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MURLEY,T.E. Office of Nuclear Reactor Regulation, Director (Post 870411

SUBJECT: Forwards semiannual rept for "Plan for Integrated Scheduling of Plant Mods for Duane Arnold Energy Ctr."

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Iowa Electric Light and Power Company

November 4, 1991
NG-91-3266

Dr. Thomas E. Murley
Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Station P1-137
Attention: Document Control Desk
Washington, DC 20555

Subject: Duane Arnold Energy Center
Docket No.: 50-331
Op. License No.: DPR-49
Semi-annual Report for the "Plan for the Integrated Scheduling of Plant Modifications for the Duane Arnold Energy Center"
Reference: D. Mineck letter to T. Murley dated May 3, 1991
NG-91-0966
File: A-278

Dear Dr. Murley:

This letter and attachments provide the semi-annual report required by Section V.A. of the "Plan for the Integrated Scheduling of Plant Modifications for the Duane Arnold Energy Center" (the Plan). This report summarizes our progress in implementing Schedule A and B items, identifies the changes since the last report, summarizes the reasons for schedule changes, and provides updated schedules.

Attachment 1 is a summary of progress in implementing the items listed in Schedules A and B. It lists the twelve items which have been completed since the last update (Referenced).

Attachment 2 identifies the changes since the last report. These revisions include changes to the Item Descriptions of eight items, the revision of thirteen Schedule commitment dates, the addition of two Schedule A items and seventeen Schedule B items. Four Schedule B items have been deleted since our last report. The reasons for the schedule changes are stated in Attachment 3.

Updated Schedules A and B are included as Attachment 4. For each item listed, the specific implementation date is stated and reference is made to the NRC correspondence supporting this date. When available, references to NRC correspondence are cited for IELP-initiated items listed in Schedule B. Also, brief descriptions of those Schedule A and B items, that are not specifically described in other correspondence are included as Attachment 5.

A001
1/1

Please inform us if you have any questions or comments concerning this submittal.

Very truly yours,

Daniel L. Mineck
Manager, Nuclear Division

DLM/DJM/pjv*

Attachments:
1. Summary of Progress in Implementing Schedule A and B Items
2. Changes in Schedules
3. Summary of Reasons for Schedule Changes
4. Updated Schedules A and B
5. Descriptions of Selected Schedule A and B Items

cc: D. Mienke
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NRC Resident Office
Commitment Control Nos. AI9313, AI9413, AI9431, AI9433, AI9435, 890402, 900129, 900348, 900349, 900350, 900352, 900355, 900357, 900360, 910103, 910105, 910109, 910112, 910156, 910157

50-331 DUANE ARNOLD IEL&P

SUMMARY OF PROCESS IN IMPLEMENTING SCHEDULE A & B ITEMS

w/ltr dtd 11/4/91 #9111140190

Summary of Progress in Implementing Schedule A and B Items

The following items, as listed on the Schedules A and B transmitted with the May 3, 1991 semi-annual report, have been completed during this reporting period:

Schedule A

There were no Schedule A items due or completed during the reporting period.

Schedule B

- Emergency Response Capabilities (Supplement 1 to NUREG-0737)

  Regulatory Guide 1.97

- Individual Plant Examination
  Initial Level 1 PRA

- Inservice Testing Program Modifications (GL 89-04)

  Phase 1: Residual Heat Removal (RHR) and River Water Supply (RWS) Valve Replacement

  Phase 3: Diesel Fuel Oil Transfer System Modification

- Vendor Information Project (GL 90-03)

  Phase 2: Verification of Safety-Related Equipment Vendor Manuals

  Phase 3: Verification of Non-Safety-Related Equipment Vendor Manuals

- Operability Determination of Seismically Supported HVAC Ductwork

- Shielding Study for Revised Hydrogen Water Chemistry Program

- Ultrasonic Examination of Reactor Vessel Beltline Region Welds

  Phase 2: Feasibility Study, Position Paper and Drawing Development

- Comprehensive Procurement Initiative

  Evaluation

- Service Water System Enhancements

  River Sediment Managment System

- Configuration Management Plan

  Program Plan

Changes in Schedules

Changes to the Schedules fall into four categories: revised descriptions of items, revised completion dates, addition of new items and deletion of items.

I. Item Descriptions

Previous Item Description	Revised Item Description
Schedule A	
There were no item descriptions changed on Schedule A in this Semi-Annual Update.	
Schedule B	
• Safety-Related MOV Operability/Testing (GL 89-10)	• Safety-Related MOV Operability/Testing (GL 89-10)
Phase 1: Completion of Design Review and Development of Test Plan	Phase 1: Completion of Design Basis Reviews and Determination of Correct Switch Settings
Phase 2: Completion of Baseline Static Testing	Phase 2: Completion of Static/Dynamic Testing
Phase 3: Implementation and Continued use of Static Testing	
• Power Systems Analysis	• Power Systems Analysis Basic Model Development
	• Long-Term Electrical Enhancements
	Electrical Distribution System Model Enhancements
	Electrical System Configuration Management Enhancements

I. Item Descriptions (Continued)

Previous Item Description	Revised Item Description
Schedule B	
•Maintenance Self Assessment	•Maintenance Self-Assessment Phase 1: Completion of Self-Assessment Implementation Plan Phase 2: Completion of Self-Assessment
•Scram Frequency Reduction Mechanical Feedwater Modifications Digital Feedwater Control (deleted) Turbine Electro-Hydraulic Control (EHC) System Improvements	•Scram Frequency Reduction Mechanical Feedwater Modifications Turbine Electro-Hydraulic Control (EHC) System Improvements
•Computer Software Quality Assurance	•Computer Software Quality Assurance Phase 1: Development of Guidance Document Phase 2: Development of Departmental Procedures Phase 3: Software Retrofits

II. Schedule Changes

Description	Previous Completion Date	Revised Completion Date
Schedule A		
•Emergency Response Data System (ERDS) (10 CFR 50, Appendix E)	December 31, 1991	June 30, 1992
Schedule B		
•Safety-Related MOV Operability/ Testing (GL 89-10)		
Phase 1: Completion of Design Basis Reviews and Determination of Correct Switch Settings	December 31, 1991	September 1, 1992
Phase 2: Completion of Static/Dynamic Testing	December 31, 1992	June 28, 1994
•Core Stability Studies (BN 88-07)	December 31, 1991	December 31, 1992
•Long-Term Electrical Enhancements		
Electrical Fuse Control Program	New Item	December 31, 1992**
Instrument AC Modeling	New Item	December 31, 1992**
Motor-Operated Valve Thermal Overload Upgrades	New Item	December 31, 1992**
Electrical Breaker Coordination (AC and DC)	New Item	December 31, 1993**
480 VAC Motor Control Center Upgrades	New Item	December 31, 1993**
Emergency Diesel Generators Model Enhancements	New Item	December 31, 1994
Electrical Distribution System Model Enhancements	December 31, 1991	December 31, 1994
Electrical System Configuration Management Enhancements	December 31, 1991	Note 2*
•Control Building HVAC and Chillers		
Phase 3: Chiller refurbishment	December 31, 1991	July 15, 1992
•Maintenance Self-Assessment		
Phase 1: Completion of Self-Assessment Implementation Plan	Note 2*	January 1, 1993
Phase 2: Completion of Self-Assessment	Note 2*	Note 5*

* Please refer to page 27 of Attachment 4 for explanation of notes.
** New items added to "Long-Term Electrical Enhancements" program. These are not revisions to previous commitment dates.

II. Schedule Changes (Continued)

Description	Previous Completion Date	Revised Completion Date
Schedule B (Continued)		
•Technical Specifications Improvement		
Long-Term Enhancements	Note 1*	December 31, 1992**
•Computer Software Quality Assurance		
Phase 1: Development of Guidance Document	Note 2*	December 31, 1991
Phase 2: Development of Departmental Procedure	Note 2*	December 31, 1992
Phase 3: Software Retrofits	Note 2*	Note 6*

* Please refer to page 27 of Attachment 4 for explanation of notes.

** One item of Phase 2 was moved to Long-Term Enhancements. Please refer to Reasons for Schedule Changes (Attachment 3) for details.

III. New Items

Description	Completion Date
Schedule A	
•Revision to DAEC Maintenance Program to reflect new Maintenance Rule (10 CFR 50.56)	July 10, 1996
•Emergency Response Data System (ERDS) (10 CFR 50, Appendix E)	December 31, 1991** **Previously an IELP Initiative Item scheduled for completion by June 30, 1992, NRC Rule Date February 13, 1993
Schedule B	
NRC ITEMS	
•Regulatory Guide 1.97	
Control Room Labeling	December 31, 1991
Other Activities	Note 8*
•Control Room Habitability (CO_2 Intrusion)	Prior to Cycle 12 Startup
•Individual Plant Examination of External Events (IPEEE) (GL 88-20, Supplement 4)	Note 7*
IELP Initiative Items	
•Long-Term Electrical Enhancements	
Electrical Fuse Control Program	December 31, 1992
Instrument AC Modeling	December 31, 1992
Motor-Operated Valve Thermal Overload Upgrades	December 31, 1992
Electrical Breaker Coordination (AC and DC)	December 31, 1993
480 VAC Motor Breaker Coordination	December 31, 1993
Emergency Diesel Generator Model Enhancements	December 31, 1994
•Long-Term Instrument and Control Strategy	
Instrument Setpoint Program	December 31, 1993
•Emergency Planning Zone (EPZ) Redefinition	December 31, 1993
•Low-Level Radioactive Waste Storage Modifications	January 1, 1993

* Please refer to page 27 of Attachment 4 for explanation of notes.

III. New Items

Description	Completion Date
Schedule B (Continued)	
IELP Initiative Items (Continued)	
•Shutdown Risk Management	
Phase 1: DAEC Outage Risk Management Guidelines	January 1, 1992
Phase 2: NUMARC Shutdown Risk Management Guidelines	Prior to Cycle 12 Refuel Outage
•Long-Term Commitment Tracking Program	
Phase 1: Development of Program Plan	June 1, 1992
Phase 2: Data Compilation and Entry	Note 5*

IV. Items Deleted

Description	Reason for Deletion
Schedule A	
There were no items deleted from Schedule A in this Semi-Annual Update.	
Schedule B	
•Safety-Related MOV Operability/Testing (GL 89-10) Phase 3: Implementation and Continued use of Testing Program	The scope of this project has been reviewed and refined and the need for an "implementation and continued use" phase is no longer required.
•Self-Initiated Instrument and Control System Functional Inspection (I&CSFI)	Currently there are no plans to perform this I&CSFI. Program improvements currently being implemented as part of the long-term I&C strategy will be evaluated on an individual basis.
•Scram Frequency Reduction Digital Feedwater Control	Currently there are no plans to implement this project. Further review of this project is required before it will be considered as a project to be actively pursued.
•Long-Term Instrument and Control Strategy Analog Trip System Program Study	Currently there are no plans to implement this project. Further review of this project is required before it will be considered as a project to be actively pursued.

* Please refer to page 27 of Attachment 4 for explanation of notes.

Summary of Reasons for Schedule Changes

Item Description	Change	Explanation
Schedule A		
Schedule B		
•Emergency Response Data System (ERDS) (10 CFR 50, Appendix E)	December 31, 1991 to June 30, 1992	The schedule has been revised to reflect delays (beyond our previously schedule completion date of 12/31/91) in scheduling final acceptance testing of the DAEC ERDS by the NRC subcontractor and in establishing the NRC phone system (FTS-2000) that will interface with the DAEC ERDS. Iowa Electric intends to complete its initiative per our original schedule of 12/31/91.
•Safety-Related MOV Operability/Testing (GL 89-10)		
Phase 1: Completion of Design Basis Reviews and Determination of Correct Switch Settings	December 31, 1991 to September 1, 1992	The GL 89-10 program plan and schedules have been revised to better reflect progress to date and current MOV testing schedules.
Phase 2: Completion of Static/Dynamic Testing	December 31, 1992 to June 28, 1994	
•Core Stability Studies (BN 88-07)	December 31, 1991 to December 31, 1992	The schedule has been revised to reflect delays in issuance of the BWR Owners' Group Plant Specific Licensing Topical Report, which is dependent upon resolution of generic concerns with the NRC.

Summary of Reasons for Schedule Changes

Item Description	Change	Explanation
Schedule B (Continued)		
•Power Systems Analysis		
Basic Model Development	December 31, 1991 (Project scope change only)	The scope of the previous Power Systems Analysis project changed to incorporate the Site Power Utilization Records (SPUR) program and the expansion of electrical distribution system computer models into the Long-Term Electrical Enhancements program.
•Long-Term Electrical Enhancements		The Site Power Utilization Records (SPUR) project and the expansion of electrical distribution system computer models were separated from the scope of the previous "Power Systems Analysis" project and incorporated into long-term followup activities entitled "Electrical System Configuration Management Enhancements" and "Electrical Distribution System Model Enhancements", respectively. The other projects listed are new items that were added to the Long-Term Electrical Enhancements program.
Electrical Fuse Control Program	December 31, 1992**	
Instrument AC Modeling	December 31, 1992**	
Motor-Operated Valve Thermal Overload Upgrades	December 31, 1992**	
Electrical Breaker Coordination (AC and DC)	December 31, 1993**	
480 VAC Motor Control Center Upgrades	December 31, 1993**	
Emergency Diesel Generators Model Enhancements	December 31, 1994**	
Electrical Distribution System Model Enhancements	December 31, 1991 to December 31, 1994	
Electrical System Configuration Mangement Enhancements	December 31, 1991 to (Note 2)*	

* Please refer to page 27 of Attachment 4 for explanation of notes.

