WNP-2 LICENSED OPERATOR REQUALIFICATION PROGRAM DESCRIPTION

This program description has been prepared to describe how WNP-2 will implement and conduct requalification training and evaluation for licensed operators in fulfillment of the requirements of 10 CFR 55 with Appendix A, the supplemental requirements in Sections A and C of Enclosure 1 of the March 28, 1980, NRC/H. R. Denton letter to all licensees, Section 6.4 of the WNP-2 Technical Specifications, and the commitments made in the WNP-2 FSAR, Section 13.2.

Revision 1 - Submitted for Approval:

Date: 10/9/84

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10/9/84

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Revision 1 - Reviewed by POC and Approved for Execution:

Date: 10/17/84 84-42 POC

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WNP-2 LICENSED OPERATOR REQUALIFICATION PROGRAM DESCRIPTION

OBJECTIVES

The WNP-2 Licensed Operator Requalification Program has two primary objectives:

1. Maintain and enhance the qualifications of licensed personnel to safely, effectively, and efficiently operate, test, and maintain WNP-2.

2. Fulfill the NRC requirements in 10CFR55, Appendix A, "Requalification Programs for Licensed Operators of Production and Utilization Facilities".

APPLICABILITY

The WNP-2 Licensed Operator Requalification Program, as a minimum, requires the satisfactory participation of all personnel holding NRC Operator or Senior Operator Licenses in order to fulfill the 10CFR55.33 requirement that each licensed individual demonstrate his continued competence every two years in order for his license to be renewed.

PROGRAM COMPONENTS

The WNP-2 Licensed Operator Requalification Program consists of a number of separate but interrelated components which include the following:

1. Preplanned Lecture Series
    - Segments I and III (Post and Pre-Examination Review Lectures)
        - Fundamentals Review (NRC/Annual Exam Categories 1,5)
        - Operational Knowledge Review (NRC/Annual Exam Categories 2,3,4,6,7,8)
    - Segment II (Refresher Lectures)
2. Update Lecture Series
    - Design, Procedure, and Technical Specification Changes
    - Operating Experience Review
3. Skills Training and Evaluation
    - Simulator Training and Evaluation
    - In-Plant Training and Evaluation

4. Examinations and Quizzes

   - o Annual RO/SRO Written Examinations
   - o Annual RO/SRO Simulator Operating Examinations
   - o Annual RO/SRO Oral In-Plant Examinations
   - o Post-Lecture Examinations
   - o Pre-Lecture Diagnostic Quizzes (for preplanned lecture series)

5. On-Job Abnormal and Emergency Procedure Review
6. Accelerated Requalification Program
7. Inactive Status Retraining Program
8. General Employee Retraining Program
9. Annual Overall Evaluation of Requalification Program

PROGRAM IMPLEMENTATION AND ADMINISTRATION RESPONSIBILITIES

The nature of the WNP-2 Licensed Operator Requalification Program is such that its implementation and administration responsibilities need to be shared between the WNP-2 Operations and WNP-2 Nuclear License Training Departments and the WNP-2 Training Coordinator. In some cases, the responsible organization will need to request the aid of assisting organizations.

Program responsibilities are listed in Attachment 4, "Program Implementation and Administration Responsibilities".

SCHEDULING GUIDELINES

The WNP-2 Licensed Operator Requalification Program shall consist of a continuously on-going successive series of two year programs. Although requalification is structured into two year programs, certain of the program components are required on an annual basis.

The preplanned and update lecture series, simulator training and evaluation, post-lecture examination, and general employee retraining components will normally be conducted during the "training week" for each shift crew. For scheduling purposes, it is assumed that each shift crew will have seven (7) training weeks per year, somewhat more than would be needed to fulfill the FSAR commitments. In-plant Training and Evaluation and the On-Job Abnormal and Emergency Procedure Review will normally be conducted on-shift on an on-going basis as directed by the Operations Manager.

Annual written, simulator, and oral in-plant examinations shall be scheduled for each calendar year. Normally an examination period covering one cycle of shift rotation will be designated at least six months in advance. The annual written examination will normally be administered no more than three times each examination period.

To accommodate a concentrated review for and conduct of the annual examination, it is intended to temporarily change the normal shift rotation schedule during a twelve (12) week period each year. This 12 week period will consist of three cycles, each of four (4) weeks duration. During each cycle two shift crews concurrently will have two weeks of pre-examination lectures, one week of simulator review exercises, and one week for the annual written, simulator operating and oral in-plant examinations. The schedule for and time spent in this review may be varied based on experience and/or circumstances.

Separate but equivalent versions of the annual written examinations shall be used for each administration. Simulator examination exercises and oral examination questions will be varied so as to eliminate any disadvantage to taking an examination early in a series.

Accelerated Requalification and Inactive Status Retraining Programs shall be jointly scheduled by WNP-2 Operations and WNP-2 Nuclear License Training as circumstances dictate.

NOMINAL TRAINING WEEK SCHEDULE

DAY*	Activity
1	Preplanned Lectures
2	Up-Date Lectures; Post Lecture Examinations
3	Simulator Training and Evaluation
4	Simulator Training and Evaluation
5	General Employee Retraining

* Days 1-5 do not necessarily correspond to Monday-Friday. This schedule may be adjusted as needed to make the best possible use of available training time and training resources. Diagnostic quizzes may be given at any time in the training week.

PROGRAM INFORMATION

1. GENERAL

   A. The time available for retraining is very limited relative to the breadth and depth of knowledge and skills required of licensed personnel. As a result, that time must be utilized to the fullest possible extent:

(1) Consistent with the proper performance of their duties, operators are encouraged to take advantage of every on-shift opportunity to maintain and enhance both their knowledge and skills.

