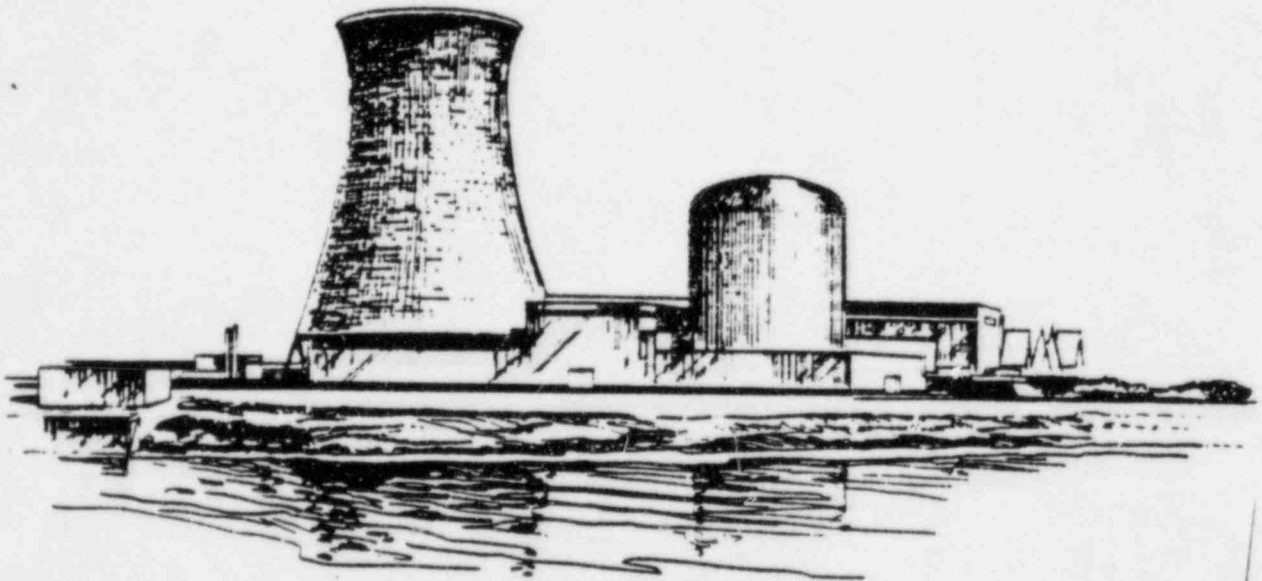


# HOPE CREEK GENERATING STATION



Public Service Electric & Gas Co., New Jersey



## NRC CASELOAD FORECAST

June 26-27, 1985

8509030037 850826  
PDR ADOCK 05000354  
A PDR

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST  
AGENDA

RESPONSIBLE PSE&G  
PRESENTER

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OPENING REMARKS

P.R.H. (Pete) Landrieu  
Project Manager

- A. Project Overview
- B. Management Team Enhancements

1. CONSTRUCTION OVERVIEW

P.R.H. (Pete) Landrieu  
Project Manager

- A. Introduction
- B. Construction Percent (%) Complete
- C. Major Construction Milestones  
Accomplished Since Last Caseload
- D. Problems/Solutions
- E. Summary

2. ENGINEERING STATUS

C. W. (Chuck) Churchman  
Site Engr. Manager

- A. Introduction
- B. Design Change Package Status
- C. Independent Design Verification Program
- D. Equipment Qualification
- E. Documentation Close-Out
- F. Startup and Operations Support
- G. Response Coordination Team
- H. Problems/Solutions
- I. Summary

W. (Bill) Gailey  
Chief Project Engineer

3. PROCUREMENT

P.R.H. (Pete) Landrieu  
Project Manager

- A. Introduction
- B. Radiation Monitoring System
- C. NSSS Equipment Delivery Status
- D. Operational Spare Parts Selection
- E. CORE Team Activity
- F. Problems/Solutions
- G. Summary

4. CRAFT WORK FORCE

E. C. (Gene) Logan  
Gen. Mgr. - Constr./Site Mgr.

- A. Introduction
- B. Manual Staffing Levels
- C. Labor Contract Status
- D. Problems/Solutions
- E. Summary



RESPONSIBLE PSE&G  
PRESENTER

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5. PIPE HANGERS
- A. Introduction
  - B. Status of Large and Small Pipe Hangers
  - C. Summary
6. PROJECT SCHEDULE
- A. Introduction
  - B. Critical Path Items
  - C. Project Milestones/Short Term Goals
  - D. Summary
7. BULK COMMODITIES
- A. Introduction
  - B. Bulk Quantity Status
  - C. Summary
8. STARTUP
- A. Introduction
  - B. Release for Test Program
  - C. System Turnover Program
  - D. Procedure Status
  - E. Preoperational Test Status
  - F. Release from Test to Hope Creek Operations
  - G. Test Program Schedule and Critical Path
  - H. Staffing Plan
  - I. Problems/Solutions
  - J. Summary
9. LICENSING STATUS
- A. Introduction
  - B. Operating License Application Status
  - C. Impact of NUREG 0737
  - D. ACRS Commitments
  - E. Open Safety Evaluation Report Items
  - F. NRC Audits
  - G. Summary
10. POTENTIAL DEFICIENCIES - 10 CFR 50.55
- A. Introduction
  - B. Deficiencies Reported
  - C. Summary

R. (Bob) Kirk  
Asst. Chief Design Engr.

P.R.H. (Pete) Landrieu  
Project Manager

E. C. (Gene) Logan  
Gen. Mgr. - Constr./Site Mgr.

J. (Jim) Carter  
Project Startup Manager

B. (Bruce) Preston  
Project Licensing Manager

A. E. (Art) Giardino  
Manager - QA Engr. & Constr.

RESPONSIBLE PSE&G  
PRESENTER

11. CONSTRUCTION/STARTUP INTERFACE

E. C. (Gene) Logan  
Gen. Mgr. - Constr./Site Mgr.

- A. Introduction
- B. Management/Team Concept
- C. Summary

12. SPECIFIC ISSUES

C. W. (Chuck) Churchman  
Site Engr. Manager

- A. Introduction
- B. Specific Issues
  - a. ATWS-3A Design Changes
  - b. Appendix R Design Implementation
  - c. NSSS Loads Adequacy Evaluation
  - d. High Energy Line Break
  - e. Moderate Energy Line Breaks
  - f. Control Rod Drive System
  - g. Primary and Secondary Containment
  - h. Control Room Panel Modifications
  - i. Pipe Stress (As-Built)
  - j. N-Stamp Certification Program
  - k. Updating Drawings and Specifications to As-Built Condition
  - l. Environmental Qualification of Safety-Related Equipment
  - m. Seismic Qualification of Safety-Related Equipment
  - n. Hanger Reconciliation Program

(See 12/B/n)

(See 12/B/n)

R. (Bob) Kirk  
Asst. Chief Design Engr.

- C. Problems/Solutions
- D. Summary

13. ROOM TURNS

E. C. (Gene) Logan  
Gen. Mgr. - Constr./Site Mgr.

- A. Introduction
- B. Room Turnover
- C. Problems/Solutions
- D. Summary

14. INCOMPLETE ITEMS AT THE TIME OF LICENSING

P.R.H. (Pete) Landrieu  
Project Manager

- A. Introduction
- B. Potential Items Exposures
- C. Summary

RESPONSIBLE PSE&G  
PRESENTER

15. OPEN PUNCHLIST ITEMS

- A. Introduction
- B. SDR Status
- C. NCR Status
- D. Problems/Solutions
- E. Summary

P.R.H. (Pete) Landrieu  
Project Manager

16. SEISMIC II/I REVIEW

- A. Introduction
- B. Status and Schedule
- C. Summary

C. W. (Chuck) Churchman  
Site Engr. Manager

17. POWER ASCENSION AND OPERATIONAL PROCEDURES

- A. Introduction
- B. Power Ascension Test Procedures and Operational Procedures
- C. Power Ascension Program Acceleration
- D. Problems/Solutions
- E. Summary

W. H. (Bill) Schell  
Power Ascension Test Director

18. STAFFING, TRAINING AND OPERATOR LICENSING

- A. Introduction
- B. Staffing, Training, and Licensing
- C. Operational Readiness Considerations
- D. Summary

R. (Roger) Salvesen  
Gen. Mgr. H.C. Operations

19. SITE TOUR

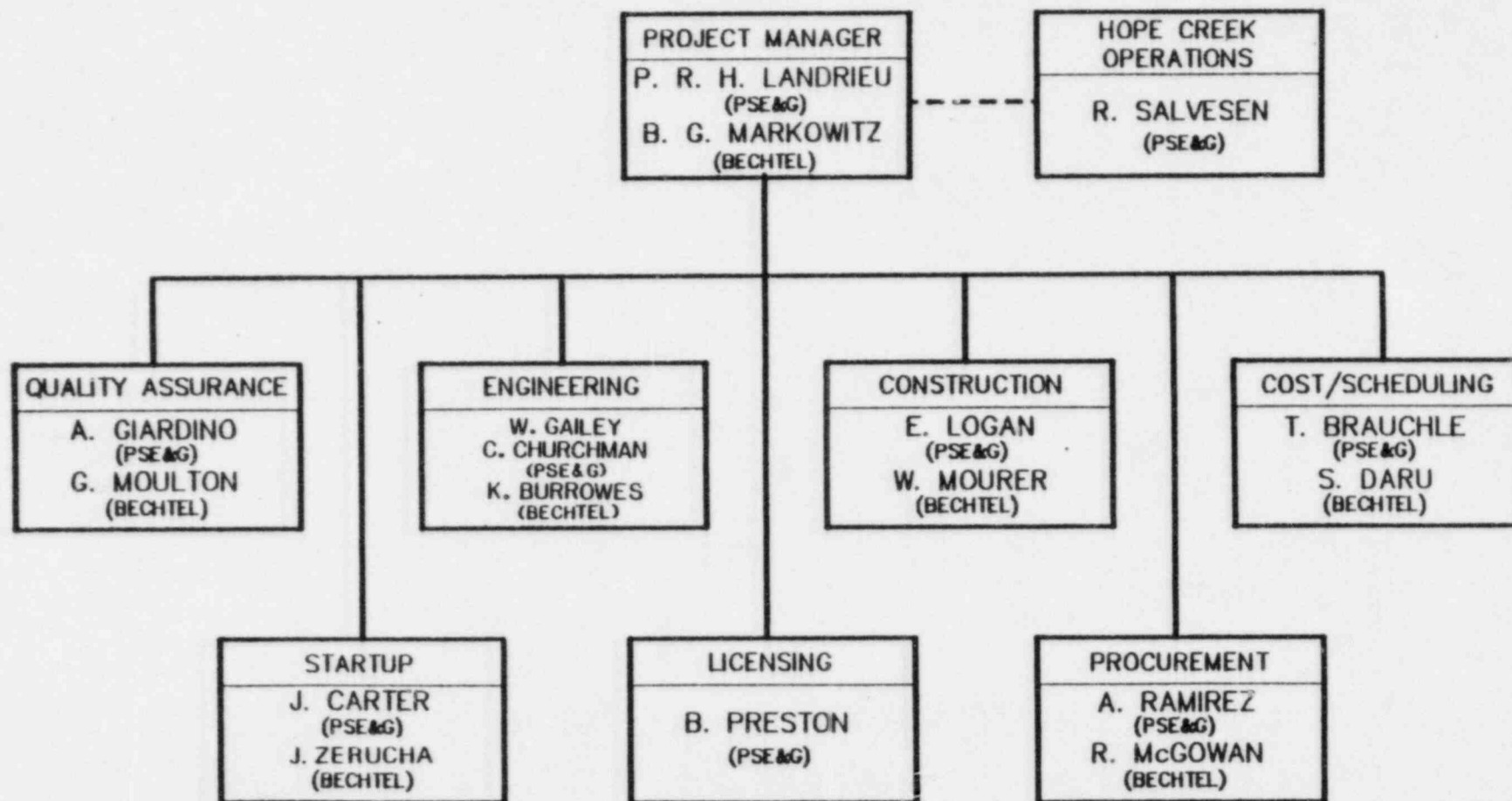
- A. Itinerary

P.R.H. (Pete) Landrieu  
Project Manager  
and  
R. (Roger) Salvesen  
Gen. Mgr. H.C. Operations

HOPE CREEK GENERATING STATION

# PROJECT TEAM ORGANIZATION

## PSE&G AND BECHTEL



HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

1. CONSTRUCTION OVERVIEW

Question: Overview of project construction and preoperational testing schedule, including progress and major milestones completed, current problems and any anticipated problem areas that may impact the current projected fuel load date.

A. INTRODUCTION

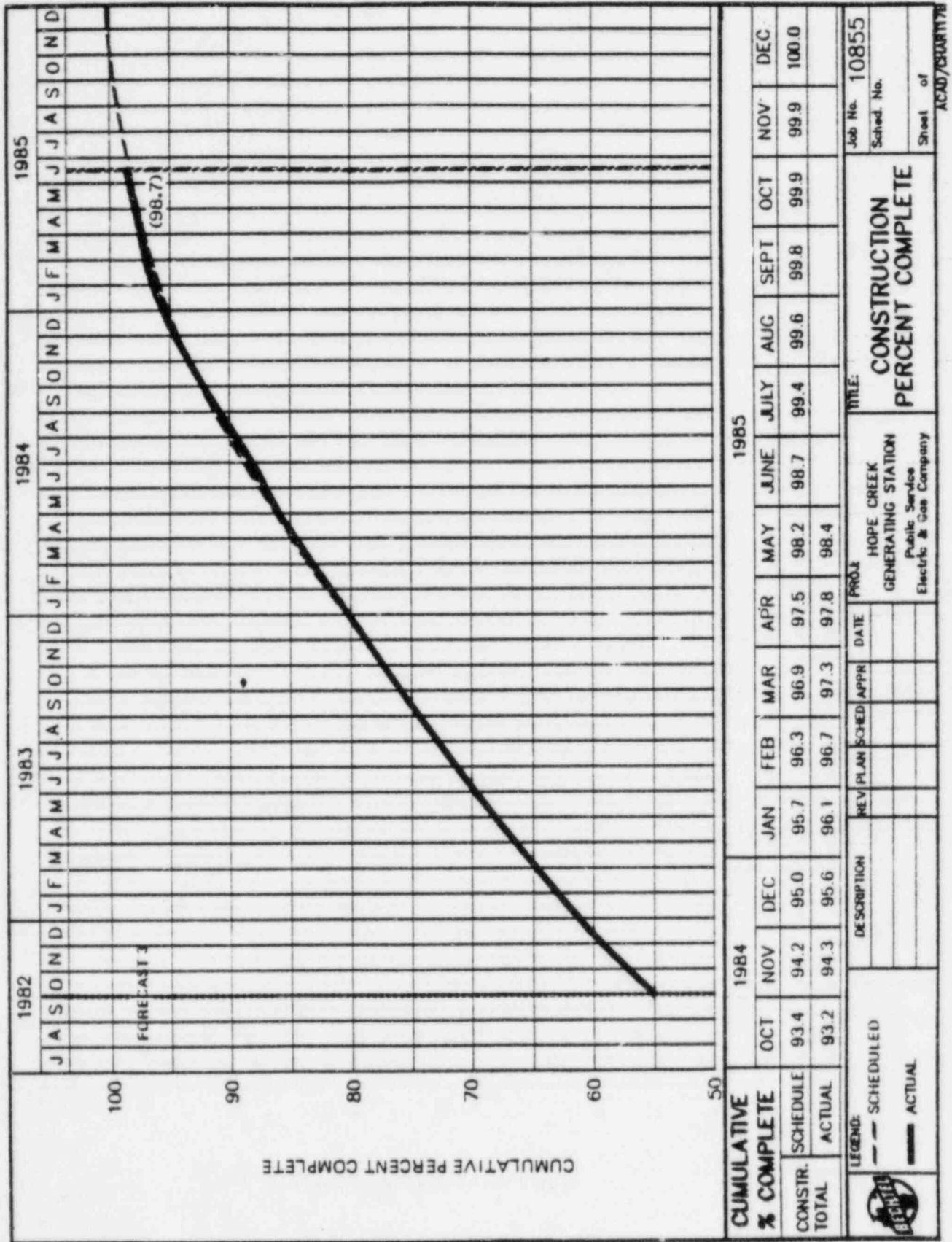
During 1983 the projected bulk commodity schedules were met or exceeded. As a result, in early 1984 a reassessment was made of the to-go schedule and it was determined that a target fuel load date of December 1, 1985, was a viable and reasonable date, although requiring very aggressive efforts on the part of the Project Team. Accordingly, all working schedules were revised to reflect this date which preshortened the construction period by four weeks and the startup period by two weeks, taking advantage of preassembly of the RPV internals. This established the code hydro milestone on March 9, 1985, which was met and exceeded by one week.

During 1984 the project continued to track to the target schedules and to meet the aggressive milestones that had been established, further developing a history of credibility. In this period the transition was successfully made from a bulk installation mode to a system and room turnover mode. One hundred and fifty-three systems (153) out of 209 (or 73 percent) have been turned over from Construction to Startup for testing. Two hundred and sixty-six (266) rooms have been turned over to date and 237 have been accepted out of 890 rooms. This effort is further enhanced by the release for test (RFT) program which makes components available to Startup prior to formal turnover.

At the end of 1983 construction of the project had achieved 81 percent complete and by the end of 1984 was greater than 95 percent. Currently it is nearly 99 percent. These included the effects of increases in some commodity quantities and final cleanup of system installation work.

Startup was 40 percent complete at the end of 1984 and is now greater than 66 percent complete. The preoperational testing schedule is addressed in detail in Section 8-G.

In addition to system and room turnovers, a major effort in the remainder of 1985 will be the completion of post turnover activities. The principal vehicle for accomplishing this will be the System Deviation Report (SDR) program which has been established and is in place. All SDRs are identified to their applicable system and scheduled accordingly. Additionally there are other reports which identify any outstanding items; such as the non-conformance reports (NCRs), Seismic II/I reports and a regular schedule of walkdowns. These are all closely monitored and weekly project team meetings have been implemented to expedite resolution of any concerns.





# 1. CONSTRUCTION OVERVIEW

## B. MAJOR CONSTRUCTION MILESTONES ACCOMPLISHED SINCE LAST CASELOAD

(Refer to Section 6-C for complete list)

<u>Milestone Number</u>	<u>Description</u>	<u>1983 Milestone Schedule</u>	<u>Actual</u>
83-79	Complete closure of large recirc. pipe in Drywell	04/15/83	08/28/83A
83-91	Auxiliary Boiler Facility turned over	08/01/83	08/19/83A
83-94	Start main condenser hydro	09/15/83	09/25/83A
83-102	Control Room Complex turned over	12/15/83	12/15/83A
84-21	Turnover Administration Building	07/02/84	06/07/84A
84-24	Four million feet of wire and cable pulled	08/01/84	07/16/84A
84-26	14,500 large pipe hangers installed	09/07/84	09/02/84A
84-30	Complete cooling tower	10/31/84	10/05/84A
84-37	Turnover diesel generators	12/12/84	12/18/84A
85-07	Start integrated flush	03/14/85	02/11/85A
85-11	Code hydro of vessel start	04/09/85	03/02/85A
85-12	Complete main turbine lube oil flush	04/22/85	01/07/85A

# 1. CONSTRUCTION OVERVIEW

## D. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD</u>		
a) <u>Drywell</u>		
<p>The Drywell is the most congested area on the project containing the most critical fluid systems with intricate physical configurations. As construction continues, the ability to manload to previous levels decreases as the space becomes more confined. Significant items of concern are:</p>	<p>Problem resolved.</p>	<p>Schedules necessary to support turnovers leading to code hydro were maintained by concentrated efforts by supervision and field engineering combined with careful planning.</p>
<p>Maintaining Drywell effective manpower density and earned manhours at scheduled levels.</p>		
<p>Drywell jet impingement barrier design will be completed in June and could impact installation of small pipe, conduit, large pipe supports, and restraints.</p>		

1. CONSTRUCTION OVERVIEW

D. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD (Cont.)</u>		
b) <u>Control Complex</u>  Prefabricated cable installation is currently behind schedule. This is due to late equipment deliveries. Bailey equipment deliveries remain critical to the schedule.	Problem resolved.	The control complex was turned over as scheduled on December 15, 1983.
c) <u>Electrical Installation Cycle</u>  Raceway installation (conduit) is presently 6 weeks behind schedule and is currently impacting wire and cable installation and terminations.	Problem resolved.	The scheduled requirements for all electrical commodities were exceeded, including unanticipated growth in quantities.

1. CONSTRUCTION OVERVIEW

D. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
2) <u>CURRENT PROBLEMS</u>		
a) <u>Radiation Monitoring System</u>		
The original radiation monitoring vendor, Technology for Energy Corp., has failed to meet its obligations.	Assign personnel to a project task force to monitor supplier performance, resolve problems expeditiously and coordinate activities with Engineering, Construction, Startup and Operations.	Task force reporting to project managers established.
	Issue design of system required for licensing.	Initial design issued for construction on June 14, 1985.
	Obtain materials on an expedited basis.	Local processor for new fuel criticality has been delivered. Remainder of equipment is scheduled to support subsequent site activities
	Commence construction of new system.	Activities have commenced to modify existing installations.
b) <u>Material Deliveries</u>		
Support of Startup and Operations.	Establish a Procurement CORE Team which is able to rapidly process procurement documents, resolve problems and expedite delivery.	A CORE Team has been setup and is supporting startup requests.

1. CONSTRUCTION OVERVIEW

D. PROBLEMS/SOLUTIONS

DESCRIPTION OF PROBLEM

CORRECTIVE ACTION

CURRENT STATUS

2) CURRENT PROBLEMS (Cont.)

c) Contractor Performance (HVAC)

Completion of installation and leak testing of HVAC systems to support the PLRT and NLRT tests.

Personnel have been dedicated to establishing all open items and priorities for their completion to minimize delays in system turnovers. Extended overtime authorized to ensure completion.

HVAC systems GRA, GKA and GUA have all been completed and released to Startup for testing and will support the PLRT and NLRT tests.

d) Completion of Post Turnover Work

Timely completion of construction work identified on SDRs or other vehicles to support release from Startup.

Continued emphasis by Construction and Startup to identify, prioritize and close out SDRs.

Visibility of the SDR program is obtained through a data base solely devoted to these items. Additional personnel have been added to process and close out SDRs expeditiously.

e) Close Out of Software

An extensive amount of software material must be packaged and formally recorded prior to completing construction.

Aggressive schedules have been established. N-5 packaging, ABR submittal and QC final buy-offs are closely monitored on all commodities.

The milestone schedule for large and small pipe hangers is on track and an increase in the submittal rate of ABRs is being experienced.

1. CONSTRUCTION OVERVIEW

D. PROBLEMS/SOLUTIONS

DESCRIPTION OF PROBLEM

CORRECTIVE ACTION

CURRENT STATUS

2) CURRENT PROBLEMS (Cont.)

f) Radwaste Solidification  
System Turnover

A change in the method of solid radwaste processing resulted in late engineering and material deliveries which impacted Construction's ability to complete installation on schedule.