**New items added to "Long-Term Electrical Enhancements" program.
These are not revisions to previous commitment dates.

Summary of Reasons for Schedule Changes

Item Description	Change	Explanation
Schedule B (Continued)		
•Control Building HVAC and Chillers		
Phase 3: Chiller Refurbishment	December 31, 1991 to July 15, 1992	The schedule has been revised due to delay in the shipment of replacement parts and to avoid performing chiller modifications during the Cycle 12 refueling outage.
•Maintenance Self-Assessment		
Phase 1: Completion of Self-Assessment Implementation Plan	Note 2* to January 1, 1993	The schedule has been established for Phase 1. The schedule for Phase 2 is dependent upon the results of Phase 1.
Phase 2: Completion of Self-Assessment	Note 2* to Note 5*	
•Technical Specifications Improvement		
Short-Term Enhancements		The scope of Phase 2 was revised by relocating RTS-232 to Long-Term Enhancements. The schedule for RTS-232 has been revised due to delay in NRC review and approval of a BWR Owners' Group Licensing Topical Report.
Phase 2:	December 31, 1991 (project scope change only)	
Long-Term Enhancements	Note 1* to December 31, 1992	The schedule has been revised to incorporate specific project milestones that have been identified since the last update of the Integrated Plan.
•Computer Software Quality Assurance		
Phase 1: Development of Guidance Document	Note 2* to December 31, 1991	The schedule has been revised to incorporate specific project milestones that have been identified since the last update of the Integrated Plan.
Phase 2: Development of Departmental Procedure	Note 2* to December 31, 1992	
Phase 3: Software Retrofits	Note 2* to Note 6*	

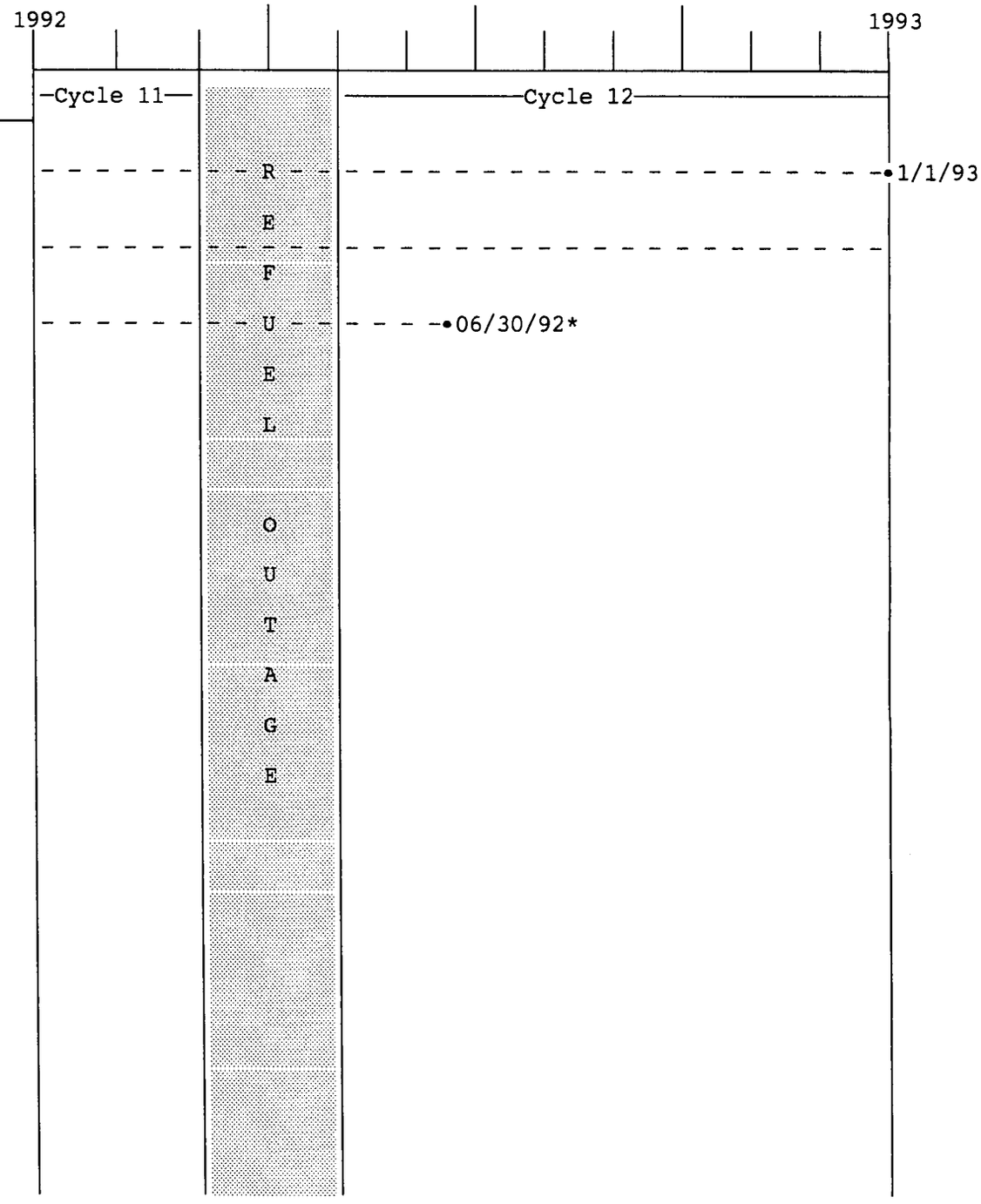
* Please refer to page 27 of Attachment 4 for explanation of notes.

Schedule A, 1991	1992 Nov 91	Dec 91
•Revision to DAEC Radiation Protection Program to reflect new 10 CFR 20 Requirements	- - - - - -	
•Revision to DAEC Maintenance Program to reflect new Maintenance Rule (10 CFR 50.56)	- - - - - -	
•Emergency Response Data System (ERDS) (10 CFR 50, Appendix E)	- - - - - -	

Schedule A, 1992

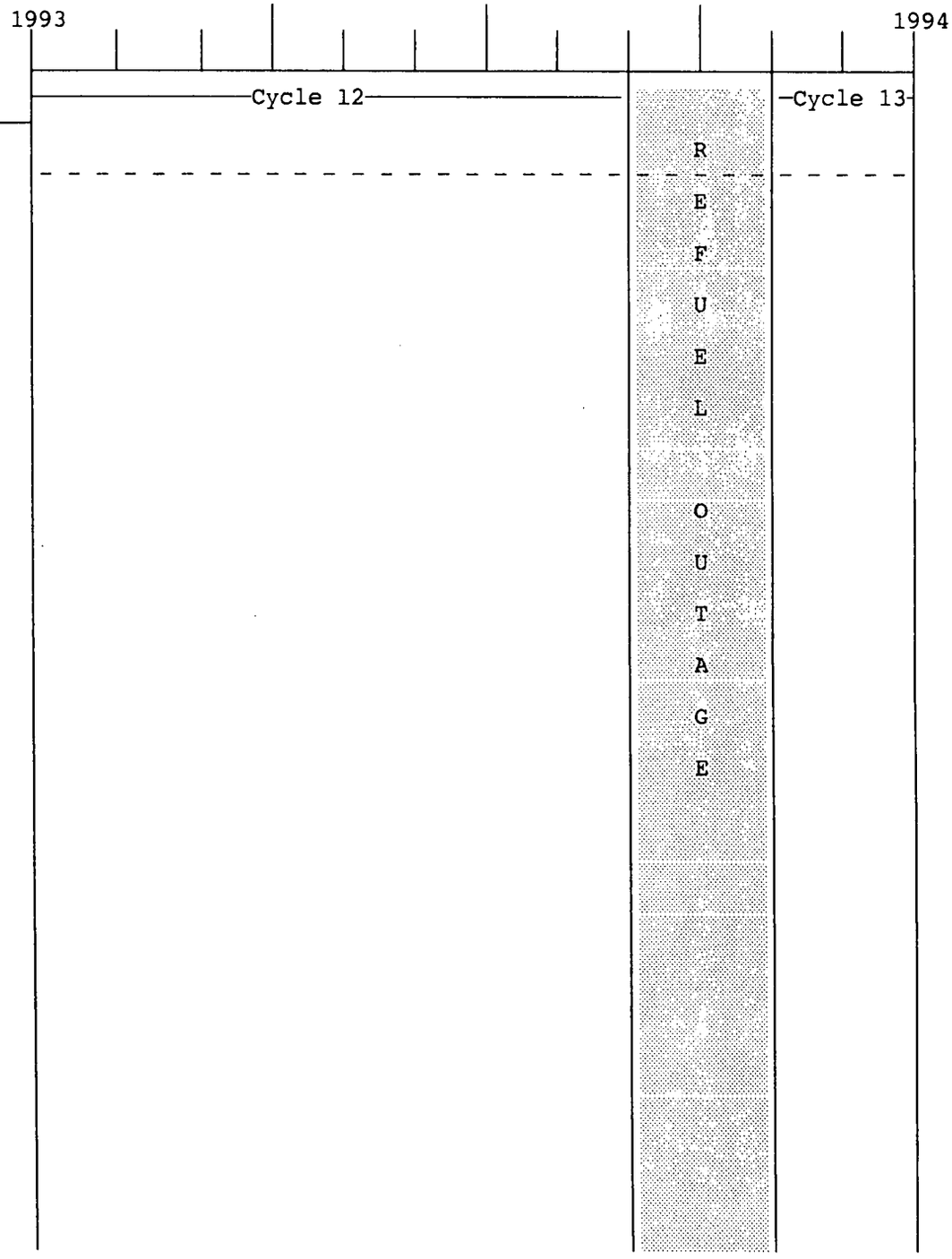
- Revision to DAEC Radiation Protection Program to reflect new 10 CFR 20 Requirements
- Revision to DAEC Maintenance Program to reflect new Maintenance Rule (10 CFR 50.56)
- Emergency Response Data System (ERDS) (10 CFR 50, Appendix E)

*ERDS is due February 13, 1993; however, ERDS has been an IELP Initiative Item and is scheduled to be completed 06/30/92.

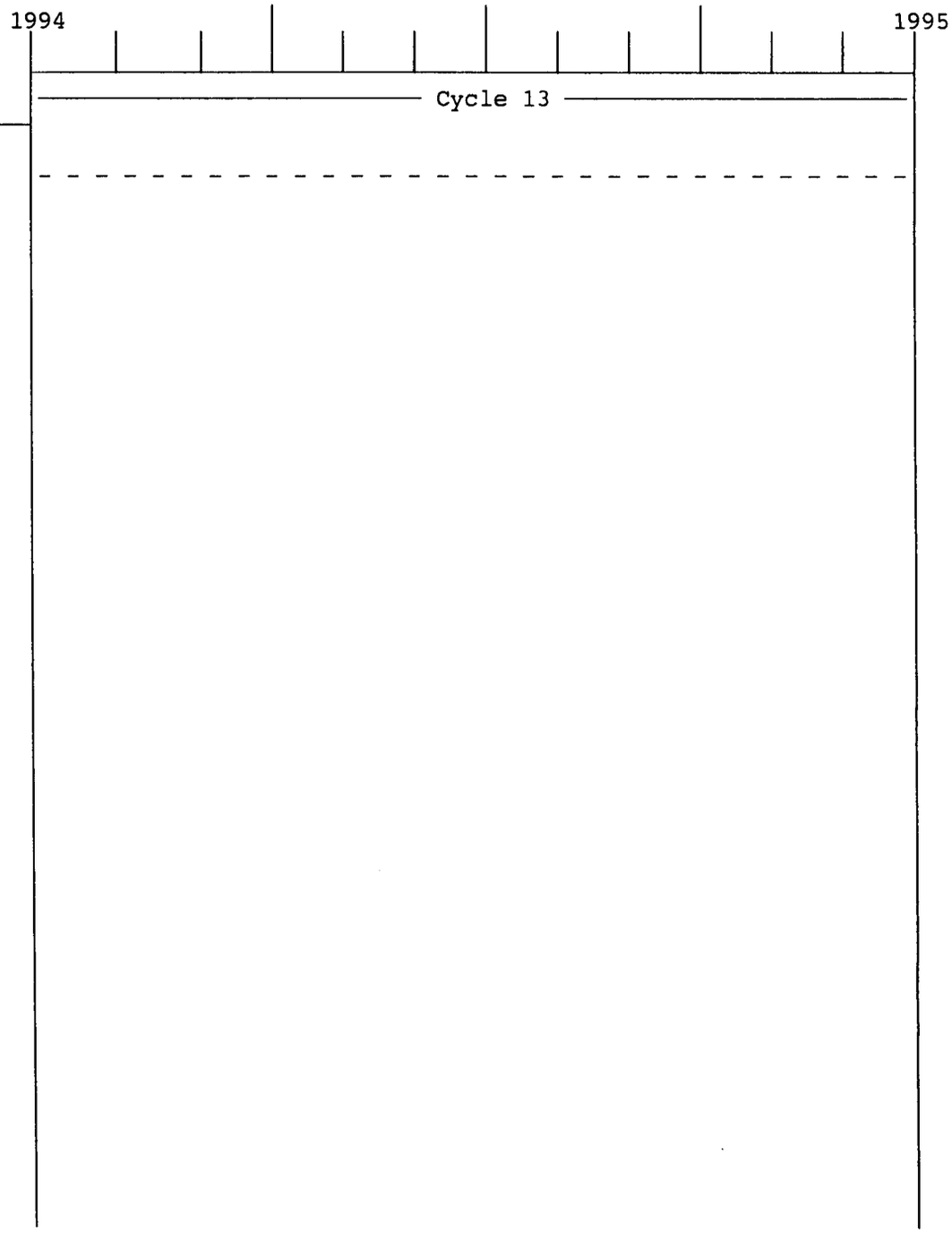


Schedule A, 1993

- Revision to DAEC Maintenance Program to reflect new Maintenance Rule (10 CFR 50.56)



