Submitted: Ken [signature]

Reviewed/OQA Engr.: [signature]

Approved/Plant Mgr.: J. [signature]

MC-1

SP Number 12.Ø14.Ø7
Revision: 1
Date Eff.: 5/13/83
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LICENSED OPERATOR REQUALIFICATION PROGRAM

1.0 PURPOSE:

To establish a method of implementation for the licensed operator requalification program.

2.0 REPONSIBILITY:

The Training Supervisor shall be responsible for ensuring proper implementation of the requirements set forth by this procedure.

PPF 1021.2ØØ-6.421

INFORMATION COPY

3.0 DISCUSSION:

3.1 Periodic requalification for all operators and senior operators is necessary for the personnel to maintain competence, particularly to respond to abnormal and emergency situations.

3.2 This procedure describes the method to periodically relicense NRC licensed Reactor Operators (RO's) and Senior Reactor Operators (SRO's), and to meet the requirement of References 11.1, 11.2, and 11.3.

3.3 Licensed RO's and SRO's who have been actively and extensively engaged as RO's or SRO's shall participate in the requalification program. Individuals who maintain RO or SRO licenses for the purpose of providing backup capability to the operating staff shall also participate in the requalification program.

3.4 Definitions related to the SNPS Licensed Operator Requalification Program are contained in Appendix 12.1.

3.5 The following topics are contained in this procedure:

4.0 PREREQUISITES:

N/A

5.0 PRECAUTIONS:

N/A

6.0 LIMITATIONS AND PRECAUTIONS:

N/A

3.0 DISCUSSION:

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3.4 Definitions related to the SNPS Licensed Operator Requalification Program are contained in Appendix 12.1.

3.5 The following topics are contained in this procedure:

4.0 PREREQUISITES:

N/A

5.0 PRECAUTIONS:

N/A

6.0 LIMITATIONS AND PRECAUTIONS:

N/A

7.0 TEST EQUIPMENT:

N/A

8.0 PROCEDURE:

8.1 Schedule

8.1.1 The SNPS Licensed Operator Requalification Program shall be repetitive and completed on a one year basis, resulting in license renewal every two years. The program shall consist of preplanned classroom lectures, on-the-job training, simulator training, plant drills and examinations as necessary to document operator proficiency and annual evaluations.

8.1.2 A minimum of 60 hours of reasonably spread, preplanned lectures shall be scheduled each year.

8.1.3 The lectures will be scheduled throughout the year. Each license holder should participate in the training schedule one week out of every six.

8.1.4 Individuals who maintain licenses for the purpose of providing backup capability to the operating staff shall participate in the requalification program to the extent that their normal duties preclude the need for specific retraining in particular areas.

8.1.5 Personnel assigned to license requalification training shall be assigned no concurrent duties during the perious that they are actually engaged in training activities.

8.2 Lectures

8.2.1 Preplanned classroom lectures shall be scheduled and should provide, as a minimum, training in the following subjects:

8.2.1.1 Reactor Operator Training

.1 Principles of Nuclear Power Plant Operation.

.2 Fundamentals of Thermodynamics, Heat Transfer and Fluid Flow.

.3 Plant Design Including Safety and Emergency Systems.

.4 Instruments and Controls.

.5 Procedures - Normal, Abnormal, Emergency and Radiological Controls, and changes to these procedures.

.6 Technical Specifications.

.7 Related Nuclear Industry Operating Experience.

.8 Changes to Facility Design and License.

.9 Applicable portions of Title 10 Chapter I Code of Federal Regulations.

.10 Mitigation of Core Damage K1

8.2.1.2 Senior Reactor Operator Training:

.1 Theory of Nuclear Power Plant Operation.

.2 Theory of Fluids and Thermodynamics.

.3 Plant Systems Design, Control and Instrumentation.

.4 Procedures - Normal, Abnormal, Emergency and Radiological Controls, and changes to these procedures.

.5 Administrative Procedures, Conditions and Limitations.

.6 Technical Specifications.

.7 Applicable portions of Title 10 Chapter I Code of Federal Regulations.

.8 Changes to Facility Design and License.

8.2.2 Each license holder shall review the abnormal and emergency operating procedures on an annual basis.

Compliance with this requirement may be met by:

8.2.2.1 Actual performance under abnormal or emergency operating conditions.

8.2.2.2 Walkthrough of the procedural steps necessary to cope with the situation.

8.2.2.3 Drills utilizing a training simulator or on-site preplanned drill scenario.

8.2.2.4 Preplanned lectures.

8.2.2.5 Supervised self study. All self study will be under supervision of the training section and documentation will include examinations to verify effectiveness of the self study.