A recovery schedule for RFTs and system completion is being closely monitored.

A radwaste system manager has been established and Construction is currently tracking to requirements.

8.1



## 1. CONSTRUCTION OVERVIEW

### E. SUMMARY

Full advantage has been taken of other projects' experiences and early emphasis placed on identification and resolution of known problem areas. Management has provided for the establishment of dedicated system teams to provide the vehicle for insuring that the startup schedule is fully supported.

In parallel other programs have been initiated to provide maximum schedule flexibility to the project as a whole. Some of these are the Release for Testing (RFT) program, a CORE Team for expedited procurement, and corporate management involvement on a regular basis.

The remaining construction effort will support the December 1, 1985 fuel load date.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

2. ENGINEERING STATUS

Question: Detailed review and current status of design and engineering effort (by major discipline), including any potential problems that may arise from necessary rework.

A. INTRODUCTION

The project engineering initial design activity is essentially complete. The significant portion of the remaining engineering work consists of as-built reconciliation, field and startup support, and licensing support (including support of NRC walkdowns).

In addition, engineering is responding to requests for information and observations which arise from an Independent Design Verification Program (IDVP) being conducted on the project.

Initial engineering design is complete as of June 1985. Several generic design considerations, such as hydrodynamic loads on the Mark I torus, TMI lessons learned, CRD water hammer effects and human factors have been factored into the initial design. Thus these industry wide concerns were addressed relatively early in the project schedule and will not be a source of future design changes. Current engineering activities include the following:

1. Final sign-off of stress reports for as-built reconciliation of piping/hangers and final assessment of walls, slabs and beams for load verification and cut rebars.
2. Licensing support for resolution of SER open items. Completion of ongoing Seismic II/I and other hazards evaluation walkdowns.
3. Issue of remaining design change packages.
4. Closeout of outstanding documentation including vendor information.
5. Field support for the review and disposition of Field Change Requests (FCRs) and Field Change Notices (FCNs).
6. Support to Startup by reviewing preoperational test procedures and dispositioning Design Information Requests (DIRs), Startup Change Requests (SCRs), and Startup Deviation Reports (SDRs).
7. Support to Operations by responding to field questionnaires (FQs).

These activities are proceeding on schedule in support of a December 1985 fuel load.

As the engineering support activity has shifted to the jobsite, Bechtel has expanded its Resident Engineering group since the last caseload from approximately 25 to 90 people, and concurrently PSE&G has relocated its home office engineering activities to the jobsite.

## 2. ENGINEERING STATUS

### B. DESIGN CHANGE PACKAGE (DCP) STATUS

The Design Change Package (DCP) program is implemented for a system 10 weeks prior to system turnover. All identified changes are reviewed to determine whether they are necessary and forecast dates are issued as appropriate. As of May 31, 1985, 531 DCPs have been identified, 489 have been issued to Construction, and 184 have been closed out by Construction. The remaining 42 will be issued by July 1985. DCPs are reviewed by Startup and are planned for in their schedules. Weekly reviews of DCPs are held to aid engineering in the rapid resolution of items restraining systems completion and turnover to Startup. In addition, a weekly telephone conference is conducted between San Francisco and the Hope Creek jobsite (Resident Engineering/ PSE&G Site Engineering/Construction/Startup) personnel to resolve areas of concern and assign priorities needed to support Construction and Startup. These conferences have assured that matters requiring coordination between entities are properly identified and promptly acted upon.

### C. INDEPENDENT DESIGN VERIFICATION PROGRAM (IDVP)

Public Service has undertaken an Independent Design Verification Program (IDVP) to provide additional assurance that the design of the Hope Creek Generating Station meets all its licensing requirements, through a review of the technical adequacy of selected systems and the design process. The IDVP includes walkdowns, which also include reviews of the application of the as-built verification program to those systems within the scope of the IDVP.

The independent auditor selected to perform the IDVP is Sargent and Lundy. Formal kickoff for the review was April 1, 1985. The IDVP final report is to be issued in August 1985.

Over 5,000 project documents are being reviewed by approximately 50 members of the review team. Implementation of the IDVP program plan has required team member visits to the home offices of PSE&G and Bechtel, as well as the jobsite. A number of observation reports has been submitted by Sargent and Lundy and resolution of these is underway.

### D. EQUIPMENT QUALIFICATION

The SQRT and PVORT audit was conducted May 7-10, 1985, the results of which are discussed in more detail under Section 12 (m). The environmental qualification audit is scheduled for the week of July 15, 1985.

## 2. ENGINEERING STATUS

### E. DOCUMENTATION CLOSE-OUT

Project engineering has established goals for the closeout of engineering documentation open action items (open correspondence, etc.). The present trend of working off items is gaining momentum and we are confident that our goals will be achieved on schedule. Change authorizing documents (FCRs, FCNs, etc.) are required by procedure to be closed out/incorporated within 90 days. Vendors are also being expedited to close out open comments on their documents.

### F. STARTUP AND OPERATIONS SUPPORT

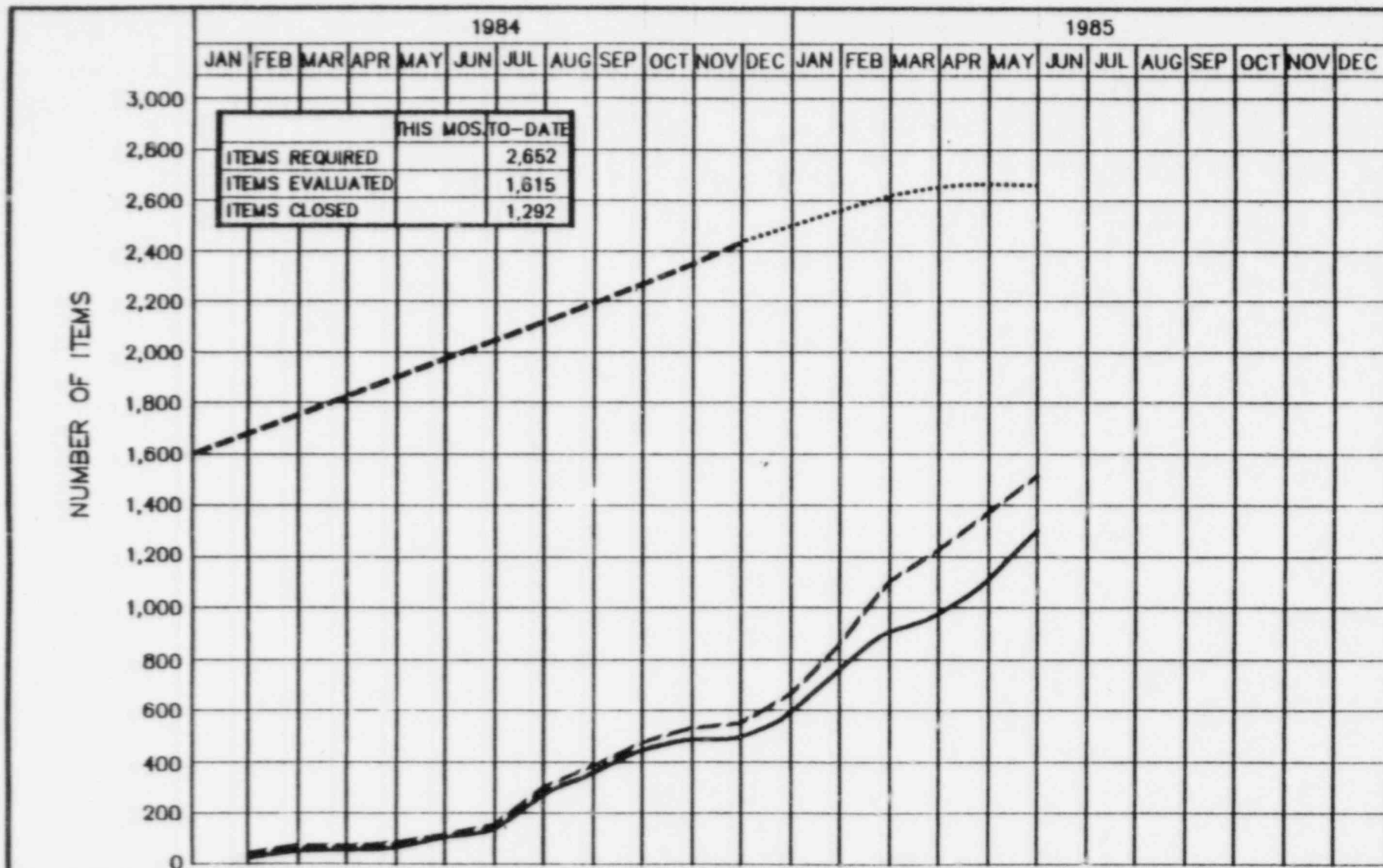
Bechtel and Public Service engineering is providing startup support by:

1. Reviewing preoperational test procedures.
2. Dispositioning Design Information Requests (DIRs), Startup Change Requests (SCRs), and Startup Deviation Reports (SDRs).
3. Coordinating design completion activities and issuing Design Change Packages (DCPs) by startup system to support startup efforts.
4. Maintaining and augmenting onsite engineering groups to provide day-to-day support for construction completion/startup requirements; and
5. Responding to Field Questionnaires (FQs) in support of operating procedures preparation.

### G. RESPONSE COORDINATION TEAM (RCT)

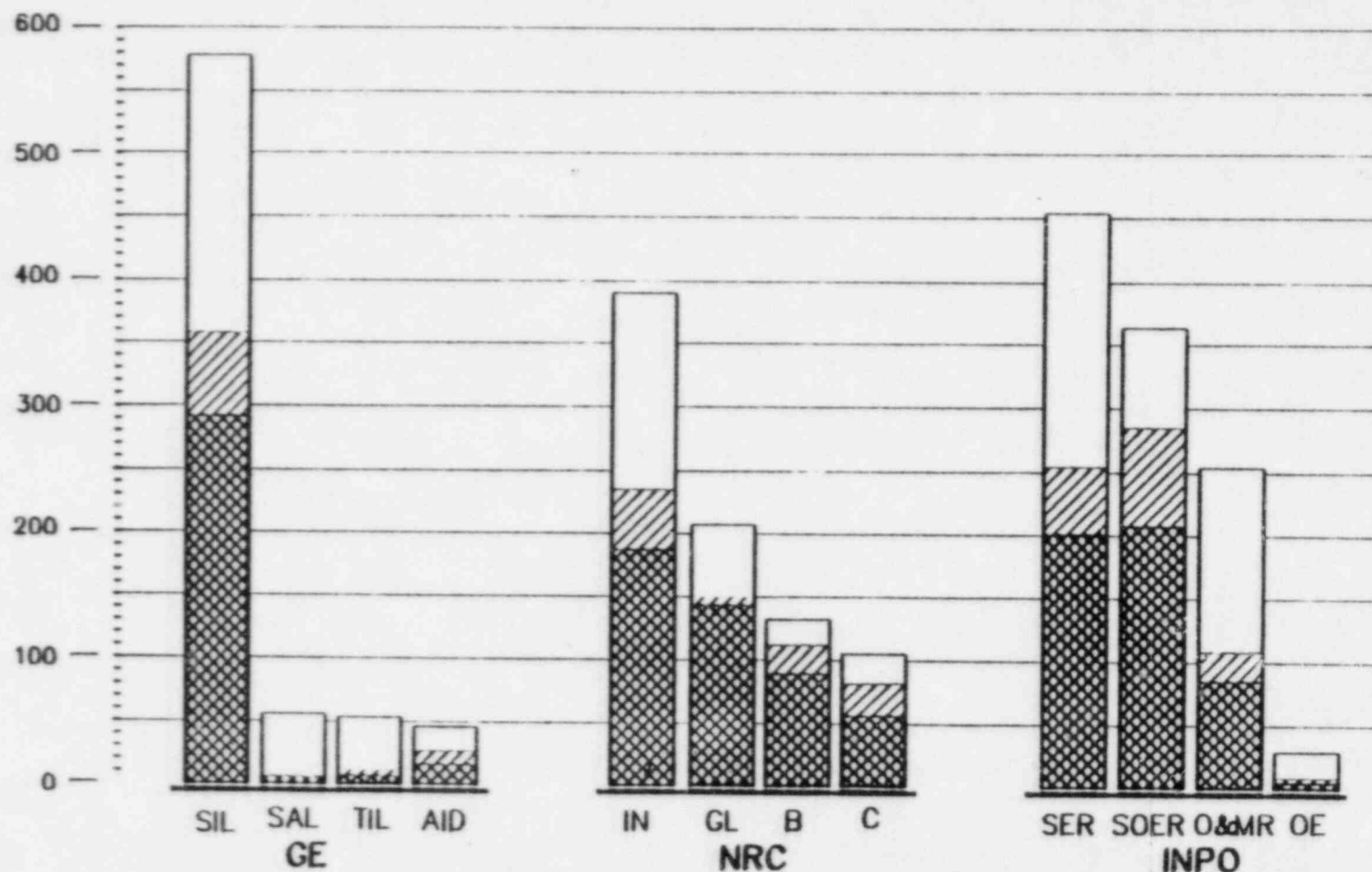
The Response Coordination Team (RCT) is Hope Creek's mechanism for monitoring and dispositioning NRC, INPO and GE notices, generic letters, bulletins and reports pertinent to the Hope Creek Generating Station. This team's effectiveness has been reviewed by the NRC for adequacy.

The effort continues to be a significant one at this time. A major push has been on to address a number of backlog items to support Hope Creek Operations' procedure writing activities. This is a living program, with as many as 100 new RCT items being received per month. Constant attention by all Public Service site organizations, particularly Site Engineering and Operations, is required.



<b>LEGEND</b> - - - - - ITEMS EVALUATED ———— ITEM CLOSED ..... TOTAL ITEMS	DESCRIPTION	REV	PLAN	SCHED	APPR	DATE	PROJ	TITLE	Job No. 10855
							HOPE CREEK	RCT RESPONSES	Sched. No.
							GENERATING STATION	RESPONSE	
							Public Service Electric & Gas Company	(COORD. TEAM)	Sheet of





SIL - Service Information Letter  
 SAL - Service Advise Letter  
 TIL - Technical Information Letter  
 AID - Application Information Document

IN - Information Notice  
 GL - Generic Letter  
 B - Bulletin  
 C - Circular

SER - Significant Experience Report  
 SOER - Significant Operating Experience Report, Recommendation  
 O&MR - Operation & Maintenance Reminder  
 OE - Operating Experience

<b>LEGEND:</b> - BEING EVALUATED - EVALUATION COMPLETE - CLOSED	DESCRIPTION	REV	PLAN	SCHED	APPR	DATE	PROJ	<b>TITLE:</b> <b>RCT STATUS</b> by <b>SOURCE AND TYPE</b>	Job No. 10855
							HOPE CREEK		Sched. No.
							GENERATING STATION		
							Public Service Electric & Gas Company		Sheet of



## 2. ENGINEERING STATUS

### H. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD</u>		
a) <u>(ALARA) As Low Is Reasonably Achievable</u>  Maintain the annual integrated dose to station personnel and to individuals working at the station ALARA.	An ALARA review for each system and radiation area is complete.	A verification walkdown is complete. The walkdown findings were minor and the corrective actions are being accomplished within the integrated project schedule.
b) <u>Seismic Category II/I Design</u>  This item is discussed in detail in Section 16.		
c) <u>Separation Review</u>  Verify that systems and components important to safety are designed for the effects of internal missiles, pipe breaks, and other hazards. without loss of capability to perform their safety function.	A comprehensive separation review was conducted.	Pipe break/jet impingement/internally generated missiles:  The preliminary drywell review was completed in January 1983.  The preliminary review of the reactor building was completed before June 15, 1983.

(Cont.)

## 2. ENGINEERING STATUS

### H. PROBLEMS/SOLUTIONS

#### DESCRIPTION OF PROBLEM

#### CORRECTIVE ACTION

#### CURRENT STATUS

#### 1) RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD (Cont.)

##### c) Separation Review (Cont.)

A May 1985 plant walkdown confirmed the previous scale model and drawing review and identified the possible need for a few additional barriers to ensure that no internal hazards will impact plant safety.

An evaluation is underway and, if required, the barriers will be designed by July 1985 and installed by October 1985.

With the schedule outlined above, resolution of this issue will support the integrated project schedule.

##### d) Equipment Qualification

Assure that components important to safety are compatible with normal, transient environmental and dynamic effects.

Implement seismic and environmental testing/analysis to demonstrate qualification.

Safety-related mechanical and electrical equipment is identified in a detailed master listing showing qualification report and equipment installation status. Over 90% of safety-related mechanical and electrical equipment qualification reports have been completed and over 90% of the equipment has been installed.

(Cont.)

## 2. ENGINEERING STATUS

### H. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD (Cont.)</u>		
d) <u>Equipment Qualification (Cont.)</u>		The results of the SQRT/PVORT audit are discussed in detail in Section 12 (m).  Environmental qualification is discussed in Section 12 (l).
e) <u>Service Water Intake Structure (SWIS)</u>  The design of the SWIS called for placing tremie concrete to the top of green-gray Vincentown at el 35' (average) with a key extending to el 20'. During excavation it was determined that the top of this strata was at el 23' to 29'.	The design was revised to accommodate placing the tremie concrete deeper, to the top of the green-gray Vincentown strata.	The tremie concrete, as well as the SWIS superstructure, has been successfully completed.
f) <u>Additional Floor (el 163 ft. 6 in.) in Diesel Area</u>  Lack of available space for Control Room panels to accommodate the equipment that resulted from new regulatory requirements such as ATWS, Reg. Guide 1.97, NUREG-0737, new design requirements such as the revised alarm philosophy, and changes in the main control board indication lamp voltage.	Add additional floor at el 163' 6" of the Diesel Building.	All related redesign is complete and the additional floor has been constructed.

## 2. ENGINEERING STATUS

### H. PROBLEMS/SOLUTIONS

	<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
	1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD (Cont.)</u>		
	g) <u>Seismic Analysis of Blockwalls</u>  IE Bulletin 80-11 required an evaluation of all masonry walls for their structural integrity and, in the event of failure, the effect on safety-related systems.	Evaluate the use of masonry blockwalls in the plant.	There are no masonry block in seismic category I areas.
2.9	h) <u>Intergranular Stress Corrosion Cracking (IGSCC)</u>  Regulatory Guide 1.44 requires plants to reduce the IGSCC.	Make appropriate material changes to reduce IGSCC susceptibility.	All material changes have been completed.
	i) <u>Plant Unique Analysis</u>  In July 1980, the NRC issued the SER for the Mark I long-term program defining the acceptable methodology for defining pool swell and bubble oscillation loads on the torus.	Perform a PUA (plant unique analysis). Define torus modifications needed to meet stress limits. Perform modifications.	The PUA has been completed and a report has been submitted to the NRC.  The modifications which have been completed included adding local gussets to ring girders, stiffening certain penetration nozzles, adding S/RV quenchers and supports, adding pipe supports, modifying certain pipe supports and strengthening connections of torus columns to shell.

## 2. ENGINEERING STATUS

### H. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD (Cont.)</u>		
j) <u>Unit 2 Cancellation - Reactor Building &amp; Turbine Building</u>  In December 1981, Unit 2 was cancelled. At that time the Unit 2 Reactor and Turbine Buildings were partially constructed.	<p>The "Plant Cancelled Area", formerly the Unit 2 Reactor Building area, is at the roof of el 132' This area will be unoccupied.</p> <p>The Unit 2 Turbine Building exterior is completed. Portions of the interior space will be utilized.</p> <p>Deletion of Unit 2 will have no impact on the safe operation of Unit 1.</p>	<p>Design and construction of all Unit 2 cancellation areas have been completed.</p>
k) <u>Radwaste System Changes</u>  Gaseous Radwaste System - In July 1981 Hope Creek replaced the cryogenic off-gas system design with an ambient charcoal treatment system as a result of industry experience.	<p>The design and installation was accelerated.</p>	<p>System turnover to startup - End of June 1985</p>
Solid Radwaste System - System procurement delayed to allow for use of the latest available technology that would include volume reduction.	<p>The design and installation was accelerated.</p>	<p>System turnover to startup - End of June 1985</p>

2. ENGINEERING STATUS

H. PROBLEMS/SOLUTIONS

DESCRIPTION OF PROBLEM

CORRECTIVE ACTION

CURRENT STATUS

2) CURRENT PROBLEMS

a) Radiation Monitoring System (TEC-RMS)

The original radiation monitoring system vendor, Technology for Energy, Corporation, has failed to meet its obligations.

Procure an RMS system from another vendor(s).

The project has issued a purchase order to GA Technologies (Sorrento Electronics) for a standard RMS system.

The project is negotiating with NUS for management of the interface between Sorrento's RMS system and TEC's software and hardware for report generation.

Task force reporting to project managers has been established.

Assign personnel to a project task force to monitor supplier performance, resolve problems expeditiously and coordinate activities with Engineering, Construction, Startup and Operations.

Develop minimal requirements for RMS for fuel load (mini-system).

Engineering, Startup and Construction groups have established requirements.

Issue design of system required for licensing.

Initial design issued for Construction on June 14, 1985.



2. ENGINEERING STATUS

H. PROBLEMS/SOLUTIONS

DESCRIPTION OF PROBLEM

CORRECTIVE ACTION

CURRENT STATUS

2) CURRENT PROBLEMS (Cont.)

b) As-Built Reconciliation Program

This item is discussed in detail  
in Section 12/B/n.

## 2. ENGINEERING STATUS

### I. SUMMARY

The foregoing discussion of the engineering status and ongoing activities demonstrate that the engineering design effort and engineering support to Construction and Startup are consistent with the needs of the overall project schedule. The Home Office Engineering, Site Engineering, and Resident Engineering organizations are structured to provide maximum and timely support to construction to expedite resolution of construction related problems. Further, all known licensing requirements have been addressed, and where applicable, have been factored into the plant design.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

3. PROCUREMENT

Question: Detailed review and current status of procurement activities including valves, pipe, instruments, cable, major components, spare parts, etc.

A. INTRODUCTION

With the completion of delivery of all bulk materials and principal components, the remaining activity consists of the resolution of the radiation monitoring system, procurement of operational spare parts, and support of the startup effort. A centralized CORE Team established to expedite materials to support Startup and Operations.

There are no major purchase orders for permanent plant equipment or major construction contracts to be awarded.

B. RADIATION MONITORING SYSTEM

The radiation monitoring system was awarded to TEC on July 30, 1982. On April 2, 1985, having delivered only the control room panel (enclosure) and miscellaneous brackets and hardware, TEC was notified of its default. PSE&G and Bechtel developed a contingency plan based on the monitoring requirements to bring fuel onsite and to permit fuel load. The result was a demand schedule which was utilized to solicit an alternate supplier.