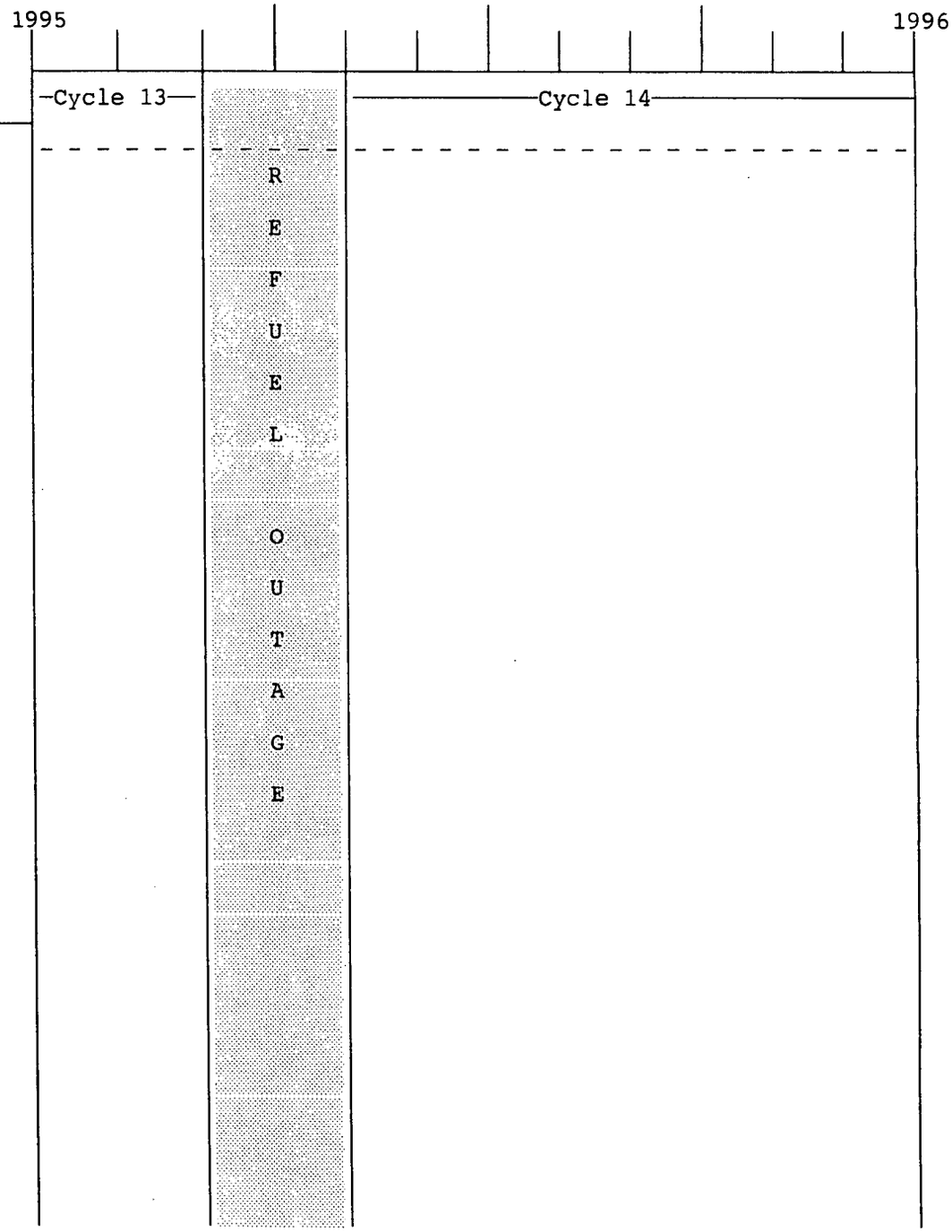
Schedule A, 1994



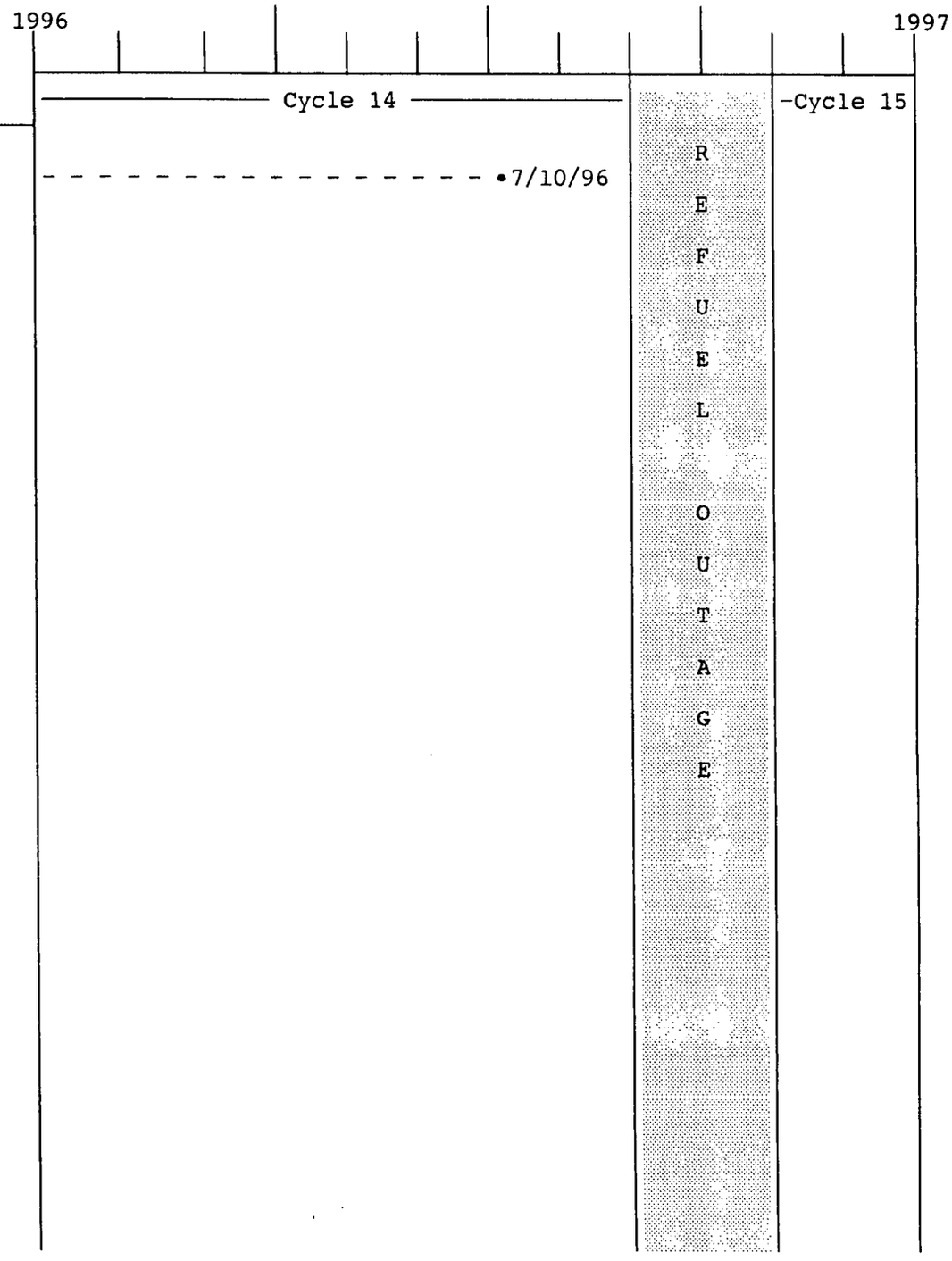
- Revision to DAEC Maintenance Program to reflect new Maintenance Rule (10 CFR 50.56)

Schedule A, 1995

- Revision to DAEC Maintenance Program to reflect new Maintenance Rule (10 CFR 50.56)



Schedule A, 1996



•Revision to DAEC Maintenance Program to reflect new Maintenance Rule (10 CFR 50.56)

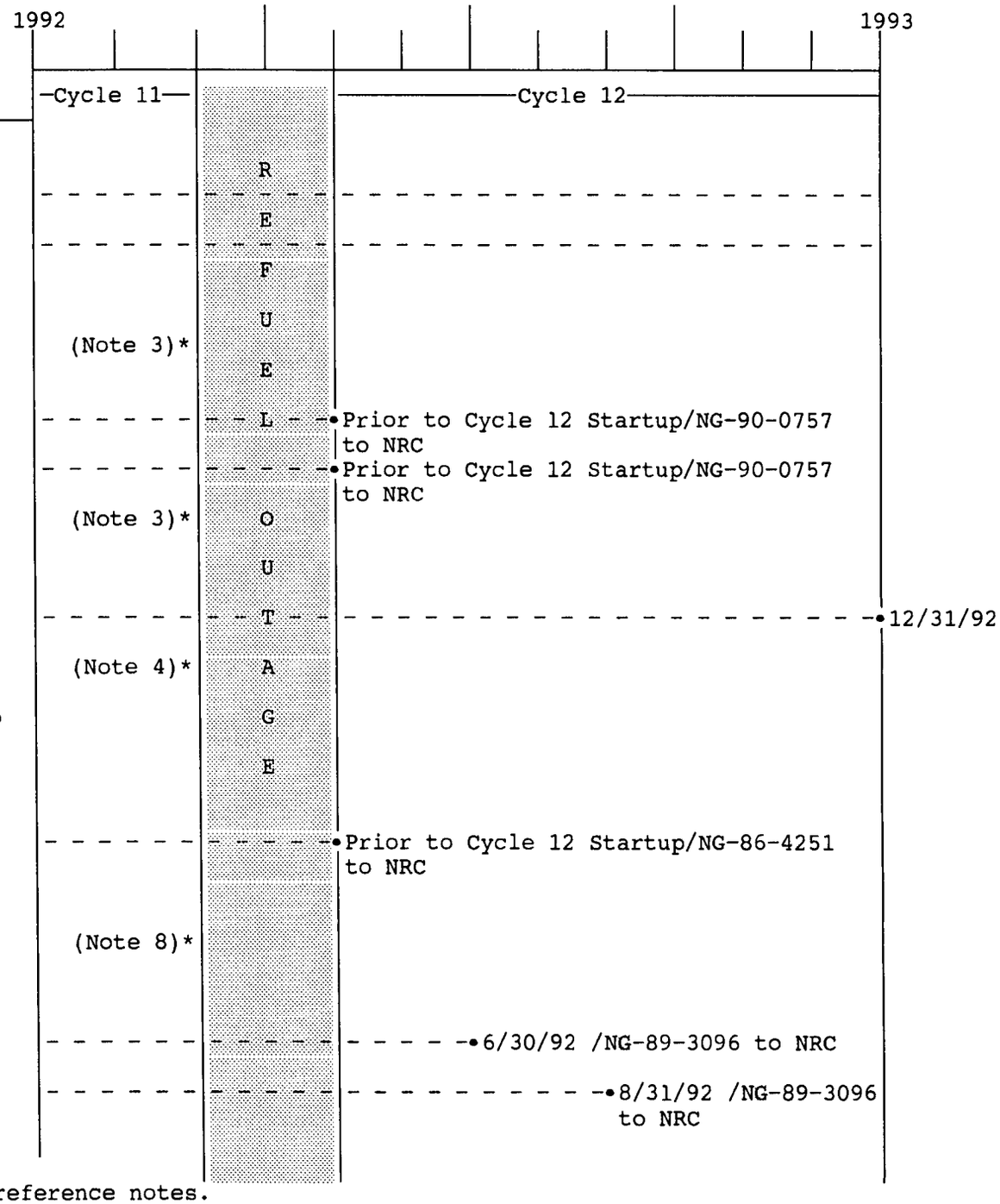
Schedule B, 1991 NRC Items	1992 Nov 91	Dec 91
•Security System Upgrades		
Security Computer System Upgrade	- - - - - -	
Access Control Upgrade	- - - - - -	
•Station Blackout Rule Compliance		
Schedule Submittal required by 10 CFR 50.63(c)	(Note 3)*	
RCIC Turbine Insulation	- - - - - -	
Control Room Lighting Improvements	- - - - - -	
Procedure Changes	(Note 3)*	
•Containment Performance Improvements		
Hardened Wetwell Vent (GL 89-16)	- - - - - -	
Other Containment Performance Improvements	(Note 4)*	
•Emergency Response Capabilities (Supplement 1 to NUREG-0737)		
Detailed (Supplement 1) CRDR		
Phase 4 Long Term Enhancements	- - - - - -	
•Regulatory Guide 1.97		
Control Room Labeling	- - - - - -	•12/31/91
Other Activities	(Note 8)*	

*See page 27 of Attachment 4 for explanation of reference notes.

Schedule B, 1991 Continued NRC Items	1992 Nov 91 | Dec 91
•Individual Plant Examination	
Containment Performance Analysis	- - - - - -
Report Submittal	- - - - - -
•Inservice Testing Program Modifications (GL 89-04)	
Phase 2: Diesel Generator Air-Operated Solenoid Valve Replacement	- - - - - -•12/31/91
•Safety-Related MOV Operability/Testing (GL 89-10)	
Phase 1: Completion of Design Basis Reviews and determination of correct switch settings	- - - - - -
Phase 2: Completion of Static/Dynamic Testing	- - - - - -
•Verification of Seismic Adequacy of Mechanical and Electrical Equipment (USI A-46, GL 87-02)	- - - - - -
•Off-site Dose Assessment Manual (ODAM) Revision Schedule	- - - - - -
•Core Stability Studies (BN 88-07)	- - - - - -
•Control Room Habitability (CO_2 Intrusion)	- - - - - -
•Individual Plant Examination of External Events (IPEEE)(GL 88-20, Supplement 4)	(Note 7)*

*See page 27 of Attachment 4 for explanation of reference notes.

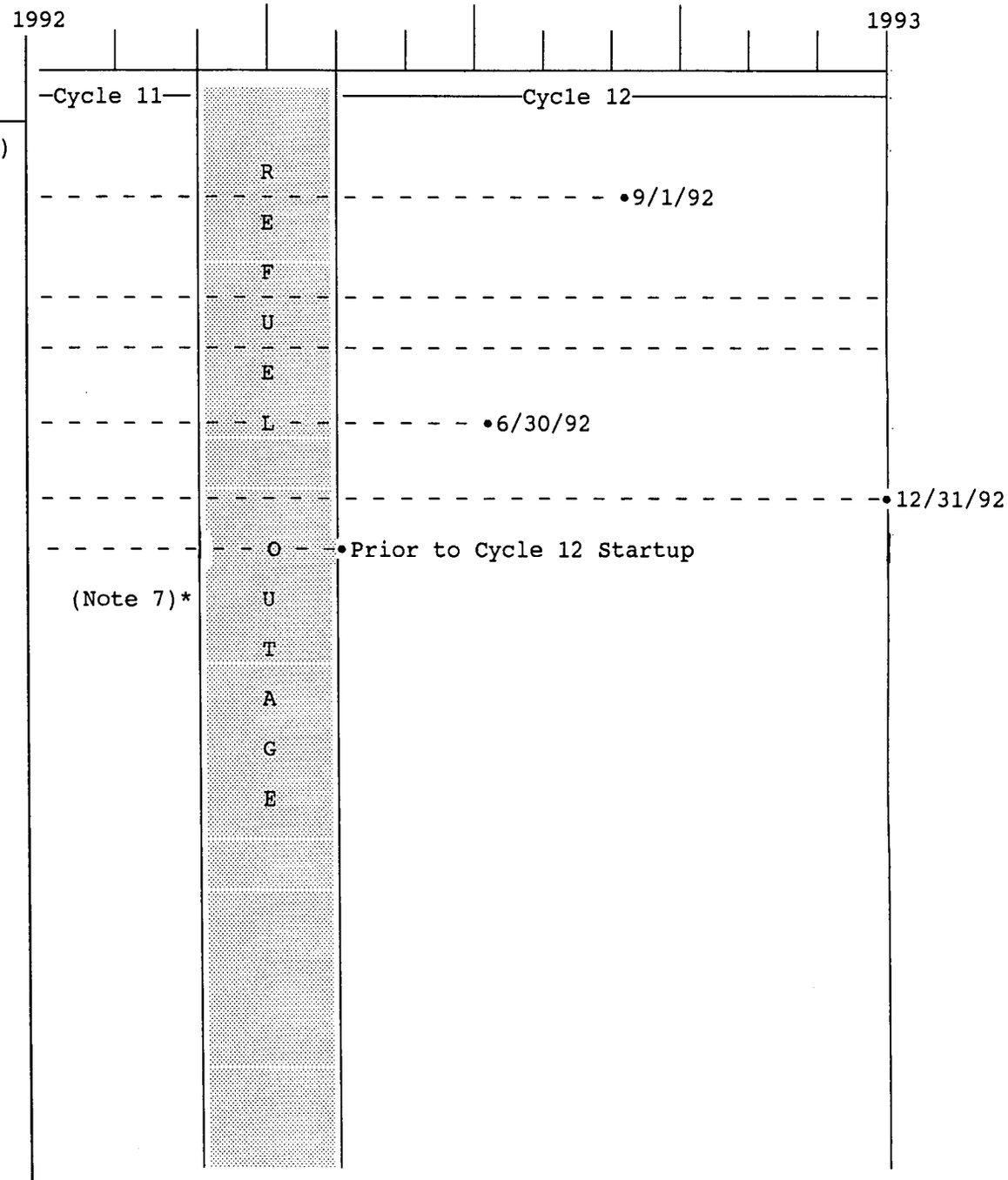
Schedule B, 1992
NRC Items



- •Security System Upgrades
  - Security Computer System Upgrade
  - Access Control Upgrade
- •Station Blackout Rule Compliance
  - Schedule Submittal Required by 10 CFR 50.63(c)
  - RCIC Turbine Insulation
  - Control Room Lighting Improvements
  - Procedure Changes
- •Containment Performance Improvements
  - Hardened Wetwell Vent (GL 89-16)
  - Other Containment Performance Improvements
- •Emergency Response Capabilities (Supplement 1 to NUREG-0737)
  - Detailed (Supplement 1) CRDR
    - Phase 4 Long Term Enhancements
- •Regulatory Guide 1.97
  - Other Activities
- •Individual Plant Examination
  - Containment Performance Analysis
  - Report Submittal

*See page 27 of Attachment 4 for explanation of reference notes.