(2) Diagnostic Pre-Lecture quizzes may be utilized to identify the particular topics which need to be stressed in the pre-planned lecture series.

(3) The knowledge required of SRO and RO personnel differs more in the emphasis placed on particular topics than in the topics themselves. Where appropriate the preplanned lectures will cover topics for both SRO's and RO's and, to the extent feasible, identify the distinctions which can be made. On annual examinations, individuals will be examined to either the SRO or RO level depending upon the license held.

B. Examinations required by the WNP-2 Licensed Operator Requalification Program will be prepared, administered, and graded by the WNP-2 Nuclear License Training Department or, at the direction of the WNP-2 Nuclear License Training Manager, by other organizations supporting WNP-2. WNP-2 Training may request technical review of individual questions and answers prior to their incorporation into examinations.

C. To the extent feasible training shall be conducted in the most effective and efficient manner. As an example, instruction and discussion as to the applicability, intent, and interpretation of many procedures are best taught in the classroom while the actual use of most procedures is best covered in the simulator.

D. NUREG-1021, "Operator Licensing Examiner Standards" is a compilation of separate Examiner Standards (ES) prepared by the NRC Operator Licensing Branch. These standards provide direction to NRC examiners and establish the procedures and practices for examining and licensing of applicants for NRC licenses pursuant to 10CFR55 and for NRC evaluation of Requalification Programs. These Examiner Standards (as published in October 1983), and the other references cited in ES-102, shall be used, along with the INPO "Guidelines for Requalification Training and Evaluation" (GPG 02-10-80), Section 7.2, to the extent they apply as guidance for the implementation of the WNP-2 Operator Requalification Program. Specific references are indicated at appropriate points in this program description.

As noted in the second paragraph of Section IV of NUREG-0094 ("NRC Operator Licensing Guide"), the topics listed in 10CFR55.21 (and 10CFR55.22) are so closely interrelated that division into twelve separate examination categories is impractical. For that

reason the NRC regroups the twelve topics into a lesser number of examination categories. For the same basic reason and to cover required topics in the most effective and efficient manner, the Requalification Program topics listed in 10CFR55, Appendix A, together with the supplemental topics specified in Enclosures 1, 2, and 3 of the NRC/Denton letter of March 28, 1980, will be grouped, for the purpose of the preplanned lecture series and the annual written examinations so as to be consistent with the categories used on NRC written examinations. These topic areas, cross-referenced to the NRC examination categories, are listed in Attachment 5, Requalification Program Required Content.

E. Each of the annual examinations (written, simulator, and oral in-plant) will be evaluated on a "Pass" or "Fail" basis.

For the written examinations, this determination is based on the numeric grades received on the examination as a whole and on each of its four categories as described in Section 2.B. "Pass" and "Fail" criteria for written examinations are indicated on Attachment 1.

For the simulator operating examination and the oral in-plant examination, "Pass" or "Fail" shall be determined by the professional judgment of the instructor/evaluator based on knowledge, experience, and the guidance provided by applicable references.

Each overall judgment evaluation shall be supported and documented by a checklist or other appropriate documentation which identifies the areas covered by the examination and identifies in the appropriate space the evaluation of performance in that area as being "S" (Satisfactory), "M" (Marginal), or "U" (Unsatisfactory). The criteria for these evaluations is described in Section B of ES-303. Each "U" Evaluation shall be supported by a detailed comment which states the particular action or response that resulted in the unsatisfactory evaluation.

Evaluations of Simulator Examinations should be supplemented, where practicable, with printouts from the Simulator Training Performance Monitor System.

Failures on these examinations and examinations with "Marginal" and "Unsatisfactory" evaluations shall be brought to the attention of the WNP-2 Nuclear License Training Manager and the WNP-2 Plant Manager for information and any action deemed appropriate.

F. The NRC will periodically evaluate utility requalification programs as described in ES-601. These evaluations will normally be performed in conjunction with and/or at the same time as the WNP-2 Annual Examinations and will be considered to be a part of the WNP-2 Annual Examination Process. The NRC evaluation may include any of the following or variations thereof:

(1) Substitution of an NRC-developed written examination, complete or some categories, for the Supply System prepared examination.

(2) Conducting NRC oral and/or simulator examinations on selected candidates.

(3) Observing Supply System administered oral/simulator/written examinations on subject areas determined by the NRC.

The NRC will normally contact the plant at least three months prior to the scheduled requalification examination dates regarding NRC participation. The NRC does not intend to notify the plant, until after arrival at the site, as to the extent of NRC participation in the annual examination or which individuals NRC will examine. In general, the NRC is expected to examine about 20% of the licensed operators each year incident to their evaluation of the Licensed Operator Requalification Program.

Normally, an annual examination will not be administered to personnel who have successfully completed an NRC licensing or certification examination within the last 6 months.

2. Annual RO/SRO Written Examinations

A. These examinations shall be modelled after the NRC licensing examinations as to scope, structure, and general method of administration, including safeguards for examination integrity. NRC Examiner Standards ES-201, 202, 203, 401, 402, and 403 provide guidance.

B. Attachment 1, "Annual Written Requalification Examination Performance Requirements", indicates, in decision table format, the overall and category grade criteria for passing the annual written examination together with the subsequent individual requalification requirements based on the written examination results.

3. Annual RO/SRO Oral Examinations

A. Oral in-plant examinations will consist of the following four phases:

o Phase A - Operating Demonstration - Included only if an annual simulator operating examination is not possible.

- o Phase B - Control Room - Covers "Back Panels"

- o Phase C - Reactor and auxiliary buildings - includes radiation protection topics.

- o Phase D - Discussion (Integrated Plant Response, Reactor Theory, Thermodynamics and Hydraulics)

B. These examinations will be generally modelled after the NRC licensing oral examinations as to scope, structure and general method of administration and evaluation as described in NRC Examiner Standards ES-301, 302, 303, 304, and 601.

