plant Startup and Shutdown

2) Integrated Operations

3) Safety Analysis/Transients

4) Safety Analysis/Accidents

5) TMI-2 and the BWR

6) Technical Specifications

7) Selected Review

c. Reactor Theory (such as)

1) Neutron Multiplication

2) Reactivity

3) Reactivity Coefficients

4) Rod Worth

5) Subcritical Multiplication

6) Fission Product Poisons

7) Operating Characteristics and Reactor Physics

5.3.1.3 Oyster Creek Systems (250 hours)

a. The following systems will be covered in the lecture series

1) Print Reading

2) System Checkout Guide

3) Plant Electrical

4) N.S.S.S.

5) Recirculation System

6) Recirc. Flow Control

7) CRD and CRD Hydraulics

8) Main Steam

9) Air Ejector and Off Gas

10) Feedwater and Condensate

11) Reactor Level and Feedwater Control

12) Vital Electrical Power

13) D.C. Electrical Power

14) Standby Diesel Generators

15) Cleanup Recirc. System

16) Shutdown Cooling System

17) Primary Containment

18) Secondary Containment & SGTS

19) Fire Protection System

20) Reactor Protection System

21) Reactor Manual Controls

22) Rod Worth Minimizer

23) Nuclear Instrumentation

24) Core Spray System

25) Auto Depressurization System

26) Containment Spray and ESW

27) Isolation Condensers

28) Liquid Poison

29) Nitrogen Inerting

30) Additional Engineered Safeguards

31) TBCCW

32) Service Water

33) RBCCW

34) Circulating Water and Dilution

35) Turbine and Turbine Auxiliaries

36) Turbine Controls

37) Instrument and Service Air

38) Fuel Handling

39) Augmented Off Gas

40) Radwaste Systems

The above lectures are constructed with the needs of the control room operator in mind. Each lecture provides the following:

1) Systems function

2) System description

3) Major Component Location

4) Instrumentation and Alarms

5) License and Procedure Requirements

6) Operating precautions and limitations

7) Surveillance requirements

8) Normal and abnormal operation

5.3.1.4 Radiation Protection and Safety (30 hours)

a. The following topics will be included in this area

1) Area Radiation Monitors

2) Process Radiation Monitors

3) Radiation Contamination - Units and Sources

4) Procedure 915 - Oyster Creek Exposure Limits

5) Procedure 905 - Radiation Emergencies

6) Code of Federal Regulations

7) Oyster Creek Employee Orientation

5.3.1.5 Normal and Emergency Procedures (24 hours)

a. The following will be included as part of specific system lectures, as separate lectures, or by self study.

1) Administrative Procedures (100 series)

2) Station Emergency Procedures (500 series)

3) Integrated Plant Procedures (200 series)

4) System Operating Procedures (300 series)

5) Station Emergency Plan

b. The 24 hours suggested for this topic includes only classroom time specifically scheduled for these subjects. The actual program time dedicated to this area is significantly greater due to on-shift study time and the study of normal and emergency procedures in the systems portion of the lecture series.

5.3.1.6 Operating Characteristics (40 hours*)

a. The following will be included as s
lectures or as part of the BWR Opera
Characteristics lecture series.

1) Plant transients*

2) Design Basis Accidents - FDSAR*

3) The Operator's Response in Emerg

4) Short Period Scrams

5) Oyster Creek 5/2/79 Event

*20 hours included in BWR Characterist
series

5.3.1.7 Review Programs

a. Pre-Simulator Training (16 hours)

1) Theory

2) Control Room Operations

3) Startup and Shutdown

4) Review of Emergency Procedures

b. Pre-NRC Examination Training (80 hours)

1) Theory

2) Control Room Operations

3) Reactor startup and shutdown

4) Simulated NRC License Examination

5) Simulated NRC License Walkaround Exam

6) Review of weak areas

7) Operating License and Technical Specif

5.3.2 Lecture Series Attendance

All license candidates should attend every pre-planned lecture.

Absence of personnel from a presented lecture requires that the lecture be made up by rescheduling lecture attendance or by utilizing self-study and discussion with appropriate individuals designated by the Supervisor Operator Training. The absentee should be required to pass a written examination covering the material presented during the missed lecture.

5.3.3 Training Methods

The pre-planned lecture series shall use a formal training method supported by properly prepared lesson plans and shall be presented by qualified instructors.

5.3.3.1 Lecture Presentation

For each training session in the lecture series, a lesson plan should be prepared in accordance with a predetermined format and should be reviewed by designated knowledgeable personnel.

The incorporation of training aids such as trainee handouts, films, slides, models, transparancies, and videotape presentations is encouraged. The lesson plan will become the reference source for the information covered during the lecture and should be

retained as part of the program records.

In the event that videotape or film presentations are used, an instructor shall be available to embellish, explain, or emphasize the subject material and to respond to any questions or comments from the trainees either during or immediately after the presentation.

The lecture presentation should be conducted in a formal classroom environment.

5.3.4 Instructor Qualfications

Instructors assigned to deliver lectures or conduct training sessions in Hot Licensing program shall be assigned by the Supervisor Operator Training. Such instructors shall possess expertise on the subject matter to be presented.

Instructors who conduct Licensed Operator training sessions on any of the following topics/systems shall demonstrate their competence to conduct such training by successful completion of a NRC senior operator examination.

Topics/systems requiring SRO equivalent competency:

1) Containment Spray System
2) Condensate System
3) Feedwater System

4) Standby Diesel Generators

5) D.C. Electrical System

6) Shutdown Cooling System

7) Reactor Cleanup Recirc. System

8) Nuclear Steam Supply System

9) Control Rod Drive and Hydraulics Sy

10) Standby Liquid Control System

11) Isolation Condenser System

12) Core Spray System

13) Automatic Depressurization System

14) Primary Containment System

15) Secondary Containment System

16) Main Steam System

17) Standby Gas Treatment System

18) Vital Electrical System

19) Nuclear Instrumentation System

20) Process Radiation Monitoring Syst

21) Reactor Protection System

22) Rod Worth Minimizer

23) Traversing In-Core Probe Syste

24) Reactor Manual Controls System

25) Station Transient Response Anal

NOTE: Individuals with considerable expert
conduct training on the above topics
is obtained from the Supervisor Ope
SRO certified individual is present

5.4 Shift Training (520 hours minimum)

This portion of the program requires that the license candidates be placed on shift as an extra person in the control room. During this period the candidate will be "checked out" on systems and become familiar with control room surveillance tests and operations. Under the direction of the licensed senior reactor operator and control room operator on duty, the candidate will perform or assist in the performance of control room evolutions required during the on shift assignment.