8.2.2.6 Procedure review and/or rewrite as part of normal job function.

8.2.3 No more than 50% of the lecture series outlined in this section may be presented by videotape or film presentation. All lectures should be a balanced presentation of live instruction with related training aids.

8.2.4 A written examination shall be administered at the completion of each week of on-site requalification training and each individual should also participate in at least 3 plant drill scenarios each training week.

8.3 On the Job Training

8.3.1 Control Manipulations

8.3.1.1 Ten reactivity control manipulations are required to be performed annually by each licensed operator and senior operator. Reactivity control manipulations performed at SNPS or at the Limerick simulator can be used to fulfill this requirement.

8.3.1.2 Until the SNPS-specific simulator becomes available, the SNPS requalification training program will utilize the Limerick plant simulator for retraining licensed operators. Use of the Limerick simulator will include the following:

a) SNPS normal, abnormal and emergency operating procedures as well as the appropriate SNPS alarm response procedures will be used by SNPS operators during simulator requalification training at the Limerick Simulator.

b) Simulator requalification training will be conducted using a crew concept; the students will be required to duplicate to the extent practical the functions

and responsibilities of the normal SNPS control room staff.

c) Each SNPS licensed RO and SRO will undergo at least five days of training at the simulator every six months. During these five days of simulator training, each student will spend at least three days operating the simulator controls as part of the training crew.

d) Individual performance on the simulator will be evaluated by use of a drill scenario form (Appendix 12.3). Drill scenario forms will be completed for each licensed operator during each week of simulator training.

8.3.2 Methods of Training

8.3.2.1 All licensed personnel shall be kept cognizant of SNPS design, procedural and facility changes using one of the following methods:

.1 Brief lectures conducted by section supervision or other appropriate personnel.

.2 Staff meetings (also includes Review of Operations Committee meetings).

.3 Written communications to each licensed individual.

.4 Pre-planned lecture series.

.5 Required reading list.

8.3.2.2 Other on-the-job training such as cross job training and on-shift discussion may be used to increase the individuals proficiency.

8.3.2.3 On an annual basis, each license holder shall participate in plant drills and control manipulations covering the evolutions listed in Appendix 12.2. Participation in a plant drill involves responding to drill conditions or being an evaluator who observes and evaluates drill response.

Plant drills will be conducted on a crew basis and will involve reviewing plant procedures steps, action identification, equipment control location, expected

instrumentation response, plant communications and Technical Specification action identification.

Each drill will be planned in a drill scenario as indicated in Appendix 12.3 and will include the following:

.1 Plant Condition

.2 Initiating Indication

.3 Expected Response

.4 Individual Evaluation

.5 References

The Training Supervisor will review drill critiques and initiate corrective remedial actions if necessary.

8.3.2.4 Backup licensed reactor operators and senior reactor operators not permanently assigned to an operating shift shall stand one 8 hour watch per quarter.

8.3.2.5 Persons holding a currently valid NRC license, but not in an active status for a period of four months or more, shall be refamiliarized and examined prior to resuming licensed activities. This refamiliarization shall consist of changes or incidents that occurred during the inactive period and shall include:

.1 Procedural changes

.2 License changes

.3 Plant system modifications

.4 Plant incidents

The completion of the refamiliarization program shall include written and/or oral examinations, as directed by the Chief Operating Engineer, to document that the license holder is currently familiar with the plant. The Training Supervisor shall document the satisfactory completion of the refamiliarization program, and the NRC shall be notified in accordance with Reference 11.2.

A result of 80% on the written exam and/or a failure on an oral exam shall require the individual to receive additional training in those designated areas and to observe station operations for a minimum of 16 hours prior to re-examination.

8.4 Evaluation

8.4.1 An annual written examination comparable in scope and degree of difficulty to an NRC examination, consistant with the level of license held, will be given to each license holder. Exam topics will be selected from material covered as part of the requalifiction program. Oral one-on-one walkthrough examinations will also be used to supplement this examination.

8.4.2 A licensed individual who receives an overall grade of less than 80% or receives a grade of less than 70% in any one category of the annual written exam administered by the SNPS Training Section shall be relieved of his license duties and placed in an accelerated Requalification Program prior to retesting. K1

8.4.2.1 Training provided to personnel participating in an accelerated requalification program may include preplanned lectures, self study, on the job instruction, or other training as required and will be evaluated via written and/or oral examination.

8.4.3 A grade of less than 70% on any lecture series examination shall require that individual to be rescheduled for re-examination and upgrading in that area.