Schedule B, 1992 Continued
NRC Items



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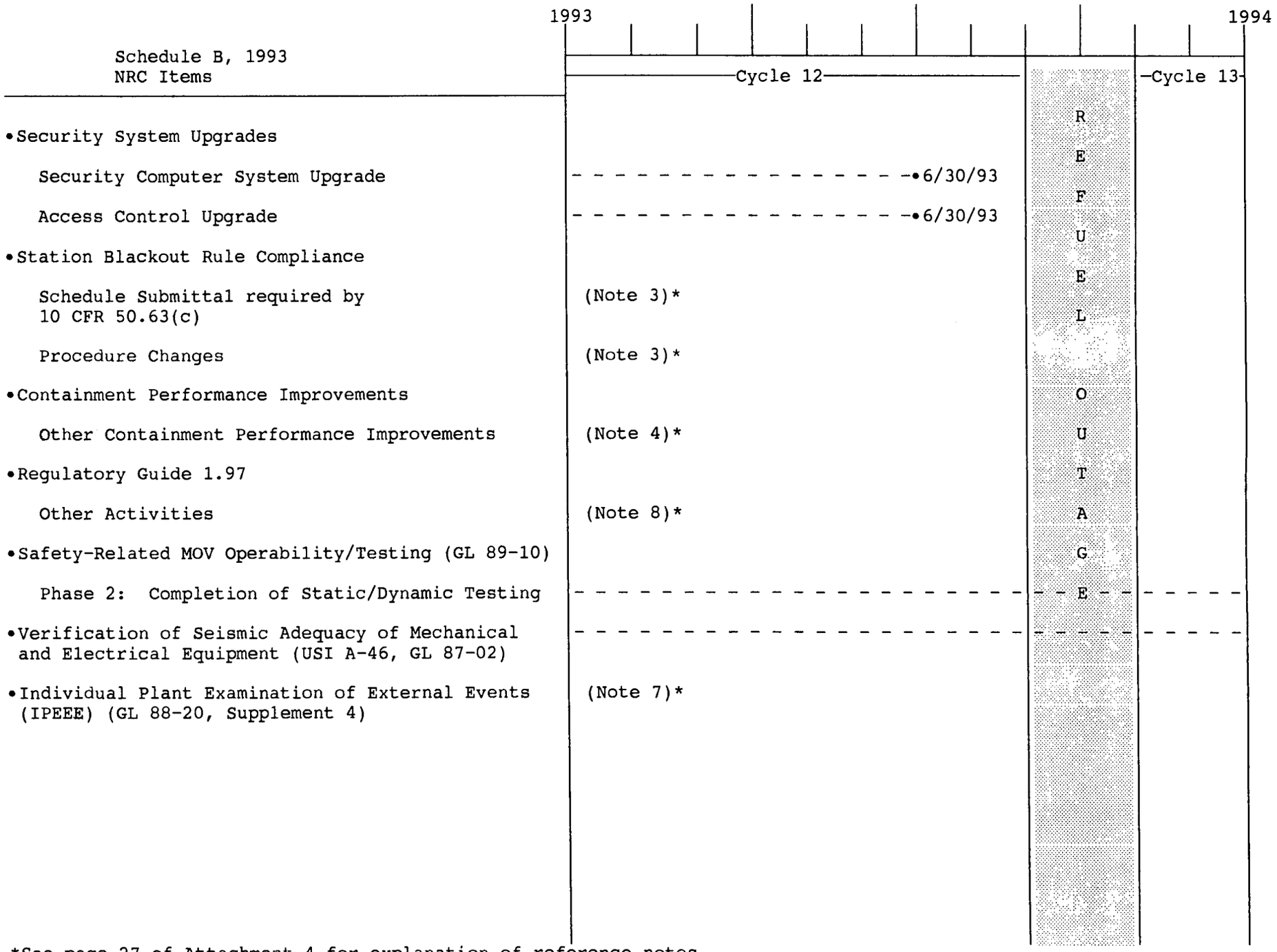
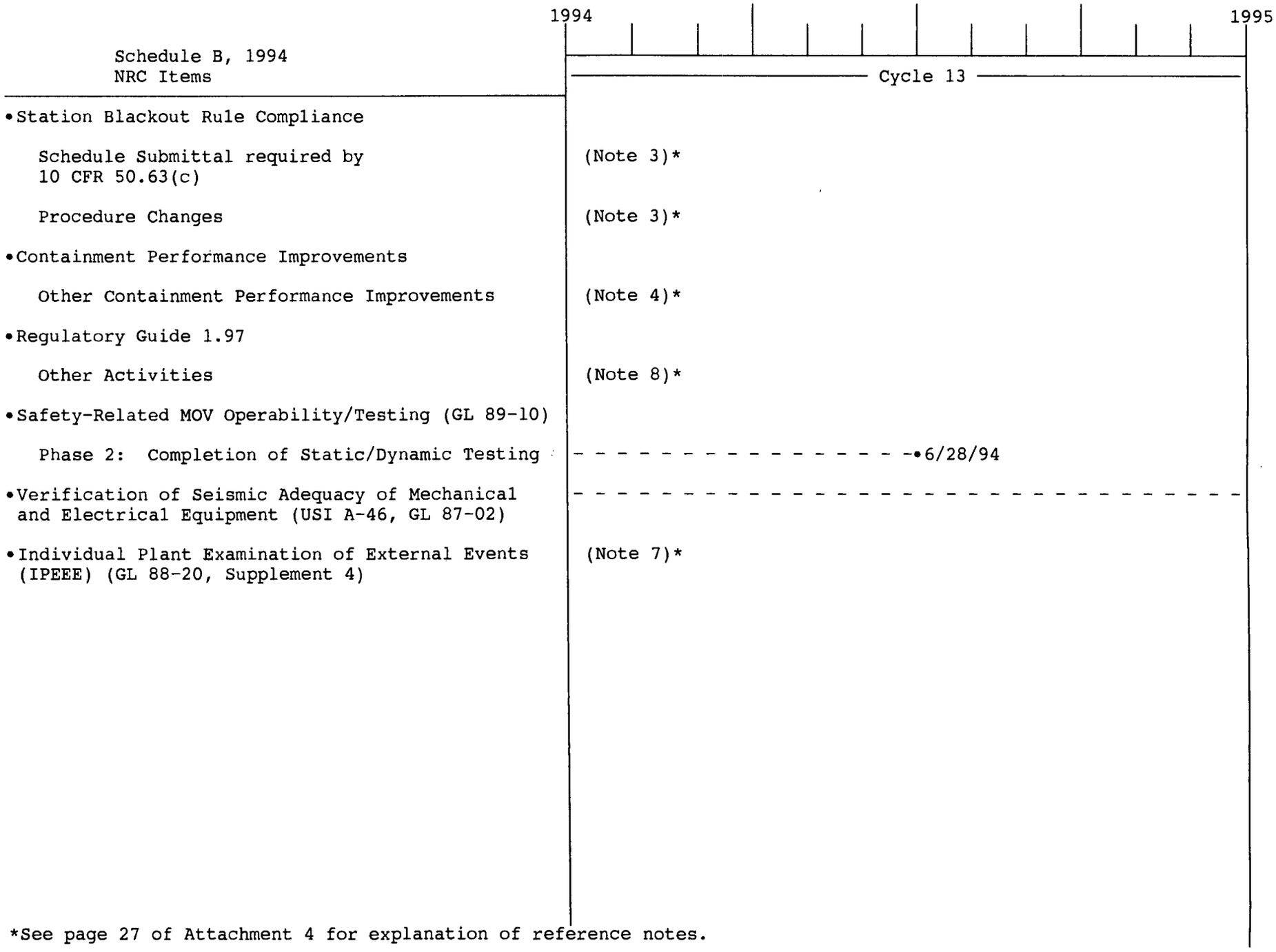


*See page 27 of Attachment 4 for explanation of reference notes.



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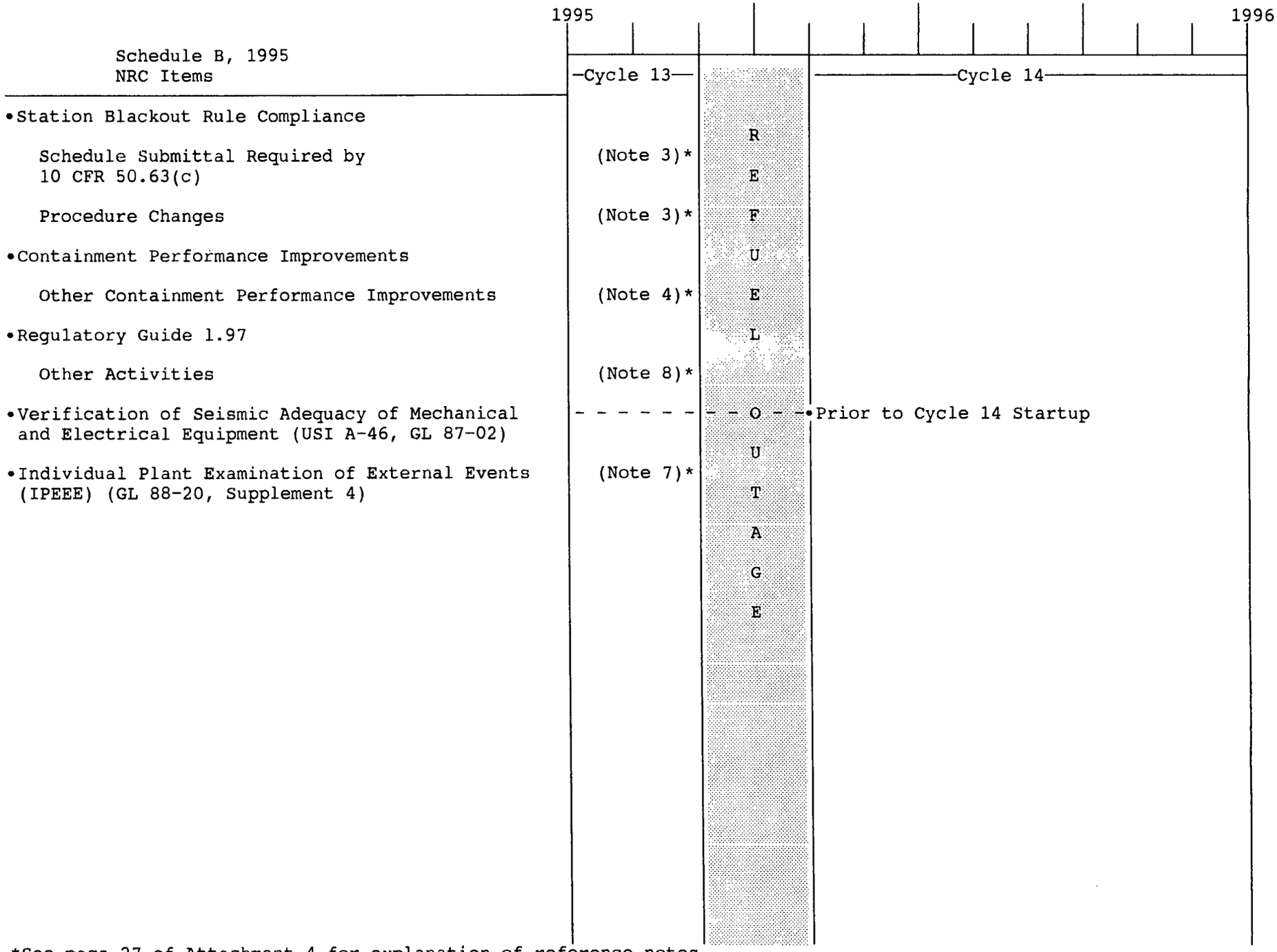
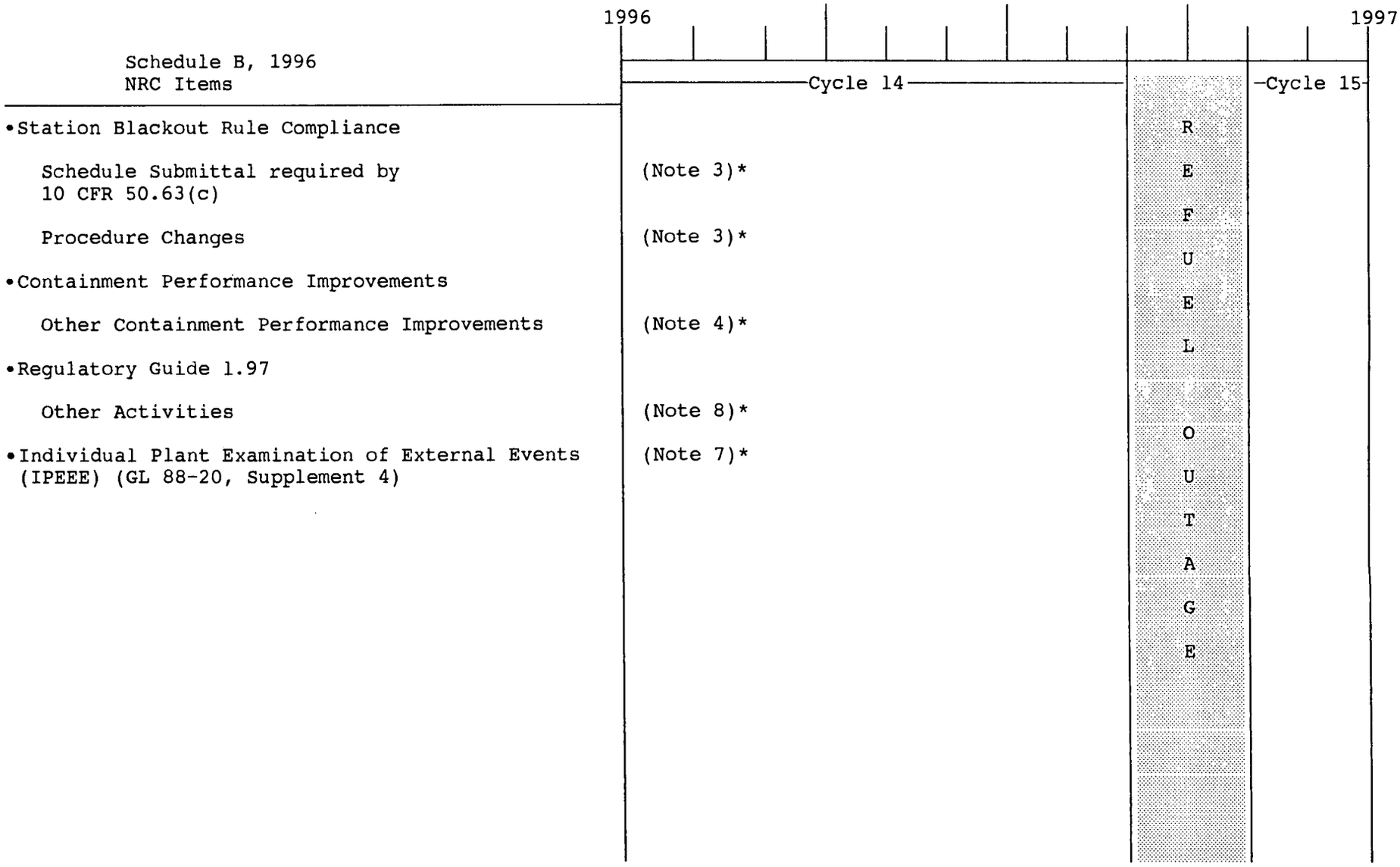


*See page 27 of Attachment 4 for explanation of reference notes.



*See page 27 of Attachment 4 for explanation of reference notes.

Schedule B, 1991 IELP Initiative Items	1992 Nov 91	Dec 91	
•Additional 161 kV Service Breaker	- - - - - -		
•Power Systems Analysis			
Basic Model Development	- - - - - -	- - - - - -	•12/31/91
•Long-Term Electrical Enhancements			
Electrical Fuse Control Program	- - - - - -		
Instrument AC Modeling	- - - - - -		
Motor-Operated Valve Thermal Overload Upgrades	- - - - - -		
Electrical Breaker Coordination (AC and DC)	- - - - - -		
480 VAC Motor Control Center Upgrades	- - - - - -		
Emergency Diesel Generator Model Enhancements	- - - - - -		
Electrical Distribution System Model Enhancements	- - - - - -		
Electrical System Configuration Management Enhancements	(Note 2)*		
•Control Building HVAC and Chillers			
Phase 3: Chiller Refurbishment	- - - - - -		
•Design Basis Program			
Phase 1 - ECCS and Selected Safety-Related Systems	- - - - - -		
•Hydrogen Water Chemistry Oxygen/Hydrogen Generator	(Note 2)*		
•Plant Life Extension	(Note 2)*		
•Severe Accident Management	(Note 1)*		

*See page 27 of Attachment 4 for explanation of reference notes.