Each candidate will be provided the opportunity to participate in station operations involving reactivity manipulations of a significant nature. The lecture schedule and/or shift schedules will be modified, during such operations, to allow for such involvement.

Examples of station operations which involve significant reactivity manipulations include the following:

(1) Control rod manipulation accomplishing

(a) Startup to point of adding heat.

(b) Heatup or cooldown of approximately 50° F.

(c) Reactor shutdown.

(d) Power changes of ten (10) percent or greater.

(2) Recirculation flow changes to effect power changes of ten (10) percent or greater.

(3) Turbine startup or shutdown.

(4) Shutdown margin checks.

(5) Plant and reactor operations that involve emergency or transient procedures where reactivity is changing including reactor scrams and subsequent activities.

(6) Control rod insertion time tests.

(7) Refueling operations where fuel is moved in the core.

(8) A gradual manual recirculation flow change of ten (10) percent or greater balanced by control rod movement to hold reactor power steady.

(9) Any special test or other evolution which changes reactor power by ten (10) percent or greater.

5.5 Simulator Training and Demonstration Certification

This portion will consist of one week of simulator training at the General Electric Simulator, Morris, Illinois, at which time the applicant will sit for certification by the General Electric simulator training center staff or by an NRC examiner. The certification will attest to the applicants':

a. Ability to manipulate the controls and keep the reactor under control during a reactor startup;

b. Ability to predict instrument response and use the instrumentation during a reactor startup;

c. Ability to follow the facility startup procedure, and;

d. Ability to explain alarms and annunciators that may occur during this operation.

6.0 Alternate Training Programs

The JCP&L Company may replace the above program requirements with an alternative program furnished by a vendor or consultant provided it has been approved by the NRC for Oyster Creek.

OYSTER CREEK NRC SENIOR REACTOR OPERATOR UPGRADE PROGRAM

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PROGRAM: NRC SENIOR REACTOR OPERATOR UPGRADE PROGRAM

1. PURPOSE:

This program provides training guidelines for exposure to theory, systems, regulations, procedures, and practices for NRC Senior Reactor Operator License candidates. This program assumes the candidate has 4 years of responsible power plant experience, as required by reference 3.5, and has held an NRC Operator's license for a minimum of one year.

This program is intended to allow the candidate to upgrade required knowledge and skills from that of a reactor operator to a level necessary to obtain an NRC Senior Reactor Operator License and to safely and competently serve in that capacity at the Oyster Creek Nuclear Generating Station.

2. SCOPE:

The requirements of this program apply to all U.S.N.R.C. Senior Reactor Operator License candidates of the Oyster Creek Nuclear Generating Station. This program consists of a structured self-study program, on shift assignment as an extra person in the control room, progress quizzes, and a supplemental lecture program to meet deficiencies identified by the progress quizzes.

The on-shift training assignment as an extra person in the control room is intended to permit the candidate to upgrade his operations and administrative knowledge to that necessary to serve as a senior reactor operator.

3. REFERENCES:

3.1 ANSI N-18.1 - 1971

3.2 JCP&L Operational Quality Assurance Plan

3.3 10 CFR 55

3.4 NUREG-0094

3.5 Harold R. Denton's 3/28/80 letter - qualifications of Reactor Operators

4. PROGRAM ADMINISTRATION

4.1 Responsibilities

4.1.1 Manager of Training - The individual with overall responsibility for the organization's training activities, including training staff qualifications and the quality of training which is conducted.

4.1.2 Technical Training Manager - The individual responsible for the overall operation of Technical training, including the planning and coordination of Technical Training, and the assignment and evaluation of technical training supervisors and programs.

4.1.3 Supervisor Operator Training - The individual responsible for the day-to-day operation of the operator training organization, including the planning and scheduling of operator training, and the assignment and evaluation of instructors. This individual's duties also include:

1. Administering and grading of progress quizzes.
2. Scheduling supplemental lectures to meet needs identified by progress quizzes.
3. Assigning lectures to appropriate departments or individuals.
4. Scheduling NRC examinations.
5. Scheduling on-shift assignments.
6. Recommending license candidates be administered an NRC Senior Reactor Operator examination.
7. Scheduling medical examinations for license candidates.

4.1.4 The Supervisor-Station Operations is responsible for:

1. Assigning license candidates to shifts as an extra control room operator for training purposes.
2. Ensuring that license candidates are provided opportunities to actively participate, as trainees, in station operations.

4.1.5 The Group Shift Supervisors are responsible for:

1. Providing guidance and assistance to license candidates during their on-shift assignments.
2. Ensuring that license candidates are provided opportunities to actively participate, as trainees, in station operations.

4.1.6 Assigned lecturers are responsible for lecture preparation, presentation, and with meeting the schedule.

4.1.7 Each Senior reactor operator license candidate is responsible for:

1. System qualifications

2. Maintaining satisfactory self study progress

3. Maintaining a record of on shift training activities, particularly those involving significant reactivity manipulations.

4.2 Forms Usage

Forms are provided to document various aspects of the Licensing program. Their use and disposition is given below. Use of these forms is desired, but not mandatory. Other forms or formats may be used to fulfill the intended purposes.

4.2.1 SF-390, LECTURE ASSIGNMENT, is provided to promulgate lecture assignments to the designated lecturer or department head. The form is not normally retained.

4.2.2 SF-387, LECTURE ATTENDANCE, is provided to record attendance at a particular lecture, and is normally retained in the requalification program file.

4.2.3 SF-401, ON-THE-JOB TRAINING RECORD, is provided to document the equipment operation and reactivity changes performed by an individual and becomes a part of the individual's training file.