8.4.4 A licensed individual who receives a failing grade on the annual oral exam shall be placed in an accelerated requalification program.

8.4.5 Licensed individuals who are directly involved with the preparation and grading of examinations are exempt from taking the examinations.

8.5 Records

8.5.1 Records for each individual shall be maintained for a minimum of two years by the Training Supervisor and shall include the following:

8.5.1.1 Copies of written examinations administered and answer keys that contain point values for each correct answer.

8.5.1.2 Answers given by the licensee to written examinations.

8.5.1.3 Results of performance evaluations (drill scenarios).

8.5.1.4 Documentation of additional training administered to licensed individuals in areas where deficiencies have been demonstrated.

8.5.1.5 Records of attendance at preplanned lectures.

8.5.1.6 Documentation of licensed personnel cognizance of changes made to station design, appropriate procedures, and the station license.

8.5.1.7 Documentation of the annual review of abnormal and emergency procedures.

8.5.1.8 Documentation of participation in reactivity control manipulations (including use of simulator training if applicable).

9.0 ACCEPTANCE CRITERIA:

N/A

10.0 FINAL CONDITIONS:

N/A

11.0 REFERENCES:

11.1 SP 12.Ø14.Ø1, Personnel Training Requirements

11.2 Code of Federal Regulations, Title 10, Part 55

11.3 FSAR, Section 13.2.2

11.4 FSAR, Table 13.5.1-1, Sections B.1, B.2, B.3 and B.4

11.5 INPO Guidelines for Requalification Training and Evaluation, GPG Ø2-1Ø-8Ø

11.6 ANSI/ANS 3.1 - 1978

11.7 NUREG - Ø66Ø, Vol. I, 1980

11.8 NUREG - Ø737, 1980

12.0 APPENDICES:

12.1 SNPS Requalification Program Definitions

12.2 SNPS Requalification Control Manipulations

12.3 Drill Scenario Form SPF 12.Ø14.Ø7-1

SNPS REQUALIFICATION PROGRAM DEFINITIONS

1. JOB CROSS-TRAINING

Job cross-training for shift personnel shall consist of assuming the duties and performing the functions of other shift classifications.

2. ON-SHIFT DISCUSSIONS

On-shift discussions may include review of procedures, discussions of plant operations and/or other specific material assigned by the Training Supervisor or Ops. Supervision. These discussions should include review of Reactor Operating Experiences.

3. ACTIVE STATUS

Licensed individuals whose normal duties are at the station on a day-to-day basis and who are involved in the daily activities at the station shall be considered on "active status".

4. BACK-UP PERSONNEL

These are personnel holding an NRC Reactor Operator or Senior Reactor Operator license but not permanently assigned to an operating shift. The Operations Engineer and Assistant Operations Engineer are not considered backup personnel.

5. LICENSED OPERATOR (RO)

Any individual who possesses an operator's license pursuant to Title 10, CFR, Part 55, "Operators' Licenses".

6. LICENSED SENIOR OPERATOR (SRO)

Any individual who possesses a senior operator's license pursuant to Title 10, CFR, Part 55, "Operators' Licenses".

7. NORMAL OPERATING PROCEDURES

Normal Operating Procedures are those procedures which cover those operating activities defined in Appendix 12.1.1.

8. ABNORMAL OPERATING PROCEDURES

Abnormal Operating Procedures are those procedural actions included in the appropriate system operating procedures for the activities listed in Appendix 12.1.1.

9. EMERGENCY OPERATING PROCEDURES

Emergency Operating Procedures are those procedural actions provided for combating the potential emergency conditions listed in Appendix 12.1.2.

SYSTEM OPERATING PROCEDURES

1. Automatic Depressurization System
2. Control Rod Drive System
3. Core Spray System
4. Diesel Generator
5. 4,160 V System
6. 480 V System
7. 120 V AC Instrument Bus
8. 120 V AC Reactor Protection System Bux
9. 120 V AC Uninterruptible Power Supply
10. 125 V DC System
11. Fuel Pool Cooling
12. HPCI
13. LPCI (Mode of RHR)
14. Offgas (Incl. SJAE, HOGGER)
15. Primary Containment Inerting
16. HVAC-Drywell Cooling
17. Reactor Bldg Closed Loop Cool. System
18. Reactor Bldg Normal Ventilation System (RBNVS)
19. RCIC
20. RHR System