Bechtel has awarded an order to Sorrento Electronics, a division of General Atomics Technologies, with deliveries which support the demand schedule. In addition, Bechtel is negotiating with NUS to provide material and services to manage the interface between Sorrento Electronics' standard system and TEC's hardware and software for Reg. Guide 1.21 report generation.

Sorrento Electronics delivered the local processor for new fuel criticality on May 22, 1985, approximately 3 weeks earlier than needed by the demand schedule. The balance of processors required for fuel load are scheduled for delivery by September 1, 1985. NUS has committed to deliver the hardware and software for non-RMS functions required for fuel load, such as spent-fuel temperature monitoring and drywell leak detection system by September 15, 1985. Construction can accommodate these deliveries without impact on the ready-for-fuel load date.

In order to assure continued performance of both suppliers and resolve interface problems quickly, PSE&G and Bechtel both have assigned resident engineers to the supplier's facilities and established a separate project task force to coordinate design developments and monitor performance.

NRC 5 (A-20)b

### 3. PROCUREMENT

#### C. NSSS EQUIPMENT STATUS

Delivery of the NSSS equipment is essentially complete. Components not yet delivered, are on schedule in accordance with the fuel load schedule.

In order to expedite deliveries of repair and replacement parts, Bechtel has contracted with General Electric to station an engineer onsite to requisition parts through General Electric's FDI/FDDR system. In this manner, the normal delays in spare part requisitioning is avoided. Further, a project-dedicated employee of General Electric is assigned in San Jose to expedite internal activities and subvendor activities. Lead times have been reduced significantly since implementation of this expedited ordering system.

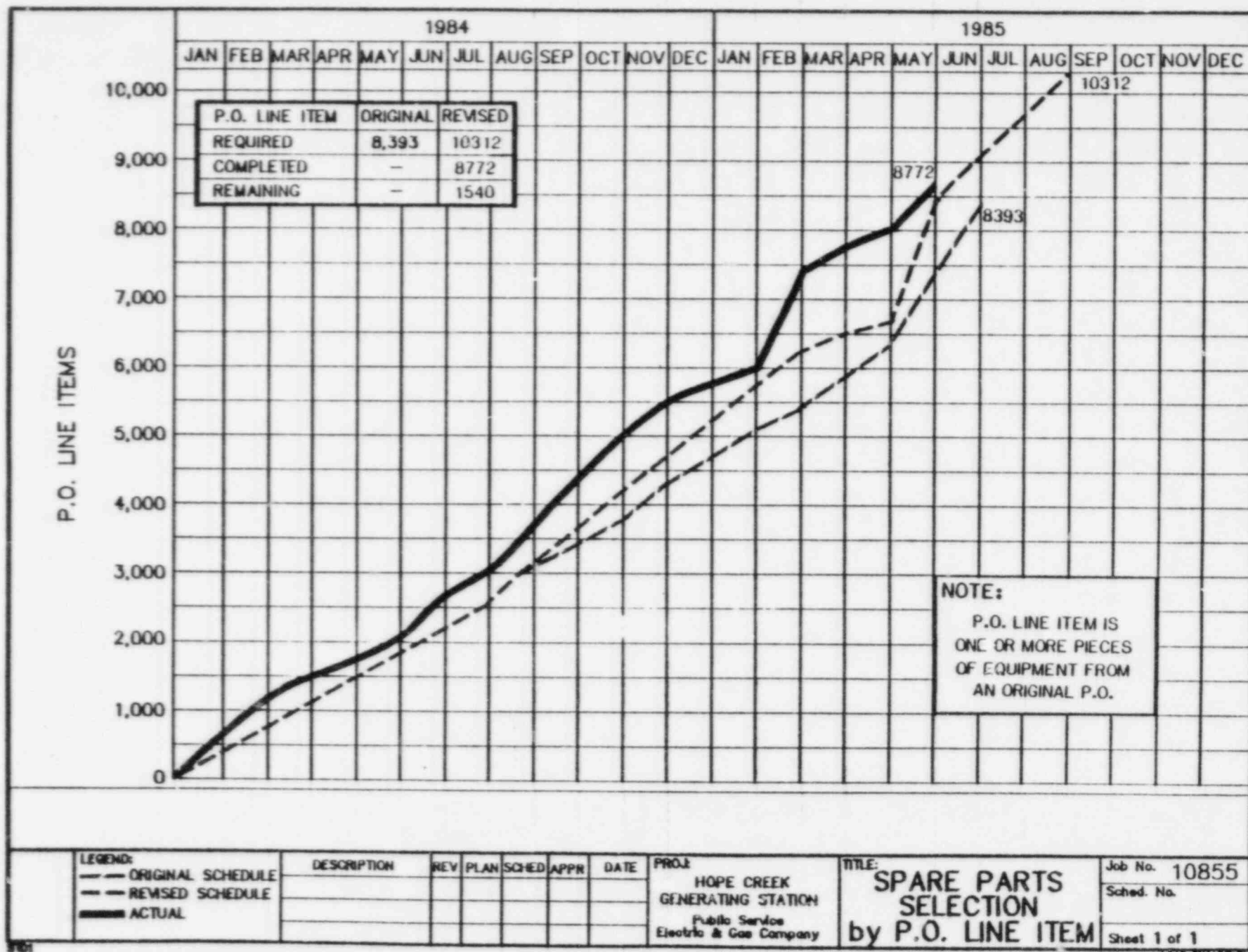
#### D. OPERATIONAL SPARE PARTS SELECTION

The spare parts selection process has four distinct phases:

- \* Review of technical consideration
- \* Selection and quantity determined
- \* Engineering and QA evaluation
- \* Review and approval of vendors' quotation

The selection process is tracked on the basis of purchase orders for original plant equipment. Each order usually contains several line items which cover the various pieces of equipment purchased via that purchase order.

Maximum utilization of Unit 2 equipment has been made in selection of operational spare parts.



### 3. PROCUREMENT

#### E. CORE TEAM ACTIVITY

To provide materials/parts to support our project's startup testing program expedited procurement and delivery of, it was determined that a PSE&G/ Bechtel composite procurement group ("CORE TEAM") would be set up. Their sole function is to expedite the procurement of startup materials.

This is a group of 19 dedicated Public Service and Bechtel engineers, procurement clerks, QA, buyers, expeditors, and receiving personnel who have been centrally located. Special streamlined procedures compatible with the PSE&G Purchasing department procedures have been established to facilitate this effort.

This group will utilize whatever avenues are available to them to obtain the needed material, such as new orders, existing construction material, Operations' spare parts already received, vendor/subcontractor materials, Unit 2 retained parts, Salem or other utility parts, etc.

Approximately 80 percent of all new purchase requisitions are prepared in less than 3 days from the time its need is identified, via an SDR, many in less than 1 day. This includes Material Order/Item Classification (MOIC) preparation, classification, vendor discussions/negotiations, etc.

For approximately 60 percent of all new purchase orders, the material is actually delivered to the site in less than one to two weeks from the time its need is identified via an SDR.

Weekly summary reports that track the CORE Team activities and results are distributed to the site managers.



### 3. PROCUREMENT

#### F. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
(1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELAOD</u>		
a) Late seismic qualification of BIF butterfly valves.	Problem resolved.	Mounting arrangement redesigned; valves successfully tested and have been delivered and installed.
b) Late delivery of HVAC remote panels.	Problem resolved.	Panels have been delivered and installed.
c) Late delivery of solid radwaste equipment.	Problem resolved.	Some equipment was delivered late; construction workarounds employed to support system turnover.
(2) <u>CURRENT PROBLEMS</u>		
a) <u>Radiation Monitoring System</u>  The original radiation monitoring system vendor, Technology for Energy, Corporation, has failed to meet its obligations.	Procure an RMS system from another vendor(s).	<p>The project has issued a purchase order to GA Technologies (Sorrento Electronics) for a standard RMS system.</p> <p>The project is negotiating with NUS for management of the interface between Sorrento's RMS system and TEC's software and hardware for report generation.</p>

(Cont.)

3. PROCUREMENT

F. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
2) <u>CURRENT PROBLEMS</u> (Cont.)		
a) <u>Radiation Monitoring System</u> (Cont.)	Assign personnel to a project task force to monitor supplier performance, resolve problems expeditiously and coordinate activities with Engineering, Construction, Startup and Operations.	Task force reporting to project managers has been established.
	Obtain material on an expedited basis.	Local processor for new fuel criticality has been delivered. Remainder of equipment is scheduled to support subsequent site activities.
	Obtain vendor's manuals/procedures to support development of test and operating procedures.	Existing manuals are currently being submitted.
b) <u>Support of Startup/Operations</u>		
During the turnover and startup/operations phases material will be identified which is missing or requires replacement.	Implement a Procurement Task Force (CORE Team) dedicated to processing all phases of procurement in the most expeditious manner.	The CORE Team is in place and supporting requirements.

### 3. PROCUREMENT

#### G. SUMMARY

Procurement activities are essentially complete. There are no current procurement problems which are unique to Hope Creek Generating Station. Problems typical for the construction/startup effort at this stage of the project are being resolved with innovative solutions which have proven effective. Current procurement efforts will support the Startup/Operations program.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

4. CRAFT WORK FORCE

Question: Actual and proposed work force (by major craft), craft availability, productivity, potential labor negotiations and problems.

A. INTRODUCTION

The Bechtel direct manual manpower has held at about the 3,000 equivalent man level for the last two years. The level has been based on achievement of schedule requirements at the most reasonable cost. At this stage of the project it is extremely difficult to measure craft productivity as so much of the effort is driven by immediate resolution of short term requirements. This has the effect of increasing the overtime being applied which in turn increases the equivalent manloading.

Subcontractors have stayed at a level of approximately 600 equivalent men.

While there has been the normal craft turnover, there have been sufficient supplies of the critical crafts such as pipefitter welders and electricians to support a balanced work load.

No craft manning problems are anticipated through fuel load.

Since 1982 no work stoppages have been encountered and with only one contract expiration by fuel load this is not considered to be a problem.

In May 1984 wage agreement addenda were signed with all unions on site providing the capability to perform maintenance work under the General Presidents Project Maintenance Agreement guidelines. This staffing level has steadily increased and now represents 581 of the 2,820 craft on roll.

#### 4. CRAFT WORK FORCE

##### B. MANUAL STAFFING LEVELS

###### 1. Manual on Roll - June 14, 1985

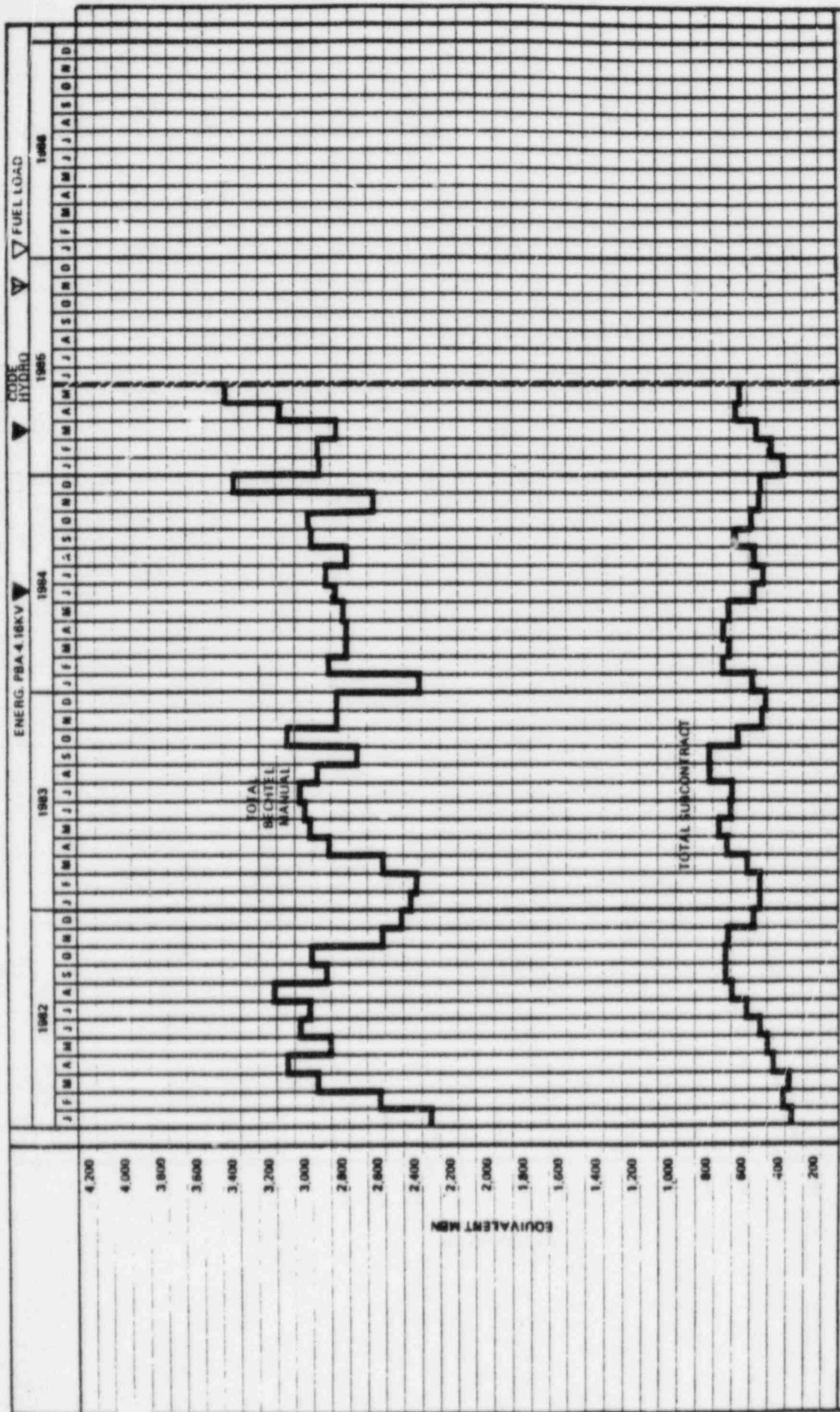
<u>CRAFT</u>	<u>CONSTR.</u>	<u>GPPMA</u>	<u>TOTAL</u>
Asbestos Workers	116	11	127
Boilermakers	0	17	17
Carpenters	164	34	198
Cement Masons	34	0	34
Electricians	538	94	632
Iron Workers	99	17	116
Laborers	325	86	411
Millwrights	40	44	84
Operating Engr.	88	8	96
Pipefitters	748	238	986
Sheetmetal	0	24	24
Teamsters	35	6	44
Painters	24	0	24
Other	28	2	30
Total	2,239	581	2,820

###### 2. Shift Distribution (Percent)

	<u>CONSTR.</u>	<u>GPPMA</u>	<u>TOTAL</u>
First Shift	77	71	75
Second Shift	21	19	21
Third Shift	2	10	4

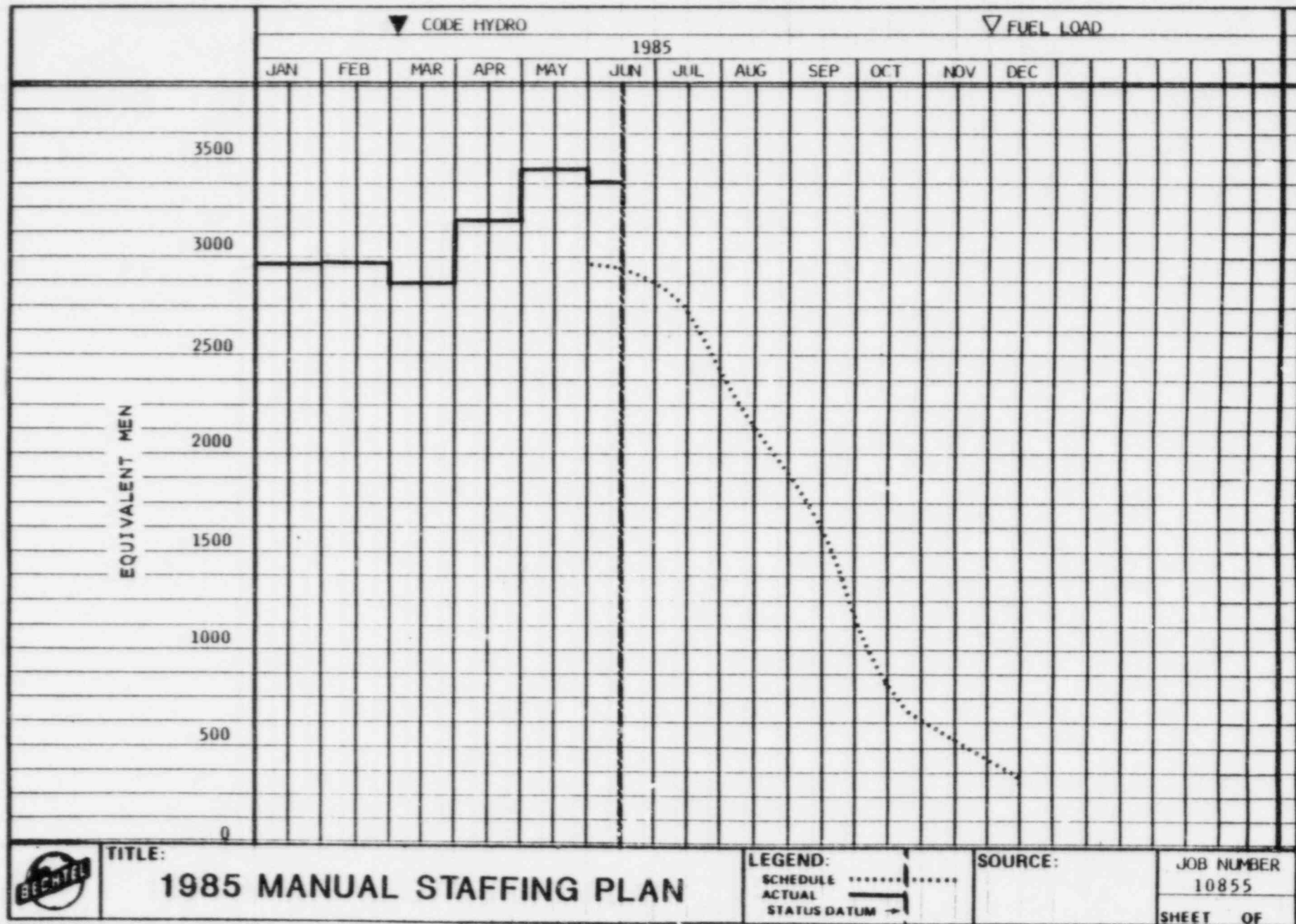
###### 3. Manual on Roll by Organization

Bechtel - Directs	2,239	
- GPPMA	581	
Subtotal		2,820
Subcontract	351	
Subtotal		3,171
GSA	204	
Total		3,375



	JOB NO <b>10855</b>	HOPE CREEK GENERATING STATION PUBLIC SERVICE ELECTRIC AND GAS COMPANY	LEGEND: --- SCHEDULED — ACTUAL	TITLE: <b>BECHTEL MANUAL AND CONTRACTOR STAFFING</b>	N°TE(S):	SCHEDULE NO. C/S 8003 SHEET 1 OF 1
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TITLE:

1985 MANUAL STAFFING PLAN

#### 4. CRAFT WORK FORCE

##### C. LABOR CONTRACT STATUS

The only remaining contract to be negotiated before fuel load is Local #28 of the boilermakers. No problems are anticipated in the negotiations.

Below is a listing of those contract successfully negotiated since the last caseload.

<u>CRAFT</u>	<u>LOCAL</u>	<u>CONTRACT EXPIRATION DATE</u>
Heavy Laborers	172	02/28/83
Bricklayers	7	04/30/83
Carpenters	393	04/30/83
Pipefitters	322	04/30/83
Pipefitter Welder	322	04/30/83
Sprinkler Fitters	699	04/30/83
Sheetmetal Workers	19	04/30/83
Roofers	30	04/30/83
Wharf & Dock Builders	454	06/30/83
Electricians	592	09/30/83
Painters	1331	02/29/84
Cement Masons	699	04/30/84
Laborers	222	04/30/84
Ironworkers	399	06/30/84
Operating Engineers	825	06/30/84
Asbestos Workers	42	07/14/84
Boilermakers	28	07/31/84
Painters	1331	02/28/85
Sprinkler Fitters	669	04/01/85
Sheetmetal Workers	19	04/30/85
Teamsters	676	04/30/85

#### 4. CRAFT WORK FORCE

##### D. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD</u>		
a) <u>Labor Contract Negotiations</u>  Nine individual craft labor contracts expire in 1983. Pipefitters (4/30/83) and electricians (9/30/83) are among the nine.	Problem resolved.	All contracts negotiated with no work stoppages or loss of time.
b) <u>Critical Crafts</u>  Availability of pipefitter welders and the ability to retain qualified welders is an area of concern.	Critical crafts recruited and trained.	Sufficient pipefitter welders obtained to support schedule and turnover minimized.
c) <u>Training</u>  Jobsite training was identified as an area of concern.	Increase training program.	Training coordinator established and programs initiated.

#### 4. CRAFT WORK FORCE

##### E. SUMMARY

At this time the work force is not a factor in supporting the target fuel load date. Adequate supplies of skilled crafts are available and no work stoppages are anticipated.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

5. PIPE HANGERS

Question: Detailed review and current status of all large and small bore pipe hangers, restraints, snubbers, etc., including design rework, procurement, fabrication, delivery and installation.

A. INTRODUCTION

The Hope Creek pipe hanger effort has been a key program to construction completion. A major effort has been devoted to complete the construction of large and small pipe hangers and consequently has positioned Hope Creek ahead of where other projects were six months prior to fuel load.

There has been very little rework of large and small bore pipe hangers, as a result of the As-Built Reconciliation (ABR) program. Very few changes have been found necessary to date and those were of a minor nature. Sufficient material is on site to support any anticipated future modifications.

B. CONSTRUCTION STATUS AS OF JUNE 18, 1985

	Large Pipe Hangers	Small Pipe Hangers	- Restraints -		- Snubbers -	
			Inside Drywell	Outside Drywell	Large Pipe	Small Pipe
Total	15,714	21,578	149	70	1,195	149
Installed	15,515	20,940	146	58	1,195	135
To Go	199	638	3	12	0	14

C. SUMMARY

Based on the foregoing and the construction status above, as well as, the status of the As-Built Reconciliation program discussed in Section 12, hanger installation supports a December 1, 1985, fuel load.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

6. PROJECT SCHEDULE

Question: Detailed review of project schedule identifying critical path items, near critical items, amount of float for various activities, the current critical path to fuel loading, methods of implementation of corrective action for any activities with negative float, and provisions for contingencies. The estimated project percent complete as of May 31, 1985.