4.2.4 SF-403, LICENSED OPERATOR PERFORMANCE EVALUATION, is provided to document performance evaluations and becomes a part of the individual's training file.

4.2.5 SF-404, LICENSED OPERATOR ORAL EVALUATION, is provided to document oral evaluations (walk-thru's) and becomes a part of the individual's training file.

4.2.6 The program examinations, along with any answer or grading keys, are retained in the training program file. Each individual's grades are recorded on the exam cover sheet and retained in his training file with copies of his answer sheets. Any quizzes are similarly retained.

5. Program Requirements

5.1 Participation

The requirements of this program apply to all Senior reactor operator license candidates.

5.2 Schedule

This program will be conducted as required to meet the licensed senior operator replacement needs of the station.

This program will consist of a minimum of 160 hours of self study assignment and a minimum of 520 hours assignment of shift training as an extra person in the control room.

Assignment as an extra control room operator does not mean that the candidate remain within the confines of the control room at all times. The on shift assignment is intended to provide the candidate with first hand exposure to the operation of the station. There will be times that the candidate will leave the control room in order to participate in surveillances, testing, system trace outs, and other tasks that will add to the candidate's knowledge and ability to serve as a Senior Reactor Operator.

5.3 Self Study Program (Minimum 160 hours)

This portion of the program will consist of a structured self study program augmented by supplemental lectures as required.

5.3.1 Topics

All topics outlined in section 5.3.1 of part 301 (Reactor Operator Licensing Program) of this manual are to be included. The actual concentrations, in hours, for each area will vary as required by the individual needs of each candidate.

5.4 Progress Quizzes

Each candidate will be required to take quizzes during the self study program. These quizzes will be designed to test the candidate's knowledge and progress during the structured self study program. The level of questioning on each topic shall be consistent with the SRO level.

5.4.1 Quiz Standards

Quizzes should be evaluated at the SRO level and a grade determined for each trainee. A performance standard of 80% or more shall be established for each quiz. Trainees who do not meet this performance standard should complete a remedial review process consisting of:

1) Trainee review of the subject material covered by the progress quiz.

2) Trainee review of associated reference material with a member of the training staff.

3) The trainee shall undergo another written quiz or an oral evaluation administered by the Supervisor Operator training or his designee.

If the reexamination is completed satisfactorily, the candidate should receive credit for passing the quiz. If the reexamination is unsatisfactory, a supplemental training lecture on the subject material shall be conducted to correct the identified deficiency.

5.5 Supplemental Lectures

Supplemental lectures will be prepared and presented to meet any special needs of the candidate. Special needs are those identified by the progress quizzes and/or by plant modifications, operating problems, industry operating experience, or from other sources as determined by the Supervisor Operator Training.

5.5.1 Supplemental Lecture Quizzes

After each supplemental lecture all candidates shall take a quiz in order to determine training effectiveness.

5.5.2 Supplemental Lecture Quiz Standards

The standards of section 5.4.1 shall apply. If a trainee is unable to successfully meet this standard, a meeting between the Supervisor Operator Training, the candidate's functional supervisor, and the candidate shall take place. At this meeting a determination shall be made to either:

1. Extend the candidate's program to correct the deficiency, or

2. Drop the candidate from the program.

5.6 Shift Training (520 hours minimum)

This portion of the program requires that the license candidates be placed on shift as an extra person in the control room. During this period the candidate will review actual plant operations and become familiar with control room administration and operations. Under the direction of the licensed senior reactor operator and control room operator on duty, the candidate will perform or assist in the performance of control room evolutions required during the on shift assignments.

Each candidate will be provided the opportunity to participate in station operations involving reactivity manipulations of a significant nature.

Examples of station operations which involve significant reactivity manipulations include the following:

(1) Control rod manipulation accomplishing

(a) Startup to point of adding heat.

(b) Heatup or cooldown of approximately 50° F.

(c) Reactor Shutdown

(d) Power changes of ten (10) percent or greater.

(2) Recirculation flow changes to effect power changes of ten (10) percent or greater.

(3) Turbine startup or shutdown.

(4) Shutdown margin checks.

(5) Plant and reactor operations that involve emergency or transient procedures where reactivity is changing including reactor scrams and subsequent activities.

(6) Control rod insertion time tests.

(7) Refueling operations where fuel is moved in the core.

(8) A gradual manual recirculation flow change of ten (10) percent or greater balanced by control rod movement to hold reactor power steady.

(9) Any special test or other evolution which changes reactor power by ten (10) percent or greater.

6. Alternative Training Programs

The JCP&L Company may replace the above program requirements with an alternative program furnished by a vendor or consultant provided it has been approved by the NRC for Oyster Creek.

OYSTER CREEK NRC LICENSED OPERATOR REQUALIFICATION PROGRAM

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PROGRAM: LICENSED OPERATOR REQUALIFICATION

1. PURPOSE

This continuing requalification program for licensed operators and senior operators is designed to maintain operator readiness and proficiency in the quest for continued safe operation. In particular, it will aid licensed personnel to properly respond to abnormal and emergency situations in the unlikely event that an accident may occur during the operation of the Oyster Creek Nuclear Generating Station.

The lecture series is a classroom presentation which provides the licensed personnel with the details of operational information related to the Oyster Creek Nuclear Generating Station.

On-the-job training is designed to insure that all licensed personnel operate reactor controls and participate in major plant evolutions. Records of all on-shift performance are maintained and periodically reviewed by the Supervisor Operator Training.

The Annual evaluation examinations simulate the written and oral examinations administered by the Nuclear Regulatory Commission. Performance on these annual evaluation examinations determine the extent of the lecture program during the following twelve month requalification period.

The requalification program is designed with fixed performance standards and specified remedial actions. The program and records are fully auditable.

This program has been written to meet the requirements of 10 CFR 55, Appendix A, and has been formally approved by the Nuclear Regulatory Commission. Changes to the program must also receive their formal approval.