21. Reactor Recirculation System
22. Service Water
23. Reactor Bldg Standby Ventilation System (RBSVS)
24. Standby Liquid Control System
25. Condensate System
26. Feedwater System
27. HVAC - Control Room
28. HVAC - Turbine Building
29. Generator Seal Oil System
30. Main Steam System
31. Reactor Water Cleanup System
32. Station Air System
33. Turbine Bldg, Closed Loop Cooling System
34. Turbine Generator
35. Turbine EHC
36. Turbine Lube Oil System
37. Containment Area Leakage Detection System
38. RBSVS & CRAC Chilled Water

EMERGENCY PROCEDURES

1. Acts of Nature
2. Abnormal Releases of Radioactivity
3. Control Rod Drop
4. Emergency Use of S.L.C.
5. Fuel Cladding Failure
6. Fuel Handling Accident
7. Emergency Shutdown
8. Loss of Condenser Vacuum
9. Loss of Containment Integrity
10. Loss of Electrical Power
11. Loss of Instrument Air
12. Loss of Reactor Building Closed Loop Cooling Water
13. Loss of Service Water
14. Loss of Shutdown Cooling
15. Loss of Turbine Building Closed Loop Cooling Water
16. Shutdown from Outside Control Room
17. Level Control
18. Cooldown
19. Containment Control
20. Level Restoration
21. Rapid RPV Depressurization
22. RPV Flooding
23. Transient with Failure to Scram

SNPS REQUALIFICATION CONTROL MANIPULATIONS

The following control manipulatinos and plant evolutions are acceptable for meeting the reactivity control manipulations required by Appendix A, paragraph 3.a of 10 CFR Part 55. The starred items shall be performed on an annual basis; all other items shall be performed on a two-year cycle. However, each individual should participate in as many reactivity changes as plant conditions permit. Those control manipulations which are not performed at the plant may be performed on a simulator or as part of the plant drill program. Personnel with SRO licenses are credited with the activities if they direct or evaluate control manipulations as they are performed.

*A. Approach to critical from subcritical on the source range instrumentation to the point of adding nuclear heat verified by establishing a predetermined heatup rate.

B. Plant shutdown.

*C. Manual control of feedwater during plant startup and shutdown.

*D. Any power change of 10% or greater using control rods or manual recirculation flow control.

*E. Loss of coolant including, leak rate determination.

1. Inside and outside primary containment.

2. Large and small

F. Loss of instrument air (must be performed via drill at SNPS).

G. Loss of electrical power (and/or degraded power sources).

*H. Loss of recirculation flow.

I. Loss of condenser vacuum.

J. Loss of Reactor Building service water.

K. Loss of RBCLCW to individual components.

*L. Loss of feedwater/feedwater system failure.

M. Loss of a protective system channel.

N. Mispositioned or dropped control rod or rods.

O. Inability to move control rods.

P. Conditions requiring use of the standby liquid control system.

Q. Fuel cladding failure or high activity in reactor coolant or offgas.

R. Turbine or generator trip.

S. Malfunction of automatic control system(s) which affect reactivity.

T. Malfunction of reactor pressure control system.

U. Reactor Trip.

V. Main steam line break (inside or outside containment).

W. Nuclear instrumentation failure(s).

X. Operation of the fuel handling bridges during refueling or core loading or unloading (licensed fuel handling personnel only).

Y. Moving control rods in response to a xenon transient.

Z. Manual rod control prior to and during generator synchronization.

AA. Turbine - Generator startup.

BB. Recirculation Flow control malfunction.

CC. Abnormal reactor water level.

DD. Loss of shutdown cooling.

DRILL SCENARIO

PLANT CONDITION:

INITIAL INDICATIONS:

EXPECTED RESPONSE:

ACTUAL PROBLEM:

EVALUATION:

	SAT.	UNSAT.
Rx Panel	☐	☐
ECCS	☐	☐
BOP	☐	☐
Normal Rx Systems & Electrical	☐	☐
SRO Integrated Plant/Supervisory	☐ / ☐	☐ / ☐

COMMENTS:

REFERENCES:
SP:
ARP
T.S.

SPF 12.Ø14.Ø7-1 Rev. Ø

SNPS

LICENSED OPERATOR REQUALIFICATION TRAINING

1983 PROGRAM

Cycle 1 February 7, 1983

Topics	Hours
Program Introduction	1
Station Modifications	1
Admin. Procedures	4
Emergency Procedure Guidelines	8
Tech. Spec. Review & Problems	8
Control Room Drills	2
Study	6
Exam	2

Cycle 2 March 14, 1983 (Limerick Simulator)

Classroom 10 Hours Systems & Procedures Review

Feedwater & Feedwater Control
RCIC
ADS
HPCI
Core Spray
LPCI
Reactor Pressure Control
Recirc Flow Control

