

## ATTACHMENT "A"

R. E. GINNA NUCLEAR POWER PLANT  
OPERATOR REQUALIFICATION PROGRAM

1.0 PURPOSE:

- 1.1 The purpose of this program is to ensure that the licensed operators and senior operators at Ginna Station maintain their proficiency and knowledge in all phases of plant operations. This program is developed to fulfill their requalification requirements set forth in 10 CFR 55 Appendix A, Letter "Qualification of Reactor Operators" from Harold Denton dated 3/26/80 and ANS - 3.1 1978.
- 1.2 The Ginna Plant Requalification Program is scheduled to be completed and repetitive on a two year basis. The program shall consist of classroom lectures, on-the-job training and simulator training on a preplanned basis.

2.0 DEFINITIONS:

- 2.1 Control Manipulations - All control manipulations shall be performed during term of license with \* items performed annually.

- \* (1) Reactor startup to include a range that reactivity feedback from nuclear heat addition is noticeable and heatup rate is established.
- \* (2) Plant shutdown.
- \* (3) Manual control of steam generator feedwater during startup or shutdown.
- \* (4) Boration or dilution of reactor coolant system during power operation  $\geq 10\%$ .
- \* (5) Reactor power level changes  $\geq 10\%$  by manual manipulation of rod control system.
- (6) Reactor Power level changes  $\geq 10\%$  by turbine electrohydraulic control.
- \* (7) Loss of coolant including significant steam generator tube leak.
- \* (8) Loss of coolant inside containment.

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- \* (9) Loss of coolant outside containment.
- \* (10) Large loss of coolant leak including leak rate determination.
- \* (11) Small loss of coolant leak including leak rate determination.
- \* (12) Loss of coolant including saturated reactor coolant response.
  - (13) Loss of instrument air.
  - (14) Station Blackout.
- \* (15) Natural Circulation.
  - (16) Loss of Condenser Vacuum.
  - (17) Loss of Service Water.
  - (18) Loss of Residual Heat Removal Cooling.
  - (19) Loss of Component Cooling or cooling to individual component.
  - (20) Loss of Normal Feedwater.
- \* (21) Loss of Normal and Auxiliary Feedwater.
  - (22) Loss of Instrumentation Bus.
  - (23) Control Rod misalignment.
  - (24) Inability to Drive Control Rods.
  - (25) Immediate Boration.
  - (26) Fuel Cladding Failure or High Activity in Reactor Coolant System.
  - (27) Turbine or Generator Trip.
  - (28) Malfunction of Tavg controls.
  - (29) Malfunction of Pressurizer Pressure or Level Controls.
  - (30) Reactor Trip.
  - (31) Main Steam Line Break inside or outside containment.

## (32) Nuclear Instrument Failure.

2.2 Plant Evolutions:

Plant evolution shall be any event other than routine operations occurring during steady-state, transient or shutdown conditions and may include the following:

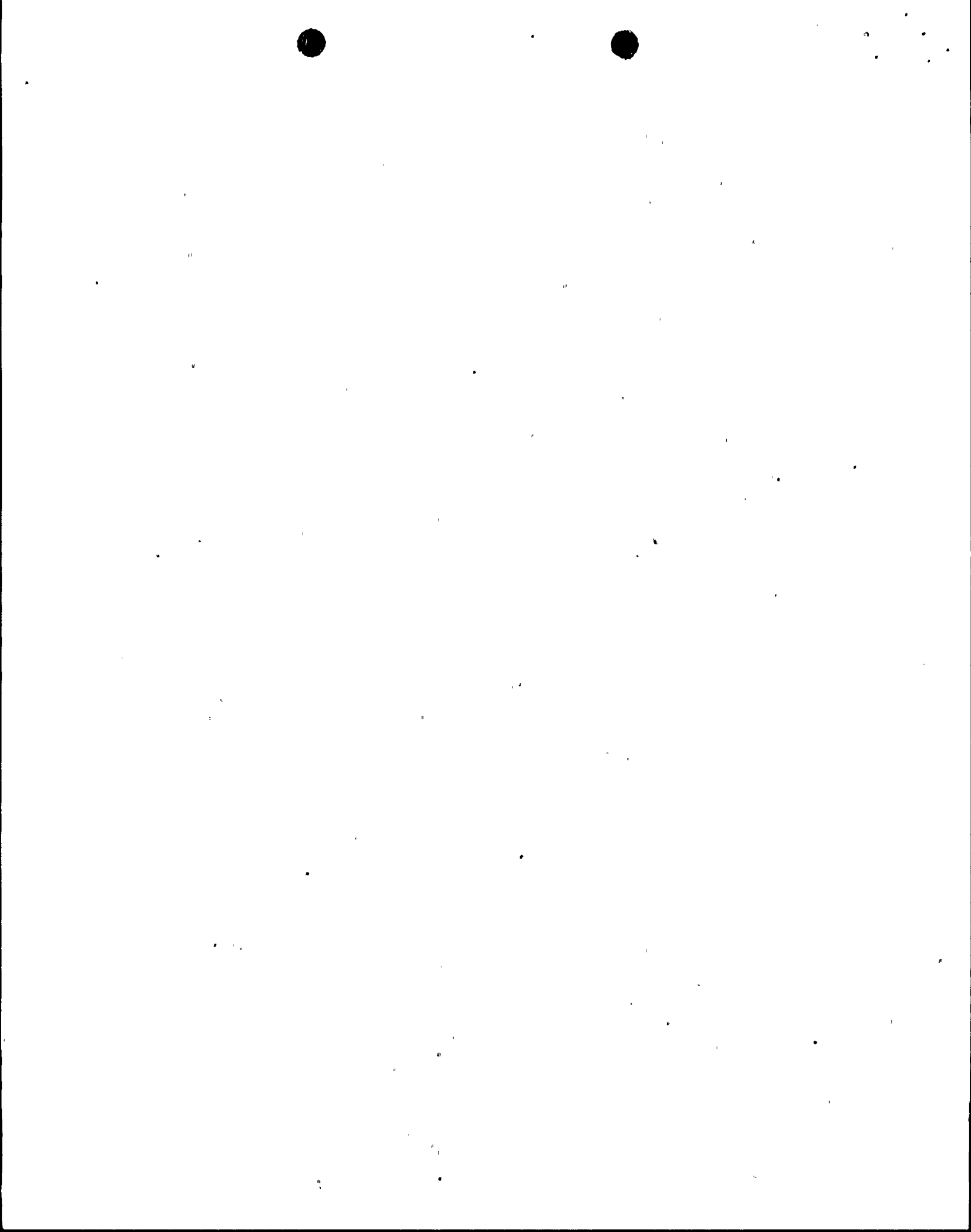
- (1) Reactor startup
- (2) Reactor shutdown
- (3) Turbine runback
- (4) Reactor trip
- (5) Plant cooldown
- (6) Plant heatup
- (7) Turbine power level change other than adjustment for calorimetric.
- (8) Periodic tests
- (9) Refueling operations

2.3 Job Cross-Training:

Job cross-training for shift personnel shall consist of assuming the duties and performing the functions of other shift classifications. Each non-shift licensed operator or senior operator will satisfy licensing proficiency requirements by any of the following:

- a. Duty Engineer assignment
- b. Assistant to the shift in supervising activities covering control room operations, testing, radioactive waste, releases, plant maintenance.
- c. Control Room watchstanding
- d. Conduct of drills or instruction in Control Room systems and procedures.

The non-shift licensed operator or senior operator will satisfy these requirements for at least a total of 8 hours every 4 months.



2.4 Discussions:

Discussion shall include review of procedures, discussions of plant operations and/or other specific material suggested by the Training Section or Operations Section or Shift Technical Advisor. Discussion may include shift discussions, PORC meetings, Table Top exercises, and other meetings determined appropriate.