A. INTRODUCTION

The project plan to maintain a bulk installation mode of construction through 1983 was successfully implemented. In 1984 two significant changes were made. The remaining scheduled activities were evaluated with the object of setting the most aggressive schedule for completion of all installation work leading to system and room turnovers in an orderly fashion. This resulted in advancing fuel load by six weeks to December 1, 1985, and code hydro four weeks to March 9, 1985. The latter was accomplished one week early. The other change was the creation of eight system teams with dedicated personnel from supervision, engineering, QC, and planning. Each team was given the responsibility for ensuring that their assigned systems were turned over on schedule with minimum exceptions.. This concept has since been expanded to add a startup engineer and planner to each team for integration with startup.

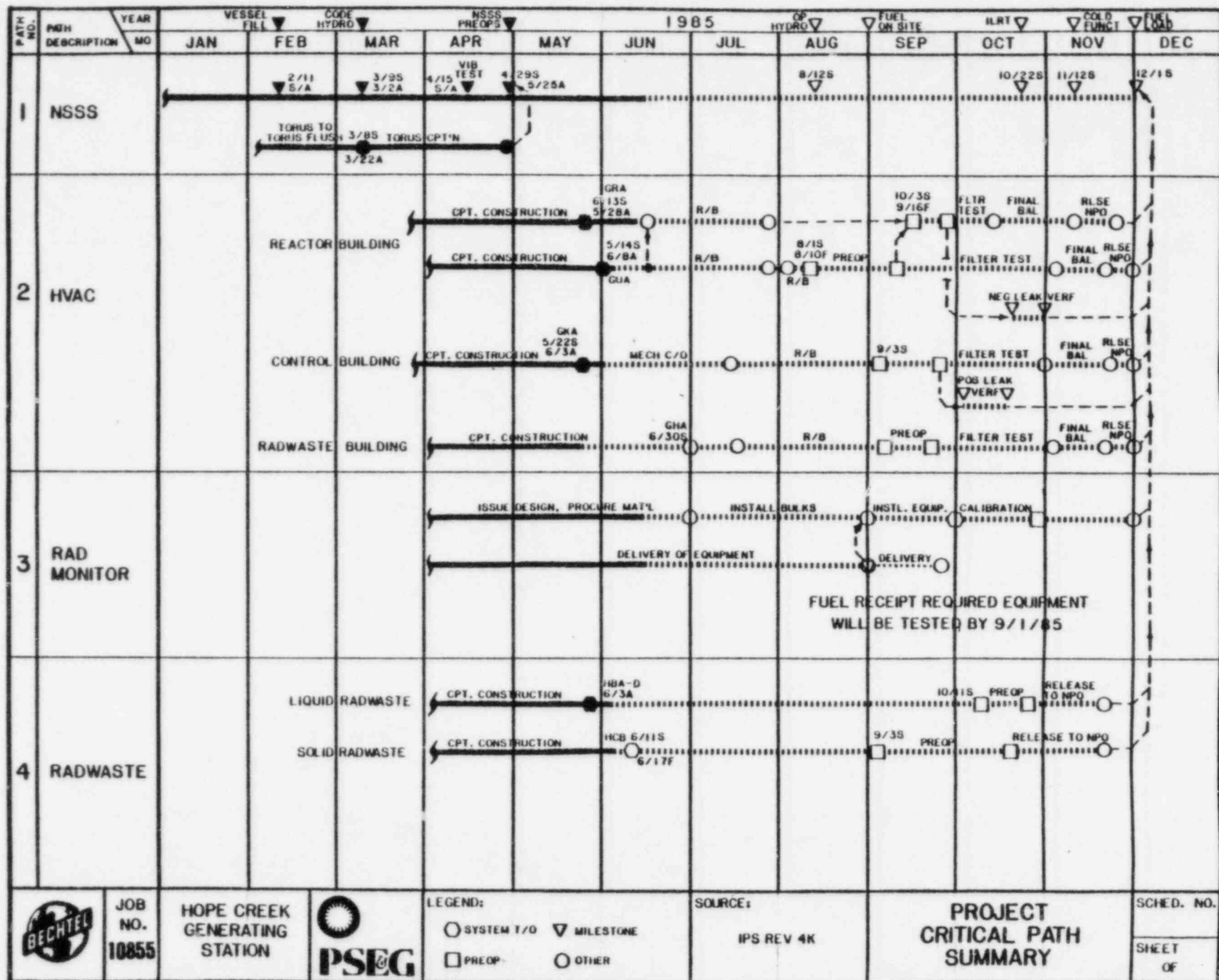
Turnovers and preops were leveled to eliminate peaks in the programs. A release for testing (RFT) program was initiated to turnover components to Startup in advance of complete systems to provide them maximum flexibility. To date 1,301 out of 1,373 RFTs identified have been complete. Problems of other projects were evaluated and systems such as the diesels were advanced to allow for them.

While no contingency per se is included in the schedule, weekly meetings are held between Construction and Startup to identify any changes in the critical paths and at that time workarounds are developed to support the requirements.

As of May 31, 1985, Construction is 98.4% complete. The four critical paths are listed below:

	<u>FLOAT THIS MONTH TO 12/1/85 FUEL LOAD</u>
1. Completion of NSSS preoperational tests.	0
2. Receipt of equipment and construction completion of the radiation monitoring system.	0 to +1 wk.
3. Construction completion and turnover of HVAC systems. (Including GRA, GUA, GKA and GHA).	0 to -1 wk.
4. Construction completion and turnover of the solid and liquid radwaste systems.	0 to <sup>+</sup> 1 wk.





JOB NO.  
10855

HOPE CREEK  
GENERATING  
STATION



LEGEND:  
 ○ SYSTEM T/O    ▼ MILESTONE  
 □ PREOP    ○ OTHER

SOURCE:  
IPS REV 4K

PROJECT  
CRITICAL PATH  
SUMMARY

SCHED. NO.  
SHEET  
OF

6. PROJECT SCHEDULE

B. CRITICAL PATH ANALYSIS

IPS REV. 4 Q - MAY 26, 1985 STATUS

.....  
PATH NO. 1 - NSSS PREOPERATIONAL TESTS

TOTAL FLOAT LAST MONTH: 0  
TOTAL FLOAT THIS MONTH: 0  
.....

<u>PATH DESCRIPTION/PROBLEMS</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
In vessel NSSS preop testing in support of operational hydro.	Evaluate critical path and implement priority changes as required.	Critical path has been reviewed in detail. The critical activities are those preop tests that require use of RPV.  NSSS preop testing is on schedule.  The critical control rod drive preop is paced by modification to valve seats. Modification work and checkout to be completed by the early July 1985 preop start.

.....  
PATH NO. 2 - INSTALLATION OF RADIATION MONITORING SYSTEM

TOTAL FLOAT LAST MONTH: TBD  
TOTAL FLOAT THIS MONTH: 0 - +1 wk.  
.....

The original radiation monitoring system vendor, Technology for Energy, Corporation, has failed to meet its obligations.	Procure an RMS system from another vendor(s).	The project has issued a purchase order to GA Technologies (Sorrento Electronics) for a standard RMS system.  The project is negotiating with NUS for management of the interface between Sorrento's RMS system and TEC's software and hardware for report generation.
--	---	--

## 6. PROJECT SCHEDULE

### B. CRITICAL PATH ANALYSIS (Cont.) IPS REV. 4 Q - MAY 26, 1985 STATUS

PATH NO. 2 - INSTALLATION OF RADIATION MONITORING SYSTEM  
(Cont.)

TOTAL FLOAT LAST MONTH: TBD  
TOTAL FLOAT THIS MONTH: 0 - +1 wk.

<u>PATH DESCRIPTION/PROBLEMS</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
	Assign personnel to a project task force to monitor supplier performance, resolve problems expeditiously and coordinate activities with Engineering, Construction, Startup and Operations.	Task force reporting to project managers has been established.
	Develop minimal requirements for RMS for fuel load (mini-system).	Engineering, Startup and Construction groups have established requirements.
	Issue design of system required for licensing.	Initial design issued for Construction on June 14, 1985.
	Obtain materials on an expedited basis.	Local processor for new fuel criticality has been delivered. Remainder of equipment is scheduled to support subsequent site activities.
	Commence construction of new system.	Activities have commenced to modify existing installations.
	Obtain vendor's manuals/procedures to support development of test and operating procedures.	Existing manuals are currently being submitted.

6. PROJECT SCHEDULE

B. CRITICAL PATH ANALYSIS (Cont.)  
IPS REV. 4 Q - MAY 26, 1985 STATUS

.....  
PATH NO. 3 - COMPLETION OF HVAC SYSTEMS  
.....

TOTAL FLOAT LAST MONTH: 0 - 1 wk.  
TOTAL FLOAT THIS MONTH: 0 - 1 wk.  
.....

<u>PATH DESCRIPTION/PROBLEMS</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
Balancing and testing of the HVAC in support of turnover to Operations and Fuel Load.	Expedite the release of the critical HVAC systems to Startup.	Checkout and rough balancing of the major systems is underway.  Radwaste HVAC system (GHA) is the remaining critical system to be released from construction. This system is being worked two shifts. Installation of spring kits for fire dampers has begun. Other fixes are pending functional testing of specified dampers.  Reactor Building HVAC systems (GRA and GUA) have been released to Startup. Testing of the sytem is being done on a two-shift basis in support of the NLRT scheduled for October 1985.  Control Building HVAC system (GKA) has been released to Startup. Testing has commenced in support of the PLRT scheduled for October 1985.

6. PROJECT SCHEDULE

B. CRITICAL PATH ANALYSIS (Cont.)  
IPS REV. 4 Q - MAY 26, 1985 STATUS

.....

PATH NO. 4 - COMPLETION OF SOLID AND LIQUID RADWASTE SYSTEMS

.....

TOTAL FLOAT LAST MONTH:  $\pm 1$  wk.  
TOTAL FLOAT THIS MONTH:  $\pm 1$  wk.

.....

<u>PATH DESCRIPTION/PROBLEMS</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
Radwaste systems functional test and preop testing.	Increase emphasis on release for test and installation completion of radwaste systems (liquid and solid).	Liquid radwaste systems were turned over for functional checks June 14, 1985.  Extended work week and multiple shifts being worked on solid radwaste systems.  Completion by construction paced by piping and equipment installation.

STATUS - 5/31/85

NO.	DESCRIPTION	MANAGER	DATES		1984												COMMENTS
			TARGET	APPARENT	J	F	M	A	M	J	J	A	S	O	N	D	
84-01	Install 12,600 Large Pipe Hangers	Sullivan BPC	01/13/84	01/07/84	▼												Completed ahead of schedule.
84-02	Issue Fire Hazards Analysis	Henderson BPC	01/16/84	01/16/84	▼												Completed on schedule.
84-03	Issue PUA to NRC	Pedersen BPC	02/15/84	02/10/84	▼												Completed ahead of schedule.
84-04	Issue Route Verified Cables Identified by 1/7/84 for all Systems needed for T/O by 9/30/84	Cooke BPC	02/15/84	02/16/84	▼												Completed on schedule.
84-05	Publish Draft SER	Preston PSE&G	02/21/84	03/06/84	▼	●											Completed.
84-06	Master Equipment List Computer Program Operational	Cielo PSE&G	04/28/84	02/17/84	▼												Completed ahead of schedule.
84-07	Install 340,000 LF Conduit	Soudas BPC	03/01/84	02/12/84	●	▼											Completed ahead of schedule.
84-08	Complete Phase I of the Vendor Documentation Verification	Cielo PSE&G	03/15/84	03/15/84		▼											Completed on schedule.
84-09	NRC SRO/RO Cold License Certification Complete	Connor PSE&G	03/29/84	03/02/84		▼											Completed ahead of schedule.
84-10	Install 166,000 LF Small Pipe	Sullivan BPC	03/30/84	03/26/84		▼											Completed ahead of schedule.
84-11	Install 2.5 Million Pounds of Duct Work	Morgan BPC	04/13/84	07/13/84			▼			●							Completed.
84-12	Install 100,000 LF Instrument Tubing	Morel BPC	04/20/84	04/06/84			▼										Completed ahead of schedule.
84-13	Complete Switchyard Step 1 for Service	Floyd PSE&G	05/01/84	04/11/84			●	▼									Completed ahead of schedule.
84-14	Energize Switchyard 125 VDC System	Floyd PSE&G	05/04/84	02/01/84	●		▼										Completed ahead of schedule.
84-15	Complete Design for Appendix R Modifications Based on 1/84 PSAR Appendix 9A	Henderson BPC	05/30/84	04/30/84			●	▼									Completed ahead of schedule.
84-16	Complete Drywell Hanger Design Including EDS Modifications	Fisher BPC	06/01/84	06/01/84				▼									Completed on schedule.
84-17	NRC By-Product License	Preston PSE&G	06/15/84	05/31/84				●	▼								Completed ahead of schedule.
84-18	Engr. to Develop the First 100 S/U Punchlists on Outstanding Design Issues	Pedersen BPC	06/18/84	03/30/84	●		▼										Completed ahead of schedule.

## LEGEND

- ▼ TARGET DATE  
○ APPARENT DATE

- NOTES: 1. APPARENT DATE WITH NUMBER ① IDENTIFIED REVISION.  
2. WHEN TARGET AND APPARENT DATES ARE IDENTICAL, ONLY THE TARGET WILL BE SHOWN.  
3. ▼ OR ● INDICATES A COMPLETED MILESTONE.

M P83 124/21 1/3-ard

HOVE CREEK  
GENERATING STATION  
NO. 1 UNIT

PROJECT CALENDAR  
MILESTONE EVENT LIST\*

PUBLIC SERVICE ELECTRIC & GAS COMPANY  
Engineering & Construction Department  
Newark, New Jersey

Drawn *MB* Date *6-7-85* Checked \_\_\_\_\_ Date \_\_\_\_\_  
Proj. Contr. *MB* Cost Div. \_\_\_\_\_

\*ESTABLISHED IN 1983



STATUS - 5/31/85

NO.	DESCRIPTION	MANAGER	DATES		1984 '85												COMMENTS
			TARGET	APPARENT	A	M	J	J	A	S	O	N	D	J	F	M	
84-19	T/O 4.16 IE Station Power System	Lauer BPC	06/19/84	05/31/84	●		▼										Completed ahead of schedule.
84-20	Complete Control Room Complex Integrated Test	Gellerman PSE&G	06/20/84	06/01/84			▼										Completed ahead of schedule.
84-21	Complete Administration Building	Kerthausen BPC	07/02/84	06/07/84			●	▼									Completed ahead of schedule.
84-22	Install 400,000 LF Conduit	Soudas BPC	07/06/84	05/20/84	●		▼										Completed ahead of schedule.
84-23	Install 200,000 LF Small Pipe	Sullivan BPC	07/13/84	02/17/85			▼								●		Completed.
84-24	Install 4.0 Million LF of Wire and Cable	Soudas BPC	08/01/84	07/16/84			●	▼									Completed ahead of schedule.
84-25	T/O 480V IE Substation Power	Lauer BPC	08/07/84	06/20/84		●	▼										Completed ahead of schedule.
84-26	Install 14,500 Large Pipe Hangers	Sullivan BPC	09/07/84	09/02/84						▼							Completed ahead of schedule.
84-27	Issue Draft Environmental Qualification Report	Wroblewski PSE&G	09/14/84	08/24/84				●	▼								Completed ahead of schedule.
84-28	Simulator Available For Operator Training	Schaffer PSE&G	10/01/84	11/05/84							▼	●					Completed.
84-29	Publish Final SER	Preston PSE&G	10/12/84	11/09/84							▼	●					Completed.
84-30	Complete Cooling Tower	Gohde BPC	10/31/84	10/05/84							▼						Completed ahead of schedule.
84-31	Install 130,000 LF Instrument Tubing	Moral BPC	11/02/84	08/24/84				●			▼						Completed ahead of schedule.
84-32	T/O Station Service Water System	Hart BPC	11/15/84	11/14/84								▼					Completed ahead of schedule.
84-33	Publish Final Environmental Impact Statement	Cooley PSE&G	11/16/84	12/19/84								▼	●				Completed.
84-34	T/O Cold Machine Shop	Klein BPC	11/20/84	10/01/84							●	▼					Completed ahead of schedule.
84-35	T/O Systems to Support Polishing Flush of Condensate and Feedwater Systems	Webster BPC	11/22/84	11/16/84								▼					Completed ahead of schedule.
84-36	Complete 163,500 Terminations	Soudas BPC	12/07/84	10/19/84							●	▼					Completed ahead of schedule.

## LEGEND

- ▼ TARGET DATE  
○ APPARENT DATE

- NOTES: 1. APPARENT DATE WITH NUMBER ① IDENTIFIED REVISION.  
2. WHEN TARGET AND APPARENT DATES ARE IDENTICAL, ONLY THE TARGET WILL BE SHOWN.  
3. ▼ OR ● INDICATES A COMPLETED MILESTONE.

M P83 124/21 4/6-arc

HOPE CREEK  
GENERATING STATION  
NO. 1 UNIT

PROJECT CALENDAR  
MILESTONE EVENT LIST

PUBLIC SERVICE ELECTRIC & GAS COMPANY  
Engineering & Construction Department  
Newark, New Jersey

Drawn	Date	Checked	Date
Proj. Contr.	7/10/85	Cost Div.	

STATUS - 5/31/85

NO.	DESCRIPTION	MANAGER	DATES		1985												COMMENTS
			TARGET	APPARENT	O	N	D	J	F	M	A	M	J	J	A	S	
84-37	T/O Emergency Diesel Generators	McKinnon BPC	12/12/84	12/18/84				▼									Completed.
84-38	T/O Main Steam System	Netzer BPC	12/27/84	02/25/85			▼	●									Completed.
85-01	T/O Suppression Pool	Rau BPC	01/02/85	12/31/84			●	▼									Completed ahead of schedule.
85-02	Complete Circulating Pump Structure	Klein BPC	01/11/85	11/30/84			●	▼									Completed ahead of schedule.
85-03	Publish Supplemental SER	Preston PSE&G	02/11/85	03/12/85					▼	●							Completed. Delay result of awaiting response from NRC.
85-04	T/O HIR System (Inside Containment)	Rau BPC	02/13/85	02/01/85				▼									Completed ahead of schedule.
85-05	Start Pre-op for Turbine Aux. Cooling System (EG-1)	Carter PSE&G	02/28/85	06/28/85					▼				○				Pacing Item is polishing flush and flow balance.
85-06	T/O CRD Units	Rau BPC	03/07/85	03/18/85					▼								Completed.
85-07	Start Integrated Flush	Carter PSE&G	03/14/85	02/11/85				●	▼								Completed ahead of schedule.
85-08	T/O Fuel Pool and Pool Cooling System	Rau BPC	03/15/85	01/10/85			●	▼									Completed ahead of schedule.
85-09	Initiate Emergency Plan Drills	Adams PSE&G	03/18/85	08/05/85					▼					○			Training of the Nuclear Department Managers was initiated on 3/11/85, to include NRC technology and an overview of the H.C. Emergency Plan, accident classification and protective action recommendations. This training initiates the overall training cycle for H.C. which will conclude with the conduct of drills on 8/3/85. In addition, training of personnel enrolled in the License Operation Training Program began on 5/7.
85-10	Submit Tech. Spec. to NRC	Preston PSE&G	03/29/85	01/17/85			●	▼									Completed ahead of schedule.
85-11	Code Hydro of Vessel	Rau BPC	04/09/85	03/04/85				●	▼								Completed ahead of schedule.
85-12	Complete Main Turbine Lube Oil Flush	Webster BPC	04/22/85	01/07/85			●	▼									Completed ahead of schedule.
85-13	Start NSSS Pre-op Tests	Carter PSE&G	05/28/85	05/25/85								▼					Completed ahead of schedule.
85-14	Start Pre-ops for Fuel Pool Cooling System	Carter PSE&G	05/29/85	05/28/85								▼					Completed ahead of schedule.
85-15	Complete Drywell HVAC Pre-op Testing	Carter PSE&G	06/03/85	06/10/85									▼				SDR work off restrained completion of this milestone.
85-16	Implement Operational QA Program	Johnson PSE&G	06/28/85	06/28/85									▼				Progressing on schedule.

## LEGEND

- ▼ TARGET DATE  
○ APPARENT DATE

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ROCK CREEK  
GENERATING STATION  
NO. 1 UNIT

PROJECT CALENDAR  
MILESTONE EVENT LIST

PUBLIC SERVICE ELECTRIC & GAS COMPANY  
Engineering & Construction Department  
Newark, New Jersey

Drawn *4* Date *7-85* Checked *4* Date *7-85*  
Proj. Contr. *TMB* Cost Div.

STATUS - 5/31/85

NO.	DESCRIPTION	MANAGER	DATES		1985 1986												COMMENTS
			TARGET	APPARENT	J	J	A	S	O	N	D	J	F	M	A	M	
85-17	T/O Turbine Building	Little BPC	07/15/85	09/13/85	✓												Turnover slipped as a result of the revised room turn-over schedule. Emphasis on hanger acceptance, T.G. restoration activities, insulation, penetration seals, and SDR closeout.
85-18	Issue Plant Specific LOCA Analysis	Sullivan GE/BPC	07/17/85	03/01/85 *													*Completed 3/1/85. Ahead of schedule.
85-19	Turbine on Turning Gear	Carter PSE&G	08/13/85	06/08/85	①	✓											Oil pump and lift pump checkout are pacing items.
85-20	Start Receipt of Fuel	Thompson PSE&G	09/01/85	09/01/85			✓										
85-21	Start Condenser Vacuum Leak Test - Pull Vacuum	Carter PSE&G	09/03/85	06/05/85	①		✓										Restrained by placement of turbine on turning gear.
85-22	Establish Permanent Plant Security System	Babliash PSE&G	10/15/85	09/01/85				OV									
85-23	T/O Reactor Building	Klein BPC	10/15/85	11/15/85				MO									Turnover slipped as a result of the revised room turn-over schedule. Pacing items are small pipe hanger completion and insulation application.
85-24	Perform Integrated Leak Rate Test	Carter PSE&G	12/03/85	10/04/85					OV								
85-25	Switchyard Step 2 Ready for Service	Skillman PSE&G	12/10/85	04/01/85 *													*Completed 4-1-85 ahead of schedule.
85-26	Issue Final Environmental Qualification Report	Wroblewski PSE&G	12/16/85	11/22/85					OV								
86-01	Receive Initial ASLB Decision	Preston PSE&G	01/02/86	02/28/85 *													*Completed 2-28-85 ahead of schedule. ASLB proceedings have been dismissed in accordance with ASLB order dated 2-28-85. Pending admission of future interveners, this issue is closed.
86-02	Commission Decision to Load Fuel	Preston PSE&G	01/14/86	11/30/85						OV							
86-03	Commence Loading of Fuel and Core Verification	Phillips PSE&G	01/15/86	12/01/85						OV							
86-04	Initial Criticality	Phillips PSE&G	02/08/86	12/28/85						OV							
86-05	Heat up and Low Power Testing	Phillips PSE&G	02/16/86	01/05/86						OV							
86-06	NRC Issue Full Power License	Preston PSE&G	03/07/86	01/24/86							OV						
86-07	Test Condition 1 (10% and 20% Power Plateau)	Phillips PSE&G	03/08/86	01/25/86							OV						
86-08	Test Condition 2 (25% and 35% Power Plateau)	Phillips PSE&G	03/25/86	02/11/86								OV					

## LEGEND

✓ TARGET DATE  
○ APPARENT DATE

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HOPE CREEK  
GENERATING STATION  
NO. 1 UNIT  
PROJECT CALENDAR  
MILESTONE EVENT LIST

PUBLIC SERVICE ELECTRIC & GAS COMPANY  
Engineering & Construction Department  
Newark, New Jersey

Drawn *g* Date *4-1-85* Checked *g* Date  
Proj. Contr. *TM/B* Cost Div.