Simulator 30 Hours Evolutions & Drills

Cycle 3 March 28, 1983

Systems Review	Hours
RWCU	1
Recirculation	1.5
RBCLCW	1
Service Water	2
Loose Parts Monitoring	1

Special Topics

Manual Initiation of Scram & Turbine Trip	1
Tech. Spec. Problems	3
LER's & Station Mods.	2
Emergency Procedures Review	2

Emergency Plan

Emergency Organization Responsibilities	2
Emergency Classification	1.5
Emergency Action Levels	1.5

Control Room Drills	2
Study	8.5
Exam	2

Cycle 4 June 6, 1983

Systems Review	Hours
Containment	2.5
Steam Sealing	1.0
Special Topics	
Reactor Theory	4.0
Review Station Procedure 12.006.01	1.0
LER's & Station Mods.	2.0
Tech. Spec. Problem Solving	2.5
H.P. Self Monitoring	2.0
Respirator Training	4.0
Emergency Plan	
Evacuation and Accountability	1.5
Notification and Communications	3.0
Re-entry/Emergency Repair & Corrective Action	1.5
Study	1.5
Control Room Drills	8.5
Exam	3.0
	2.0

Cycle 5 July 18, 1983

Systems Review	Hours
Extraction Steam	1
Feedwater Heating	1
Remote Shutdown	1
Special Topics	
Process Computer, Operator Interface	3
LER's & Station Mods.	2
Tech. Specs. Problem Solving	3
Emergency Procedures Review	2
Pre Fire Plan	1
Thermal Limits	3.5
Emergency Plan	
Implementing Actions	2.0
Search for Missing Reasons	1.0