3.0 CLASSROOM LECTURES:

3.1 The classroom lectures shall be scheduled and shall include the following major topics similar to the NRC examination topics. Under each major topic, suggested materials may be included as determined appropriate by training section evaluation.

(1) Reactor Theory

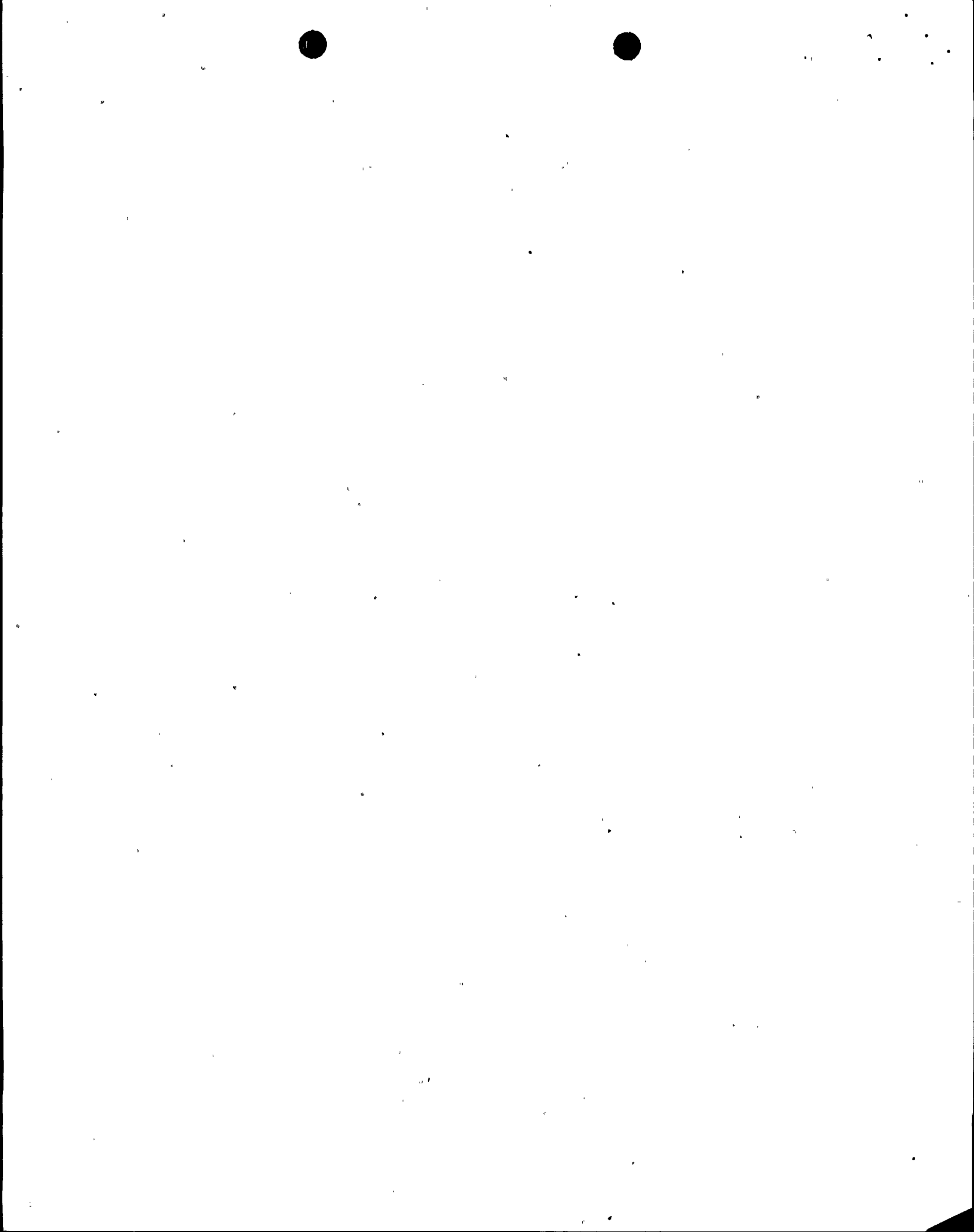
- a. Principles of reactor operation
- b. Reactor Theory
- c. Reactor Physics
- d. Operating Characteristics