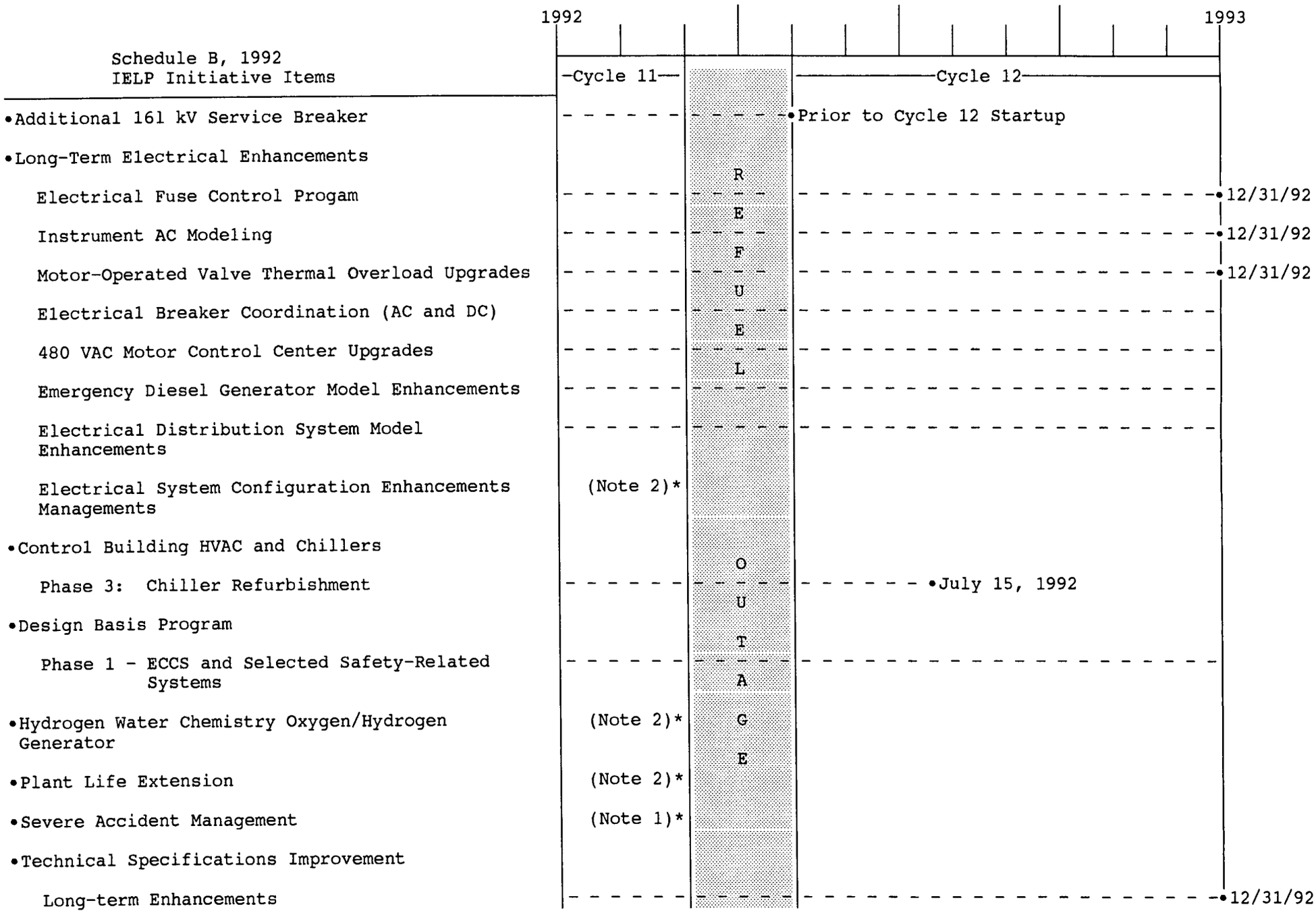
Schedule B, 1991 IELP Initiative Items	1992 Nov 91	Dec 91	
•Technical Specifications Improvement			
Short-term Enhancements			
Phase 2:	- - - - - -	- - - - - -	•12/31/91
Long-term Enhancements	- - - - - -	- - - - - -	
•Ultrasonic Examination of Reactor Vessel Beltline Region Welds			
Phase 3: Vessel Weld Examination	- - - - - -	- - - - - -	
•Telemetry for Emergency Sirens	- - - - - -	- - - - - -	
•Comprehensive Procurement Initiative			
Implementation	- - - - - -	- - - - - -	
•Service Water System Enhancements			
River Water Supply Pumps	- - - - - -	- - - - - -	
•Replace Two Electro-Hydraulic Control (EHC) Pumps	- - - - - -	- - - - - -	
•Configuration Management Plan			
Digital Imaging (DI)			
Phase 1: Establishment of Operational Drawings on DI platform	- - - - - -	- - - - - -	
Phase 2: Establishment of Balance of Plant Drawings on DI Platform	- - - - - -	- - - - - -	
•Scram Frequency Reduction			
Mechanical Feedwater Modifications	- - - - - -	- - - - - -	
Turbine Electro-Hydraulic Control (EHC) System Improvements	- - - - - -	- - - - - -	

Schedule B, 1991 Continued IELP Initiative Items	1992 Nov 91	Dec 91
•Long-term Instrument & Control Strategy		
Instrument Setpoint Program	- - - - - -	
•Computer Software Quality Assurance		
Phase 1: Development of Guidance Document	- - - - - -	•12/31/91
Phase 2: Development of Departmental Procedure	- - - - - -	
Phase 3: Software Retrofits	(Note 6)*	
•Maintenance Self-Assessment		
Phase 1: Completion of Self-Assessment Implementation Plan	- - - - - -	
Phase 2: Completion of Self-Assessment	(Note 5)*	
•Facility Upgrade Study	- - - - - -	•12/31/91
•Emergency Planning Zone (EPZ) Redefinition	- - - - - -	
•Low-Level Radioactive Waste Storage Modifications	- - - - - -	
•Shutdown Risk Management		
Phase 1: DAEC Outage Risk Management Guidelines	- - - - - -	•1/1/92
Phase 2: NUMARC Shutdown Risk Management Guidelines	- - - - - -	
•Long-Term Commitment Tracking Program		
Phase 1: Development of Program Plan	- - - - - -	
Phase 2: Data Compilation and Entry	(Note 5)*	

*See page 27 of Attachment 4 for explanation of reference notes.

Schedule B, 1991 Continued IELP Initiative Items	1992 Nov 91	 Dec 91
•Metrology Lab		
Phase 1: Construction of Lab Facility		(Note 2)*
Phase 2: Equipment Installation and Lab Operational		(Note 2)*

*See page 27 of Attachment 4 for explanation of reference notes.



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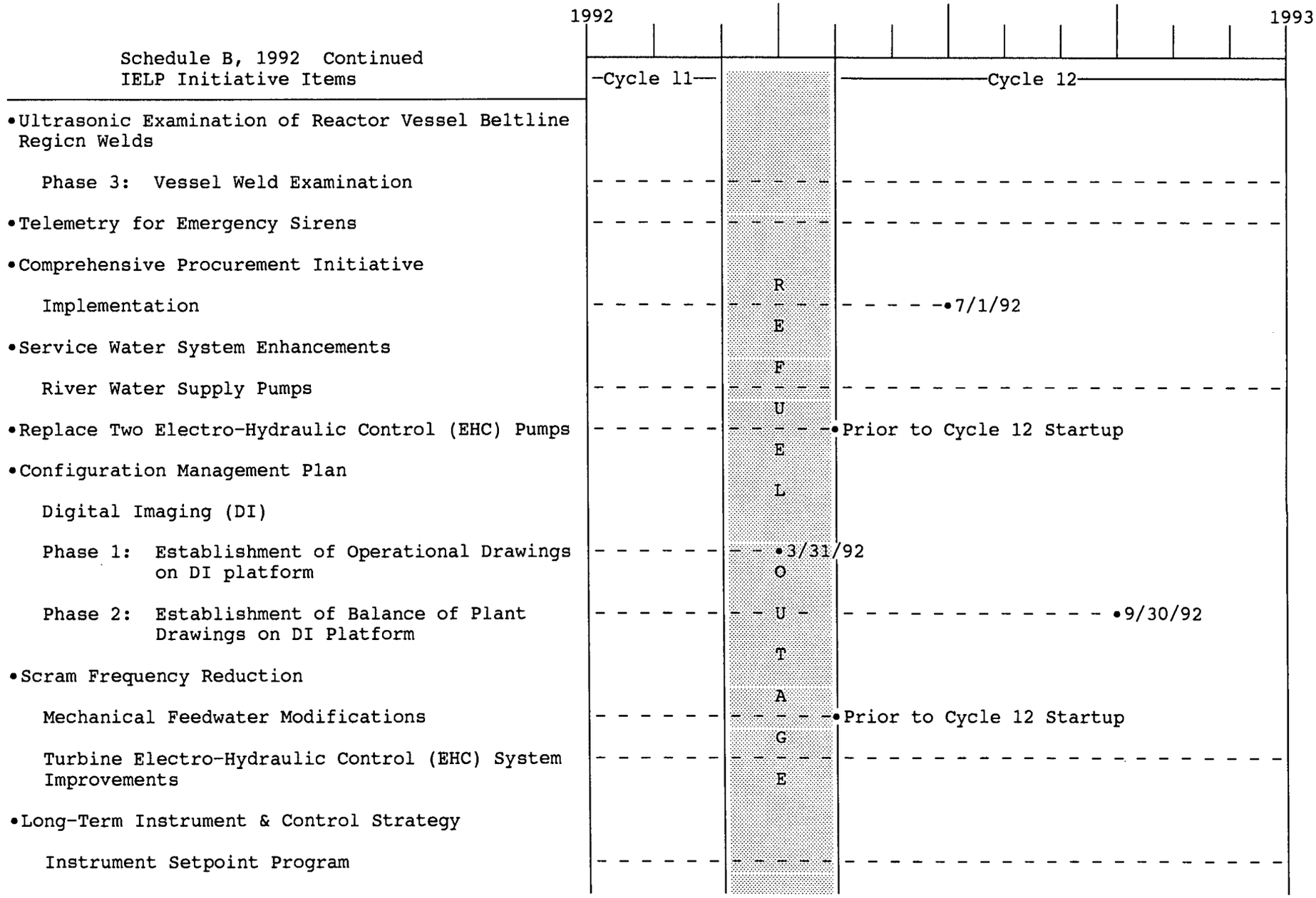
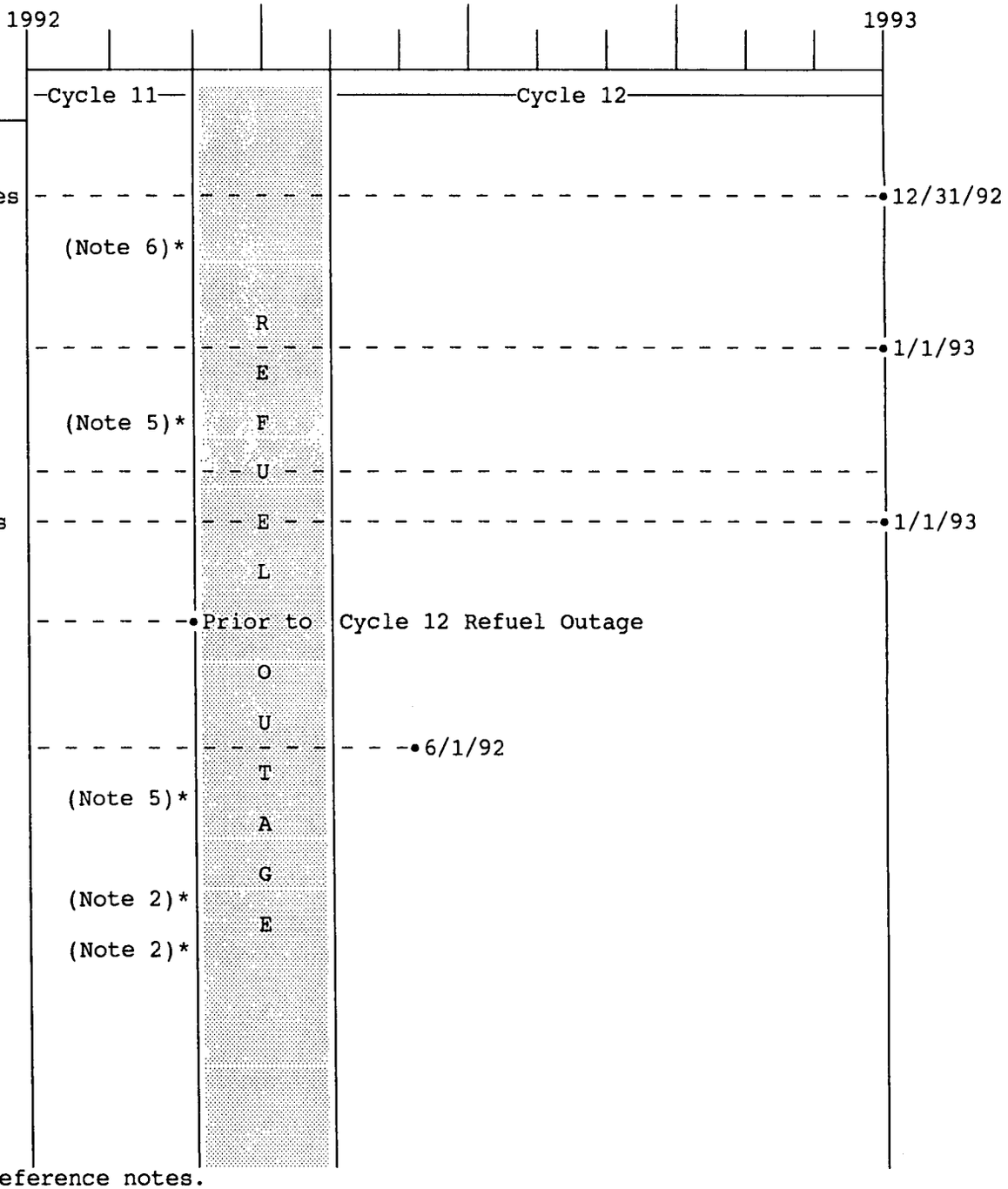

1992
1993
Schedule B, 1992 Continued
IELP Initiative Items
Cycle 11
Cycle 12
•Ultrasonic Examination of Reactor Vessel Beltline Regicn Welds
Phase 3: Vessel Weld Examination
•Telemetry for Emergency Sirens
•Comprehensive Procurement Initiative
Implementation
•7/1/92
•Service Water System Enhancements
River Water Supply Pumps
•Replace Two Electro-Hydraulic Control (EHC) Pumps
•Prior to Cycle 12 Startup
•Configuration Management Plan
Digital Imaging (DI)
Phase 1: Establishment of Operational Drawings on DI platform
•3/31/92
Phase 2: Establishment of Balance of Plant Drawings on DI Platform
•9/30/92
•Scram Frequency Reduction
Mechanical Feedwater Modifications
•Prior to Cycle 12 Startup
Turbine Electro-Hydraulic Control (EHC) System Improvements
•Long-Term Instrument & Control Strategy
Instrument Setpoint Program
REFUELING OUTAGE