C. For the purpose of oral in-plant requalification examinations, the provisions of the Examiner Standards applicable to "Reactor Operator" and "Upgrade Senior Reactor Operator" shall be used for ROs and SROs respectively.

4. Annual RO/SRO Simulator Operating Examinations

A. The purpose of the Simulator Operating Examinations is to provide an annual verification that on-job experience and the on-going simulator training exercises are effective in maintaining each licensed individual's operating skills. The annual operating examination differs from the simulator training exercises in that, due to time constraints, the operating examination can include only a small sub-set of the training exercises conducted throughout the two year training cycle. This subset shall be selected from the control manipulations and evolutions described in Attachment 1 of ES-502 and, as a minimum, shall include the situations described in Section B.2 of that standard. Basically, these situations consist of:

(1) Two normal evolutions, e.g., power maneuvering with rods or core flow, reactor startup.

(2) Instrumentation failures, e.g., nuclear or process instrumentation.

(3) Two component failures where it is reasonable to expect that no scram will result with prompt operator action.

(4) Major plant transient, e.g., LOCA.

B. The Simulator Examinations shall be modelled after the NRC Licensing Examinations as to scope, structure, and general method of administration and evaluation as described in ES-501 and -502. Simulator instructors designated by the WNP-2 Nuclear License Training Manager will serve as the examiners.

C. Although operating examinations will noramlly be conducted on the WNP-2 simulator, they may be conducted, with some modification, on the plant.

D. Personnel failing an annual Simulator Operating Examination shall be removed from licensed duties and shall participate in an accelerated requalification program until they pass an operating re-examination.

5. Preplanned Lecture Series

A. Lecture Series Segments

(1) The Preplanned Lecture Series will be organized into three sequential segments for both educational and administrative reasons:

I Post-Examination Review Lectures

II Refresher Lectures

III Pre-Examination Review Lectures

Each segment is under the direction of the WNP-2 Nuclear License Training Manager.

B. Post-Examination Review Lectures

(1) The purpose of the Post-Examination Review is to remedy the specific deficiencies indicated by the written examinations as soon as practical thereafter.

(2) The Post-Examination Review subjects and extent of coverage shall be determined by the results of the written portions of the NRC Licensing Examinations and subsequent annual written requalification examinations. This determination will be documented.

(3) To facilitate the implementation and administration of the Post-Examination Review it will be structured to parallel the annual written examination categories as follows:

COMPONENT	CATEGORIES RO	SRO
Fundamentals Review	1	5
Operational Knowledge Review	2,3,4	6,7,8

There may be some topic crossover where appropriate and/or category descriptions are not definitive.

Attachment 3, "NRC Exam Categories Study Resource Matrix", indicates, for each examination category, the primary source references and the organization directly responsible for presenting the preplanned lectures.

(4) Attendance at the Post-Examination Reviews and participation in their associated post-lecture examinations, shall be as indicated in Attachment 1, Annual Written Requalification Examination Performance Requirements.

(5) Post-Lecture examinations shall be given as an integral part of the Post-Examination Review. These examinations are required of those who attend the lectures unless excused as indicated in Attachment 1 when the annual written examination category grade equaled or exceeded 80%.

These examinations will be based on the material presented in the lecture. Lecture topics should not be restricted to the specific questions covered on the annual examination but should relate, directly or indirectly, to each category topic where a general weakness was shown on any version of the annual examination.

(6) Post-Lecture examination grades must equal or exceed 80%. Those individuals not passing will be required to take another examination after additional self study which has been supplemented, if so directed, by organized study. Exam retakes will be administered by the WNP-2 Nuclear License Training Department at a time mutually agreed upon with the WNP-2 Operations Manager and, in no case, later than the end of the individual's next scheduled training week after the individual failed the post-lecture examination. The WNP-2 Nuclear License Training Manager shall report any failure on an examination retake to the Plant Manager and Operations Manager along with a recommendation regarding the individual's removal from licensed duties and participation in an accelerated requalification program.

C. Refresher Lectures

(1) The purpose of the Refresher Lectures is to cover topics which will help maintain and enhance the operator knowledge and skills needed to safely, effectively, and efficiently operate, test, and maintain WNP-2. Unlike the other segments of the Preplanned Lecture Series, the Refresher Lectures will not concentrate exclusively on topics typically addressed in the NRC Licensing and/or annual written requalification examinations.

(2) The Refresher Lecture subjects and extent of coverage will be specified by the WNP-2 Nuclear License Training Manager based upon input from the WNP-2 Plant and Operations Managers, the WNP-2 Training Coordinator, the Technical Training Manager, Training Instructors, Operations, NRC Licensing and Annual Examinations, and, where applicable, diagnostic quizzes (see Section 5.E below).

(3) The Refresher Lectures shall be attended by all Licensed Operators unless specifically excused by the WNP-2 Operations Manager, with the consent of the WNP-2 Nuclear License Training Manager.

(4) Post-Lecture examinations shall be given as an integral part of the Refresher Lecture Series and, when given, will be taken by all individuals who attend the lectures. These examinations shall be based on the material presented in the lectures. Grades on these examinations will be recorded. Grades less than 80% will be reported to the WNP-2 Operations Manager, the WNP-2 Training Coordinator, and the Technical Training Manager for action as they deem appropriate.

D. Pre-Examination Review Lectures

(1) The purpose of the Pre-Examination Review Lectures is to provide a concentrated review of topics which might be covered on the annual written requalification examinations very shortly before the time scheduled for those examinations.

(2) These lectures shall be structured to parallel the annual written examination categories (see Section 5.B (3) above) and shall total at least 48 hours.