(2) Heat Transfer

- a. Thermal Dynamics
- b. Fluid Flow
- c. Mitigating Core Damage
- d. Heat Transfer

(3) Plant Design Safety & Emergency Systems

- a. Secondary Systems
- b. Electrical Systems
- c. Primary Systems
- d. Engineered Safety Svstems
- e. Refueling Systems



## (3) (continued)

- f. Appropriate procedures
- g. Modification to Plant Systems

(4) Normal and Emergency Procedures/Radiological Controls

- a. Radiological Controls
- b. Health Physics Practices
- c. Operation Procedures
- d. Emergency Procedures
- e. Site Contingency Procedures

(5) Instrumentation and Control

- a. Protection Systems
- b. Control Systems
- c. Plant Instrumentation
- d. Modification to Instrumentation Systems

(6) Administrative Procedures/Technical Specifications/Limitations and Controls

- a. Administrative Procedures
- b. Technical Specifications
- c. Precautions, Limitations and Setpoint Procedures
- d. Federal Regulations as appropriate

3.2 Each of the listed major topics shall be presented at least once during the two-year cycle. The completion of each major topic shall be documented by a written examination, with exceptions as noted per Sections 7.2 and 7.3.

3.3 Each shift shall be available for scheduled lectures for one four-day week out of every five weeks with the exception of the refueling, maintenance and summer vacation periods. Each exception will be documented by a letter to the Plant Superintendent.



4.0 ON-THE-JOB TRAINING:

- 4.1 On-the-job training shall also be participated in as much as possible and include the following:
- (1) Control manipulations
  - (2) Plant evolutions
  - (3) Job cross-training
  - (4) Discussions
- 4.2 Licensed Reactor Operator Control Manipulation - Each Licensed Reactor Operator shall manipulate the controls as much as possible to demonstrate their skill and familiarity with the plant controls, as noted in 4.4 and 4.5, during the term of his license.
- 4.3 Licensed Senior Reactor Operator Control Manipulations - Each Licensed Senior Reactor Operator shall manipulate the controls or direct the activities of operators during plant control manipulations as much as possible to demonstrate their skill and familiarity with plant controls, as noted in 4.4 and 4.5, during the term of his license.
- 4.4 All listed control manipulations listed under 2.1 shall be required during the term of his license, with \* items required annually.
- 4.5 An appropriate simulator may be used to satisfy the requirements for control manipulations. Control manipulations during abnormal or emergency operations must be walked through with and evaluated by a member of the training staff: as a minimum. Simulator performance is greater than minimum.
- 4.6 Plant evolutions - All licensed operators shall participate as much as possible in plant evolutions as described in 2.2 during the term of his license.
- 4.7 Job Cross-Training: All licensed operators shall participate as much as possible in Job Cross-Training as described in 2.3 during the term of his license.
- 4.8 Discussion: All licensed operators shall participate as much as possible in Discussion as described in 2.4 during the term of his license.

4.9 Persons holding NRC licenses, but not actively engaged in regular plant operations due to illness, job assignment away from Ginna Station (where he is unable to maintain his license requalification participation), or assignment that does not allow him to maintain his license requalification participation for a period of four months, shall be refamiliarized and examined before returning to licensed required positions. The refamiliarization program shall include review of:

- (1) Procedure change for effected months.
- (2) Technical Specification Changes for effected months.
- (3) Plant modification for effected months.
- (4) Plant relevant incidents for effected months.

The completion of the refamiliarization program shall include written and oral examinations to document that the licensee is up to date and familiar with the Ginna Plant. The Training Manager shall document the satisfactory completion of the refamiliarization program and notify the Plant Superintendent and NRC of this fact.