2. SCOPE

The requirements of this program apply to all licensed operators and senior operators of the Oyster Creek Nuclear Generating Station who have been assigned on-shift operating department duties. Members of the supervisory, technical, and management staff who maintain operator or senior operator licenses for the purpose of providing backup capability to the operations department shall participate in the requalification program except to the extent that their normal duties preclude the need for specific retraining in particular areas. Licensed operators or senior operators whose licenses are conditioned to permit manipulation of specific controls only shall participate in those portions of the requalification program appropriate to the duties they perform.

3. REFERENCES

3.1 10CFR 50 - Section 50.54
3.2 10CFR 55 - Section 55.31 (e)
3.3 10CFR 55 - Section 55.33
3.4 10CFR 55 - Appendix A
3.5 Harold R. Denton's 3/28/80 letter to All Power Reactor Applicants and Licensees
3.6 JCP&L Operational Quality Assurance Plan
3.7 Plant Procedure 102
3.8 ANSI N-18.1 - 1971

4. PROGRAM ADMINISTRATION

4.1 Responsibilities

4.1.1 Manager of Training - The individual with overall responsibility for the organization's training activities, including training staff qualifications and the quality of training which is conducted

4.1.2 Technical Training Manager - The individual responsible for the overall operation of Technical training, including the planning and coordination of Technical Training, and the assignment and evaluation of technical training supervisors and programs.

4.1.3 Supervisor Operator Training - The individual responsible for the day-to-day operation of the operator training organization, including the planning and scheduling of operator training, and the assignment and evaluation of instructors.

4.1.4 The Supervisor-Station Operations, Supervisor Operator Training, or other qualified person designated by the Technical Training Manager is responsible for:

4.1.4.1 Periodic performance and oral evaluations of all license holders.

4.1.5.2 Meeting with license holders who receive unsatisfactory annual evaluation or examination grades.

4.1.4.3 Certifying operator qualification when returning from a four month absence from operation.

4.1.5 Department Supervisors are responsible for ensuring lectures assigned to their department are given.

4.1.6 Licensed personnel are responsible for:

4.1.6.1 Documenting their training on forms provided (SF-401, SF-402, SF-405 or equivalent)

4.1.6.2 Keeping their records current.

4.1.6.3 Forwarding the records to the Supervisor Operator Training on request and to the training files at the end of the training period.

4.2 Forms Usage

Forms are provided to document various aspects of the requalification program. Their use and disposition is given below. Use of these forms is desired, but not mandatory. Other forms or formats may be used to fulfill the intended purpose.

4.2.1 SF-390, LECTURE ASSIGNMENT, is provided to promulgate lecture assignments to the designated lecturer or department head. The form is not normally retained.

4.2.2 SF-387, LECTURE ATTENDANCE, is provided to record attendance at a particular lecture, and is normally retained in the requalification program file.

4.2.3 SF-389, LECTURE MAKEUP, is provided to assign makeup for missed lectures. The form can also be used to document the lecture makeup and becomes a part of the individual's training file.

4.2.4 SF-405, EMERGENCY PROCEDURE REVIEW RECORD is provided to document an individual's review of emergency procedures and becomes a part of the individual's training file.

4.2.5 SF-401, ON-THE-JOB TRAINING RECORD, is provided to document the equipment operation and reactivity changes performed by an individual and becomes a part of the individual's training file.

4.2.6 SF-402, STAFF LICENSE DUTIES RECORD, is provided for non-shift, staff personnel to document performance of "duties associated with their license" and becomes a part of the individual's training file.

4.2.7 SF-403, LICENSED OPERATOR PERFORMANCE EVALUATION, is provided to document performance evaluations and becomes a part of the individual's training file.

4.2.8 SF-404, LICENSED OPERATOR ORAL EVALUATION, is provided to document oral evaluations (walk-thru's) and becomes a part of the individual's training file. Normally only the cover sheet will be filed unless an unsatisfactory rating is received.

4.2.9 The annual written examination, along with any answer or grading keys, is retained in the requalification program file. Each individual's grades are recorded on the exam cover sheet and retained in his training file with copies of his answer sheets. Any quizzes are similarly retained.

4.2.10 SF-401A, Term OF NRC License Control Manipulation Record, is provided to document performance of NRC required control manipulations required by enclosure 4 of reference 3.5. This form shall be maintained by the training staff and becomes a part of the individual's training file.

4.2.11 SF-401B, Control Manipulation Evaluation is provided to document evaluation of a walk-through of control manipulations required by enclosure 4 of reference 3.5. This form shall be maintained by the training staff and shall be retained in the requalification program file.

5. PROGRAM REQUIREMENTS

5.1 Participation

All NRC licensed personnel will participate in the applicable portions of the requalification program. Exceptions include the following:

5.1.1 Staff Members:

Individuals who maintain operator or senior operator licenses for the purpose of providing backup capability to the operating staff shall participate in the requalification program except to the extent that their normal duties preclude the need for specific retraining in particular areas. As a minimum these individuals shall:

5.1.1.1 Complete the annual written examination and participate in the lecture series based on the results thereof.

5.1.1.2 Manipulate the controls or supervise the manipulation of the controls through ten (10) reactivity changes during the term of their licenses.

5.1.1.3 Perform all control manipulations as required by enclosure 4 of reference 3.5 and described in section 5.4.1 of this program.

5.1.1.4 Review design changes, procedure changes and facility license changes.

5.1.1.5 Review the content of all emergency procedures on regularly scheduled basis.

5.1.1.6 Maintain a record of time spent on duties associated with their license, such as:

(a) Preparing for and giving requalification lectures.

(b) Preparing reportable occurrences.

(c) Working on projects associated with safety systems.

(d) Being on shift in the Control Room.

(e) Writing or reviewing procedures.

(f) Reviewing procedure changes, facility changes, reportable ocurrences, and standing orders.

5.1.2 Supervisor Operator Training

The Supervisor Operator Training who is licensed is exempt from the provisions of this program for which he has primary responsibility for administering. The licensed individuals who aid in the preparation administration, and grading of written examinations need not take that examination. These persons will usually be the Technical Training Manager and the Supervisor Operator Training. The Manager of Training may designate other qualified individuals to aid in the preparation and grading of these examinations. These individuals will be exempt from taking that portion of the examination for which such assistance was provided. Such individuals will be SRO licensed.