(3) Each licensed individual should attend the Pre-Examination Review Lecture sequence immediately prior to the annual examination for which he is scheduled. Attendance shall be required where necessary to meet the FSAR commitment of attendance at 6 pre-planned lectures (i.e. 48 hours). The individual's manager is responsible for arranging for this attendance.

(4) Examinations and/or diagnostic quizzes may be administered incident to the Pre-Examination Review Lectures. These examinations may cover any topic which might be asked on a NRC Licensing Examination or annual written requalification examination. Any failures to attain an 80% grade shall be reported to the WNP-2 Operations Manager and the WNP-2 Training Coordinator for appropriate action. Passing the

annual written requalification examination is the only specific requirement for successfully completing the Pre-Examination Review.

E. Diagnostic Quizzes

(1) Diagnostic quizzes may be utilized to identify particular topics which need to be stressed in any of the Preplanned Lecture Series. They are intended to provide the instructor with more detailed and/or more up-to-date information as to what should be covered in the lectures.

(2) Diagnostic quizzes provide those taking the quizzes with a means of self-assessment as to their retention of material previously covered and a focus for subsequent on-shift or other discussions to help improve knowledge and/or retention.

(3) Diagnostic quizzes should be taken by all those who will be attending the lecture even though they may not be required to take the post-lecture examination.

(4) The diagnostic quizzes may or may not be graded; grading is at the option of the instructor. Neither the grade, if any, nor the diagnostic quiz will be entered in any individual's training record.

6. Update Lecture Series

A. The purpose of the update lecture series is to provide training on:

(1) Modifications to WNP-2 plant, system, or equipment design, procedures including the Emergency Plan Implementing Procedures, and Technical Specifications.

(2) Operating experience review of events at WNP-2 or other plants which could enhance WNP-2 safety, effectiveness, or efficiency with special emphasis on preventing and coping with emergencies and severe abnormalities. These reviews include coverage of pertinent Licensee Event Reports (i.e., LERS) and Monthly Operational Bulletins (i.e., MOBS).

B. When appropriate, material covered in the update lecture series may be supplemented in the plant by Operations and/or in the WNP-2 simulator, either before or after the lecture. In the simulator, this coverage may be given specific emphasis by instruction and/or considered as a new/revised practice to be demonstrated by the trainees.

C. Post-lecture examinations shall be used as an integral part of the update lecture series and shall be taken by all active license holders and any others who are required to attend these lectures. Requirements for passing these examinations shall be the same as for pre-planned lecture series examinations.

7. Simulator Training and Evaluation

A. The purpose of simulator retraining is to maintain and enhance individual operator, shift crew, and shift technical advisor skills for coping with a full spectrum of normal, abnormal, and emergency situations in a realistic, real-time operating environment without the need to jeopardize plant safety or impact other activities. Use of up-to-date procedures will provide the opportunity for gaining familiarity with new or revised procedures as well as practice using all procedures, new or old.

B. The simulator training will be structured around a program of the control manipulations listed in Attachment 1 of ES-502 (from the NRC/Denton letter dated March 28, 1980, to all Licensees) and ANS 3.1 - 1981. The "WNP-2 Requalification Program Control Manipulation Tracking System" sheet (copy in Attachment 2) lists the different categories of manipulations required by the Requalification Program. The actual conduct of these exercises shall employ sufficient variation as to require realistic situation assessment and performance by both individuals and the team as a whole. Unless it is not possible, it is desired that operator responses in the simulator be identical to those which should occur in the plant. This includes the use of applicable plant procedures. Each Licensed Operator and Senior Operator shall perform and/or direct the required control manipulations listed on Attachment 2, "WNP-2 Requalification Program Control Manipulation Tracking System".

C. 10CFR55, Appendix A, Para 4.C requires "Systematic observation and evaluation of the performance and competency of licensed operators and senior operators....., including evaluation of actions taken or to be taken during actual or simulated abnormal and emergency conditions". In addition to the annual simulator operating examination, operator performance on the broad spectrum of simulator training exercises conducted throughout the year will also be evaluated.

D. For each day's exercises, the overall performance of both the shift crew as a whole and each individual as part of the shift crew shall be assessed on an overall "satisfactory/unsatisfactory" basis. The basis for this assessment shall be, in general, the same as for simulator operating examinations but with increased emphasis upon achieving and maintaining a performance level higher than that required for the NRC License.

For that reason, each evaluation report should include comments noting respects in which the demonstrated performance could have been improved.

E. Personnel participating in the requalification program should assume that their actual performance will be evaluated for all exercises unless the instructor announces explicitly to the contrary. It is intended that performance evaluations be conducted so as not to be a deterrent to learning by asking questions. In recognition of the potential training value of using simulator capabilities to perform "what would happen if..." exercises, such exercises may be conducted with the instructor's prior permission on a non-evaluated basis.

F. The WNP-2 Nuclear License Training Manager shall report to the WNP-2 Plant and Operations Managers for each training week in which either a shift crew or one or more licensed operators receives more than one daily "Fail" evaluation during a training week. The WNP-2 Nuclear License Training Manager shall also make a recommendation regarding additional retraining and/or removal from licensed duties and participation in an accelerated requalification program.

8. In-Plant Training and Evaluation

A. The purpose of in-plant retraining and evaluation is to maintain and enhance operator skills for coping with normal, abnormal, and emergency situations in a realistic environment when the necessary training and/or evaluation is best, most readily, or most efficiently performed in the plant.

B. In-plant training may include, among others, such activities as plant calculations (e.g. reactivity, water inventory); system lineups, restorations, and operability demonstrations; operator performed surveillance tests; refueling operations; fire drills; radioactive spills; and others which cannot be performed on the simulator. In-plant training shall include, in addition, provisions for each Licensed Operator and Senior Operator to review, at least annually, the contents of all abnormal and emergency procedures and those Emergency Plan Implementing Procedures which may require operator action. Accomplishment of these reviews shall be documented.