Schedule B, 1992 Continued
IELP Initiative Items



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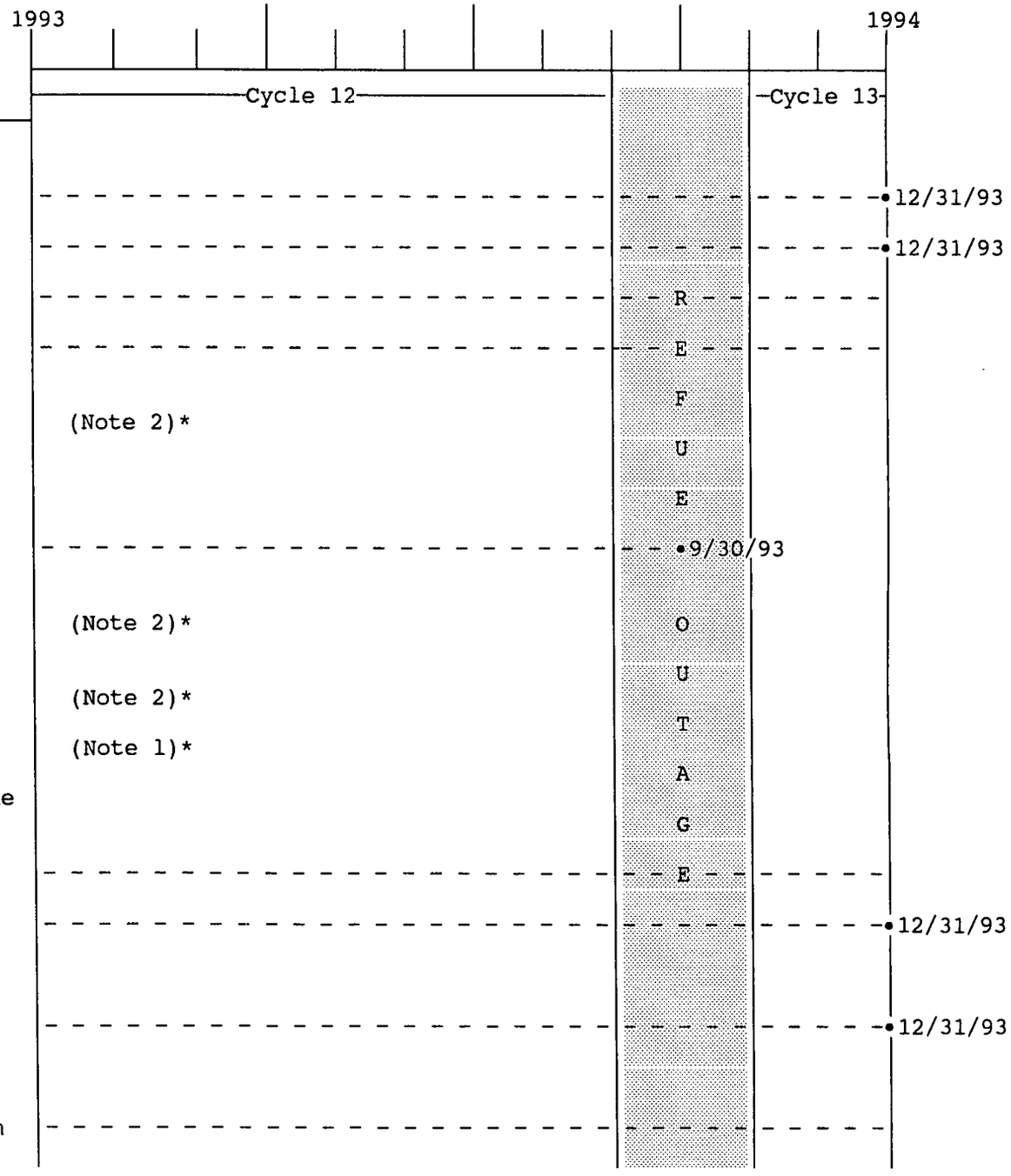
Schedule B, 1993
IELP Initiative Items



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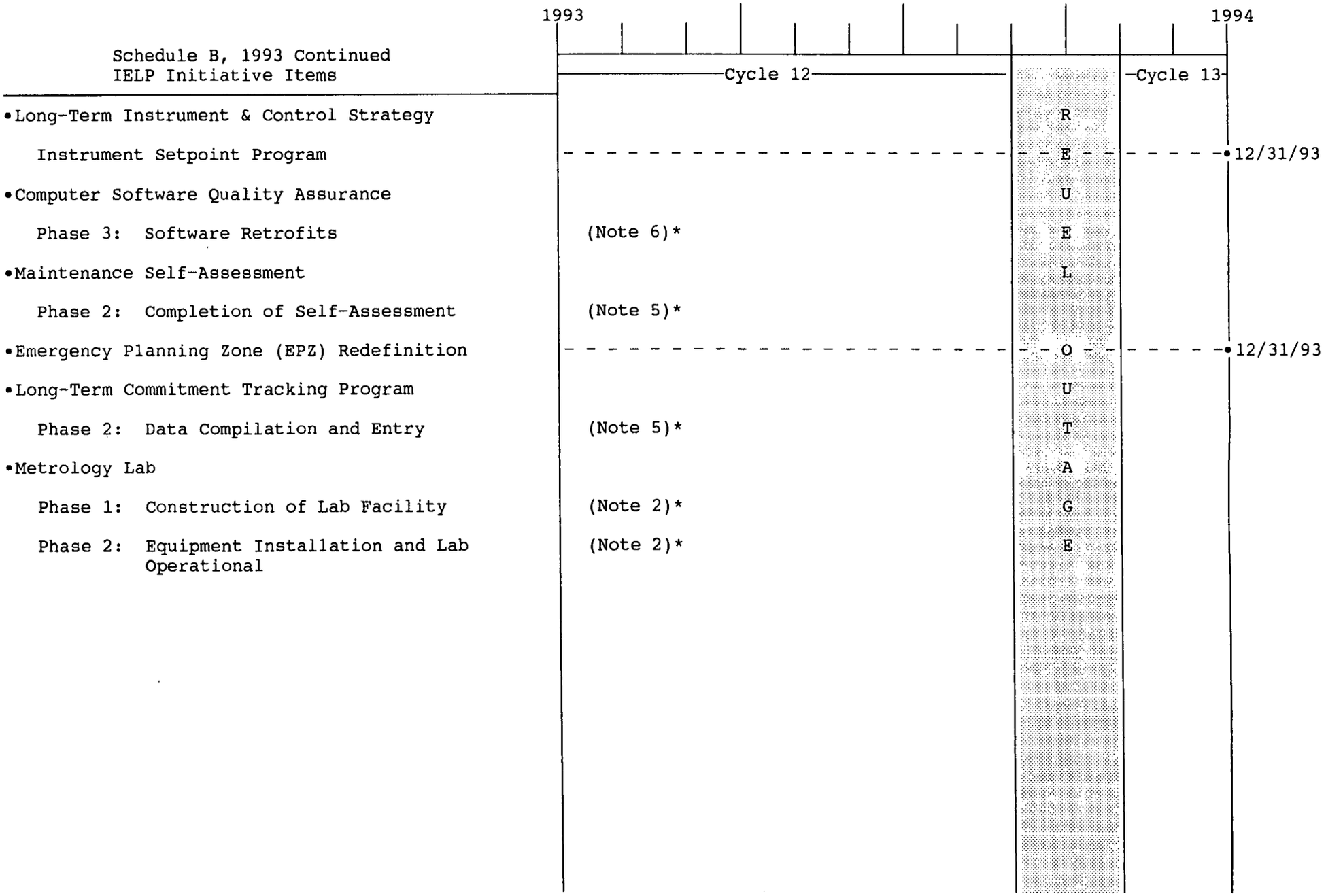

*See page 27 of Attachment 4 for explanation of reference notes.

Schedule B, 1994
IELP Initiative Items

1994 — Cycle 13 — 1995

- •Long-Term Electrical Enhancements
  - Emergency Diesel Generator Model Enhancements — 12/31/94
  - Electrical Distribution System Model Enhancements — 12/31/94
  - Electrical System Configuration Management Enhancements — (Note 2)*
- •Hydrogen Water Chemistry Oxygen/Hydrogen Generator — (Note 2)*
- •Plant Life Extension — (Note 2)*
- •Severe Accident Management — (Note 1)*
- •Ultrasonic Examination of Reactor Vessel Beltline Region Welds
  - Phase 3: Vessel Weld Examination
- •Scram Frequency Reduction
  - Turbine Electro-Hydraulic Control (EHC) System Improvements
- •Computer Software Quality Assurance
  - Phase 3: Software Retrofit — (Note 6)*
- •Maintenance Self-Assessment
  - Phase 2: Completion of Self-Assessment — (Note 5)*
- •Long-Term Commitment Tracking Program
  - Phase 2: Data Compilation and Entry — (Note 5)*
- •Metrology Lab
  - Phase 1: Construction of Lab Facility — (Note 2)*
  - Phase 2: Equipment Installation and Lab Operational — (Note 2)*

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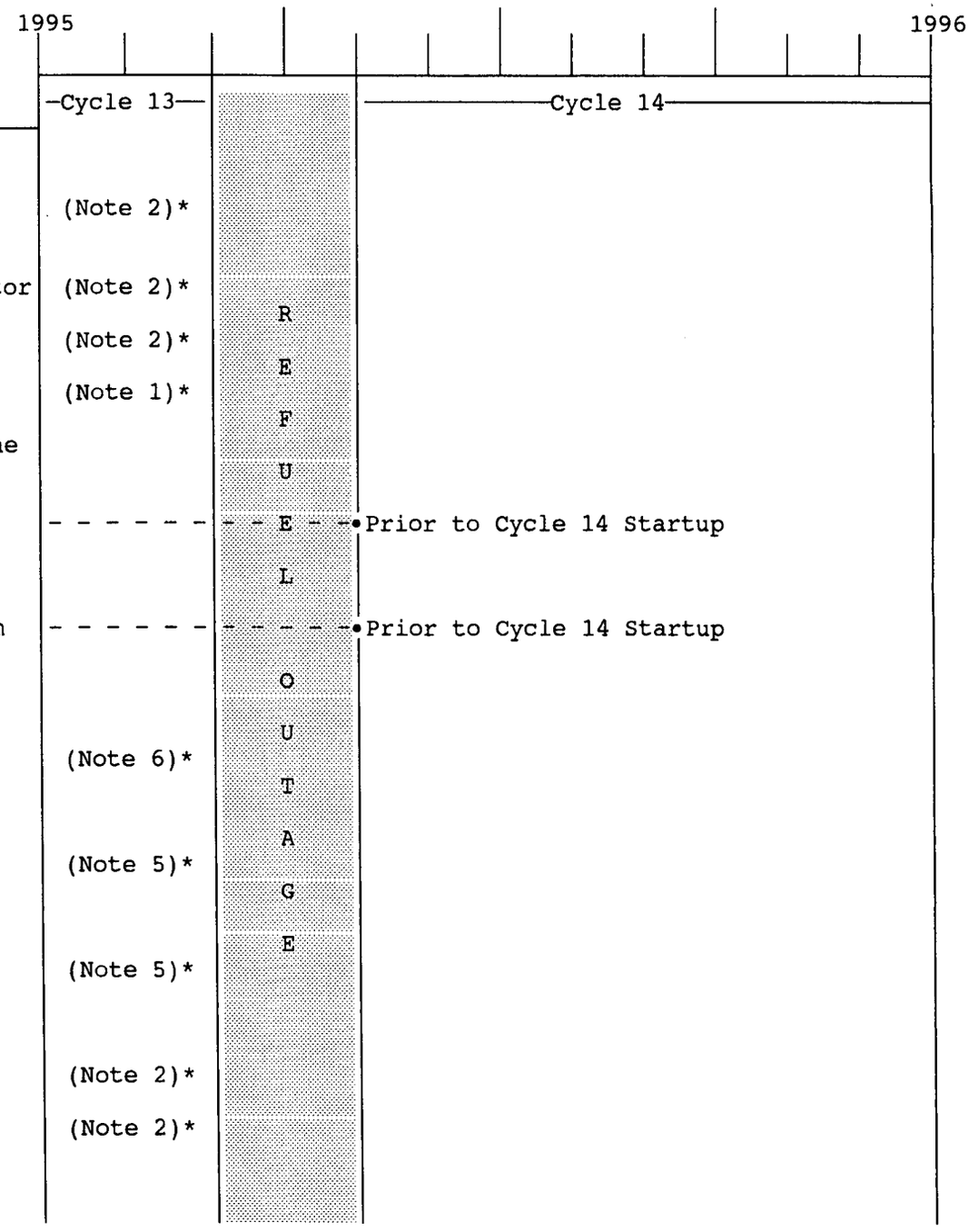
Schedule B, 1995
IELP Initiative Items



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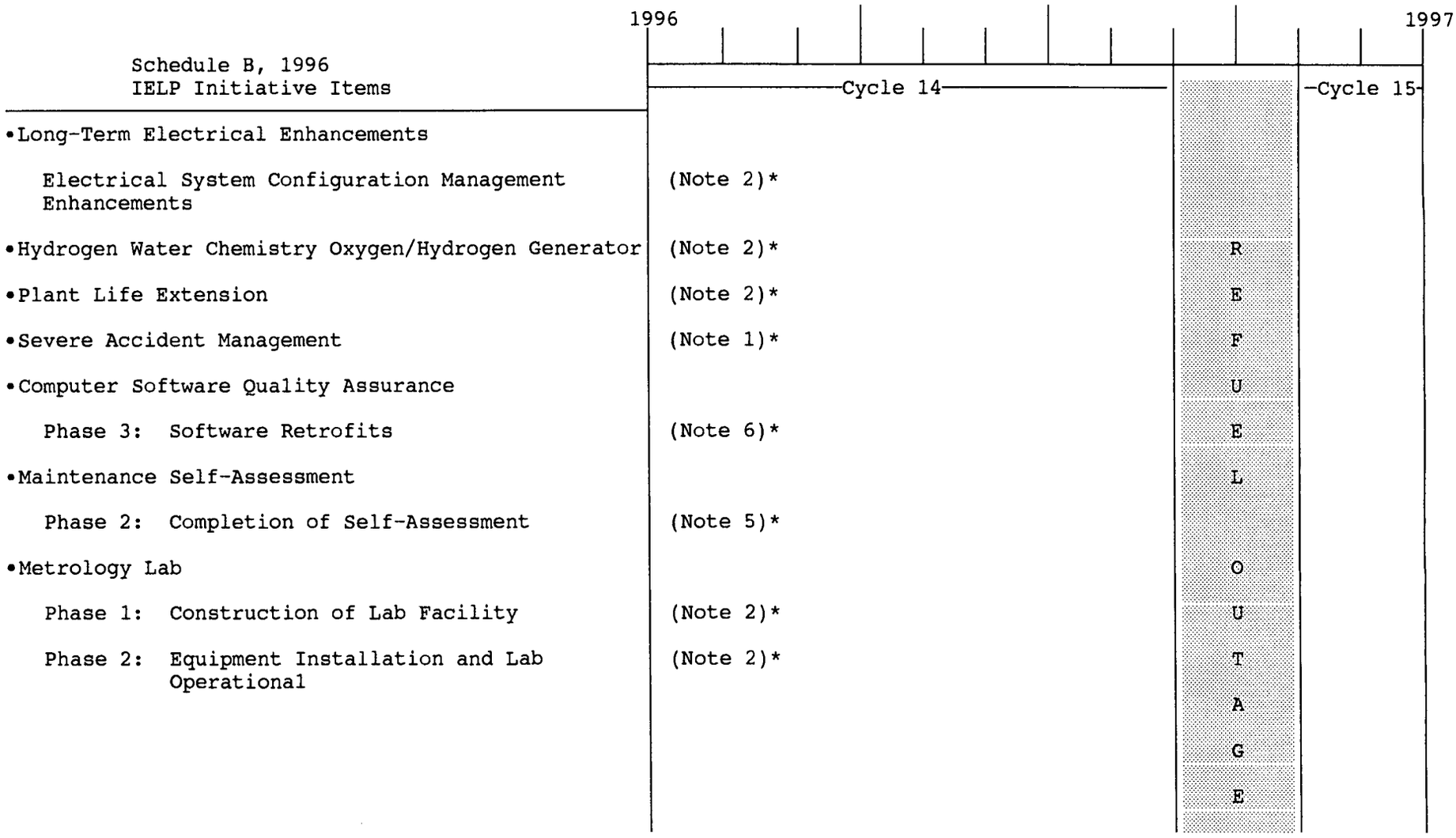

*See page 27 of Attachment 4 for explanation of reference notes.