5.2 Schedule

5.2.1 General

The lecture and evaluation portions of the requalification program shall be conducted on a yearly basis The operations schedule is arranged to allow time for presentation of the lecture series for each shift during each shift cycle. Usually the lecture series will be conducted during five cycles, although operational committments or requirements may cause this to vary. An annual written examination covering the material presented in the lecture series will be given to each licensee. The annual written examination will be given prior to December 31 and the results used as a basis for determining the topics to be covered in the lecture series for the following year. The December 31 deadline may be extended until January 31 of the following year under unusual circumstances or operational requirements. Such an extention requires the written approval of the Technical Training Manager.

5.2.2 Lectures

A minimum of sixty (60) hours of lectures shall be presented each yearly requalification cycle. Lectures schedules will consider heavy vacation periods and scheduled plant outages. Lectures not presented due to unanticipated outages or operational requirements will be rescheduled and conducted prior to the administration of the annual examination for that training cycle.

5.2.3 On-The-Job Training

On-the-job training is conducted throughout the two year term of the individual's license. All required on-the-job training will be completed prior to license renewal.

5.3 Lecture Series

5.3.1 Topics

The content of this lecture series should reflect the training needs of each licensed individual as determined by the annual examination system.

The lecture topics are selected on an as-needed basis and may include the following:

1) Theory and Principles of Reactor Operation

2) Heat Transfer, Fluid Flow, and Thermodynamics

3) Features of Facility Design

4) General and Specific Plant Operating Characteristics (including mitigation of accidents involving a degraded core)

5) Plant Instrumentation and Control Systems

6) Plant Protection Systems

7) Engineered Safety Systems

8) Radiation Control and Safety

9) Applicable Portions of Title 10, Chapter I, Code of Federal Regulations

10) Fuel Handling and Core Parameters

11) Normal, Abnormal and Emergency Operating Procedures (including Control Manipulations)

12) Technical Specifications

13) Administrative Procedures, Conditions and Limitations

14) Major Operational Evolutions

15) Facility Design and License Changes

16) Procedure Changes

17) Operating History and Problems

18) Related Nuclear Industry Operating Experience

5.3.2 Lecture Series Attendance

All licensed individuals should attend every pre-planned lecture series topic. Each licensed individual receiving a grade of less than 80% on an annual written examination category of the most recent annual examination shall attend the lecture series presentations covering that category.

Absence of personnel required to attend a lecture shall be made up by rescheduling lecture attendance or by utilizing self-study and discussion with appropriate individuals designated by the Supervisor Operator Training. The absentee should be required to pass a written examination covering the material presented during the missed lecture.

5.3.3 Training Methods

The pre-planned lecture series shall use a formal training method supported by properly prepared lesson plans and shall be presented by qualified instructors.

5.3.3.1 Lecture Presentation

For each training session in the lecture series, a lesson plan should be prepared in accordance with a predetermined format and should be reviewed by designated knowledgable personnel.

The incorporation of training aids such as trainee handouts, films, slides, models, tranparancies and videotape presentations is encouraged. The lesson plan will become the reference source for the information covered during the lecture and should be retained as part of the program records.

In the event that videotape or film presentations are used, an instructor shall be available to embellish, explain or emphasize the subject material and to respond to any questions or comments from the trainees either during or immediately after the presentation.

The lecture presentation should be conducted in a formal classroom environment.

5.3.3.2 Self-Study

While individual self-study is encouraged, it shall not be substituted for a formal presentation by an instructor conducted as part of the Lecture Series. Self-study periods should be scheduled in conjunction with the Lecture Series to enable licensed trainees an opportunity to reinforce the lecture series learning experience.

5.3.4 Lecture Series Quizzes

After each lecture or block of lectures, all trainees required to attend shall take a quiz in order to demonstrate training effectiveness.

5.3.4.1 Quiz Standards

Quizzes should be evaluated and a grade determined for each trainee. A performance standard of 80% or more should be established for each quiz. Trainees who do not meet this performance standard should complete a remedial review process consisting of:

1) Trainee review of the lecture material covered in the training session

2) Trainee review of associated reference material identified by the instructor

3) The trainee shall undergo another written quiz or an oral evaluation administered by his functional supervisor and/or the instructor. If the reexamination is completed satisfactorily, the trainee should receive credit for completion of the required lecture. If the reexamination is unsatisfactory, the trainee should be removed from any operational duties and enter an accelerated requalification program (See Section 7.1).

5.3.5 Instructor Qualifications

Instructors assigned to deliver lectures or conduct training sessions in the requalification program shall be assigned by the Supervisor Operator Training. Such instructors shall possess expertise in the subject matter to be presented.

Instructors who conduct Licensed Operator training sessions on any of the following topics/systems shall demonstrate their competence to conduct such training by successful completion of a NRC senior operator examination.

Topics/systems requiring SRO equivalent competency:

1) Containment Spray System

2) Condensate System

3) Feedwater System

4) Standby Diesel Generators

5) D.C. Electrical System

6) Shutdown Cooling System

7) Reactor Cleanup Recirc. System

8) Nuclear Steam Supply System

9) Control Rod Drive and Hydraulics System

10) Standby Liquid Control System

11) Isolation Condenser System

12) Core Spray System

13) Automatic Depressurization System

14) Primary Containment System

15) Secondary Containment System

16) Main Steam System

17) Standby Gas Treatment System

18) Vital Electrical System

19) Nuclear Instrumentation System

20) Process Radiation Monitoring System

21) Reactor Protection System

22) Rod Worth Minimizer

23) Traversing In-Core Probe System

24) Reactor Manual Controls System

25) Station Transient Response Analysis

NOTE: Individuals with considerable expertise may occasionally conduct training on the above topics providing prior approval is obtained from the Supervisor Operator Training and an SRO certified individual is present during the presentation.