C. In-plant training and performance evaluation will be conducted and documented as directed and scheduled by the WNP-2 Operations Manager.

9. General Employee Retraining Program

A. The purpose of the general employee retraining program is to maintain and enhance knowledge and skills in these areas as required by law, regulation, commitment, company policy, procedure and/or by other recognized need.

B. General Employee Retraining will include fire brigade retraining for those so assigned. It will also include retraining, if and as appropriate, for basic and advanced first aid, respiratory protection, radiation protection, security, and any others indicated in WNP-2 PPM 1.8.2.

C. The WNP-2 Plant Training Coordinator shall be responsible for the scheduling and conduct of General Employee Retraining, including the portion of each training week reserved for such training.

10. Accelerated Requalification Program

A. The purpose of an Accelerated Requalification Program is to provide a means by which operators and/or senior operators whose demonstrated performance fails to meet the standards required to maintain their license qualifications can requalify with a minimum of delay.

B. Personnel may be placed in an Accelerated Requalification Program for failure to meet the established performance standards for one or more of the following, whether administered by the Supply System or by the NRC.

Performance Area		Standard
(1)	Annual Written Examination	Attachment 1
(2)	Post-Examination Review Post-Lecture Examination	Section 5.B(6) above
(3)	Annual Simulator Operating Exam	Section 4.B and 4.D above
(4)	Simulator Exercise Performance Evaluations	Section 7.D above
(5)	Annual In-Plant Oral Examination	Section 3.B above
(6)	Job Performance Evaluations	Sections 7 and 8.C above

C. Personnel placed in an Accelerated Requalification Program will be removed from licensed duties until they have requalified.

D. The criteria for successfully completing the annual written examination portion of an Accelerated Requalification Program and resuming licensed duties is as shown in Requirement "e", "f", or "g" of Attachment 1. In cases where individuals do not receive a reexam grade of 80% or better in each category to resume licensed duties, they shall attend the preplanned lectures for such categories and take the post-lecture exams as noted in Requirement "b" of Attachment 1.

E. Removal from licensed duties for reasons other than failing to meet performance standards, e.g. inability to meet medical requirements, does not necessarily entail being placed in the Accelerated Requalification Program.

F. Accelerated Requalification Programs will be structured, both in content and method, to meet the specific situation and needs. These individual programs will be as mutually agreed between the Operations and Training Managers.

11. Inactive Status Retraining Program

A. The purpose of the Inactive Status Retraining Program is to provide a means of requalifying personnel licensed as an operator or senior operator who have not actively performed the functions for which licensed within the last four months.

B. To remain in an active status, individuals holding NRC licenses but not normally assigned to licensed duties, shall stand a minimum of sixteen (16) hours in the Control Room over any four-month period, during which time the individual shall actually carry out the duties of either the Reactor Operator or the Senior Reactor Operator, as applicable.

C. The Inactive Retraining program will consist of the inactive licensed individual passing an oral and/or written examination administered by the WNP-2 Nuclear License Training Department with a grade of at least 80% plus standing at least sixteen hours of licensed duties under instruction. The examination shall stress abnormal and emergency procedures, plant design and technical specification changes, and administrative procedures.

D. The Inactive Retraining program requirements of Para C above will be supplemented by instruction structured, both in content and method, to meet the specific situation and needs. This instruction will be as mutually agreed between the Operations and Training Managers and the manager of the inactive licensed individual.

12. Annual Overall Evaluation of Requalification Program

A. The purpose of the annual overall program evaluation is to obtain an independent assessment of the content, quality, and appropriateness of the WNP-2 Licensed Operator Requalification Program. The evaulation will consider, among others, such areas as exam difficulty, grading quality, and lecture subjects.

B. The requalification program will be evaluated by persons knowledgeable in training but excluding those directly responsible for the requalification program. This evaluation will be documented.

C. This evaluation will be reviewed by the WNP-2 Nuclear License Training Manager, the WNP-2 Plant Manager, the WNP-2 Operations Manager, and by other plant management as desired. The Training Manager should initiate and, after approval, implement any necessary and/or appropriate corrective action.

D. Manager, Technical Training is responsible for scheduling and directing the conduct of the annual overall program evaluation and issuing a documented report of same.

ATTACHMENT I

Annual Written Requalification Examination Performance Requirements

	Exam Results/Requirements		CASE TYPE									
			A	B	C	D	E	F	G	H	I	J
	ANNUAL EXAM RESULTS	Pass(P) Fail(F)										
1	Overall Grade ≥80%	P	X	X	X	X	X					
2	Overall Grade <80%	F						X	X	X	X	
3	All Category Grades ≥80%	P	X									
4	Any Category ≥70% & <80%	P		X				X				
5	One Category <70%	F			X				X			
6	Two Categories <70%	F				X				X		
7	Over two Categories <70%	F					X				X	
	REQUIREMENTS											
a	Should attend preplanned lecture series. Excused from taking post-lecture exams.		X									
b	Shall attend preplanned lecture series. Shall take post-lecture exams for each category for which annual exam grade was <80%. Post-lecture exam grades must be ≥80%.			X	X	X	X	X	X	X	X	
c	Shall be removed from licensed duties.				X	X	X	X	X	X	X	
d	Shall participate in accelerated requalification program.				X	X	X	X	X	X	X	
e	Shall take reexamination on each category for which annual exam grade was < 70%. To resume licensed duties, reexam category grade(s) must be ≥ 70%.				X	X						
f	Shall take reexamination on each category for which annual exam grade was < 80%. To resume licensed duties, reexam category grade(s) must be ≥70% and recomputed overall exam grade must be ≥80%.							X	X	X		

OVER

Annual Written Requalification Examination Performance Requirements

	Exam Results/Requirements	CASE TYPE									
		A	B	C	D	E	F	G	H	I	J
	REQUIREMENTS (Cont.)										
g	Shall take complete reexamination. To resume licensed duties, reexam grade must be ≥80% with no category grade <70%.					X				X	
h	Shall attend update lecture series. If post-lecture examination is given, grade must be ≥80%.	X	X	X	X	X	X	X	X	X	
	EXAMPLE: A licensed person with an overall grade of ≥80% with one category grade <70% would be Case C necessitating compliance with Requirements b, c, d, e and h.										