Summary List of Notes for Schedules A and B

Note 1: Schedule not yet certain. Awaiting promulgation of NRC requirements/guidance.

Note 2: Schedule not yet certain. Potential IELP initiative item.

Note 3: Schedule not yet certain. Schedule due within 30 days of the notification provided in accordance with 10 CFR 50.63(c).

Note 4: Schedule not yet certain. Potential improvements to be evaluated during Individual Plant Evaluation as requested in Generic Letter 89-16.

Note 5: Schedule not yet certain. Schedules dependent upon Phase 1 details.

Note 6: Schedule not yet certain. Schedules dependent upon Phase 2 details.

Note 7: Schedule to be submitted to NRC via letter in December, 1991.

Note 8: Schedule not certain. See item description in Attachment 5 for further explanation.

Description of Selected Schedule A and B Items

Schedule A

- Emergency Response Data System (10 CFR 50, Appendix E)

  The Emergency Response Data System (ERDS) is being established to provide data from the DAEC to the NRC through a link permitting direct, real-time transfer of data from the DAEC plant computers to the NRC Operations Center. The system will be designed to be activated at the plant during an emergency which has been classified at an ALERT or higher level. The NRC portion of ERDS will receive, sort and file the data. The users will include the NRC Operations Center, the NRC Region III Office, and, if requested, the State of Iowa. The existing Emergency Notification System will be used to supplement ERDS data.

Schedule B

I. NRC Items

- Security System Upgrades

  Security Computer System and Access Control Update

  The Physical Security Computer System (PSCS) project consists of upgrading the main security computer hardware, the Central Alarm Station/Secondary Alarm Station (CAS/SAS) operator's consoles, access control, and the Video Switching Sub-system (VSS). The major functions provided by the PSCS will be access control, alarm monitoring and annunciation, security record storage and report generation, security material issue control, and simulator/training.

  The PSCS will be a real time, database management system utilizing distributed intelligent processing at both multiplexers and remote control panels.

  A new video switching and control system will be provided and will interface with existing fixed and pan/tilt/zoom (PTZ) cameras. The video switching system will become a subsystem to the PSCS and will receive inputs from the host security computers. These inputs will be processed into the proper form for alarm camera/monitor call-up, Close-Circuit Television Camera (CCTV) sequencing, and provide control outputs as required to operate camera equipment and auxiliary functions.

- Station Blackout Rule Compliance

  RCIC Turbine Insulation

  The RCIC Turbine is being insulated in order to maintain the temperature in the RCIC room at or below acceptable levels during a Station Blackout event.

  Control Room Lighting Improvements

  The DC-powered overhead lighting will be upgraded to improve Control Room illumination during a Station Blackout.

Procedure Changes

Station Blackout Procedures will be reviewed and revised to provide operators with better guidance to respond to a Station Blackout event. Additionally, System Control Center Procedures are being reviewed and revised to ensure that they are in agreement with changes in the operations procedures to ensure that site power is restored as quickly as possible.

- Emergency Response Capabilities

  Phase 4

  Completion of Phase 3 resolved all safety significant Human Engineering Deficiencies (HEDs). Phase 4 will incorporate human factor considerations in areas such as:

  1. Rod Block Monitors and Recorders
  2. Condenser vacuum breakers
  3. Lighting and Switch locations
  4. Indicator scales
  5. Control Room atmospheric monitoring
  6. Control Room annunciator panels

- Regulatory Guide 1.97

  Control Room labeling - Phase 2 (NG-91-2155)

  The six RG 1.97 related activities described in NG-91-0640, including the identification of specific RG 1.97 instruments in the Control Room, were completed on or before the scheduled date. Subsequently, we have decided to label all category 1 and 2 (Types A, B and C) variables in the Control Room. The installation of these additional labels will be completed by December 31, 1991.

  Other Activities

  Our consultants reviewed our RG 1.97 program and identified issues other than the six described in NG-91-2155 which require further examination by Iowa Electric. Any changes to commitments or equipment modifications which may be necessary as a result of this examination will be promptly communicated to you.

- Inservice Testing Program Modifications

  Phase 2: Diesel Generator Air-Operated Solenoid Valve Replacement

  This project involves the periodic replacement or refurbishment of these solenoid valves under the DAEC's Maintenance Program for solenoid valves.

- Safety-Related MOV Operability/Testing (GL 89-10)

  This program provides for the testing, inspection and maintenance of MOVs as defined in GL 89-10 (and supplements thereto) to ensure they will function when subjected to conditions that are to be considered during both normal operation and abnormal events within the design basis of the plant.

  Phase 1: Completion of Design Basis Reviews and Determination of Correct Switch Settings

  This phase includes the review and documentation of the design basis for the operation of each MOV in the GL 89-10 program. The results of this analysis will then be used to establish correct switch settings that will ensure high reliability of safety-related MOVs.

  Phase 2: Completion of Static/Dynamic Testing

  This project involves the static and dynamic testing portion of the GL 89-10 program. Documentation and descriptions of actual test methods and justifications for the applicable methodology will be included in this phase. This testing will be performed concurrent with the development of design basis documentation.

- Off-Site Dose Assessment Manual (ODAM) Revision Schedule

  The purpose of this project is to address discrepancies and implement improvements to the ODAM that were identified in the NRC Safety Evaluation of the ODAM (reference: Letter J. Hall (NRC) to L. Liu (IELP) dated August 17, 1990).

- Core Stability Studies (BN 88-07)

  We are pursuing a plant-specific study on core thermal-hydraulic stability in conjunction with two other BWRs of comparable core size. The purpose of this study is to demonstrate that, due to the relatively small size of the DAEC core, unique options are available for addressing the NRC Bulletin. Additionally, we are following developments in the BWR Owners' Group (BWROG) study of this subject.

- Control Room Habitability (CO_2 Intrusion)

  This project involves the resolution of Control Room habitability concerns identified during the inadvertent actuation of the CARDOX system in the DAEC Cable Spreading Room on September 19, 1990. Modifications to ventilation systems for the Control Room and Cable Spreading Room will be implemented.

  Post-modification testing will also be performed to verify the acceptability of these modifications.

II. IELP INITIATIVE ITEMS

- Additional 161 kV Service Breaker

  The purpose of this project is to:

  1. Eliminate the possibility of a single-failure which results in a Loss Of Off-Site Power (LOOP).

  2. Reduce maintenance and repair restrictions on the East 161 KV bus and startup transformer feeder breaker.

  3. Increase reliability of the startup transformer feed to a breaker-and-a-half* scheme which is consistent with all the other 161 KV loads and lines.

- Power Systems Analysis

  Basic Model Development

  The project scope consists of the DAEC's safety and non-safety-related AC and DC electrical distribution systems. The project will include:

  1. Performing an initial AC power distribution system analysis, performing a DC power distribution system analysis and implementing the Emergency Diesel Generator (EDG) transient analysis. A computerized model of the plant's electrical distribution system will be developed from these analyses. The initial model will focus on the main electrical distribution system and major loads.

  2. Implementing short-term programmatic controls to maintain the electrical equipment data base developed in item 1 until the full program is completed.

  The following items have been incorporated into the Long-Term Electrical Enhancements

  3. Developing a new data base on the Computerized History and Maintenance Planning System (CHAMPS) which combines the existing data with the electrical equipment data base generated in items 1 and 2. The new data base will be called the Site Power Utilization Records (SPUR). Implementing the development of the required SPUR software. This project has incorporated into Long-Term Electrical Enhancements - Electrical System Configuration Management Enhancements.

*A breaker-and-a-half scheme consists of three breakers in series between two main buses with two circuits connected between the three breakers. This arrangement allows for a circuit to be taken out of service for maintenance purposes while still supplying power to the other circuit. In normal operation both circuits are energized.

4. Expanding the computer model to include the remaining lower-voltage AC circuits, motor overloads, and breaker and fuse coordination schemes. These projects have been incorporated into their own projects under Long-Term Electrical Enhancements - Electrical Distribution System Model Enhancements.

5. Implementing the long term programmatic controls, and initiating the replacement of existing plant documents with the SPUR data base. This project has been incorporated into Long-Term Electrical Enhancements - Electrical System Configuration Management Enhancements.

- Long-Term Electrical Enhancements

  Electrical Fuse Control Program

  1. Develop a fuse list drawing which will contain the controlled information (size, type, etc.) for fuses.

  2. Perform initial walkdowns of panel and motor control center fuses to obtain "nameplate" data.

  Instrument AC Modeling

  This project involves the development of a computerized model of the Instrument AC buses to allow for electrical design evaluations including breaker coordination and load flow.

  Motor-Operated Valve Thermal Overload Upgrades

  This project involves the development of a thermal overload design standard, evaluation of as-built configurations, reconciliation of any identified descrepancies and implementation of improved configuration of controls in this area.

  Electrical Breaker Coordination (AC and DC)

  The Power Systems Analysis effort identified the need for implementing coordinated breaker schemes into the safety related 4160/480 VAC and 125/250 VDC systems. This project will implement these breaker schemes.

  480 VAC Motor Control Center Upgrades

  This project will upgrade selected 480 VAC motor control centers to currently available equipment. This project is necessary due to increasing difficulty in obtaining replacement parts for the existing equipment.

  Emergency Diesel Generator Model Enhancements

  Enhancements to the Power System's Analysis Emergency Diesel Generator transient model will involve test-loading of the diesel with specialized test equipment to allow for further model enhancements, and implementation of model changes identified during earlier model development.

Electrical Distribution system Model Enhancements

This project involves expanding the computer model to include the remaining lower-voltage AC circuits, motor overloads, and breaker and fuse coordination schemes.

Electrical System Configuration Management Enhancements

This project involves developing a new data base which combines the existing data with the electrical equipment data base developed in items 1 and 2 of the "Power Systems Analysis - Basic Model Development" project into a long-term configuration management program.

- Control Building HVAC and Chillers

  Phase 3: Chiller Refurbishment

  This project involves the rebuilding of the Control Building Chillers (A & B). The refurbishment is being done to improve the chillers' reliability and to facilitate ease of maintenance functions. This includes retubing of the evaporator and condenser, installation of a new compressor and upgrading of associated electrical equipment and piping, as required. The refurbishment of the "B" chiller has been completed.

- Design Basis Program

  Phase 1 - ECCS and Selected Safety-Related Systems

  The intent of establishing a Design Basis Program is to organize and collate the design bases information with supporting design information that provides for each system, structure, or component the rationale or "whys" for their functional requirements and controlling parameters. The design bases include assumptions, numerical values, and other information used in the design of any system, structure, or component to assure that functional and regulatory goals are met. Design bases will be stated in concise terms and will focus on the specific functions or bounding parameters of each system, structure, or component. To this end, the objectives of the Design Basis Program are to assemble information concerning systems, structures, and components which are important to safety through:

  1. An organized review of functional requirements and controlling (bounding) parameters for each system, structure, or component.

  2. A comprehensive list of references that support the DAEC's functional requirements and controlling (bounding) parameters.

- Shielding Study for Revised Hydrogen Water Chemistry Program (Completed)

  This project's goal is to determine the feasibility of increasing hydrogen injection rates into the primary coolant system. A demonstration test was performed which determined the amount of additional hydrogen which would have to be injected into the primary coolant system to protect certain reactor vessel internals from the effects of Intergranular Stress Corrosion Cracking (IGSCC). The results of this demonstration test indicated the need for additional plant

shielding due to the increased radiation levels from the additional hydrogen injection. This study will:

1. Determine the additional shielding requirements at various injection rates, such that the zone limits per UFSAR 12.3.1 are met, and perform a cost estimate of the design and construction costs associated with the additional shielding requirements.

2. Evaluate plant radiation levels due to the effects of component shielding as well as bulk shielding.

3. Determine the effects of additional hydrogen injection at the site boundary via skyshine measurements.

- Hydrogen Water Chemistry Oxygen/Hydrogen Generator

  The oxygen/hydrogen generators would produce hydrogen for the Hydrogen Water Chemistry Program at the plant. This would reduce the amount of hydrogen which needs to be delivered to the site. Development of this project depends on the results of the Shielding Study for Revised Hydrogen Water Chemistry. If the decision is made to increase the hydrogen injection rates, installation of an oxygen/hydrogen generator will be considered.

- Plant Life Extension

  The Plant Life Extension (PLEX) project at the DAEC is aimed at extending the operating life of the plant. The project will identify those Systems, Structures and Components (SSC) susceptible to age-related degradation and develop strategies to counter those effects. The project consists of three phases: 1) Planning - development of a project plan and screening for SSC that warrant detailed life extension analyses; 2) Evaluation - detailed analyses of SSC subject to age-related degradation and implementation of aging management programs; and 3) Application - preparation of the request for renewal of the NRC license.

  The DAEC PLEX program is in Phase 1. We plan to issue the DAEC PLEX Program Plan and initiate a material sampling program to assess the condition of age susceptible SSC and screen those SSC for the Evaluation Phase.

- Severe Accident Management

  We are following industry and regulatory developments for direction in outlining a Severe Accident Management Program. We recognize that the Individual Plant Examination (IPE) will provide guidance in developing a program to manage severe accidents, i.e., those beyond the plant's design basis.

  Consequently, this program is dependant upon completion of the IPE, as well as other industry initiatives such as those being done by EPRI, NUMARC, etc.

Description of Selected Schedule A and B Items

Schedule A

- Emergency Response Data System (10 CFR 50, Appendix E)

  The Emergency Response Data System (ERDS) is being established to provide data from the DAEC to the NRC through a link permitting direct, real-time transfer of data from the DAEC plant computers to the NRC Operations Center. The system will be designed to be activated at the plant during an emergency which has been classified at an ALERT or higher level. The NRC portion of ERDS will receive, sort and file the data. The users will include the NRC Operations Center, the NRC Region III Office, and, if requested, the State of Iowa. The existing Emergency Notification System will be used to supplement ERDS data.

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I. NRC Items

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  2. A comprehensive list of references that support the DAEC's functional requirements and controlling (bounding) parameters.

- Shielding Study for Revised Hydrogen Water Chemistry Program (Completed)

  This project's goal is to determine the feasibility of increasing hydrogen injection rates into the primary coolant system. A demonstration test was performed which determined the amount of additional hydrogen which would have to be injected into the primary coolant system to protect certain reactor vessel internals from the effects of Intergranular Stress Corrosion Cracking (IGSCC). The results of this demonstration test indicated the need for additional plant

shielding due to the increased radiation levels from the additional hydrogen injection. This study will:

1. Determine the additional shielding requirements at various injection rates, such that the zone limits per UFSAR 12.3.1 are met, and perform a cost estimate of the design and construction costs associated with the additional shielding requirements.