5.4 Skills Training

In order to maintain an acceptable level of skill and familiarity with the nuclear plant systems, controls, and operational procedures, each licensed individual shall participate in frequent and varied plant operations. Each licensed individual shall demonstrate operational proficiency by participating in the following activities:

1) Reactivity Manipulation and Plant Evolutions

2) Nuclear Plant Simulator Exercises

3) Control Manipulation Walk-Throughs

To maintain these skills, individuals shall actually manipulate the controls while licensed senior operators may either manipulate or actively supervise manipulation of the controls. Training to achieve proficiency should be planned so that skills training exercises are repeated until proficiency is demonstrated. If necessary, a BWR simulator which reproduces the general operating characteristics may be used to meet the control manipulation requirements.

5.4.1 Reactivity Manipulation and Plant Evolutions

During the two-year term of the NRC license, each licensed individual shall participate in a variety or reactivity control manipulations and plant evolutions.

5.4.1.1 Annual Requirements

On an annual basis, each licensed individual shall participate in the following control manipulations:

a) Startup Including Heatup*

b) Manual Feedwater Control During SU or SD *

c) 10% Power Change (Rods or Recirc) *

d) Large LOCA - Inside Drywell

e) Small LOCA - Inside Drywell (including Leak Rate Calculation)

f) Large LOCA - Outside Drywell

g) Small LOCA - Outside Drywell (including leak rate calculation)

h) Loss of All Recirc. Pumps

i) Loss of All Feedwater

5.1.4.2 Bi-Annual Requirements

On a two year basis, each licensed individual shall participate in the following control manipulations:

a) Plant shutdown *

b) Loss of Instrument Air

c) Total Loss of A.C. Electrical

d) Total loss of D.C. Electrical

e) Loss of Condenser Vacuum

f) Loss of Service Water

g) Loss of Shutdown Cooling

h) Loss of TBCCW

i) Loss of RBCCW

j) Loss of RPS Channel

k) Rod Drop

l) Loss of CRD Hydraulics

m) Scram System Failure

n) Fuel Clad Failure

o) Turbine or Generator trip

p) Recirc. Flow Control Failure

q) Feedwater Flow Control Failure

r) Reactor Scram

s) Main Steam Line Break

t) Nuclear Instrumentation Failure

The starred items (*) in Sections 5.4.1.1. and 5.4.1.2. must be performed during actual plant operations or on a simulator.

Exercises involving multiple failures and/or operator error should be included. Designation of other abnormal/emergency conditions for inclusion as a formal training exercise is encouraged. Utilization of applicable plant procedures and technical specifications during the formal training exercise should be maximized.

The formal training exercises should be conducted utilizing a nuclear plant simulator or an in-plant walk-through requiring simulated response to simulated accident conditions.

Individual and operational team performance during the formal training exercises should be monitored and deficiencies corrected so that satisfactory proficiency is demonstrated.

In the event that an actual abnormal/emergency condition occurs at the plant and performance of the licensed personnel coping with the condition is satisfactory (as determined by their Functional Supervisor), credit for completion of a formal training exercise may be taken.

Formal classroom sessions conducted in conjunction with these control manipulations, control manipulation walk-throughs, and simulator training programs may be credited toward fulfilling the requirements of Section 5.2.

5.4.2 Knowledge of Plant Systems

Each licensed operator or senior operator shall demonstrate, annually in the performance of his duties, satisfactory understanding of the operation of all apparatus and mechanisms, and satisfactory knowledge of the operating procedures in each area for which he is licensed. In order to document satisfactory performance and knowledge in these areas, an auditable record shall be maintained indicating the method used to evaluate the operator. Acceptable methods include; (1) documentation of satisfactory ability to manipulate each system's apparatus and mechanisms, and/or (2) a simulated walk through of the procedural steps required to start, stop or change conditions of the systems apparatus or mechanisms. A BWR simulator which reproduces the general operating characteristics of Oyster Creek may be used to supplement station activity in meeting the requirements of this section. The results of this evaluation will constitute a part of the annual documented evaluation.

5.4.3 Knowledge of Facility Design, Procedure Changes and Facility License Changes

Licensed Operators and Senior Operators are required to review information concerning changes to plant operation. Specific material will be determined by the Supervisor-Station Operations and may include information, such as facility design changes, procedure revisions, facility license changes, etc. The review is normally documented on signoff sheets initiated, controlled and maintained by the Operations Department, but may, when warranted, be covered in lectures conducted by the shift supervisor, by staff meetings, or by the preplanned lecture series.

6. ANNUAL REQUALIFICATION EXAMINATION

In order to determine each licensed individual's knowledge of topics covered in the requalification program and provide a basis for determining areas in which retraining is needed, an annual requalification examination shall be given. The annual examination shall be given to all licensed individuals prior to the completion of each annual requalification program cycle and shall consist of an oral evaluation and a written examination.

6.1 Annual Written Examination

An annual written examination shall be administered to all licensed individuals.

6.1.1 Written Examination Content

a) Principals of Reactor Operation

b) Features of Facility Design

c) General Operating Characteristics

d) Instruments and Control

e) Safety and Emergency Systems

f) Standard and Emergency Operating Procedure

g) Radiation Control and Safety

h) Principles of Heat Transfer and Fluid Mechanics

i) Reactor Theory

j) Radioactive Materials Handling, Disposal and Hazards

k) Specific Operating Characteristics

l) Fuel Handling and Core Parameters

m) Administrative Procedure, Conditions, and Limitations

n) Theory of Fluids and Thermodynamics

6.1.2 Written Examination Administration

The annual written evaluation examination will be administered to all licensed personnel as set forth in the following guidelines:

(a) The examination will simulate the examination normally administered by the Nuclear Regulatory Commission.

(b) Reactor Operator(s) will take Sections A through H of the examination while the Senior Reactor Operators will take Sections I though N.

(c) The examination, examination answers, and a grading key will be prepared in advance.

(d) The examination results will be used to identify specific lecture series topics to be covered by each licensed individual during the subsequent annual requalification program cycle.

(e) The examination will be administered and graded by members of the training staff.

(f) The persons responsible for the preparation of the examinations and answers will be given credit for passing the examination.