ATTACHMENT 2

WNP-2 REQUALIFICATION PROGRAM
CONTROL MANIPULATION TRACKING SYSTEM

NAME _____ CREW _____

POSITION _____

REQUALIFICATION PERIOD _____

Control Manipulation	(Note 1)	(Note 2)	Verification	Date
*(1) Plant or reactor start-up (to include a range that SK feedback from nuclear heat addition is noticeable and heatup rate is established).				
*(2) Plant Shutdown.				
*(3) Manual control of reactor water level during start-up or shutdown.				
*(4) Any significant ($\geq$10%) power changes due to manual rod control or recirc flow.				
*(5) Loss of coolant (inside or outside primary containment, large and small to include leak rate determination.				
(6) Loss of instrument air.				
(7) Loss of electrical power.				
*(8) Loss of core coolant flow/natural circulation.				

WNP-2 REQUALIFICATION PROGRAM

CONTROL MANIPULATION TRACKING SYSTEM

NAME _____ CREW _____

POSITION _____

REQUALIFICATION PERIOD _____

Control Manipulation	(Note 1)	(Note 2)	Verification	Date
(9) Loss of condenser vacuum.				
(10) Loss of standy service water.				
(11) Loss of shutdown cooling.				
(12) Loss of component cooling system or cooling to individual component.				
(13) Loss of normal feedwater or normal feedwater system failure.				
*(14) Loss of all feedwater (normal/emergency).				
(15) Loss of RPS channel.				
(16) Mispositioned control rod(s), rod drop.				
(17) Stuck control rod(s).				
(18) Conditions requiring use of SBLC.				

WNP-2 REQUALIFICATION PROGRAM

CONTROL MANIPULATION TRACKING SYSTEM

NAME _____ CREW _____

POSITION _____

REQUALIFICATION PERIOD _____

Control Manipulation	(Note 1)	(Note 2)	Verification	Date
(19) Fuel clad failure or high activity in coolant or offgas.				
(20) Turbine or generator trip.				
(21) Malfunction of automatic control systems which affect reactivity.				
(22) Malfunction of reactor coolant pressure control system.				
(23) Reactor scram.				
(24) Main steam line break (inside or outside containment).				
(25) Nuclear instrumentation failure.				

WNP-2 REQUALIFICATION PROGRAM

CONTROL MANIPULATION TRACKING SYSTEM

NAME _____ CREW _____

POSITION _____

REQUALIFICATION PERIOD _____

Control Manipulation	(Note 1)	(Note 2)	Verification	Date
(26) OTHER EVOLUTIONS:				
a) _____	____	____	_____	____
b) _____	____	____	_____	____
c) _____	____	____	_____	____
d) _____	____	____	_____	____
e) _____	____	____	_____	____
f) _____	____	____	_____	____
g) _____	____	____	_____	____
i) _____	____	____	_____	____
j) _____	____	____	_____	____

NOTES:

(1) Column 1 - enter a P for items that were PERFORMED and a D for items that were DIRECTED. Personnel with Senior Reactor Operator licenses are permitted to direct or evaluate control manipulations as they are performed.

(2) Column 2 - enter a P for items that were accomplished IN PLANT and a S for items are were accomplished in the WNP-2 SIMULATOR.

(3) Items preceeded by an asterisk (*) are required to be performed on an annual basis; all other items shall be performed on a two-year cycle.

(4) Each individual shall perform or participate in a combination of reactivity control manipulations based on the availability of plant equipment and systems. As a minimum, each licensed operator shall complete items 1-25 above during the course of the requalification period (two years).

NRC LICENSE ACTIVITY TRACKING RECORD

Date	Position	Verification	Hours

ATTACHMENT 3

NRC EXAM CATEGORIES STUDY RESOURCE MATRIX

NRC EXAM CATEGORIES #	DESCRIPTION	ORGANIZATION W/ DIRECT RESPONSIBILITY	INSTRUCTION & ANNUAL WRITTEN REQUALIFICATION EXAM SOURCE MATERIAL
	RO		
1	Principles of Nuc Power Plant Operation	Gen & Tech Support Trg (Fund - Reactor Physics)	WNP-2 Systems & Procedures Training Manual, Vol. X, Chap "BWR Reactor Theory Review" #
	Fundamentals of Thermodynamics, Heat Transfer, & Fluid Flow	Gen & Tech Support Trg (Fund - HTFF)	"Thermodynamics, Heat Transfer, & Fluid Flow" (MTC Sept 1982) - GE #
	Mitigating Core Damage	WNP-2 Lic Op Trg	NEDE 30050 (Vol I) "Degraded Core"
2	Plant Design, inc Safety & Emergency Controls	WNP-2 Lic Op Trg	WNP-2 S&P Trg Man, Vols I-VI
3	Instruments and Controls	WNP-2 Lic Op Trg	WNP-2 S&P Trg Man, Vol I-VI Temp Text - Rad Detection Inst.
4	Procedures -		
	o Norm, Abnorm, Emer		
	System	WNP #2 Lic Op Trg	WNP-2 PPM, Vols 2,4,5
	General	WNP #2 Lic Op Trg	WNP-2 PPM Vol 3
	Emerg Plan Imp P	WNP #2 Lic Op Trg	WNP-2 PPM Vol 13 %
	Administrative	WNP #2 Lic Op Trg	WNP-2 PPM Vol 1 %
	o Radiologic Ctrl	Gen & Tech Support Trg (Fund - Rad Cont)	WNP-2 PPM 1.11 and 1.12
	o Chemistry	Gen & Tech Support Trg (Fund - Chem)	WNP-2 PPM 1.13.1 and 8.5.1