2. Evaluate plant radiation levels due to the effects of component shielding as well as bulk shielding.

3. Determine the effects of additional hydrogen injection at the site boundary via skyshine measurements.

- Hydrogen Water Chemistry Oxygen/Hydrogen Generator

  The oxygen/hydrogen generators would produce hydrogen for the Hydrogen Water Chemistry Program at the plant. This would reduce the amount of hydrogen which needs to be delivered to the site. Development of this project depends on the results of the Shielding Study for Revised Hydrogen Water Chemistry. If the decision is made to increase the hydrogen injection rates, installation of an oxygen/hydrogen generator will be considered.

- Plant Life Extension

  The Plant Life Extension (PLEX) project at the DAEC is aimed at extending the operating life of the plant. The project will identify those Systems, Structures and Components (SSC) susceptible to age-related degradation and develop strategies to counter those effects. The project consists of three phases: 1) Planning - development of a project plan and screening for SSC that warrant detailed life extension analyses; 2) Evaluation - detailed analyses of SSC subject to age-related degradation and implementation of aging management programs; and 3) Application - preparation of the request for renewal of the NRC license.

  The DAEC PLEX program is in Phase 1. We plan to issue the DAEC PLEX Program Plan and initiate a material sampling program to assess the condition of age susceptible SSC and screen those SSC for the Evaluation Phase.

- Severe Accident Management

  We are following industry and regulatory developments for direction in outlining a Severe Accident Management Program. We recognize that the Individual Plant Examination (IPE) will provide guidance in developing a program to manage severe accidents, i.e., those beyond the plant's design basis.

  Consequently, this program is dependant upon completion of the IPE, as well as other industry initiatives such as those being done by EPRI, NUMARC, etc.

- Technical Specifications (TS) Improvement Program

In response to both internally- and NRC-identified concerns regarding the quality of the DAEC TS, we developed a systematic program to improve the DAEC TS. The primary goals of our program are to correct identified problems, improve Operator usability (human factors) and to ensure internal consistency between requirements within the TS. A secondary goal of our program is to convert the format and content of the TS to match those of the standardized TS, to the extent practicable without embarking upon a wholesale re-write of the TS to the current or new draft Standard TS. This program makes use of guidance available through NRC-sponsored improvements via Generic Letters, the current Standard Technical Specifications and the draft Improved Standard Technical Specifications, as well as industry sponsored improvements, such as BWR Owners' Group and NUMARC initiatives.

The DAEC TS Improvement Program is divided into short-term and long-term enhancement phases.

Short-Term Enhancements

The short-term enhancements phase of the DAEC Technical Specification Improvement Program consists of preparation of Technical Specification (TS) amendment requests based upon high priority items derived from BWR Owners' Group (BWROG) Licensing Topical Reports (LTRs) and NRC TS Line-Item Improvement Generic Letters (GLs).

Phase 2:

RTS-186: Reverification and reformatting of Instrumentation Tables and Implementation of the NRC-approved BWR Owners' Group Licensing Topical Reports on extending surveillance intervals and allowed outage time for RPS, ECCS, Control Rod Block and PCIS instrumentation.

Scheduled Submittal Date: 12/31/91

RTS-218: Elimination of the Primary Containment Isolation signal on Main Steamline High Radiation. This request is based upon an NRC-approved Licensing Topical Report prepared by the BWR Owners' Group.

Scheduled Submittal Date: 09/01/91 (Completed)

RTS-231: Removal of Radiological Effluent TS (RETS)(Generic Letter 89-01)

Scheduled Submittal Date: 12/31/91

RTS-232: Increase in the allowable leakage rate limit for the Main Steamline Isolation Valves (MSIV) during the performance of 10 CFR Part 50, Appendix J testing and eliminate the requirement for the MSIV-Leakage Control System. The justification for this change has been submitted as a Licensing Topical Report by the BWR Owners' Group and is currently under review by the NRC staff.

Previously scheduled Submittal Date: 12/31/91 (Schedule has been revised to 12/31/92 and relocated to Long-Term Enhancements.)

All of the short-term enhancements have either been submitted to the NRC for approval (RTS-218) or are on-schedule to be completed by the due date of December 31, 1991 (RTS-186, 231) with the exception of one item. The TS amendment request to increase the allowable leakage of the Main Steamline Isolation Valves (MSIV) and removal of the MSIV-Leakage Control System (RTS-232) is dependent upon NRC approval of a BWROG LTR. Due to protracted dialogue between the NRC and the BWROG, the expected date of approval for the LTR has slipped to Spring 1992. Consequently, our amendment request will be delayed until December 1992 and will be incorporated into the Long-Term Enhancements described below.

Long-Term Enhancements

In addition to the inputs used for the short-term enhancement phase of the program, the long-term enhancements phase also incorporates the recommendations of an outside contractor, who provided an independent assessment of the quality of the DAEC TS. The identified changes for the Long-Term Enhancement Program are as follows.

RTS-200: Reformatting and human factors improvements to the Refueling Operations Chapter (3/4.9) to ensure consistency with Reactivity Controls Chapter 3/4.3) and to revise the core spiral reload requirements.

Scheduled Submittal Date: 11/15/91

RTS-205 Improve the human factors of the Single Loop Operations TS.

Scheduled Submittal Date: 12/31/91

RTS-207 Simplifies the Containment Systems Chapter (3/4.7) to delete the section that duplicates the 10 CFR Part 50, Appendix J requirements. Adds Drywell pressure and temperature limits not currently in TS, as well as clarify other requirements on Oxygen Concentration and Containment Atmosphere Dilution System.

Scheduled Submittal Date: 03/31/92

RTS-X Add requirements to address prohibition on plant startup with inoperable TS equipment, similar to STS 3.0.4.

Scheduled Submittal Date: 03/31/92

RTS-X Add requirements for the "motherhood" plant shutdown when found in an unanalyzed condition in TS, similar to STS 3.0.3.

Scheduled Submittal Date: 06/30/92

RTS-X Clarifies requirements in the Reactor Coolant Systems Chapter (3/4.6), e.g., conductivity monitoring and equilibrium I-131 (E-bar). Also includes NRC GL Line Item Improvements on snubber inspections (GL 90-09) (pending engineering evaluation) and GL 91-01 on Reactor Vessel specimen removal schedules.

Scheduled Submittal Date: 09/30/92

RTS-243 Reformatting of Chapter 3/4.8 on electrical systems and revises the station battery surveillances and diesel fuel oil tank level requirements to reflect new calculations.

Scheduled Submittal Date: 10/31/92

RTS-X Revises temperature requirements on the suppression pool based upon a BWROG LTR currently under NRC review.

Scheduled Submittal Date: 11/30/92 (Pending NRC approval of LTR)

RTS-X Adds requirements to ensure forced circulation is maintained in the reactor during plant shutdown and refuel conditions, similar to the RHR-shutdown cooling requirements in STS. This TS is dependent upon NRC and NUMARC guidelines, currently under development, on managing risk during shutdown.

Scheduled Submittal Date: 12/31/92 (Pending NRC and NUMARC guidelines)

RTS-232 (See Description under Short-Term Enhancements)

Scheduled Submittal Date: 12/31/92 (Pending NRC approval of LTR)

RTS-X Revises the setpoints for the Reactor Protection System Electrical Protection Assemblies (EPAs) to reflect new, upgraded equipment. Also revises the surveillances on the EPAs per NRC GL 91-07.

Scheduled Submittal Date: 12/31/92

The continuation of the Long-Term Enhancement program beyond 1992 is directly dependent upon our evaluation of the NRC's Improved TS (NUREG-1344), currently under development and scheduled for issuance in mid-1992.

- Ultrasonic Examination of Reactor Vessel Beltline Region Welds

  Phase 3: Performance of Vessel Examination.

  This 10 year ISI exam of the Reactor Pressure Vessel (RPV) will be conducted in accordance with the governing requirements and regulations required by ASME Section XI 1989 Edition and Proposed Rule 10 CFR 50.55(a).

- Telemetry for Emergency Sirens

  The addition of telemetry to the Emergency Planning Public Notification System sirens will provide several benefits and increase the level of system control. Some of the benefits are:

  1. The status of the siren system can be determined at any time.

  2. Activation of a particular siren can be determined.

  3. Loss of AC power to a system sector can be identified.

  In addition, this system will assist us to minimize or prevent problems similar to those described in NRC IN 90-34.

- Comprehensive Procurement Initiative

  The purpose of implementing this program is to minimize the impact of any fraudulent activities by an equipment supplier and to provide long-term resolution of plant and NRC concerns relating to procurement activities. We are developing and implementing a program that encompasses the NUMARC and GL 91-05 guidelines.

  Evaluation (Completed)

  Our current procurement program will be evaluated to identify where improvements can be made by implementing the NUMARC and GL 91-05 guidelines.

  Implementation (In Progress)

  We are now implementing the recommendations into our procurement process and procedures.

- Service Water System Enhancements

  River Water Supply Pumps

  The purpose of this project is to procure a replacement River Water Pump to allow on-line rebuilding of the River Water Pumps.

  The spare pump will allow for systematic refurbishment of the four installed pumps on an individual basis. For example: the spare pump will replace one of the installed pumps; the pump that was replaced by the spare will be refurbished; the refurbished pump will then replace the next installed pump requiring refurbishment. This sequence of events will continue until all pumps including the spare are refurbished. This method of refurbishment will minimize the time a pump is removed from service.

- Replace Two Electro-Hydraulic Control (EHC) Pumps

  Replacement parts for the pumps are becoming increasingly difficult to obtain. Therefore, we are considering replacing the pumps with pumps from another vendor for which replacement parts and pumps are readily available.

- Configuration Management Plan

  The purpose of this project is to design and implement a program to achieve comprehensive control of the updating and maintenance of plant documents. The number of changes in regulations, design, and procedures that occur for a nuclear plant over a period of time presents a difficult task to ensure that all affected procedures, drawings, equipment specifications and other controlled documents are updated to reflect the change. As part of this project a configuration management program plan is to be developed that will serve as a guide for document control and document change management. Digital imaging technology will be used to improve our ability to control the management of plant documents. This technology will be used to provide control, access and timely revision processes for documents. Initial efforts are focused on placing the plant drawings on this technology platform. The project has been divided into two major objectives: Program Plan and Digital Imaging. The Program Plan Phase has been completed. The Digital Imaging Phase is in progress.

- Scram Frequency Reduction

  The purpose of this project is to examine and implement improvements to lower the scram rate of our plant. In 1989, we formed a Scram Frequency Reduction group to review plant operating experience and industry reports and identify improvements in equipment, communications, procedures, and personnel training that can be made to reduce our scram rate in order to be consistent with industry goals. Examples of improvements that have been implemented are the conversion of some turbine trip logic from single incidence to coincident logic (i.e. two-out-of-three logic) and installation of solenoid failure detection for MSIVs and turbine master trip solenoids. Additionally, the following modifications are planned:

  Mechanical Feedwater Modifications

  These modifications involve installation of air accumulators or compressed air bottles on feedwater regulating valves and modifications of the feedwater pump recirculation valves to limit recirculation flow upon a loss of air in order to reduce reactor scrams due to plant air transients. Also, the air system isolation/control valves are being evaluated for failure modes which cause reactor scrams in order to determine if modifications can be made to prevent reactor scrams.

  Turbine Electro-Hydraulic Control (EHC) System Improvements

  A review of DAEC scram history (1979 - 1990) shows that over 30% of the reactor scrams have been initiated by the turbine/generator systems. The purpose of these modifications is to reduce reactor scrams due to single failure within the EHC system electronics.

- Long-Term Instrument and Control Strategy

  Instrument Setpoint Program

  The purpose of this program is to reconstitute the design bases for the instrument setpoints contained in Technical Specifications, and upgrade to the extent practical to new methodology using the ISA 67.04 setpoint methodology. This effort will provide calculations that conform to the new ISA 67.04 methodology and provide the setpoint margins for applicable Technical Specification instruments. Tasks will include the formulation of detailed calculations and development of a topical design basis document detailing the setpoint methodology used at the DAEC.

- Computer Software Quality Assurance

  The purpose of this program is to ensure the quality and integrity of computer software, especially that which can impact safety-related systems, components, and structures at the DAEC. This program is being developed in three phases.

  Phase 1: This phase will develop and define a division policy statement and standards for the development, maintenance, and procurement of division software. Included in this phase is the development of a guidance document for the implementation of this policy and the identification and preliminary evaluation of division software.

  Phase 2: This project involves the development of departmental-level procedures to implement division-level software configuration management plans. Additionally, software which existed prior to the implementation of division policy and procedures developed in Phase 1 will be reviewed and schedules developed to retrofit the new software Quality Assurance requirements.

  Phase 3: This phase involves the application of software Quality Assurance requirements to the existing software identified in Phase 2.

- Maintenance Self-Assessment

  Phase 1: Completion of Self-Assessment Implementation Plan

  To ensure that improvements to the DAEC Maintenance Program are being aggressively pursued, DAEC will be developing a maintenance self-assessment plan against the industry standards outlined in INPO 90-008, "Maintenance Programs in the Nuclear Power Industry."

  Phase 2: Completion of Self-Assessment

  The maintenance self-assessment will be implemented in accordance with the plans and schedules developed in Phase 1.

- Facility Upgrade Study

  This study will determine the alternatives for increasing on-site facility space for plant, engineering, and support staff.

- Emergency Planning Zone (EPZ) Redefinition

  The DAEC's Emergency Planning Zone is being redefined into sub-areas to provide greater assurance that adequate protective measures will be taken in the event of a radiological emergency at the DAEC. The sub-areas will be described/defined using well known geographic landmark descriptors within the 10 mile EPZ.

- Low-Level Radioactive Waste Storage Modifications

  This project implements modifications to the DAEC Low-Level Radwaste Storage and Processing facility to ensure its capability to provide interim on-site storage of resin and dry active waste. This storage capacity will be required until a regional storage facility becomes available. Modifications will be implemented to permit stacking of resin in High Integrity Containers (HICs) in the resin storage vault and upgrade the vault crane to facilitate placement of high radiation loads into shielded areas.

- Shutdown Risk Management

  Phase 1: DAEC Outage Risk Management Guidelines

  Guidelines will be developed for the Cycle 12 refueling outage which will provide an integrated process of assessing and reducing the likelihood and/or consequences of a shutdown event. These guidelines will focus on the key areas of decay heat removal, vessel inventory control, and electrical power systems.

  Phase 2: NUMARC Shutdown Risk Management Guidelines

  This phase of the DAEC Shutdown Risk Management Project involves implementation of NUMARC's, "Guidelines to Enhance Safety During Shutdown." Current schedules require plants to address these guidelines prior to any 1993 refueling outage.

- Long-Term Commitment Tracking Program

  Phase 1: Development of Program Plan

  The DAEC long-term commitment tracking system will be a computerized information system designed to enhance our ability to manage on-going commitments. The system will be developed through enhancements to our existing Commitment Control System including expansion of system capacity as well as improvements in search capability. These modifications are necessary to support the addition of long term commitments and references to industry guidance documents. Phase 1 of this program will involve the reprogramming and testing of the commitment tracking

software, revising commitment control procedures and developing a schedule for the compilation and input of data.

Phase 2: Data Compilation and Entry

This phase of the long-term commitment tracking program involves the assembly and input of historical and ongoing commitments and endorsements. The schedule for completion of Phase 2 will be developed as part of the Phase 1 efforts.

- Metrology Lab

The purpose of this project is to establish a laboratory for calibrating our measuring and test equipment (M&TE) with control over the ambient conditions, such as temperature and relative humidity. Currently, the calibration of M&TE is performed in areas where it is difficult to repeat calibration results on a regular basis, due to less than ideal control of temperature and relative humidity.

The project has been divided into two phases:

Phase 1: Construction of Lab Facility

Phase 2: Equipment Installation and Lab Operational