## 6. PROJECT SCHEDULE

### D. SUMMARY

The Hope Creek Project has demonstrated an historical pattern of establishing schedule targets that are aggressive, but not unrealistic, and being able to identify and apply the necessary resources to support their fulfillment. This is borne out by the findings of the Theodore Barry & Associates management audit in 1984 which stated that with continued aggressive actions attainment of the fuel load schedule is reasonably achievable.

The project has completed its bulk installation phase within a timetable which was established in 1983 and is tracking to the target fuel load schedule established in 1984. The project has the flexibility to respond to any construction items developed during the final startup/operation phases. At this time the target fuel load of December 1, 1985, is fully supportable by Construction.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

7. BULK COMMODITIES

Question: Detailed review and current status of bulk quantities, including current estimated quantities, quantities installed to date, quantities scheduled to date, current percent complete for each, actual versus forecast installation rates, in cubic yards/mo., linear feet/mo., or number/mo., and basis for figures. Also indicate what percentage has been QA inspected and accepted.

A. INTRODUCTION

While the rates established at the time of the last caseload were very aggressive, they were met and the bulk installation phase is now essentially complete.

Remaining commodities being closely monitored are penetration seals and pipe and equipment insulation. The former is being driven by room turnovers and is currently out ahead of the effort. The latter is dependent on final hanger acceptance, which is currently being completed and which will release the remaining insulation. The remaining rates to go have been met previously and no problems are anticipated.

NRC 10 (A-1)c

# 7. BULK COMMODITIES

## B. BULK QUANTITY STATUS

<u>COMMODITY</u>	<u>TOTAL FORECAST</u>	<u>COMPLETE 3/83 CASELOAD</u>	<u>COMPLETE 06/14/85</u>	<u>RATE PER MONTH SUSTAINED</u>	<u>--- % COMPLETE ---</u>	
					<u>INSTALL.</u>	<u>QC ACCEPT. Q ONLY</u>
LG. PIPE HGRS (Q/NON-Q) (EA)	15,714	8,814	15,515	480	99	99
LARGE PIPE (LF)	299,200	230,900	298,666*	4,530	100	74
SM. PIPE HGRS (Q/NON-Q) (EA)	21,578	N/A	20,940	2,240	97	70
SMALL PIPE (EXCL. CRD) (LF)	218,000	59,208	216,599	7,270	99	89
CABLE TRAY (LF)	125,000	89,400	124,877*	3,530	100	99.9
CONDUIT (LF)	560,000	126,006	555,026	16,000	98	95.9
WIRE & CABLE (LF)	7,030,000	199,423	6,862,221	312,400	97	93
HVAC (PCS)	24,150	N/A	23,887	680	99	92.5
INSTRUMENT TUBING (LF)	199,000**	20,000	183,871	6,200	92	84
TERMINATIONS (EA)	293,000	N/A	262,024	10,400	89	88.2
PENETRATION SEALS (EA)	14,000	-0-	8,916	920 1,425***	64	64
INSUL. PIPE/EQUIP (OFC) (SF)	153,000	-0-	91,285			
(JM)	<u>33,200</u>	<u>-0-</u>	<u>28,039</u>			
	186,200	-0-	119,324	11,500	64	N/A

\* Through 5/26/85

\*\* Quantities under re-evaluation

\*\*\* To support room turnover

## 7. BULK COMMODITIES

### C. SUMMARY

Remaining bulk commodity installation will support system and room turnovers.



HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

8. STARTUP

Question: Detailed review and current status of preop and acceptance test procedures, integration of preop and acceptance test activities with construction schedule, system turnover schedule identifying each system and status, preop and acceptance tests schedule identifying each test and status, current and proposed preop and acceptance tests program manpower.

A. INTRODUCTION

The Startup Group at Hope Creek is responsible for testing and maintaining components and systems turned over from construction until released from testing to operations. It is an integrated group comprised of Public Service engineering, construction and operations personnel as well as Bechtel, General Electric and other contract personnel working within a single organization. Technical craft support is provided by Public Service operations personnel supplemented by contract personnel who also work within the startup group organization.

At this point, the startup program is 66 percent complete and well established. Administrative procedures are in place. A testing schedule integrated with construction has been in place since late 1983. System scoping and turnover boundaries are finalized; generic procedures are complete and preoperational procedures are being finalized.

The program places priority on early planning, highly experienced testing personnel, and maximum utilization of operating department personnel.

The following listing provides an overview of test program activities through the startup phase. Generally, Phase I is construction verification, Phase II is initial operation and preoperational testing, and Phase III is the fuel loading and power ascension phase.

PHASE I

- a. Perform Hydro Tests
- b. Megger Cables and Equipment
- c. Rotation Equipment Alignment and Coupling
- d. Initially Energize and Calibrate Circuits
- e. Perform Walkdown and Turnover

PHASE II

- a. Initially Energize Power Systems
- b. Perform Cleanness Verification Flushing
- c. Run-in and Test Rotating Equipment
- d. Perform System Preoperational Tests

PHASE III

- a. Fuel Load and Critical Items
- b. Power Tests

## 8. STARTUP

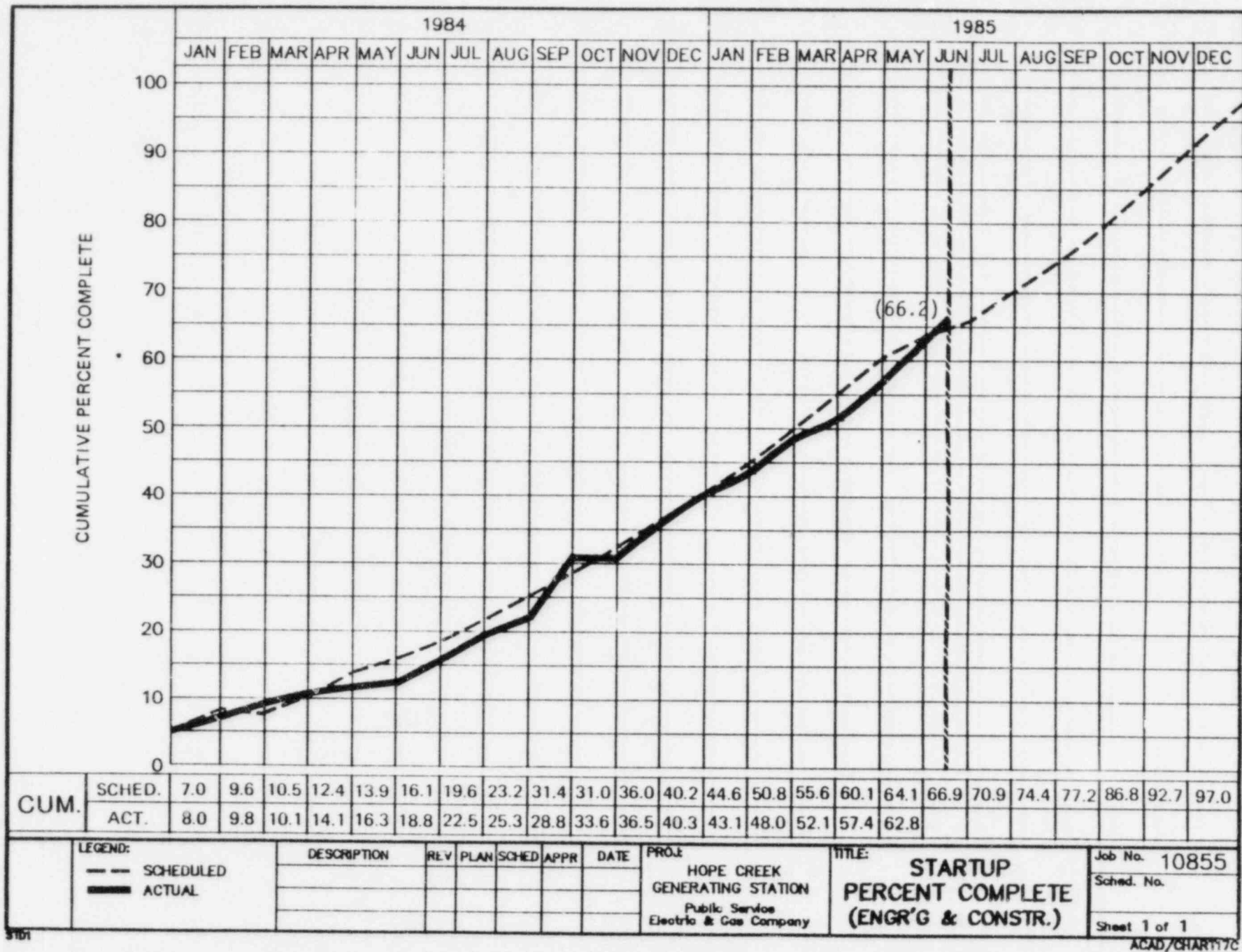
### A. INTRODUCTION (cont.)

With the majority of Phase I testing complete, emphasis has shifted to Phase II testing with particular concentration on performance of preoperational tests.

Progress to date includes the successful turnover and integrated testing of the Control Room Complex ahead of schedule. This milestone was followed by plant energization, which was completed on schedule with the completion of both condensate polish flush and NSSS integrated flush/code hydro ahead of schedule. The project is now confident of achieving a December 1, 1985 fuel load.

### B. RELEASE FOR TEST PROGRAM

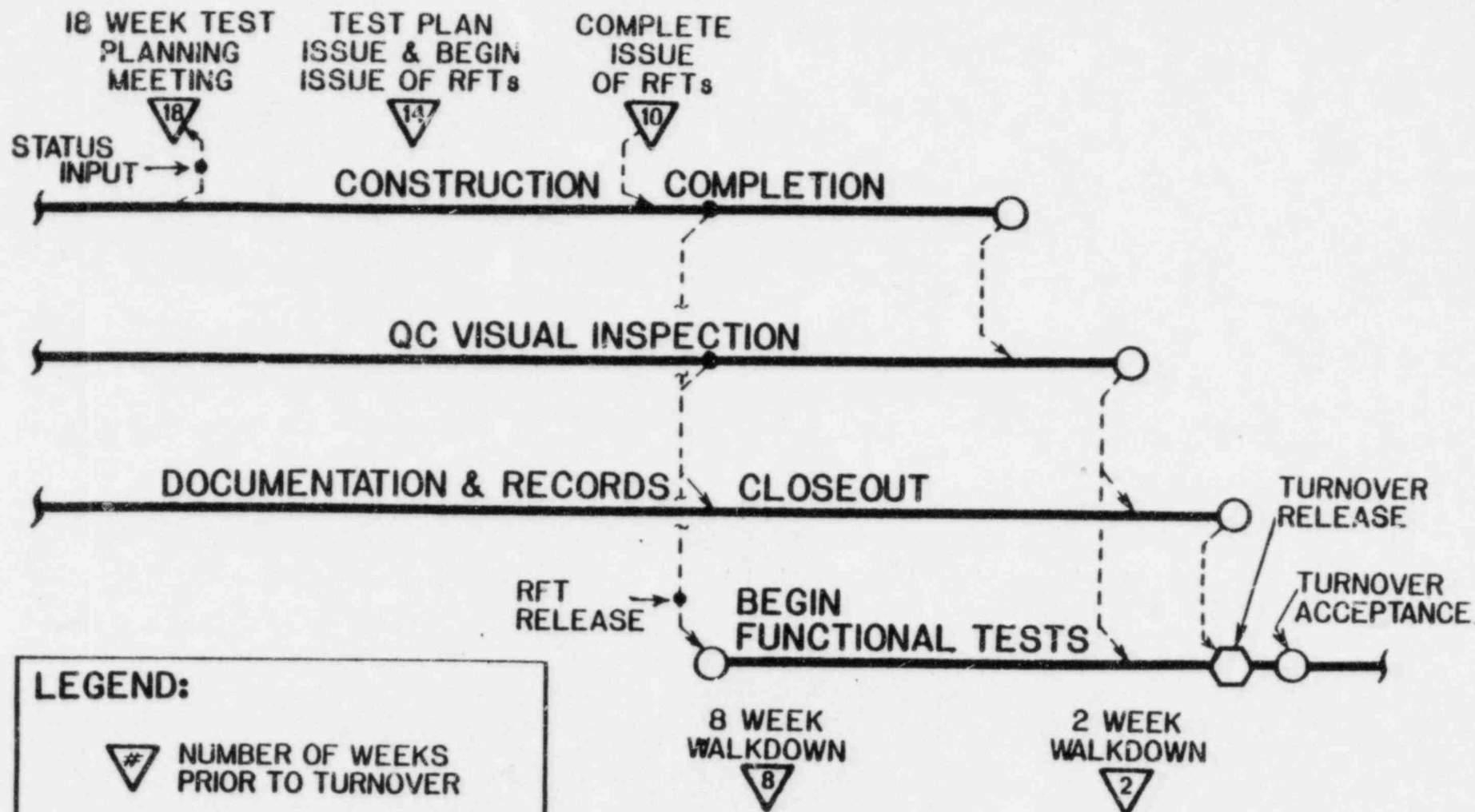
The release for test (RFT) program was designed and implemented to expedite testing and provide for the identification of system problems and resolutions. The RFT program allows Phase I and limited Phase II testing to be conducted prior to system turnover from construction. The planning process for RFTs is usually initiated 18 weeks prior to system turnover. Approximately 10 weeks prior to system turnover Startup is able to begin testing. The RFT program, therefore, effectively adds 10 weeks to the startup testing duration.



# PSSUG

## GENERIC SYSTEM TESTING SCHEDULE LOGIC

(PRE-SYSTEM TURNOVER)



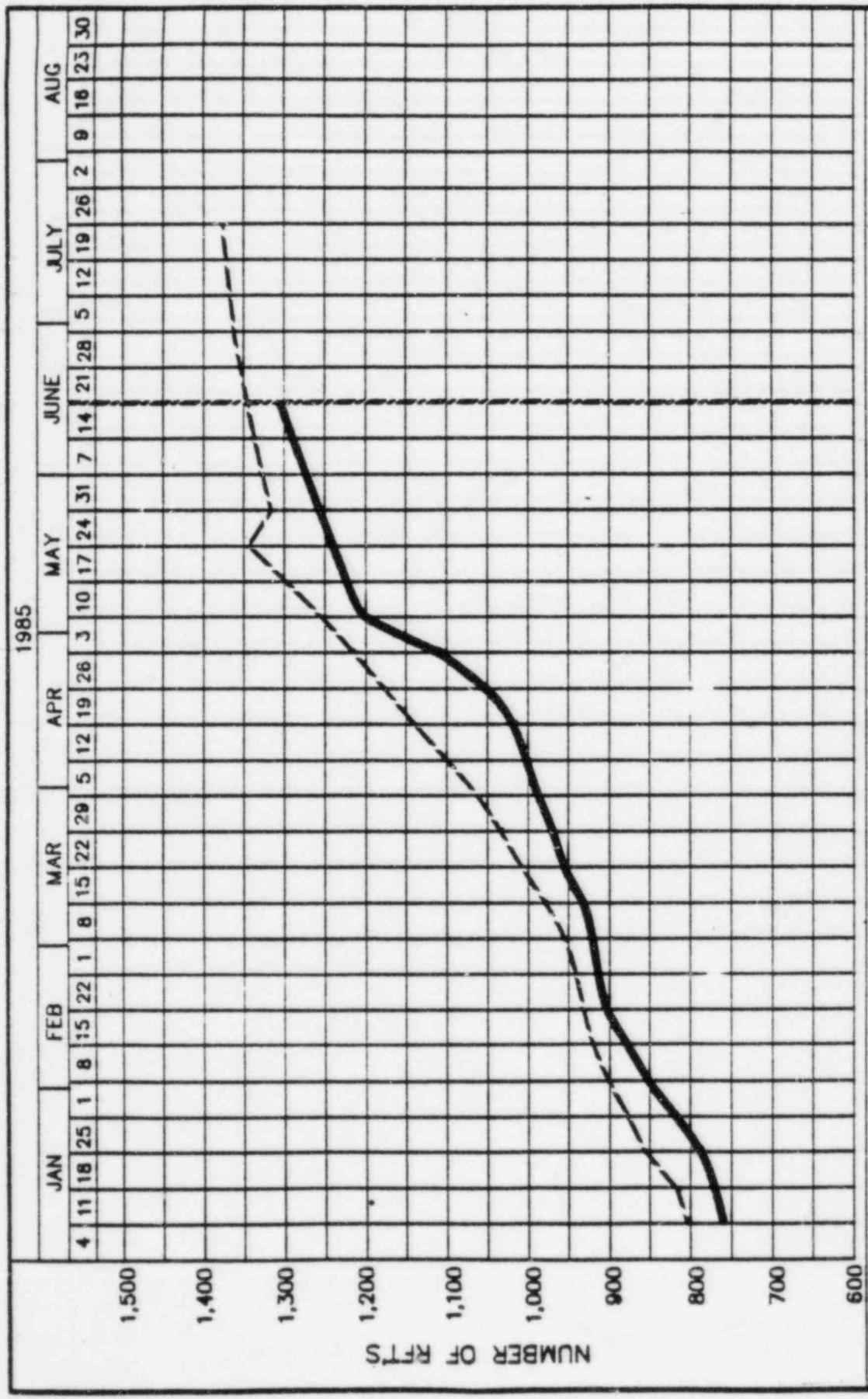
## 8. STARTUP

### B. RELEASE FOR TEST PROGRAM (cont.)

#### Typical Testing Activities Conducted Under the Release for Test Program

Energized testing, calibration and inspection activities performed by the Startup organization under the Release for Testing (RFT) program.

- \* PSI Nuclear Class 2 Examinations
- \* Initially energize and calibrate analog circuits
- \* Inspect, test and calibrate instruments
- \* Bump motors for rotation
- \* Test power transformers and major electrical equipment
- \* Initially energize and functionally check digital control circuits
- \* Perform high voltage insulation tests
- \* Run-in and vibration test motors uncoupled
- \* Calibrate meters and relays
- \* Install temporary startup test equipment
- \* Megger cables and equipment
- \* Test CT's, PT's and secondary circuits
- \* Stroke control valves, dampers and mechanically set limit switch
- \* Set MOV torque switches and adjust limit switches
- \* Electrically operate MOV's
- \* Run-in and vibration test rotating equipment
- \* Cleanliness flushing on selected piping systems



<b>LEGEND:</b> --- SCHED. RELEASE — ACTUAL RELEASE	DESCRIPTION	REV	PLAN	SCHED	APPR	DATE	PROJ	HOPE CREEK GENERATING STATION Public Service Electric & Gas Company	TITLE: RFT STATUS (RELEASE FOR TESTING)	Job No. 10855 Sched. No. Sheet of
	1985									



## 8. STARTUP

### C. SYSTEM TURNOVER PROGRAM

Phase I and II testing not conducted under RFT is performed by Startup after system turnover. At 8 weeks prior to the scheduled system turnover, the initial system walkdown occurs. During this walkdown system completeness is established and the remaining work is identified.

Two weeks prior to turnover, the final system walkdown occurs. During this walkdown system completeness is again assessed and an open items list is completed. At this time the test engineer and construction engineer meet and negotiate which items will be allowed as turnover exceptions and which items must be completed before the system can turnover. When the last item required for turnover is completed the system package is submitted for turnover and Startup may begin the balance of their testing.





## 8. STARTUP

### D. PROCEDURE STATUS

All Phase I and II test program procedures required for fuel load have been started and completed with the exception of preoperational test procedures.

Below is a listing by type, total number and status of procedures required for fuel load.

#### Total Number of Procedures for Fuel Load

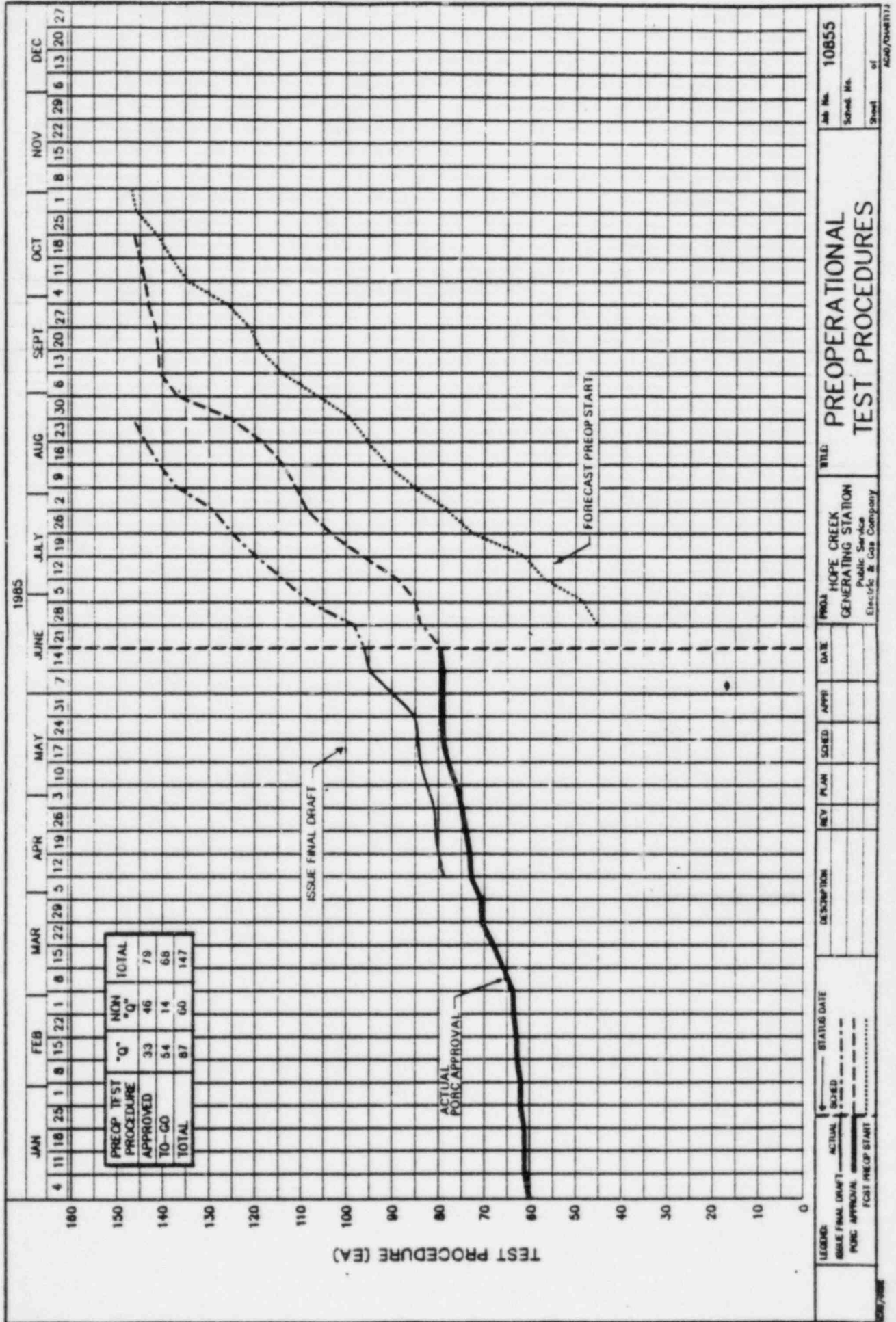
<u>Startup Procedure</u>	<u>Not Started</u>	<u>Started But Not In Review</u>	<u>In Review</u>	<u>Approved</u>	<u>Total</u>
Startup Admin. Procedures (SAP)	0	0	0	26	26
System Flush Outlines	0	0	0	64	64
System Turnover Plans	0	0	0	132	132
Generic Procedures	0	0	0	28	28
Preoperational Test Procedure	<u>0</u>	<u>20</u>	<u>48</u>	<u>79</u>	<u>147</u>
Total	0	20	48	329	397

Preoperational Test Procedures (PTP's) are the highest order of technical procedures in the Phase II test program procedure development is proceeding in support of a December 1, 1985 fuel load date. All PTP's have been drafted. Preop procedures cover both "Q" and "non-Q" systems and are being written and approved on site. All preop procedures are planned to have final approval by October 15, 1985. The following logic sequence has been implemented to provide a thorough review:

Steps:	(A)	(B)	(C)	(D)	(E)	(F)
	Issue	Issue	Test	Issue	Preop	Preop
	Rough	Final	Review	For	Meeting	Test
	Draft	Draft	Board	Preop		Start

Typical Duration:	4 weeks	2 weeks	1 week	2 weeks	9 weeks (Q systems)
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A recent enhancement to the preop test development program has been the establishment of a Test Review Board (step "C"). The test review board, an integrated body, is comprised of highly experienced personnel representing startup, engineering, operations, and QC. The review board perform an in depth review of the "Q" PTP's for technical adequacy. This review process has resulted in a high quality procedure which minimizes the amount of system retesting.



# PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS IN CORP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IH IN IG
RJ-1		PLANT COMPUTER		SCHED							01DEC83AS	
				IFCST								
AM-1		FRESH WATER		STATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	06JUN84AF	
				IFCST								
NA-1		17.2KV ST POWER		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	29AUG84AF	
				IFCST								
GO-1		IFIRE HS HVAC		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	07SEP84AF	
				IFCST								
FA-1		AUX BOILER		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	09SEP84AF	
				IFCST								
NB-2		14.16KV STATION		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	09SEP84AF	
				IFCST								
NB-3		14.16KV STATION		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	09SEP84AF	
				IFCST								
NB-1		14.16KV STATION		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	16OCT84AF	
				IFCST								
MC-1		15WYD 13.8KV		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	05NOV84AF	
				IFCST								
AN-2		1DEM WTR XFER		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	27NOV84AF	
				IFCST								
NK-1		125V DC		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	29NOV84AF	
				IFCST								
GF-2		1CIRC WTR HVAC		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	30NOV84AF	
				IFCST								
NG-1		180V SUB ST		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	05DEC84AF	
				IFCST								
GF-1		1AUX BOILER HVAC		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	15DEC84AF	
				IFCST								
PG-1	1Q	14.16KV 1E		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	16DEC84AF	
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE		

DURATIONS: A-C=4 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q



PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS IN CORP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IH IN IG
ED-1		DOMESTIC WTR		ISCHED							08JAN85AF	
				IFCST								
NJ-1		250V DC NON 1E		ISTATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	07FEB85AF	
				IFCST								
PJ-1	IQ	250V DC 1E		ISTATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	12FEB85AF	
				IFCST								
GP-2	IQ	LLRT		ISTATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	14MAR85AS	
				IFCST								
JA-1		AUX BLR F.O.		ISTATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	14MAR85AF	
				IFCST								
GE-2		TURB BATT.		ISTATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	21MAR85AF	
				IFCST								
NH-1		480V MCC		ISTATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	21MAR85AF	
				IFCST								
DD-1		CIRC WTR CHEM		ISTATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	22MAR85AS	
				IFCST								
PK-1	IQ	125V DC 1E		ISTATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	22MAR85AF	
				IFCST								
PG-1	IQ	480V 1E		ISTATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	25MAR85AF	
				IFCST								
PH-1	IQ	480V MCC 1E		ISTATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	25MAR85AF	
				IFCST								
NL-1		24V DC NON 1E		ISTATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	11APR85AF	
				IFCST								
BB-2	IQ	IRX RCIRC		ISTATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	15APR85AS	
				IFCST								
GA-1		IPLANT HEAT		ISTATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	25APR85AF	
				IFCST								
BB-4	IQ	IRPV INT. VIBR		ISTATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	26APR85AF	
				IFCST								
				ISTATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE		

DURATIONS: A-C=1 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q

# PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS INCRP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IN IG
											29APR85AS	
NQ-1		120V AC NON IE		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	29APR85AF	
SG-1	Q	SEIS INSTR		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	02MAY85AF	
GQ-1	Q	INTAKE HVAC		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	09MAY85AF	
JE-1	Q	DIESEL F.O. XFE	VARMA	SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	25MAY85AS	
BH-1	Q	STBY LIQ CNTL		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	25MAY85AF	
EQ-1		SERV HYPOCHL		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	27MAY85AS	
EC-1	Q	FUEL POOL CLNG		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	02JUN85AS	
EE-1	Q	TORUS CLEANUP		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	TBD	COMPLETE	COMPLETE	06JUN85AS	
BB-5	Q	PIPE VIBRATION	FENG/ MCGRAW	SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	12JUN85AS	
DA-1		CIRC WTR		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	12JUN85AS	
GT-1	Q	DRYWELL VENT	ADLONG/ POWELL	SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	15-Jun-85	
KJ-4	Q	DIESEL D		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	20-Jun-85	
SF-1	Q	RN MAN CNTL	ENOS/DYCUS	SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	21-Jun-85	
BE-1	Q	COKE SPRAY	BALLOU/ POWELL	SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	21-Jun-85	
AP-1		COND STGE XFER		SCHED								
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE		

DURATIONS: A-C=1 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q

# PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS INCRP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IN IG
BG-1	Q	RX WTR CLEANUP	SONG/ MILLER	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	18-Jun-85	COMPLETE	COMPLETE	24-Jun-85	
PN-1	Q	1E 120V AC	HENDRICKS	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	24-Jun-85	
GB-1		CHILL WATER		SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	30-Jun-85	*
EA-1	Q	SERVICE WTR	VARMA/ HEINZ	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	27-Mar-85 14-Jun-85 10-Apr-85 25-Jun-85	17-Apr-85 26-Jun-85	01-May-85 28-Jun-85	30-Jun-85	
KC-2		FIRE PROT-FOAM		SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE				30-Jun-85	
KA-1		SERVICE AIR		SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	01-Jul-85	*
KJ-3	Q	DIESEL C		SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	01-Jul-85	
SB-1	Q	RX PROTECT	TURNER/ BALLOU	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	11-Apr-85 20-Jun-85	18-Apr-85 21-Jun-85	02-May-85 30-Jun-85	01-Jul-85	
KE-1	Q	FUEL HANDLING	SONG/ DYCUS	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE		18-Apr-85 19-Jun-85	02-May-85 21-Jun-85	01-Jul-85	
SM-1	Q	INSSSS	POWELL	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	30-Mar-85 24-Jun-85 13-Apr-85 30-Jun-85	20-Apr-85 01-Jul-85	04-May-85 02-Jul-85	03-Jul-85	*
BD-1	Q	IRCIC	THOMPSON/ GRAHAM	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	31-Mar-85 19-Jun-85 14-Apr-85 26-Jun-85	21-Apr-85 27-Jun-85	05-May-85 01-Jul-85	04-Jul-85	
CA-1		TURB SEAL STM		SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE				08-Jul-85	*
AF-1		EXTR STEAM	GRAHAM	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	08-Jul-85	
KB-1	Q	INST AIR		SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE	18-Jul-85	COMPLETE	COMPLETE	08-Jul-85	
AD-1	Q	CONDENSATE	HENDRICKS	SCHED IFCST STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE	13-May-85 14-Jun-85	12-Jul-85 *

DURATIONS: A-C=4 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q



PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS IN CORP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IN IN
KJ-2	IQ	DIESEL B		ISCHED							13-Jul-85	16
				IFCST								
EG-1	IQ	SACS		STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	13-Jul-85	16
				ISCHED				27-Jun-85				
				IFCST								
AB-1	IQ	MAIN STEAM		STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE	15-Jul-85	16
				ISCHED								
				IFCST								
KP-1	IQ	MSIV SEAL		STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	15-Jul-85	16
				ISCHED								
				IFCST				03-Jul-85				
GE-1		TURBINE HVAC		STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE	15-Jul-85	
				ISCHED								
				IFCST								
BC-1	IQ	IRHR	YOST/SONG	STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	15-Jul-85	
				ISCHED					02-May-85	16-May-85		
				IFCST					24-Jun-85	08-Jul-85		
CD-1		GEN SEAL OIL		STATUS	COMPLETE	COMPLETE	COMPLETE				15-Jul-85	
				ISCHED								
				IFCST								
CF-1		LO STG/XFER		STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE	15-Jul-85	16
				ISCHED								
				IFCST								
KF-1		CRANE/HOIST	PETERSON	STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE		
				ISCHED				17-Jun-85	24-Jun-85	08-Jul-85	15-Jul-85	16
			POLAR CRAN	IFCST				02-Jul-85	03-Jul-85			
KC-3	IQ	FIRE PROT-CO2	PORTION	STATUS	COMPLETE	COMPLETE	COMPLETE					
			MCDERM	ISCHED				28-Apr-85	05-May-85	19-May-85	18-Jul-85	16
				IFCST				01-Jul-85	02-Jul-85	09-Jul-85		
				STATUS	COMPLETE	COMPLETE	COMPLETE					
RG		SECURITY	SUB-	ISCHED							19-Jul-85	
			CONTRACT	IFCST							SUB-	
				STATUS							CONTRACT	
SP-1	IQ	PROC RAD MONIT	HOLD	ISCHED	18-Mar-85		15-Apr-85	29-Apr-85	06-May-85	20-May-85	19-Jul-85	16
				IFCST								
				STATUS								
BB-1	IQ	NUC. BOILER		ISCHED							20-Jul-85	
				IFCST				05-Jul-85				
				STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE		
CB-1		MAIN TURB OIL		ISCHED							22-Jul-85	16
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE		
SN-1	IQ	ADS	COYNE	ISCHED			19-Apr-85	03-May-85	10-May-85	24-May-85	23-Jul-85	16
				IFCST			19-Jun-85	28-Jun-85	05-Jul-85	19-Jul-85		
				STATUS	COMPLETE	COMPLETE						

DURATIONS: A-C=1 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q

PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS INCRP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IN IG
BS-1	Q	CNTMT ATMO CNTL		SCHED			20-Apr-85	04-May-85	11-May-85	25-May-85	24-Jul-85	
				IFCST		28-Jun-85	03-Jul-85	11-Jul-85	12-Jul-85	20-Jul-85		
				STATUS	COMPLETE							
BJ-1	Q	HPCI	TURNER/ JUISTER	SCHED			21-Apr-85	05-May-85	12-May-85	26-May-85	25-Jul-85	
				IFCST			18-Jun-85	21-Jun-85	22-Jun-85	18-Jul-85		
				STATUS	COMPLETE	COMPLETE						
KJ-1	Q	DIESEL A		SCHED							28-Jul-85	
				IFCST								
				STATUS	COMPLETE	COMPLETE						
AN-1		DEMIN WTR MKP	VARMA	SCHED	19-May-85		16-Jun-85	30-Jun-85	07-Jul-85	21-Jul-85	28-Jul-85	
				IFCST		HOLD		10-Jul-85	17-Jul-85	24-Jul-85		
				STATUS	COMPLETE							
AK-1		COND DEMIN		SCHED							28-Jul-85	
				IFCST								
				STATUS	COMPLETE	COMPLETE						
CE-1		STATOR CLNG		SCHED				N/A	COMPLETE	COMPLETE	31-Jul-85	*
				IFCST								
				STATUS	COMPLETE	COMPLETE						
QJ-1		FREEZE PROT		SCHED							01-Aug-85	
				IFCST				25-Jul-85				
				STATUS	COMPLETE	COMPLETE			COMPLETE	COMPLETE		
CG-1		COND AIR REM		SCHED							02-Aug-85	*
				IFCST								
				STATUS	COMPLETE	COMPLETE			COMPLETE	COMPLETE		
BF-1	Q	CRD	JUISTER/ HUGHES	SCHED				14-May-85	21-May-85	04-Jun-85	03-Aug-85	
				IFCST				19-Jun-85	26-Jun-85	10-Jul-85		
				STATUS	COMPLETE	COMPLETE						
SB-2	Q	RESP TIME		SCHED			02-May-85	16-May-85	23-May-85	06-Jun-85	05-Aug-85	
				IFCST		24-Jun-85	01-Jul-85	11-Jul-85	18-Jul-85	25-Jul-85		
				STATUS	COMPLETE							
KE-2	Q	UNDERVESS EQPT	THOMPSON/ SONG	SCHED				19-May-85	26-May-85	09-Jun-85	08-Aug-85	
				IFCST				24-Jun-85	30-Jun-85	14-Jul-85		
				STATUS	COMPLETE	COMPLETE						
MA-1		MAIN GENERATOR		SCHED							09-Aug-85	*
				IFCST								
				STATUS	COMPLETE	COMPLETE			COMPLETE	COMPLETE		
GU-1	Q	FRVS	GHOSE	SCHED			07-May-85	21-May-85	28-May-85	11-Jun-85	10-Aug-85	
				IFCST			17-Jun-85	09-Jul-85	16-Jul-85	30-Jul-85		
				STATUS	COMPLETE	COMPLETE						
SV-1	Q	REMOTE SHUTDOWN	FENG	SCHED				23-May-85	30-May-85	13-Jun-85	12-Aug-85	*
				IFCST				26-Jun-85	03-Jul-85	17-Jul-85		
				STATUS	COMPLETE	COMPLETE						
KL-1	Q	P CNT INST GAS	PETERSON/ MACK	SCHED				23-May-85	30-May-85	13-Jun-85	12-Aug-85	
				IFCST				21-Jun-85	28-Jun-85	12-Jul-85		
				STATUS	COMPLETE	COMPLETE						

DURATIONS: A-C=1 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q

PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS INCRP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IN G
AE-1		FW CNTL		SCHED			105-Jul-85	19-Jul-85	26-Jul-85	09-Aug-85	16-Aug-85	*
				IFCST			121-Jun-85	02-Jul-85				
				STATUS	COMPLETE							
HC-1	Q	IRW CAP/CONVEY		SCHED	16-Apr-85		114-May-85	28-May-85	04-Jun-85	18-Jun-85	17-Aug-85	
.07				IFCST				06-Aug-85	07-Aug-85	14-Aug-85		
				STATUS								
KC-1	Q	FIRE PROT-WTR	YOST/HEINZ	SCHED				30-May-85	06-Jun-85	20-Jun-85	19-Aug-85	*
				IFCST				19-Jun-85	26-Jun-85	10-Jul-85		
				STATUS	COMPLETE	COMPLETE	COMPLETE					
QB-1		LESS/STBY LIGHT		SCHED							19-Aug-85	
				IFCST				25-Jul-85				
				STATUS	COMPLETE	COMPLETE	COMPLETE					
BJ-1		CNTMT CHILL WTR		SCHED			109-Jul-85	23-Jul-85	30-Jul-85	13-Aug-85	20-Aug-85	
				IFCST			120-Jun-85	23-Jul-85				
				STATUS	COMPLETE	COMPLETE						
KG-1		BREATH AIR		SCHED			115-Jul-85	29-Jul-85	05-Aug-85	19-Aug-85	26-Aug-85	
				IFCST			121-Jun-85	28-Jun-85				
				STATUS	COMPLETE	COMPLETE						
QH-1		CATHODIC PROTEC		SCHED							27-Aug-85	
				IFCST				12-Aug-85				
				STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE		
ED-1	Q	IRACS	REVIEW CYCLE	SCHED				105-Jul-85			29-Aug-85	
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE					
GK-1	Q	CNTL/WING HVAC	ADLONG	SCHED				110-Jun-85	17-Jun-85	01-Jul-85	30-Aug-85	
				IFCST				125-Jun-85	01-Jul-85	14-Jul-85		
				STATUS	COMPLETE	COMPLETE	COMPLETE					
SK-1	Q	LEAK DETECTION		SCHED			127-May-85	10-Jun-85	17-Jun-85	01-Jul-85	30-Aug-85	
				IFCST		25-Jul-85	101-Aug-85	12-Aug-85	14-Aug-85	28-Aug-85		
				STATUS	COMPLETE							
SE-1	Q	SOURCE RAD MON		SCHED							30-Aug-85	
				IFCST				108-Aug-85				
				STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE		
SE-3	Q	POWER RAD MON		SCHED							30-Aug-85	
				IFCST				109-Aug-85				
				STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE		
HC-2	Q	SOLID RAD COLL	NEW PREOP	SCHED	122-Jun-85		120-Jul-85	103-Aug-85	110-Aug-85	24-Aug-85	31-Aug-85	
				IFCST								
				STATUS								
HC-1	Q	IRW AUX BLR		SCHED			128-May-85	111-Jun-85	18-Jun-85	02-Jul-85	31-Aug-85	
.01				IFCST		108-Jul-85	115-Jul-85	24-Jul-85	101-Aug-85	15-Aug-85		
				STATUS	COMPLETE							
HC-1	Q	IRW CONCENT FEED		SCHED	130-Apr-85		128-May-85	111-Jun-85	18-Jun-85	02-Jul-85	31-Aug-85	
.09				IFCST				114-Aug-85	115-Aug-85	22-Aug-85		
				STATUS								

DURATIONS: A-C=1 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q

# PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS INCRP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IN IN IG
HC-1 .11	Q	IRW SEAL WATER		SCHED	30-Apr-85		28-May-85	11-Jun-85	18-Jun-85	02-Jul-85	31-Aug-85	
				IFCST				12-Aug-85	13-Aug-85	24-Aug-85		
				STATUS								
HB-1	Q	IRW RESIN REGEN	BEMIS	SCHED			30-May-85	13-Jun-85	20-Jun-85	04-Jul-85	02-Sep-85	
				IFCST			21-Jun-85	05-Aug-85	12-Aug-85	26-Aug-85		
				STATUS	COMPLETE	COMPLETE						
GR-1	Q	IRX BLDG HVAC		SCHED			30-May-85	13-Jun-85	20-Jun-85	04-Jul-85	02-Sep-85	
				IFCST		28-Jun-85	05-Jul-85	17-Jul-85	24-Jul-85	07-Aug-85		
				STATUS	COMPLETE							
SC-1	Q	IRX INST LPM		SCHED							03-Sep-85	
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE		
OK-1	Q	IFIRE/SMK DETECT		SCHED			02-Jun-85	16-Jun-85	23-Jun-85	07-Jul-85	05-Sep-85	
				IFCST		25-Jun-85	28-Jun-85	09-Jul-85	16-Jul-85	30-Jul-85		
				STATUS	COMPLETE							
GF-3		IGUARDHSE HVAC	DELETED	SCHED							05-Sep-85	
				IFCST							DELETED	
				STATUS								
SE-2	Q	ITM RANGE MONIT		SCHED				02-Aug-85			06-Sep-85	
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE		
HC-1 .12	Q	IRW COMPACTOR		SCHED			04-Jun-85	18-Jun-85	25-Jun-85	09-Jul-85	07-Sep-85	
				IFCST		25-Jun-85	01-Jul-85	12-Jul-85				
				STATUS	COMPLETE							
HC-1 .04	Q	IRW ASPHALT SYS		SCHED			04-Jun-85	18-Jun-85	25-Jun-85	09-Jul-85	07-Sep-85	
				IFCST		30-Jun-85	15-Jul-85	01-Aug-85	07-Aug-85	20-Aug-85		
				STATUS	COMPLETE							
RC-4	Q	IPOST ACCID SPLETHOLD		SCHED			06-Jun-85	20-Jun-85	27-Jun-85	11-Jul-85	09-Sep-85	
				IFCST			14-Jun-85					
				STATUS	COMPLETE	COMPLETE						
GH-1	Q	IRW AREA HVAC		SCHED			06-Jun-85	20-Jun-85	27-Jun-85	11-Jul-85	09-Sep-85	
				IFCST		21-Jun-85	01-Jul-85	11-Jul-85				
				STATUS	COMPLETE							
GM-1	Q	IDIESEL HVAC	IGHOSE	SCHED				21-Jun-85			10-Sep-85	
				IFCST				21-Jun-85				
				STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE		
GL-1		ISV AREA HVAC		SCHED				13-Aug-85			10-Sep-85	
				IFCST				13-Aug-85				
				STATUS	COMPLETE	COMPLETE	COMPLETE		COMPLETE	COMPLETE		
CC-1		IGEN GAS CTL		SCHED							20-Sep-85	
				IFCST								
				STATUS	COMPLETE	COMPLETE	COMPLETE	N/A	COMPLETE	COMPLETE		
SE-4		ITIP		SCHED			09-Aug-85	23-Aug-85	30-Aug-85	13-Sep-85	20-Sep-85	
				IFCST			19-Jun-85	15-Jul-85				
				STATUS	COMPLETE	COMPLETE						