% - Specific procedures to be separately identified
# - Specific sections to be separately identified

NRC EXAM CATEGORIES #	DESCRIPTION	ORGANIZATION W/ DIRECT RESPONSIBILITY	INSTRUCTION & ANNUAL WRITTEN REQUALIFICATION EXAM SOURCE MATERIAL
	SRO		
5	Theory of Nuclear Power Plants	Gen & Tech Support Trg (Fund - Reactor Physics)	WNP-2 S&P Trg Man, Vol X, Chap "BWR Reactor Theory Review" #
	Theory of Fluids & Thermodynamics	Gen & Tech Support Trg (Fund - HTFF)	"Thermodynamics, Heat Transfer, & Fluid Flow" (MTC Sept 1982) - GE #
	Mitigating Core Damage	WNP-2 Lic Op Trg	NEDE 30050 (Vol I) "Degraded Core"
6	Plant Systems: Design, Control & Inst	WNP-2 Lic Op Trg	WNP-2 S&P Trg Man, Vols I-VI Temp Text - Rad Detection Inst.
7	Procedures -		
	o Norm, Abnorm, Emer		
	System	WNP #2 Lic Op Trg	WNP-2 PPM, Vols 2,4,5
	General	WNP #2 Lic Op Trg	WNP-2 PPM Vol 3
	Emerg Plan Imp P	WNP #2 Lic Op Trg	WNP-2 PPM Vol 13 %
	Administrative	WNP #2 Lic Op Trg	WNP-2 PPM Vol 1 %
	o Radiologic Ctrl	Gen & Tech Support Trg (Fund - Rad Cont)	WNP-2 PPM 1.11 and 1.12
	o Chemistry	Gen & Tech Support Trg (Fund - Chem)	WNP-2 PPM 1.13.1 and 8.5.1
8	Admin Procedures, Conditions, Limitations	WNP-2 Lic Op Trg	WNP-2 Tech Specs Chap 6 # WNP-2 PPM Vol 1 %

% - Specific procedures to be separately identified
# - Specific sections to be separately identified

ATTACHMENT 4

PROGRAM IMPLEMENTATION & ADMINISTRATION RESPONSIBILITIES

The nature of the WNP-2 Licensed Operator Requalification Program is such that its implementation and administration responsibilities need to be shared between the WNP-2 Operations and WNP-2 Nuclear License Training Departments and the WNP-2 Training Coordinator. In some cases, the responsible organization will need to request the aid of assisting organizations.

Program responsibilities are as follows:

AREA	PRIMARY RESPONSIBILITY	ASSISTING ORGANIZATION(S)
ADMINISTRATION		
o Overall Program	WNP-2 Nuc. Lic. Trg.	WNP-2 Training Coordinator
o Scheduling		
- Within Training Week	WNP-2 Nuc. Lic. Trg.	
- Outside Training Week	WNP-2 Nuc. Lic. Trg.	WNP-2 Training Coordinator WNP-2 Operations
- Inplant Activities	WNP-2 Operations	WNP-2 Training Coordinator WNP-2 Nuc. Lic. Trg.
- Licensed Non-Operators	WNP-2 Nuc. Lic. Trg.	WNP-2 Training Coordinator WNP-2 Operations
o Records Origination	WNP-2 Nuc. Lic. Trg.	
- Master Course Files and Individual Trg.Reports	Department providing training	WNP-2 Nuc. Lic. Trg. WNP-2 Training Coordinator
- Inplant Data Collection	WNP-2 Operations	WNP-2 Training Coordinator WNP-2 Nuc. Lic. Trg.
o Records Maintenance	Trg. Dev. and Evaluation	WNP-2 Nuc. Lic. Trg. WNP-2 Training Coordinator

AREA	PRIMARY RESPONSIBILITY	ASSISTING ORGANIZATION(S)
INSTRUCTION		
o Preplanned Lecture Series		
- Fundamentals Review	WNP-2 Nuc. Lic. Trg.	General & Technical Support Training Department
- Operational Knowledge Review	WNP-2 Nuc. Lic. Trg.	
o Update Lecture Series	WNP-2 Nuc. Lic. Trg.	WNP-2 Training Coordinator
- Design, Procedure, & Tech Spec Changes	WNP-2 Nuc. Lic. Trg.	
- Operating Experience Review	WNP-2 Nuc. Lic. Trg.	WNP-2 Nuclear Safety Assurance Group
o Simulator Training	WNP-2 Nuc. Lic. Trg.	
o Inplant Training	WNP-2 Operations	WNP-2 Training Coordinator
EXAMINATIONS, QUIZZES, AND EVALUATIONS		
o Annual RO/SRO Written Examinations	WNP-2 Nuc. Lic. Trg.	General & Technical Support Training Department
o Annual RO/SRO Oral Inplant Examinations	WNP-2 Nuc. Lic. Trg.	WNP-2 Operations
o RO/SRO Simulator Operating Performance Evaluations & Examinations	WNP-2 Nuc. Lic. Trg.	WNP-2 Operations
o Post-Lecture Examinations	WNP-2 Nuc. Lic. Trg.	General & Technical Support Training Department