6.1.3 Examination Performance Standards

A grade of less than 70% in any examination category shall require the licensed individual to participate in an accelerated requalification program covering that category. A grade of less than 80% overall shall require the licensed individual to participate in an accelerated requalification program covering all categories graded less than 80%. All licensed individuals required to participate in an accelerated requalification program shall be relieved of all licensed operator (RO and SRO) duties until the individual successfully completes the accelerated requalification program outlined in Section 7.1.

The written examination results shall be utilized to determine the content and required attendance for the next annual Lecture Series (Section 5.3). Areas of significant deficiency in each written examination category should be covered in the next lecture series. Licensed individuals receiving a grade of less than 80% in an examination category shall be required to attend the Pre-Planned Lecture Series when lectures covering that category are presented. Any licensed individual required to participate in an accelerated requalification program shall be required to attend the Pre-Planned Lecture Series for all lectures covering categories included in the individual's accelerated requalification program.

6.2 Annual Oral Evaluation

An annual oral examination shall be administered to all licensed individuals.

6.2.1 Oral Evaluation Content

The oral evaluation should contain questions covering the following areas:

a) Duties and responsibilities of licensed operator position.

b) Actions in the event of abnormal conditions

c) Actions in the event of emergency conditons

d) Interpretation of instrumentation responses

e) Plant transient and accident response

f) Plant modifications

g) Plant procedure change

h) Technical Specifications

i) Emergency Plan

j) Plant Operating history and problems

k) Related nuclear industry operating experience

The level of evaluation questioning should be consistent with the individual's license level (RO or SRO).

6.2.2 Oral Evaluation Administration

The oral evaluation should be conducted under a structure enabling consistency of questioning and evaluation. The following guidelines should be considered.

a) A checklist identifying the areas to be covered should be used.

b) Overall evaluation should be made on a pass/fail basis.

c) Comments on individual strengths and weaknesses should be made.

The Supervisor Operator Training and the Supervisor-Station Operations should establish the oral evaluation schedule.

Personnel assigned to conduct an oral evaluation should be designated by the Technical Training Manager. Oral evaluations should be conducted by a Licensed Senior Operator or an S.R.O. certified instructor. Each oral evaluation should be structured so that an evaluation time between 2 and 4 hours is appropriate.

6.2.3 Evaluation Performance Standards

A failing overall oral evaluation shall require the licensed individual to participate in an accelerated requalification program covering each area evaluated as deficient. Any licensed individual required to participate in an accelerated requalification program shall be relieved of all licensed operator (RO and SRO) duties until the individual successfully completes the requalification program outlined in Section 7.1.

The oral evaluation results shall be utilized in determining the content of the annual Lecture Series. Licensed individuals who have identified deficiencies shall attend the Lecture Series presentations related to the deficiencies.

7. SPECIAL RETRAINING PROGRAMS

Specific retraining programs for licensed individuals may be required to upgrade or refresh knowledge and skills related to licensed operator functions. A formal means of implementing these programs and evaluating personnel required to complete the retraining is needed.

7.1 Accelerated Requalification Program

The accelerated requalfication program is for licensed individuals having identified deficiencies requiring assignment to a special retraining effort. Licensed individuals assigned to this program shall be relieved of all licensed operator (RO or SRO) duties until the retraining is successfully completed.

7.1.1 Required Attendance

Licensed individuals meeting one or more of the following criteria shall be assigned to an accelerated requalification program:

1) Annual requalification written examination overall score of less than 80%

2) Annual requalification written examination score of less than 70% on any examination category.

3) Annual requalification oral evaluation of overall failing.

4) Failure of an oral evaluation following the failure of a lecture series quiz.

7.1.2 Program Content

The accelerated requalification program content should be specifically structured to upgrade knowledge and skills identified as deficient. Examination categories and areas in which performance standards were not met shall be covered in the program.

The Supervisor-Operator Training and the licensed individual's functional supervisor should be responsible for formulating and approving the individual accelerated requalification program.

7.1.3 Program Administration

The accelerated requalification program may consist of a variety of training exercises including:

1) Directed self-study

2) Oral interviews and discussion sessions

3) Pre-Planned lectures

4) Direct skills training exercises at the plant or utilizing a simulator

Personnel assigned to conduct the training exercises should be at least senior licensed operator certified. Program duration should be dictated by the extent of training required and trainee performance.

7.1.4 Performance Standards

Successful completion of the accelerated requalification program shall be determined by administering a formal evaluation. The evaluation shall cover all categories of the requalification written examination and/or all areas of the requalification oral evaluation originally failed. The evaluation format should be similar to the original evaluation and should be conducted by individuals designated by the Supervisor Operator Training.

Performance standards for the accelerated requalification program shall be as follows:

1) A score of at least 80% on each accelerated requalification written examination category

2) A passing evaluation on the requalification oral examination

In the event that these standards are not met, the individual's suitability for resuming licensed duties will be reviewed by the Technical Training Manager and the individual's functional supervisor. These individuals shall determine if the individual should be permanently removed from licensed duties or if additional upgrading efforts should be conducted. If appropriate, another accelerated requalification program shall be structured to upgrade deficiencies.

7.2 Inactive Status Retraining

If a licensed individual has not actively carried out licensed duties for a period in excess of four months, a special retraining program and/or evaluation is required prior to resuming license duties.

In the event that a licensed individual does not maintain an active status, the Supervisor Operator Training shall designate a qualified individual to conduct an oral evaluation similar in scope and format to an annual oral evaluation prior to resuming licensed duties. In addition, evaluation of performance in the current Lecture Series shall be conducted. If performance in the Lecture Series is unsatisfactory, a written examination similar in scope and format to the annual written examination shall be administered to the licensed individual prior to resuming licensed duties.

The performance standards applied to the annual requalification examination shall be used in evaluating the results of the oral and written examinations. If the performance standards are not met, the licensed individual shall complete an accelerated requalification program prior to resuming licensed duties.