DURATIONS: A-C=1 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q

PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS INCRP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IN IN 16
HC-1 .02	Q	RM OV*HD CRANE		SCHED IFCST ISTATUS	COMPLETE	25-Jun-85	18-Jun-85 28-Jun-85	02-Jul-85 05-Jul-85	09-Jul-85	23-Jul-85	21-Sep-85	
HC-1 .08	Q	EXTRDR-EVAP/PER		SCHED IFCST ISTATUS	COMPLETE	30-Jun-85	18-Jun-85 08-Jul-85	02-Jul-85 07-Aug-85	09-Jul-85 16-Aug-85	23-Jul-85 30-Aug-85	21-Sep-85	
CH-1		INN TURB CON OIL		SCHED IFCST ISTATUS	COMPLETE						23-Sep-85	
RJ-2	Q	EMER RESP COMP		SCHED IFCST ISTATUS	COMPLETE	01-Jul-85	20-Jun-85 05-Jul-85	04-Jul-85 16-Jul-85	11-Jul-85	25-Jul-85	23-Sep-85	
HH-1		IRAD LAUNDRY	BEMIS/ INCGRW	SCHED IFCST ISTATUS	COMPLETE			27-Aug-85 14-Jun-85	03-Sep-85	17-Sep-85	24-Sep-85	
HC-1 .03	Q	IRW CENTRIFUGE		SCHED IFCST ISTATUS	COMPLETE	27-Jun-85	25-Jun-85 08-Jul-85	09-Jul-85 09-Aug-85	16-Jul-85 16-Aug-85	30-Jul-85 30-Aug-85	28-Sep-85	
HB-2	Q	CHEM PROCESS		SCHED IFCST ISTATUS	COMPLETE	27-Jun-85	27-Jun-85 08-Jul-85	11-Jul-85 19-Jul-85	18-Jul-85 26-Jul-85	01-Aug-85 15-Aug-85	30-Sep-85	
HB-4	Q	IRW NEUTRAL		SCHED IFCST ISTATUS	COMPLETE	09-Jul-85	27-Jun-85 16-Jul-85	11-Jul-85 30-Jul-85	18-Jul-85 07-Aug-85	01-Aug-85 21-Aug-85	30-Sep-85	
HB-5	Q	IRW FLOOR DRAIN		SCHED IFCST ISTATUS	COMPLETE		27-Jun-85 20-Jun-85	11-Jul-85 16-Jul-85	18-Jul-85	01-Aug-85	30-Sep-85	
HB-6	Q	IRW CONCENTRATOR	W/HB4 DELETED	SCHED IFCST ISTATUS	COMPLETE						30-Sep-85	
GF-4		IASHLT STG HVAC		SCHED IFCST ISTATUS	COMPLETE						30-Sep-85	
AE-2	Q	IFEEDWATER	IVARMA	SCHED IFCST ISTATUS	COMPLETE	COMPLETE	COMPLETE	IN/A	COMPLETE	COMPLETE	02-Oct-85	
GP-1	Q	ILRT		SCHED IFCST ISTATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE		
SA-1	Q	IRACS		SCHED IFCST ISTATUS	COMPLETE	15-Jul-85	01-Jul-85 25-Jul-85	15-Jul-85 07-Aug-85	22-Jul-85 14-Aug-85	05-Aug-85 28-Aug-85	04-Oct-85	
HB-3	Q	IRW EQUIP DRAIN		SCHED IFCST ISTATUS	COMPLETE	01-Jul-85	04-Jul-85 10-Jul-85	18-Jul-85	25-Jul-85	08-Aug-85	07-Oct-85	

DURATIONS: A-C=4 WEEKS, C-D=2 WEEKS, D-E=1 WEEK, E-F=2 WEEKS, F-G=60 DAYS FOR Q



PROCEDURE REVIEW SCHEDULE/STATUS 6/14/85

PREOP NO.	Q	DESCRIPTION	COMMENT	DATA	A ISSUE ROUGH DRAFT	B COMMENTS INCRP	C ISSUE FINAL DRAFT	D TRB MEETING	E TYPE/ ISSUE FOR PORC	F PORC MEETING	G PREOP DATE	IC IH IN IG
HA-1		GASEOUS RW		SCHED			29-Aug-85	12-Sep-85	19-Sep-85	03-Oct-85	10-Oct-85	
				IFCST		15-Jul-85	31-Jul-85	16-Aug-85				
QF-1	Q	INPLANT COMM		STATUS	COMPLETE						10-Oct-85	
				IFCST				28-Aug-85				
RC-3	Q	IRX BLDG SAMPLE		STATUS	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE		
				SCHED			14-Jul-85	28-Jul-85	04-Aug-85	18-Aug-85	17-Oct-85	
				IFCST		03-Jul-85	10-Jul-85	26-Jul-85				
SP-2	Q	PROC RAD MONIT	HOLD	STATUS	COMPLETE							
				SCHED	17-Jun-85		15-Jul-85	29-Jul-85	05-Aug-85	19-Aug-85	18-Oct-85	
				IFCST								
				STATUS								
BB-3	Q	IECCS LOP		SCHED	17-Jun-85		15-Jul-85	29-Jul-85	05-Aug-85	19-Aug-85	18-Oct-85	
				IFCST	19-Jul-85	09-Aug-85	16-Aug-85	30-Aug-85	07-Sep-85	21-Sep-85		
				STATUS								
RC-1		AUX BLD SAMPLE	BHATLEY HOLD-DIR	SCHED				24-Sep-85	01-Oct-85	15-Oct-85	22-Oct-85	
				IFCST				01-Jul-85				
				STATUS	COMPLETE	COMPLETE	COMPLETE					
HC-1	Q	SLDG TR/FEED		SCHED	22-Jun-85		20-Jul-85	03-Aug-85	10-Aug-85	24-Aug-85	23-Oct-85	
.05				IFCST				01-Aug-85				
				STATUS								
RC-2		TURB SAMPLE		SCHED			12-Sep-85	26-Sep-85	03-Oct-85	17-Oct-85	24-Oct-85	
				IFCST			22-Jul-85	30-Jul-85				
				STATUS	COMPLETE	COMPLETE						
AC-1	Q	MAIN TURBINE		SCHED			21-Jul-85	04-Aug-85	11-Aug-85	25-Aug-85	24-Oct-85	
				IFCST		12-Jul-85	21-Jul-85	02-Aug-85				
				STATUS	COMPLETE							
SD-1	Q	ARMS	ION HOLD	SCHED	24-Jun-85		22-Jul-85	05-Aug-85	12-Aug-85	26-Aug-85	25-Oct-85	
				IFCST								
				STATUS								
HC-1	Q	IRW FILL STATION		SCHED			25-Jul-85	08-Aug-85	15-Aug-85	29-Aug-85	28-Oct-85	
.06				IFCST		15-Jul-85	25-Jul-85	06-Aug-85				
				STATUS	COMPLETE							
HC-3	Q	SOLID RW EVAP	NEW PREOP	SCHED	04-Jul-85		01-Aug-85	15-Aug-85	22-Aug-85	05-Sep-85	04-Nov-85	
				IFCST								
				STATUS								



## 8. STARTUP

### D. PROCEDURE STATUS (cont.)

The preoperational test procedure writing group is comprised of highly experienced personnel. Staffing levels supporting the procedure issuance schedule have been achieved by individually selecting personnel from within PSE&G's organization as well as Bechtel, General Electric, and other contractors.

Procedure quality has been assured by an integrated Test Review Board. Adherence to the procedure development schedule is monitored on an ongoing basis assuring timely completion.

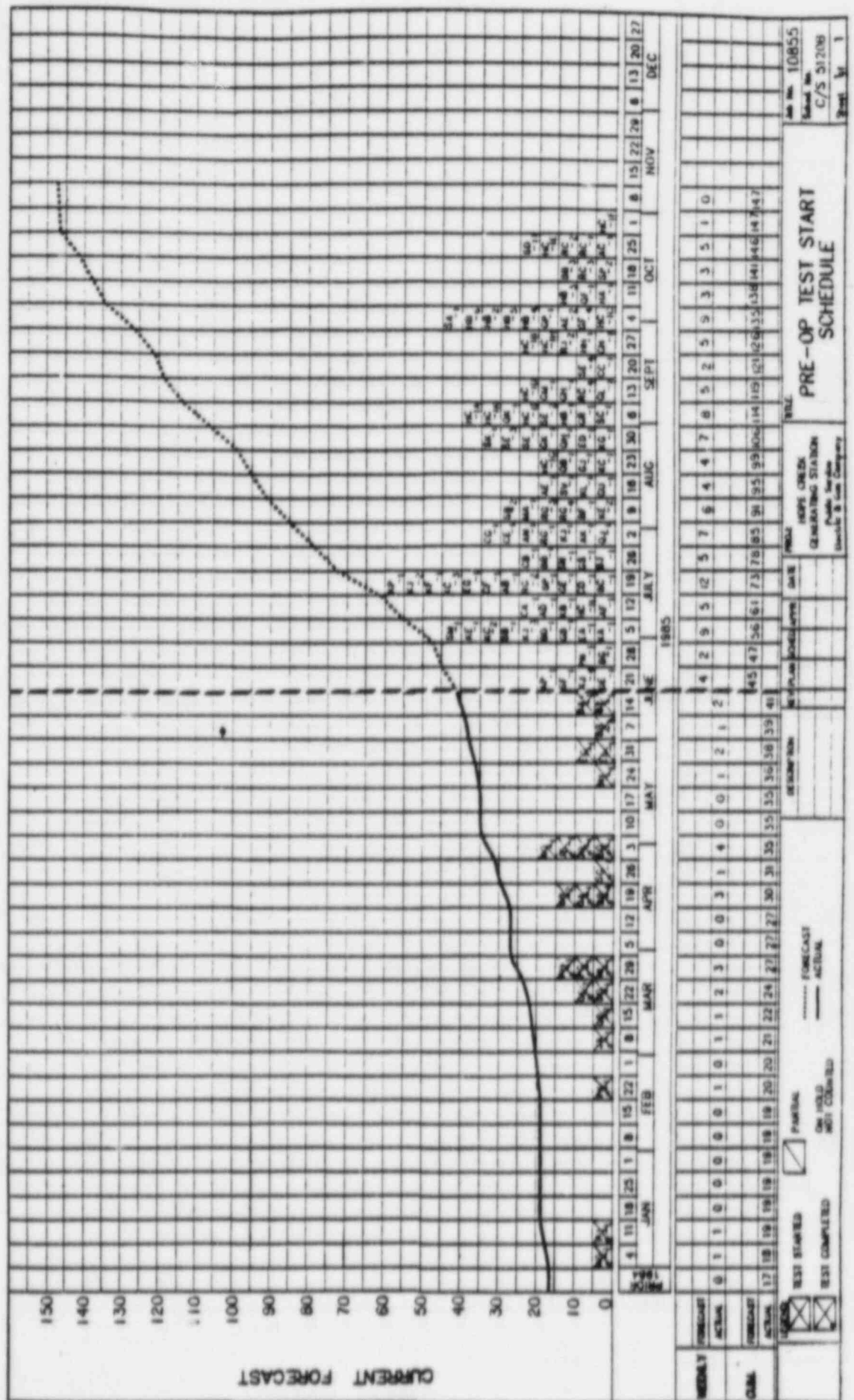
## 8. STARTUP

### E. PREOPERATIONAL TEST STATUS

System preop testing is well underway. Testing continues to support within the early/late start requirements of the project integrated schedule. With procedures in hand, detail schedules are developed to identify test prerequisites. Daily schedule review meetings are conducted by integrated construction startup team members (discussed in Section 11). Meetings review outstanding scheduled activities and review readiness.

The last of the 147 preops are planned to be complete by November, one month prior to fuel load. Currently, preops have started and completed on most all of the electrical power supply systems (earliest construction turnovers). Additionally, many tests have started and completed on the service systems. With the integrated flush, RPV code hydro and reactor internals now complete preoperational test emphasis is centered around starting the nuclear related preops.

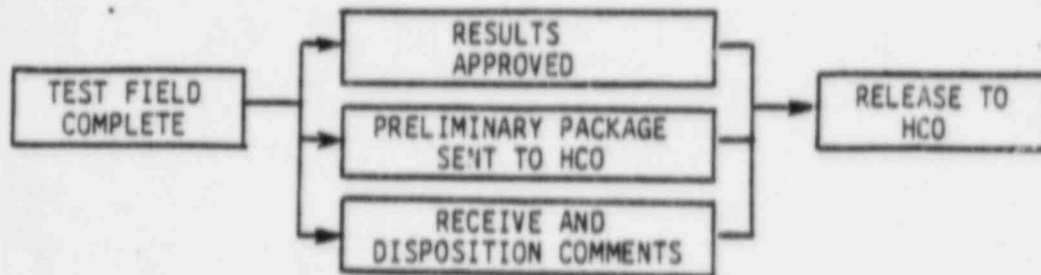
Test progress is indicated on the following pages.



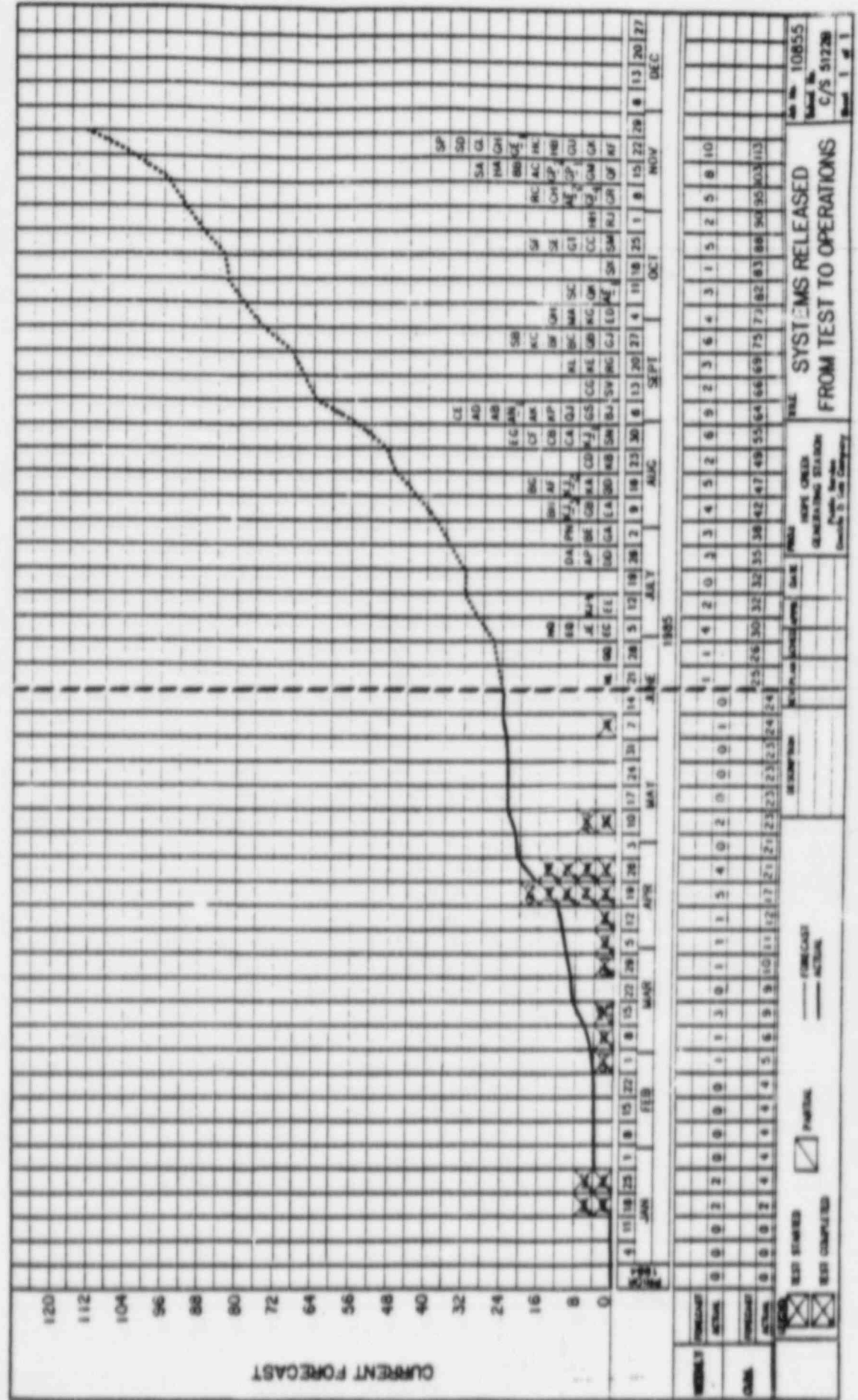
## 8. STARTUP

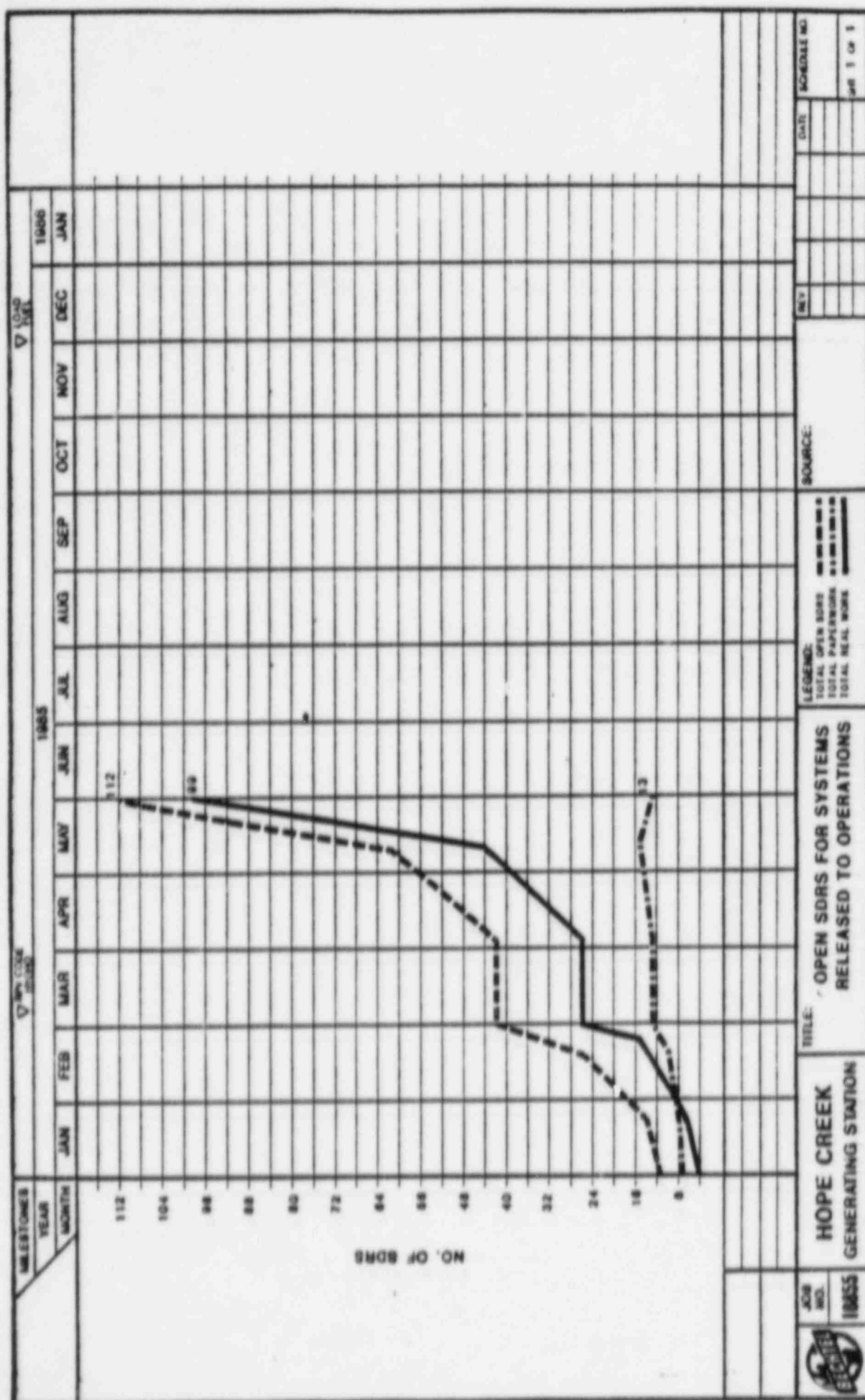
### F. RELEASE FROM TEST TO HOPE CREEK OPERATIONS

As an extension of the preop schedule advancement in support of an early fuel load, an enhanced release from test to Hope Creek Operations schedule was developed. This schedule allows for a period of four weeks from preop test completion to release from test. A number of activities, supported by both Startup and Operations personnel, are scheduled into this time frame.



Schedule progress is tracked both in the integrated project schedule (IPS) and by Startup in a weekly progress report reflecting current forecast dates against the schedule.







8. STARTUP

F(a). PACKAGES RELEASED FROM TEST (ACCEPTED)

<u>DESCRIPTION</u>	<u>RESULTS APPROVED</u>	<u>RELEASED FROM TEST</u>	<u>QUALITY PROGRAM</u>
AM-1 Fresh Water Supply	08/03/84	01/18/85	NO
FA-1 Aux. Boiler	11/14/84	01/24/85	NO
GD-1 Fire Pumphouse HVAC	11/20/84	03/06/85	NO
GF-1 Aux. Boiler Bldg. HVAC	02/15/85	03/27/85	NO
GF-2 CWPB HVAC	01/22/85	02/27/85	NO
KD-1 Domestic Water	02/27/85	04/01/85	NO
MC-1 Switchyard Buses & 13.8	12/18/84	01/24/85	NO
NA-1 7.2 KV Station Power	11/09/84	01/18/85	NO
NB-1 4.16 KV Station	02/19/85	05/10/85	NO
NB-2 4.16 KV Station	02/19/85	05/10/85	NO
NB-3 4.16 KV Station	02/19/85	05/10/85	NO
NH-1 480 V MCC	04/16/85	05/08/85	NO
NJ-1 250 VDC Non-1E	04/02/85	05/17/85	NO
NK-1 125 VDC	04/26/85	05/15/85	NO
PB-1 4.16 KV Class 1E	04/12/85	05/10/85	YES
PH-1 480 V Class 1E MCC Power	04/19/85	05/08/85	YES
PJ-1 250 VDC Class 1E	04/04/85	05/17/85	YES
PK-1 125 VDC Class 1E	04/19/85	05/15/85	YES

8. STARTUP

F(b). PACKAGES RELEASED FROM TEST (OPEN ITEMS ON ACCEPTED SYSTEMS)

TEST EXCEPTION STATUS

DESCRIPTION	NUMBER OF EXCEPTIONS	REQUIRED CLOSURE DATE	COMMENTS
FA-1 Aux. Boiler			Complete DTP-FA-0001.
GF-1 Aux. Boiler Building HVAC	SDR-GF-0047	07/31/85	Perform system air balancing per GTP-25.
GF-2 CWPB HVAC	SDR-GF-0040, GF-0046	07/31/85	0040 (perform system air balance) 0046 (computer pt. input D4170 displays normal when CWPB HVAC panel 00C590 trouble and abnormal condition exists).
NH-1 480 V MCC	SDR-NG-0114	07/31/85	Computer PTS D4600 & D4607 were found not to be wired in.
NJ-1 250 VDC Non-1E	SDRs NJ-0009, NJ-0010, NJ-0013	07/31/85	NJ-0009 250V DC 10D170 A/M should be center scale, track replacement. NJ-0010 battery 10D141 cell connection not in spec. NJ-0013 remove temp power feed to batteries.
NK-1 125 VDC	SDR-NK-0079	09/01/85	Replacement battery cell required and factory retest to the criteria of the PTP.