AREA	PRIMARY RESPONSIBILITY	ASSISTING ORGANIZATION(S)
EXAMINATIONS, QUIZZES, AND EVALUATIONS		
o Pre-Lecture Diagnostic Quizzes	WNP-2 Nuc. Lic. Trg.	General & Technical Support Training Department
o On-Job Performance Evaluations	WNP-2 Operations	WNP-2 Training Coordinator
ON-JOB ABNORMAL & EMERGENCY PROCEDURE REVIEWS		
o Scheduling Reviews	WNP-2 Operations	WNP-2 Training Coordinator WNP-2 Nuc. Lic. Trg.
o Sign-off Signatures	WNP-2 Operations	
o Records Maintenance	Trg. Dev. & Evaluation	WNP-2 Training Coordinator
ACCELERATED REQUALIFICATION PROGRAM	WNP-2 Nuc. Lic. Trg.	WNP-2 Operations
INACTIVE STATUS RETRAINING PROGRAM	WNP-2 Nuc. Lic. Trg.	WNP-2 Operations
GENERAL EMPLOYEE RETRAINING PROGRAM (For Licensed Personnel)	WNP-2 Nuc. Lic. Trg.	WNP-2 Training Coordinator Training Development and Evaluation General & Technical Support Training Department Radiological Programs Health & Safety Programs Emergency Planning & Environmental Programs Security Programs

REQUALIFICATION PROGRAM REQUIRED TOPICS

WNP-2 Technical Specifications, Section 6.4, "Training", specifies compliance with several requirements including, specifically, those contained in 10CFR55, Appendix A, and Sections A and C of Enclosure 1 of the NRC/Denton letter of March 28, 1980 to all licensees.

The purpose of this Attachment is to provide an explicit list of topics which shall be covered by the preplanned lecture series and the annual written examination components of the WNP-2 Licensed Operator Requalification Program since these topics are not individually mentioned elsewhere in this Program Description. Additional topics may also be covered.

1. Requalification Program Topics Required by 10CFR55, Appendix A

   (Note: Coverage of these topics is dependent upon annual written examination results.)

	Topic	Exam Category
a.	Theory and principles of operation	a. 1, 5
b.	General and specific plant operating characteristics	b. 2, 6
c.	Plant instrumentation and control systems	c. 3, 6
d.	Plant protection systems	d. 3, 6
e.	Engineered safety systems	e. 2, 6
f.	Normal, abnormal, and emergency operating procedures	f. 4, 7, 8
g.	Radiation control and safety	g. 3, 4, 6, 7, 8
h.	Technical specifications	h. 2, 4, 6, 7, 8
i.	Applicable portions of Title 10, Code of Federal Regulations	i. 4, 8

2. Training Program Topics Required by Enclosure 1, NRC/Denton Letter of March 28, 1980.

	Topic	Exam Category
a.	Use of installed plant systems to control or mitigate an accident in which the core is severely damaged. (Note: Also see Section 4 below).	a. 2, 3, 4, 6, 7
b.	Reactor and plant transients and accidents	b. 1, 2, 3, 4, 5, 6, 7, 8

3. Training in Heat Transfer, Fluid Flow, and Thermodynamics Required by Enclosure 2, NRC/Denton Letter of March 28, 1980

	Exam Category
Attachment 5 - Appendix I, the Table of Contents from the text used for Heat Transfer, Fluid Flow, and Thermodynamics, indicates the topics covered by this requalification training.	1, 5

4. Training in Mitigating Core Damage Required by Enclosure 3, NRC/Denton Letter of March 28, 1980

	Exam Category
Attachment 5--Appendix II indicates the topics covered by Requalification Training on Mitigating Core Damage as listed in the training text.	1, 2, 3, 4, 5, 6 7, 8

HEAT TRANSFER, FLUID FLOW, AND THERMODYNAMICS

TABLE OF CONTENTS

Wet steam
Quality and moisture content
Property calculations within the vapor dome
Superheated steam
Compressed Water Tables
P-v, T-s and Mollier (h-s) diagrams

Chapter 5 Application of the General Energy Equation to Simple Steady Flow Processes

Reversible and irreversible processes
The Second Law of Thermodynamics
Continuity Equation
Simplified General Energy Equations for various steady flow processes
Bernoulli's Equation

Chapter 6 Thermodynamic Cycles and Cycle Analysis

Requirements of a continuous cycle
Open and closed cycles
Second Law of Thermodynamics restrictions on cycles
Cycle efficiency
Carnot cycle
Rankine cycles and Rankine cycle analysis
Basic boiling water reactor cycle

Chapter 7 Fluid Statics, Dynamics and Delivery

Pascal's Principle and hydraulic pressure
Archimedes' Principle and buoyancy
Continuity Equation
Bernoulli's Equation
Static, dynamic and stagnation pressure
Viscosity
Laminar and turbulent flow
Head losses in straight pipes
Head losses due to valves, fittings and elbows
Liquid hammer
Fluid metering devices
Net positive suction head
Pumps, pump characteristics, and their application to power plant systems

Chapter 8 Heat Transfer and Heat Exchangers

Heat transfer mechanisms
Conduction and Fourier's Law
Thermal conductivity
Radiative heat transfer

Convection
Heat transfer coefficients
Overall heat transfer coefficient
Heat exchangers
Heat balances

Chapter 9 BWR Thermalhydraulics and Thermal Limits

Boiling heat transfer
Onset of transition boiling (OTB)
Core inlet subcooling
Quality and void fraction
BWR recirculation systems
Determination of core coolant flow
Determination of individual fuel bundle coolant flow
Core orificing
Core bypass flow
Determination of core power distribution
Peaking factors
BWR thermal limits and their basis
Fuel irradiation effects
PCIOMR
Natural circulation in BWR's

Chapter 10 Brittle Fracture and Vessel Thermal Stress

Modes and process of brittle fracture
Vessel thermal stress and operating restrictions

MITIGATING CORE DAMAGE TRAINING

CONTENTS