7.3 Newly licensed Individuals

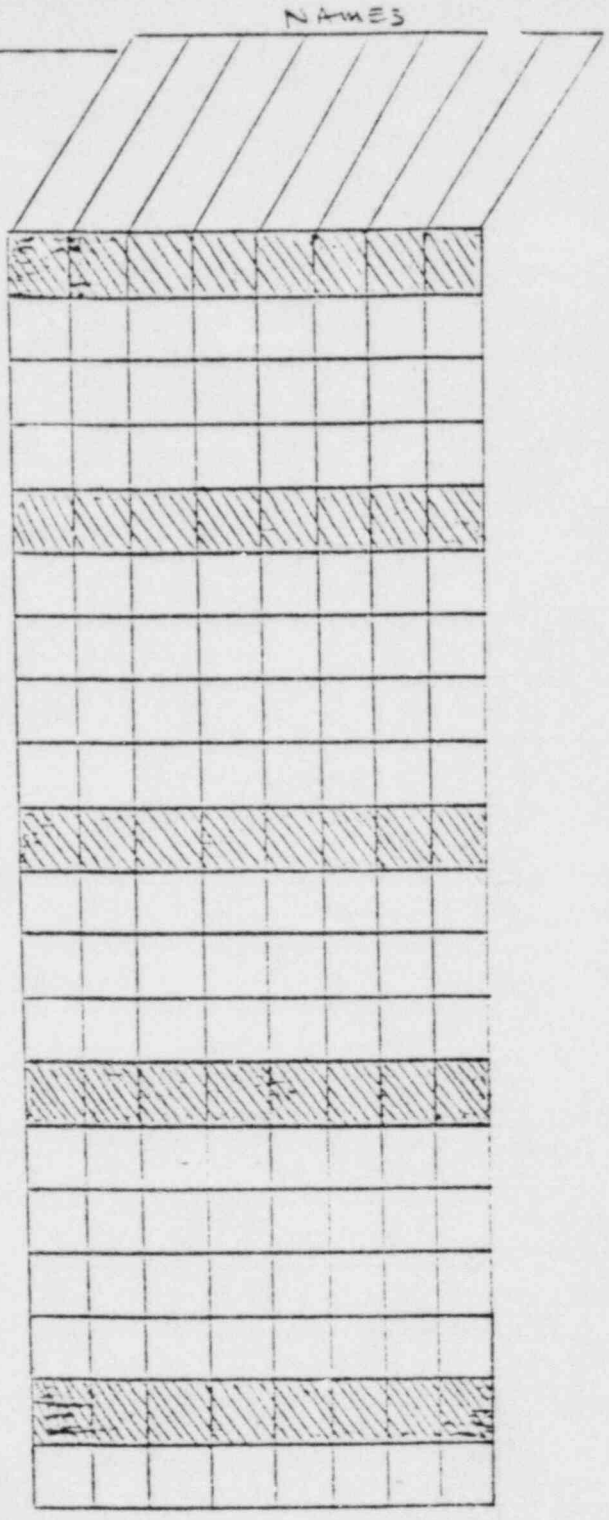
Newly licensed individuals enter the requalfication program and participate in the annual program cycle upon receipt of their license. Newly licensed individuals successfully completing their NRC licensing examination less than three (3) months prior to the annual requalification examination should be required to attend appropriate Lecture Series presentations but may be excused from taking the current annual written examination. The required requalification program lecture series attendance should be based upon the NRC licensing examination results.

8. ALTERNATIVE TRAINING PROGRAMS

The JCP&L Company may replace the above program requirements with an alternative program furnished by a vendor or consultant provided it has been approved by the NRC for Oyster Creek.

CONTROL MANIPULATION _____

EVALUATOR _____ DATES _____



REQUIRED KNOWLEDGE

1. SYMPTOMS AND AUTOMATIC ACTIONS
   a. Action Levels
   b. Instrumentation (Location and Response)
   c. How To Verify
2. IMMEDIATE ACTIONS
   a. Familiarity
   b. Proper Sequence
   c. Verify Outcomes
   d. Proper Use Of Procedure
3. SUBSEQUENT ACTIONS
   a. Proper Use Of Procedure
   b. Contingencies
   c. Desired Outcome
4. MISCELLANEOUS
   a. Required Communications
   b. Log Keeping
   c. Please Concept
   d. Required Calculations *
5. OVERALL EVALUATION

   S - Satisfactory U - Unsatisfactory

COMMENTS: _____

_____

_____

* If applicable, explain in comments.

Evaluator (sign) _____

Title _____

OYSTER CREEK NUCLEAR GENERATING STATION

TERM OF NRC LICENSE CONTROL MANIPULATION RECORD

Name: _____ NRC License #: _____ Issue/Renewal Date _____

Control Manipulation	Code	Date	Entered By	Code	Date	Entered By
1. Startup Including Heatup *						
2. Manual Feedwater Control During SU or SD *						
3. 10% Power Change (Rods or Recirc) *						
Calculate Leak Rate on Small LOCA 4. Large LOCA - Inside Drywell						
5. Small LOCA - Inside Drywell						
6. Large LOCA - Outside Drywell						
7. Small LOCA - Outside Drywell						
8. Loss of All Recirc. Pumps						
9. Loss of All Feedwater						
10. Plant Shutdown *						
11. Loss of Instrument Air						
12. Total Loss of A.C. Electrical						
13. Total Loss of D.C. Electrical						
14. Loss of Condenser Vacuum						
15. Loss of Service Water						
16. Loss of Shutdown Cooling						
17. Loss of TBCCW						
18. Loss of RBCCW						
19. Loss of RPS Channel						
20. Rod Drop						

Control Manipulation

	Code	Date	Entered By
21. Loss of CRD Hydraulics			
22. Scram System Failure			
23. Fuel Clad Failure			
24. Turbine or Generator Trip			
25. Recirc. Flow Control Failure			
26. Feedwater Flow Control Failure			
27. Reactor Scram			
28. Main Steam Line Break			
29. Nuclear Instrumentation Failure			

Instructions:

Items 1 thru 9 must be completed annually

Items 10 thru 29 must be completed bi-annually

Date - Actual date accomplished

Entered By - Initials of Evaluator

Code 1. Performed on shift at Oyster Creek

2. Performed at Simulator

3. Walk through during training session

* Must be performed at Oyster Creek or Simulator

This form is to be maintained in the License Holder's Individual Training File during the term of current license. File in D.C.C. following License Renewal or Expiration.