Control Room Drills	3.0
Study	14.5
Exam	2.0

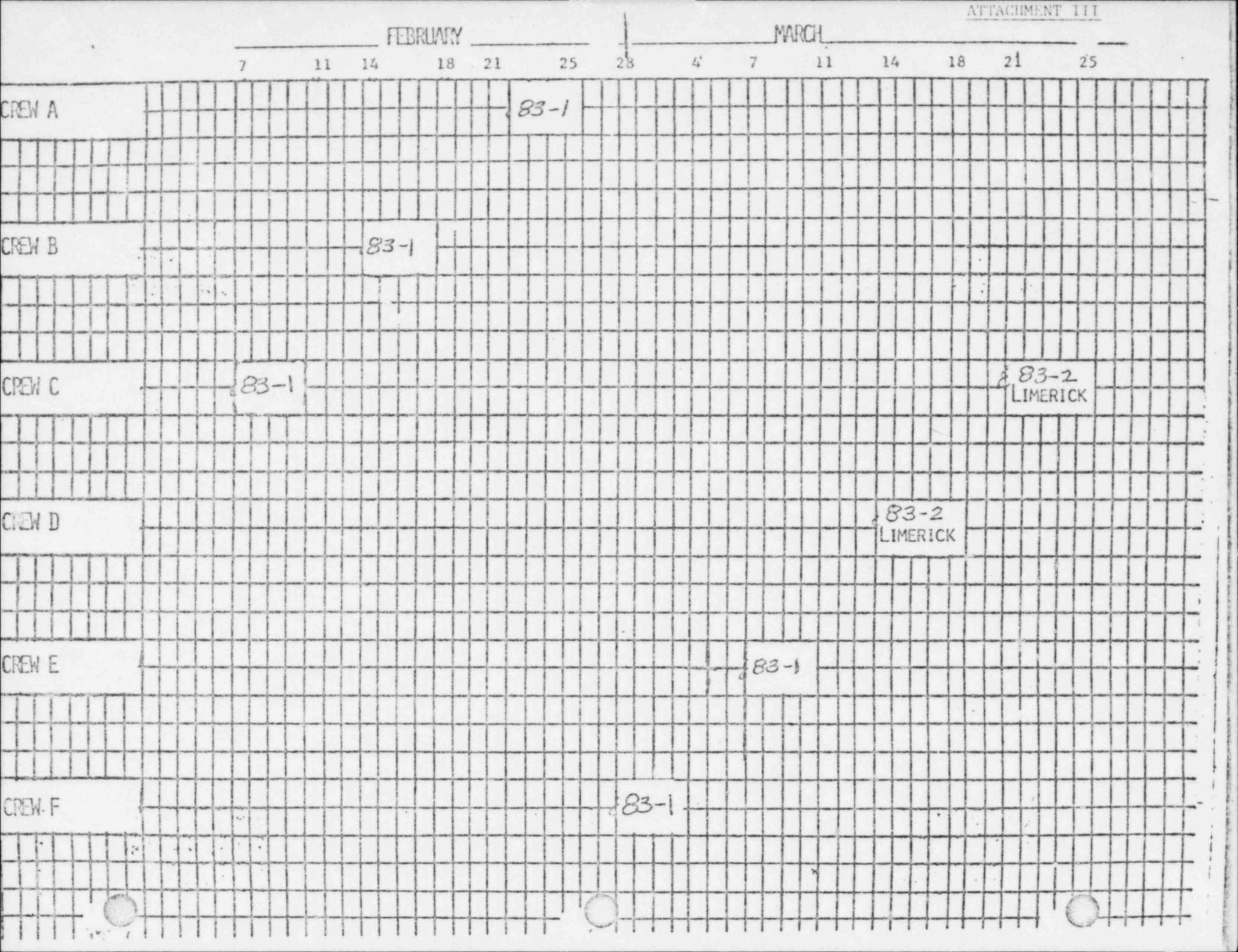
Cycle 6 August 29, 1983

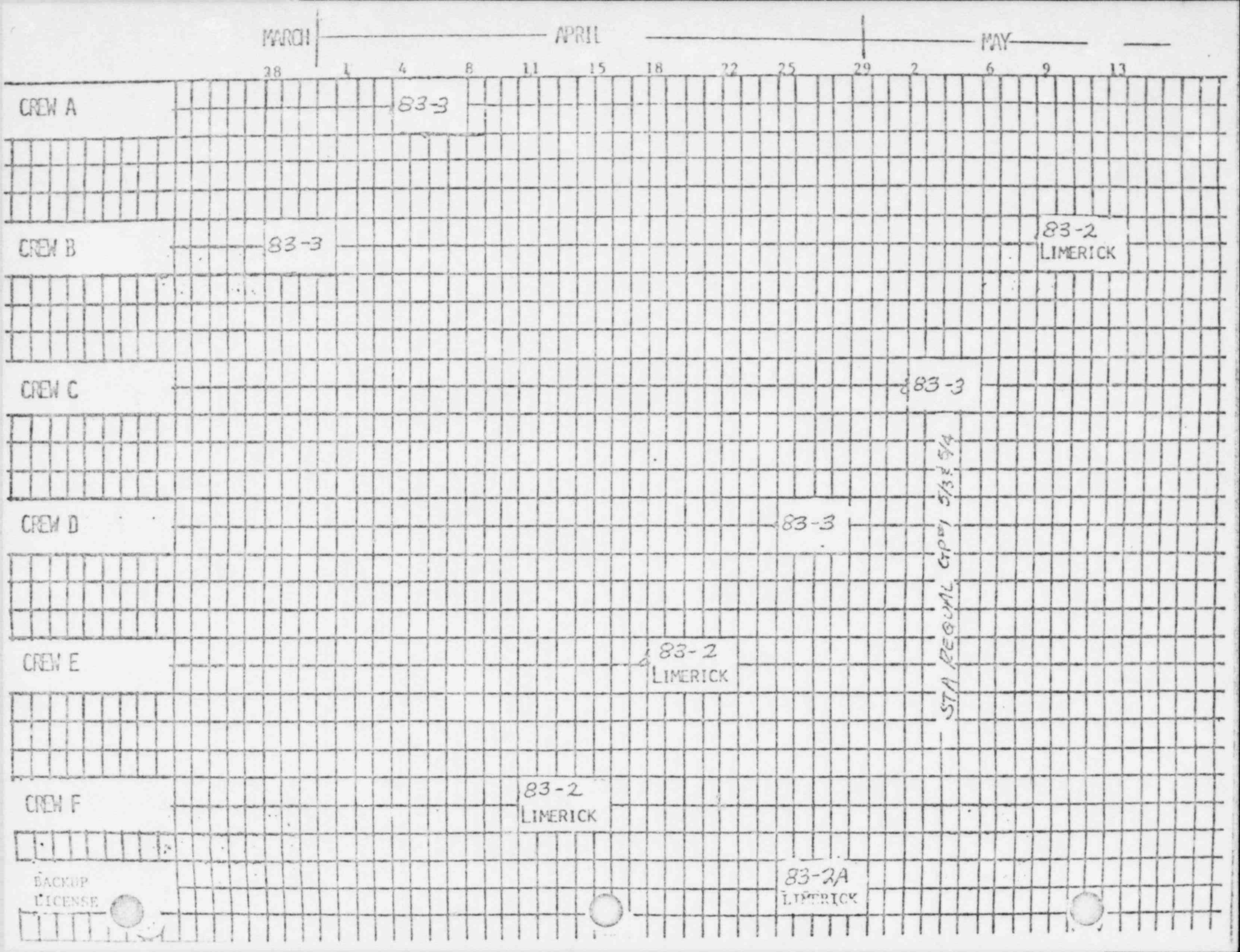
Systems (Tentative)	Hours
Radiation Monitoring	3
H2 Seal Oil	1
Stator Cooling System	1.5
Requal Systems Review	9.0
Special Topics	
LER & Sta. Mods.	2
Tech. Specs. Problem Solving	3
Mitigating Core Damage	2
- Instrument Response Under Accident Conditions	
Emergency Plan	
Protective Action Guides & Recovery	2
Control Room Drills	3
Study	9.5
Exam	2