5.0 SIMULATOR TRAINING:

- 5.1 Simulator training may be used to demonstrate skill and/or familiarity with reactivity control systems to meet the requirements of 10 CFR 55, Appendix A, paragraphs 3a and 3b, if the simulator reproduces the general operating characteristics of Ginna Station and the arrangement of the instrumentation and controls of the simulator is similar. Under the same conditions the simulator may be used for reactivity manipulations for emergency or abnormal conditions.
- 5.2 The procedures used during simulator training shall be R. E. Ginna Operating and Emergency Procedures as applicable.
- 5.3 Upon return from simulator training and prior to performing licensed duties at Ginna, the licensed operator shall be given an oral mini exam on the Ginna control board to demonstrate familiarity with the Ginna controls. This exam shall be conducted by a licensed individual.
- 5.4 The accomplishment of simulator training and familiarity demonstration shall be documented.



**6.0 OTHER TRAINING TECHNIQUES:**

6.1 Alternative training such as video tapes, films and other training aids may be used to supplement classroom lectures. These alternate training techniques shall be used as additional or supplemental training for licensed personnel. Alternate training techniques shall not be more than 50% of the classroom lecture time.

6.2 Self study using procedures and provided training materials should be documented by sign-off type sheets or signed statements. This type of material may be used for:

- (1) Emergency procedure review twice each year for all licensed operators to assure they are familiar with the Ginna Emergency Procedure. Those not completed during classroom lecture should be done as self study.
- (2) System modifications, when the individual has not attended the classroom lecture, may satisfy the commitment by self study.
- (3) Technical Specification, when individual has not attended the classroom lecture, may satisfy the commitment by self study.
- (4) Special information or any of above conditions that requires timely notification to licensed personnel may be provided through self study.

**7.0 EVALUATION:**

7.1 Evaluation of licensed personnel shall include examination at the completion of each lecture topic and on an annual basis. Evaluation also includes written reports by supervisors and/or training personnel during actual and simulated operating conditions.

7.2 The annual exam shall cover the major topics addressed in the NRC license examination and be given at the beginning of each year. The questions shall be of the NRC type and the exam shall be divided into sections similar to the NRC license exam.

- (1) The Reactor Operator Annual Exam will consist of the following major topics:

- a. Reactor Theory



- b. Heat Transfer
  - c. Plant Design Safety & Emergency Systems
  - d. Normal and Emergency Procedures/Radiological Controls
  - e. Instrumentation and Control
- (2) The Senior Reactor Operator Annual Exam will consist of the following major topics:
- a. Reactor Theory
  - b. Heat Transfer
  - c. Plant Design Safety & Emergency Systems
  - d. Normal and Emergency Procedures/Radiological Control
  - e. Administrative Procedures/Technical Specifications Limitations and Controls

The topic of Instrumentation and Control will be covered at the SRO level by including I&C questions as part of Plant Design Safety and Emergency Systems. The topic of Administrative Procedures/Technical Specification, Limitations and Controls will be covered at the RO level by including Administrative Procedures/Technical Specification Limitations and Control questions as part of Normal and Emergency/Radiological Control.

Satisfactory completion of the Requalification Annual Exam shall be indicated by a minimum overall grade of 80% and a grade of 70% or greater in each section. Those not satisfactorily completing the Requalification Annual Exam shall be removed from the licensed required position and assigned to retraining until they can satisfactorily pass a makeup requalification exam administered by the training section.

Individuals failing only one section may take a makeup requalification exam in the particular section. Individual failing more than one section or failing the overall exam shall take the entire makeup requalification exam.

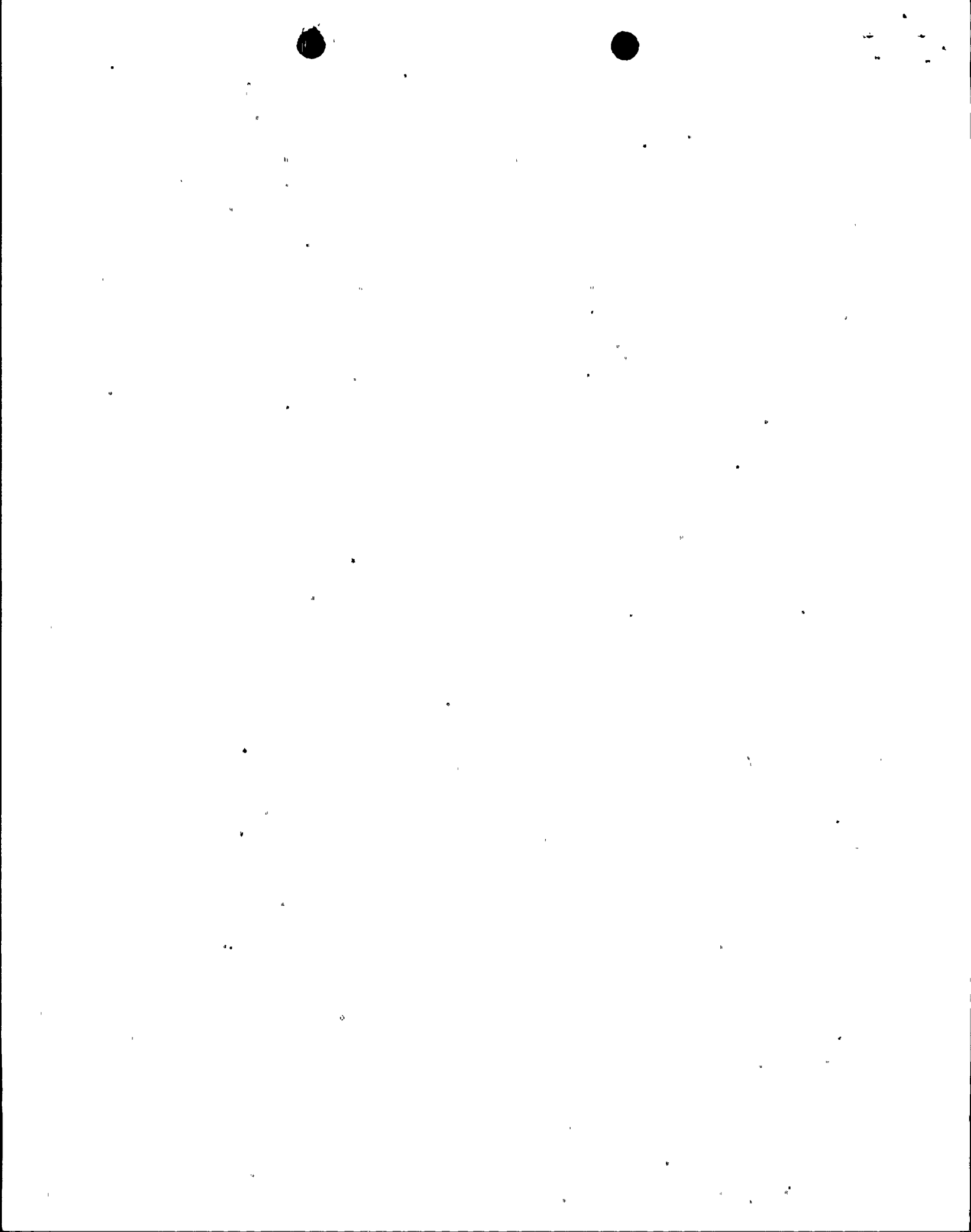
Anyone passing the overall annual exam, but not receiving a grade of 80% or greater in a particular area shall be required to attend the next series of lectures on that topic and take the associated exam. The lecture topic will be scheduled in a timely manner or additional individual study shall be provided for persons not receiving a grade of 80% on a particular topic.