Cycle 7 Limerick Simulator

Specific topics not yet scheduled.

ATTACHMENT III

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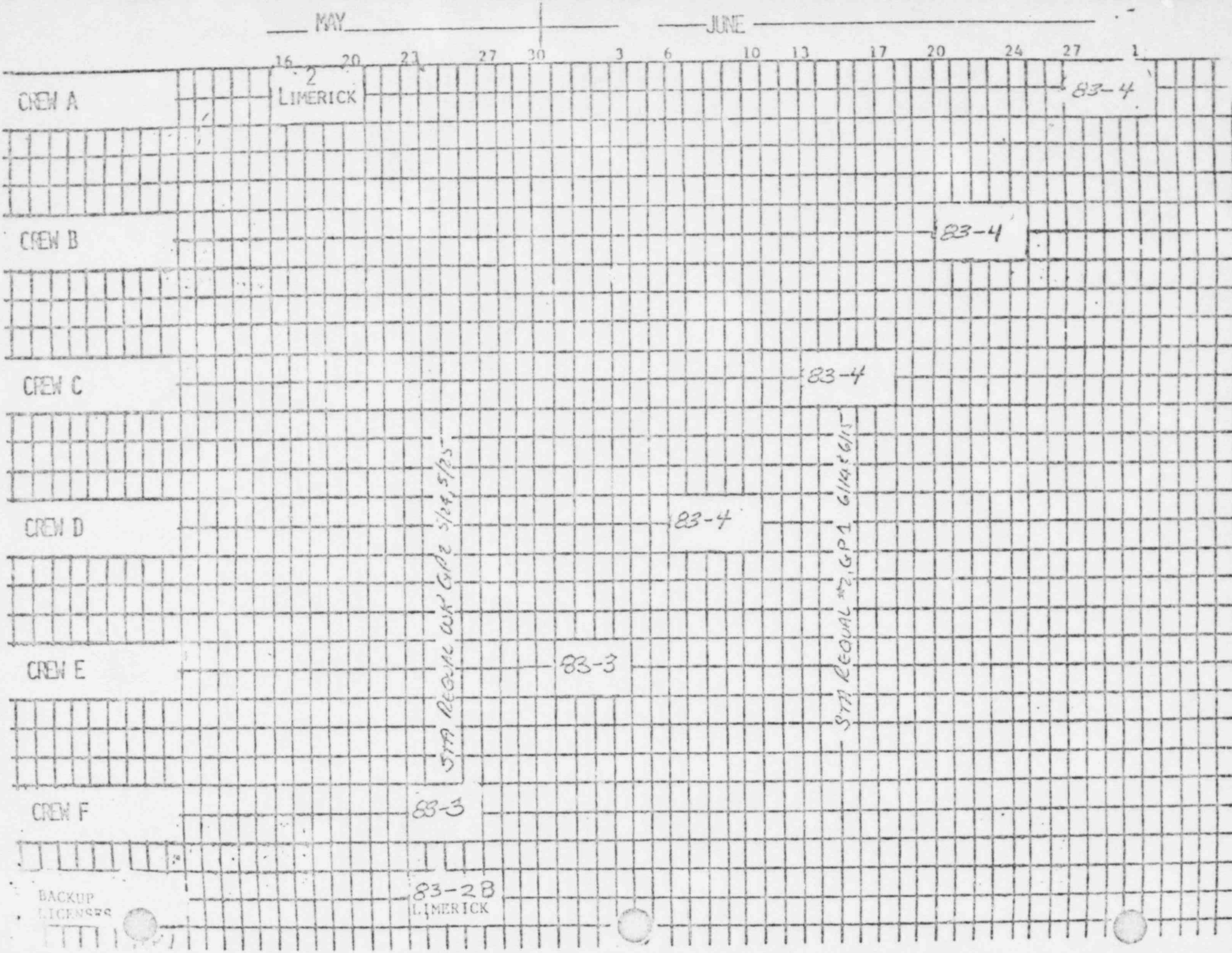
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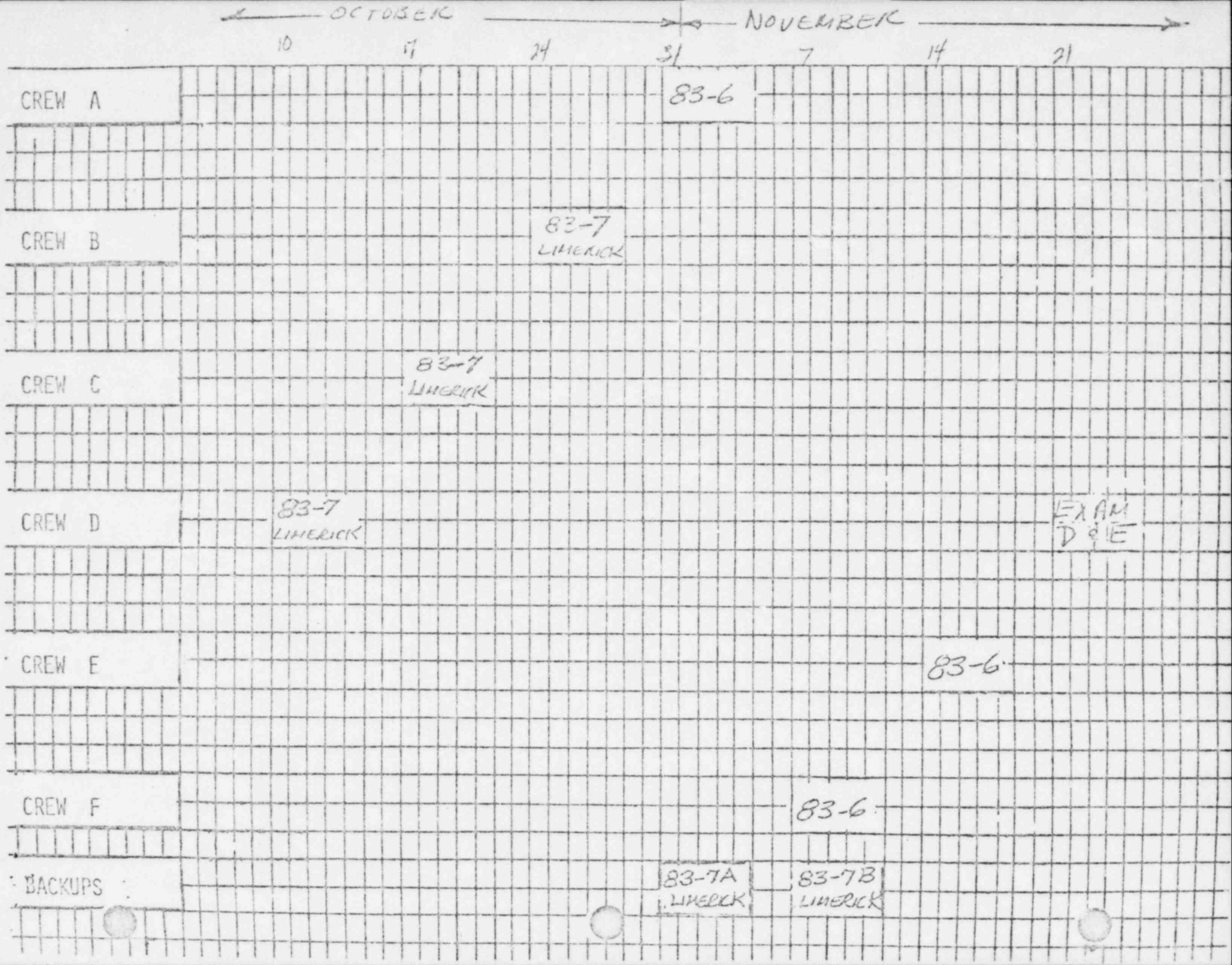
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EXAM #2
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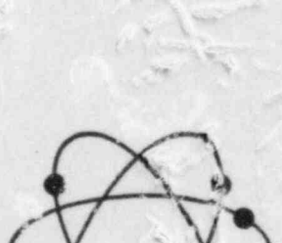
* SELECTED SPECIAL TOPICS

VEP-NOS-5

Vepco

SURRY UNIT 1, CYCLE 7 STARTUP PHYSICS TEST REPORT



NUCLEAR OPERATIONS DEPARTMENT

Virginia Electric and Power Company