- 7.3 Exams given at the end of each lecture topic shall indicate that the licensee has satisfactorily completed the topic if he received a grade of 80% or greater. Those not receiving a grade of 80% shall be assigned additional work. A re-examination shall then be given after the completion of the assigned work and a grade of 80% or greater shall be necessary to indicate the satisfactory completion of the topic.
- 7.4 The licensed individual(s), who prepare(s) and grade(s) the annual examination, need not take the annual exam. The licensed individual(s) who prepares(s) and grade(s) the lecture topic associated quiz(s) need not take the quiz.
- 7.5 The annual exam shall be used to evaluate and improve the requalification program. Such evaluation shall attempt to identify areas where additional classroom lectures or other type of training can improve personal or group plant operating ability.
- 8.0 TRAINING PERSONNEL:
- 8.1 Ginna License Training program instructors shall have a Senior Reactor Operator License, be a certified Senior Reactor Operator, or be preparing for license examination when instructing subjects such as:
- (1) R.E. Ginna primary and safety systems
  - (2) R.E. Ginna integrated response topics
  - (3) R.E. Ginna transient responses
- 8.2 The instructors shall participate in a familiarity program to keep them current in plant changes. This will include:
- 8.2.1 Procedure changes, review and acknowledge procedure changes in Control Room Acknowledge Book.
  - 8.2.2 Current operating history - review and acknowledge monthly Operations Report. After review this will be included in Requalification Training Material.
  - 8.2.3 Current Relevant LER's - review and acknowledge events provided by Nuclear Assurance Section and determined appropriate by Training Manager. After review they shall be included in Requalification Training material.

**9.0      DOCUMENTATION:**

- 9.1      Documentation of each licensed person's involvement in the requalification program shall be maintained by the licensee or the Training Manager for the period designated below. After this period, the documentation shall be forwarded to Central Records and maintained for Lifetime in accordance with A-1701 unless otherwise stated.
- 9.2      Records maintained by the licensee for one year after which they shall be reviewed by the Training Manager and forwarded to Central Records and filed under Personnel Histories in accordance with A-1701. They include:
- (1)    Job Cross-Training
  - (2)    Control Manipulations
  - (3)    Plant Evolutions
  - (4)    Discussions
- 9.3      Records and documents maintained by the Training Manager for one year and then submitted to Central Records and filed under Personnel Histories in accordance with A-1701. They include:
- (1)    Classroom Training Records
  - (2)    Simulator Training
  - (3)    Personnel Evaluations
  - (4)    Individual Quizzes and Exams
- 9.4      Records and documents maintained by the Training Manager and forwarded to Central Records at different time periods as noted in each case include:
- (1)    Training material packages, including examination given (annual and session quiz) and key, shall be submitted quarterly to Central Records after completion in accordance with A-1701.
  - (2)    Answers to examination or quizzes given by licensee shall be submitted to Central Records annually by the Training Manager. After two years or when reviewed by the NRC, whichever comes first, the answers may be disposed of.





- (3) Completed Emergency Review acknowledge sheets, to document Emergency Procedures have been reviewed, shall be forwarded to Central Records after review by the Training Manager and filed in accordance with A-1701.
- (4) Documentation of important material received will be filed in the individuals' folders and submitted annually to Central Records with personnel histories in accordance with A-1701.
- (5) Documentation of additional training for those individuals failing the annual exam or lecture topic quiz, including applicable classroom lecture attendance, assigned individual study, and makeup examinations shall be maintained by the Training Manager for the year and then forwarded to Central Records to be filed in accordance with A-1701 with the exception of makeup examination answers which shall be maintained in accordance with 9.4 (2) above.

9.5 Central Records shall maintain completed procedure acknowledge sheets to document that procedure changes pertinent to the operation of the plant have been read and understood.

9.6 All documentation required to establish a licensee's satisfactory completion of the requalification program shall be assembled and verified by the Training Manager prior to submission of the license renewal request to the NRC. License application and renewal information shall be submitted to Central Records as submitted to the NRC and filed in accordance with A-1701.