8. STARTUP

F(b). PACKAGES RELEASED FROM TEST (OPEN ITEMS ON ACCEPTED SYSTEMS)

TEST EXCEPTION STATUS

<u>DESCRIPTION</u>	<u>NUMBER OF EXCEPTIONS</u>	<u>REQUIRED CLOSURE DATE</u>	<u>COMMENTS</u>
PJ-1 250 VDC Class 1E	SDRs PJ-0026, PJ-0033, RJ-0129	07/31/85	PJ-0026 intercell connections for the cells do not meet spec. PJ-0033 remove temp power feed to batteries, RJ-0129 test ERF computer points per GTP-3 for system interface.
PK-1 125 VDC Class 1E	SDR-PK-0117, SDR-PK-0119, SDR-0120	09/01/85	PK-0117 replace battery cell #19 and perform capacity and recharge test, PK-0119 perform hydrogen concentration test, PK-0120 replace feeder breakers to battery charger and perform functional test, PK-0119 retest to be performed IAW quarter for PK-1.

# 8. STARTUP

F(c). PACKAGES RELEASED FROM TEST (SUBMITTED)

## TEST EXCEPTION STATUS

DESCRIPTION	NUMBER OF EXCEPTIONS	REQUIRED CLOSURE DATE	COMMENTS
AN-2 Demin. Water & Transfer	SDR-AN-0039	07/31/85	PORC action item 51001, upon rework of impeller and wearing rings of DAP-135 PMP, route the affected portions of the test through PORC approval cycle.
GA-1 Plant Heating	SDR-GA-0098, 0057, 0063, 0093, 0097	09/01/85	0098 flushing TPR GAM-09, 109, 112, 114 not complete. 0057 permanent inst. 1APTE-2047/1GATE-2047 not inst. 0063 heating steam pressure req. Station not in service. 0097 temp control loop is not working properly. 0093 VLVS shown on drawing not inst. in field.
GE-2 T.B. Battery Room HVAC	SDRs GE-0050, GE-0041	07/31/85	GE0050 complete air balance per GTP-25, GE-0041 engineering resolution that system operates as designed.
GQ-1 Intake Structure HVAC	SDR-GQ-0049, GQ-0046	11/01/85	TE #8 GQ-0049 perform preliminary and final air balance, TE #2 PSE&G Eng. to review ICD set points.

8. STARTUP

F(c). PACKAGES RELEASED FROM TEST (SUBMITTED)

TEST EXCEPTION STATUS

<u>DESCRIPTION</u>	<u>NUMBER OF EXCEPTIONS</u>	<u>REQUIRED CLOSURE DATE</u>	<u>COMMENTS</u>
JA-1 Aux. Boiler Fuel Oil	SDR-JA-0075	09/01/85	Flow rate is obtained by throttling gate valve V019. This is not acceptable. The system should be supplied with a properly sized orifice plate to provide flow rate required to inlet of the tank.
NG-1 480V Substation Power	TE-10 SDR-NG-0111, TE-11 SDR-NG-0114	07/31/85	TE-10 computer PT D3704 read 52-10411 change to read 52-10404, TE-11 computer PTS D4600 & D4507 not wired in.
PG-1 480 V Class 1E	SDR-PG-0109	08/31/85	PG-0109 TPR packages PGE-0013, 0058, 0062 remain open.
SG-1 Seismic Instrumentation	SDR-SG-0022	09/01/85	Playback battery failed to achieve 25 minute playback, replace battery, retest sec. 8.2 and route retest through PORC review. PORC action item 57.1.

## 8. STARTUP

### G. TEST PROGRAM SCHEDULE AND CRITICAL PATH

The initial startup schedule for Hope Creek was developed to be generally consistent with other recent Boiler Water Reactors (BWRs). A team of experienced personnel was organized initially to prepare a stand-alone logic network. Team membership included representation from PSE&G, PECO, GE, and Bechtel as well as other contract personnel. Upon completion, the network was integrated with the construction schedule to develop the overall project plan.

The plan is continually monitored and updated. Updates include status and logic enhancements as a result of better activity definition.

The following listing represents the current schedule for system turnover from construction (Col. A), system preop start (Col. B) and release from test (Col C) as of June 10, 1985.

Subsystem	Preop	Description	(A) Constr. T/O	(B) Preop Start	(C) Release From Test
ABA	AB-1	Main Steam	02/26/85A	07/15/85	09/01/85
ACA	AC-1	Main Turbine	05/06/85A	10/24/85	11/15/85
ADA	AD-1	Condensate	09/05/84A	07/12/85	09/04/85
AEA	AE-1	Reac. Feed Pmp Turb.	01/11/85A	08/16/85	10/05/85
AEB	AE-1	RFPT Lube Oil	04/03/85A	08/16/85	10/05/85
AEC	AE-2	Feedwater	10/01/84A	10/02/85	11/08/85
AFA	AF-1	Extraction Steam	04/12/85A	07/08/85	08/16/85
AKA	AK-1	Condensate Demin.	09/13/84A	07/28/85	09/04/85
AMA	AM-1	Fresh Water	02/16/84A	06/06/84A	01/18/85A
ANA	AN-1	Demin. Wtr. Makeup	03/12/85A	07/28/85	09/04/85
ANB	AN-2	Demin. Wtr. Transfer	05/16/84A	11/02/84A	05/10/85A
APA	AP-1	Condensate Storage	07/31/84A	06/21/85	07/24/85
BBB	BB-1	Nuc. Boiler Recirc.	03/07/85A	07/20/85	11/15/85
BBA	BB-2	Recirc MGs	12/31/84A	04/15/85A	11/15/85
BBB	BB-3	Nuc. Boiler Recirc	03/07/85A	10/18/85	11/15/85
BBB	BB-4	Nuc. Boiler Recirc.	03/07/85A	04/19/85A	11/15/85
BBB	BB-5	Nuc. Boiler Recirc.	03/07/85A	06/06/85A	11/15/85
BBC	N/A	MT Gen. Set Vent	10/04/84A	04/15/85A	11/15/85
BCA	BC-1	Resid. Heat Removal	01/23/85A	07/15/85	09/27/85
BCB	BC-1	RHR Control	02/01/85A	07/15/85	09/27/85
BDA	BD-1	Reac. Core Isol Cool.	05/24/85A	07/04/85	08/16/85
BEA	BE-1	Core Spray	01/15/85A	06/15/85	07/28/85
BEB	BE-1	Core Spray Control	01/28/85A	06/15/85	07/28/85
BFA	BF-1	CRD Hydraulic Supply	11/27/84A	08/03/85	09/27/85
BFB	BF-1	Cntl Rod Supply	03/18/85A	08/03/85	09/27/85
BFC	BF-1	CRD Hydraulic Units	03/22/85A	08/03/85	09/27/85
BGA	BG-1	Reac. Wtr Cleanup	03/08/85A	06/24/85	08/11/85
BHA	BH-1	Standby Liq. Cntl.	03/01/85A	05/26/85A	08/07/85
BJA	BJ-1	High Pres. Cool. Inject.	05/31/85A	07/25/85	09/06/85
BNA	AP-1	Refuel. Wtr. Transfer	06/18/84A	06/15/85	07/24/85
CAA	CA-1	Turb. Seal. Steam	02/25/85A	07/08/85	08/30/85
CBA	CB-1	Turb./Gen. Lube Oil	04/12/85A	07/22/85	08/30/85
CCA	CC-1	Gen. Gas Control	05/17/85A	09/20/85	10/25/85



# 8. STARTUP

## G. TEST PROGRAM SCHEDULE AND CRITICAL PATH (cont.)

Subsystem	Preop	Description	(A) Constr. T/O	(B) Preop Start	(C) Release From Test
CDA	CD-1	Gen. Seal Oil	04/12/85A	07/15/85	08/22/85
CEA	CE-1	Stator Cooling	05/17/85A	07/31/85	09/01/85
CFA	CF-1	Lube Oil Stor/Trns/Purif.	04/11/85A	07/15/85	08/28/85
CGA	CG-1	Condenser Air Removal	12/19/84A	08/02/85	09/11/85
CHA	CH-1	Main Turb. Cntl. Oil	01/29/85A	09/23/85	11/04/85
DAA	DA-1	Circulating Water	11/16/84A	06/11/85A	07/23/85
ODA	DD-1	Circ. Wtr Hypochlor.	11/27/84A	03/22/85A	07/21/85
DEA	N/A	Circ. Wtr. Acid Inject.	10/26/84A	N/A	07/23/85
EAA	EA-1	Sevice Water	11/14/84A	06/30/85	08/07/85
ECA	EC-1	Fuel Pool Cooling	01/10/85A	05/27/85A	07/04/85
EDA	ED-1	React. Aux. Cooling	11/30/84A	08/29/85	10/04/85
EDB	ED-1	Racs to Rad. Extruder	07/11/85A	08/29/85	10/04/85
EEA	EE-1	Suppression Pool	12/31/84A	06/02/85A	07/07/85
EEB	EC-1	Torus Cleanup	12/06/84A	05/27/85A	07/04/85
EGA	EG-1	Turb. Aux. Cooling	03/15/85A	07/13/85	08/30/85
EQA	EQ-1	Service Wtr. Hypochlor.	11/16/84A	05/03/85A	07/01/85
FAA	FA-1	Aux. Steam Generators	08/02/83A	02/21/84A	01/24/85A
FAB	FA-1	Aux. Steam Gen. Part II	08/17/84A	02/21/84A	01/24/85A
GAA	GA-1	Plant Heating Part I	08/03/84A	04/16/85A	08/01/85
GAB	GR-1	Plant Heating Part II	08/16/84A	09/02/85	11/08/85
GAC	GK-1	Plant Heating Part III	08/17/84A	08/30/85	11/22/85
GBA	GB-1	Chilled Water	03/04/85A	06/30/85	08/09/85
GCA	N/A	Admin. Bldg. HVAC	06/01/84A	Vendor	06/30/84A
GDA	GD-1	Fire Pump House HVAC	06/26/84A	09/05/84A	03/06/85A
GEA	GE-1	Turb. Bldg. HVAC	05/24/85A	07/15/85	11/22/85
GEB	GE-1	TBCE & TBOE	02/01/85A	07/15/85	11/22/85
GEC	GE-2	TBBS & TBBE	02/14/85A	03/21/85A	04/19/85A
GFB	GF-1	Circ. Wtr Bldg HVAC	07/13/84A	12/13/84A	03/27/85A
GFB	GF-2	Circ. Wtr Bldg. HVAC	N/A	11/28/84A	02/27/85A
GFC	GF-3	Guardhouse HVAC	03/31/85A	N/A	09/16/85
GFA	GF-4	Asphalt Stor. Bldg. HVAC	05/20/85A	09/30/85	11/02/85
GHA	GH-1	Rad. HAVC Sup. & Exhst.	06/30/85	09/09/85	11/22/85
GHB	GH-1	Radwaste Tank Vent	06/03/85A	09/09/85	11/29/85
GJA	GJ-1	Cntl. Area Chilled Wtr.	06/18/85	08/20/85	09/22/85
GKA	GK-1	Cntl. Rm. Supply & Exhst.	06/03/85A	08/30/85	11/22/85
GKB	GK-1	Cntl. Eqpt. Rm. HVAC	06/20/85	08/30/85	11/22/85
GKC	GK-1	Cntl. Area Bat. Exhst.	02/25/85A	08/30/85	11/22/85
GKD	GK-1	Wing Area Sup. & Exhst.	06/14/85A	08/30/85	11/22/85
GLA	GL-1	Service Area HVAC	06/21/85	09/10/85	11/22/85
GLB	GL-1	Chem Lab Exhst.	07/16/85	09/10/85	11/22/85
GMA	GM-1	Diesel Area Sup. & Exhst.	06/15/85	09/10/85	11/15/85
GMB	GM-1	SWGR & Gen. Rm. HVAC	05/13/85A	09/10/85	11/15/85

# 8. STARTUP

## G. TEST PROGRAM SCHEDULE AND CRITICAL PATH (cont.)

Subsystem	Preop	Description	(A) Constr. T/O	(B) Preop Start	(C) Release From Test
GMC	GM-1	Diesel Area Bat. Exhst.	05/24/85A	09/10/85	11/15/85
GPA-2	GP-1	Leak Rate Test Eqpt.	08/01/85	10/04/85	11/15/85
GPA-1	GP-2	Leak Rate Test Eqpt.	06/30/85	03/14/85A	11/15/85
GQA	GQ-1	Intake HVAC	11/16/84A	04/29/85A	06/28/85
GRA-1	GR-1	Reactor Bldg. HVAC	04/12/85A	09/02/85	11/08/85
GRA-2		Reactor Bldg. HVAC	05/28/85A	09/02/85	11/08/85
GSA	GS-1	N2 Stor. & Transfer	05/22/85A	07/24/85	08/31/85
GSB	GS-1	Containment Atmos Cntl.	05/23/85A	07/24/85	08/31/85
GTA-1	GT-1	Drywell Ventilation	03/22/85A	06/12/85A	10/21/85
GTA-2		Drywell Ventilation	04/05/85A	06/12/85A	10/21/85
GUA	GU-1	Filtration/Recirc. & Vent	06/08/85A	08/10/85	11/22/85
HAA	HA-1	Gas Radwaste	06/27/85	10/10/85	11/15/85
HBA	HB-3	Liq. Radwaste Collection	05/31/85A	10/07/85	11/04/85
HBD	HB-2	Chemical Radwaste	06/03/85A	09/30/85	11/22/85
HBB	HB-5	Liq. Radwaste Processing	06/03/85A	09/30/85	11/17/85
HBD	HB-4	Chemical Radwaste	06/03/85A	09/30/85	11/22/85
HBC	HB-1	Rad. Demin. Regen.	05/28/85A	09/02/85	10/28/85
HBD	HB-6	Chemical Radwaste	06/03/85A	09/30/85	11/22/85
HCA	HC-1	Sol. Rad. Col. & PH Proc.	06/11/85A	09/02/85	10/21/85
HCB	HC-1L	Sol. Rad. Vol. Reduction	06/20/85	07/09/85	10/30/85
HCB	HC-1G	Sol. Rad. Vol. Reduction	06/20/85	08/17/85	09/21/85
HCB	HC-1A	Sol. Rad. Vol. Reduction	06/20/85	08/31/85	10/12/85
HCB	HC-1K	Sol. Rad. Vol. Reduction	06/20/85	08/31/85	10/01/85
HCB	HC-1I	Sol. Rad. Vol. Reduction	06/20/85	08/31/85	10/19/85
HCB	HC-1D	Sol. Rad. Vol. Reduction	06/20/85	09/07/85	10/05/85
HCB	HC-1H	Sol. Rad. Vol. Reduction	06/20/85	09/21/85	11/09/85
HCB	HC-1E	Sol. Rad. Vol. Reduction	06/20/85	10/23/85	11/23/85
HCB	HC-1C	Sol. Rad. Vol. Reduction	06/20/85	09/28/85	10/28/85
HCB	HC-1F	Sol. Rad. Vol. Reduction	06/20/85	10/28/85	10/28/85
HCB	HC-1B	Sol. Rad. Vol. Reduction	06/20/85	09/21/85	10/26/85
HCB	HC-1M	Sol. Rad. Vol. Reduction	06/20/85	10/25/85	11/22/85
HDA	N/A	Decon Facility	06/25/85	N/A	11/17/85
HGA-1	N/A	Bldg. & Eqp. Rad. Drains	07/01/85	N/A	11/12/85
HGA-2		Bldg. & Eqp. Rad. Drains	09/01/85	N/A	11/12/85
HGB	N/A	Oily Rad. Drains	08/01/85	N/A	11/12/85
HHA	HH-1	Rad. Laundry	07/14/85	09/24/85	11/01/85
JAA	JA-1	Aux. Oil Storage	07/03/84A	03/06/85A	06/07/85A
JEA	JE-1	Dsl Fuel Oil Trns & Stor.	11/02/84A	05/02/85A	07/01/85
KAA	KA-1	Service Air	07/05/84A	07/01/85	08/15/85
KBA	KB-1	Instrument Air	06/29/84A	07/08/85	08/23/85
KCA	KC-1	Fire Wtr Supply	04/24/84A	08/19/85	09/26/85
KCB	KC-1	Wet Sprinkler System	10/19/84A	08/19/85	09/26/85
KCC	KC-1	Fire Protect. Deluge	05/10/84A	08/19/85	09/26/85
KCD	KC-1	Auto Pre-Action Wtr Spray	02/01/85A	08/19/85	09/26/85

## 8. STARTUP

### G. TEST PROGRAM SCHEDULE AND CRITICAL PATH (cont.)

Subsystem	Preop	Description	(A) Constr. T/O	(B) Preop Start	(C) Release From Test
KCE	KC-1	Pre-Action Sprinkler Sys.	07/13/84A	08/19/85	09/26/85
KCG	KC-2	Fuel Oil Foam Fire Prot.	06/29/84A	06/30/85	09/26/85
KCF	KC-3	Fire Protection	05/31/84A	07/19/85	08/16/85
KDA	KD-1	Domestic Water	09/06/84A	07/18/84A	08/30/85A
KEA	KE-1	Fuel Hnd & Reac Ves Serv	03/22/85A	07/01/85	09/20/85
KEB	KE-2	Fuel Hndlg Under Vessel	06/11/85A	08/08/85	09/20/85
KFA-1	KF-1	Cranes Hoist & Elevators	07/30/84A	07/15/85	11/16/85
KFA-2		Cranes Hoist & Elevators	10/11/84A	07/15/85	11/16/85
KFA-3		Cranes Hoist & Elevators	02/01/85A	07/15/85	11/16/85
KFA-4		Cranes Hoist & Elevators	04/04/85A	07/15/85	11/16/85
KFA-5		Cranes Hoist & Elevators	07/01/85	07/15/85	11/16/85
KGA	KG-1	Breathing Air	08/15/85	08/26/85	10/04/85
KJD	KJ-1	Standby Diesel A	12/17/84A	07/28/85	08/30/85
KJC	KJ-2	Standby Diesel B	11/20/84A	07/13/85	08/15/85
KJB	KJ-3	Standby Diesel C	12/04/84A	07/01/85	08/03/85
KJA	KJ-4	Emergency Diesel Gen. D	11/06/84A	06/15/85	07/11/85
KLA	KL-1	Primary Cont. Instr. Gas	02/28/85A	08/12/85	09/20/85
KPA	KP-1	MSTV Sealing	02/26/85A	07/15/85	09/01/85
LBA	N/A	Storm Drains	10/01/85	N/A	10/28/85
LDA	N/A	Chemical Waste	07/23/85	N/A	11/19/85
LEA-1	N/A	Oily Waste - Bldg. Sewage	06/26/85	N/A	11/19/85
LEA-2		Oily Waste & Bldg. Sewage	10/15/85	N/A	11/19/85
LFA-1	N/A	Normal Drains	06/26/85	N/A	11/12/85
LFA-2		Normal Drains	10/15/85	N/A	11/12/85
MAA	MA-1	Main Generator	06/06/85A	08/09/85	09/30/85
MCA	MC-1	13.8 KV Stn. Pwr. Trnsf.	02/23/84A	11/03/84A	01/24/85A
MDA	N/A	Switchyard Bus Group 1	01/10/84A	N/A	11/11/85
MDB	N/A	Switchyard Bus Group 2	07/23/84A	N/A	11/11/85
MEA	N/A	Switchyard 125 VDC	01/10/84A	N/A	Internal
MFA	N/A	Switchyard Lighting	03/02/84A	N/A	01/24/85A
MHA	N/A	Outgoing EHV Ties S&K	01/31/84A	N/A	01/24/85A
MHB	N/A	Outgoing EHV Ties New Free	10/21/85	N/A	01/24/85A
NAA	NA-1	7.2 KV Power	05/15/84A	10/09/84A	01/18/85A
NBA	NB-1	4.16 Stn. Power Aux. Bldg.	06/01/84A	10/09/84A	05/10/85A
NBB	NB-2	4.16 Stn. Pwr. Bldg/Admin.	04/04/84A	09/06/84A	05/10/85A
NBB	NB-3	4.16 Stn. Pwr. Bldg/Admin.	N/A	09/06/84A	05/10/85A
NGA	NG-1	480 V Unit Subpwr Grp 1	07/02/84A	11/03/84A	04/12/85A
NGB	NG-1	480 V Unit Subpwr Grp. 2	04/11/84A	11/03/84A	04/12/85A
NHA	NH-1	480 V MCC Pwr Grp 1	07/10/84A	11/03/84A	05/08/85A
NHB	NH-1	480 V MCC Pwr Grp. 2	06/22/84A	11/03/84A	05/08/85A
NJA	NJ-1	250 VDC Power	08/16/84A	12/01/84A	05/17/85A
NKA	NK-1	125 VDC Power Supply	02/28/84A	07/31/84A	05/15/85A
NKB	NK-1	125 VDC Power Distr.	02/28/84A	07/31/84A	05/15/85A

## 8. STARTUP

### G. TEST PROGRAM SCHEDULE AND CRITICAL PATH (cont.)

<u>Subsystem</u>	<u>Preop</u>	<u>Description</u>	(A) <u>Constr.</u> <u>T/O</u>	(B) <u>Preop</u> <u>Start</u>	(C) <u>Release</u> <u>From Test</u>
NLA	NL-1	24 VDC Power	11/06/84A	03/25/85A	06/21/85
NQA	NQ-1	120 BAC Supply Power	07/16/84A	04/29/85A	07/04/85
NQB	NQ-1	120 VAC Distrib. Power	07/20/84A	04/29/85A	07/04/85
PBA	PB-1	4.16 KV 1E Power	05/31/84A	12/15/84A	05/10/85A
PGA	PG-1	480 1E Sub Stn. Pwr. Grp	06/01/84A	03/25/85A	04/26/85A
PGB	PG-1	480 1E Sub Stn. Pwr. Grp	06/21/84A	03/25/85A	04/26/85A
PHA	PH-1	480 1E MCC Power Grp. 1	05/17/84A	03/25/85A	05/08/85A
PHB	PH-1	480 1E MCC Power Grp. 2	07/17/84A	03/25/85A	05/08/85A
PJA	PJ-1	250 V DC 1E Power	03/30/84A	01/09/85A	05/17/85A
PKA	PK-1	125 V DC 1E Sup. Power	03/09/84A	02/22/85A	05/15/85A
PKB	PK-1	125 V DC 1E Distrib. Pwr.	03/07/84A	02/22/85A	05/15/85A
PNA	PN-1	120 V AC 1E Sup. Pwr.	06/28/84A	06/24/85	08/01/85
PNB	PN-1	120 V AC 1E Distrib. Pwr.	07/05/84A	06/24/85	08/01/85
QAA	N/A	Lighting Group 1	07/23/85	N/A	11/19/85
QAB	N/A	Lighting Group 2	09/03/85	N/A	11/19/85
QAC	N/A	Lighting Group 3	09/03/85	N/A	11/19/85
QBA	QB-1	Standby Lighting	07/29/85	08/19/85	09/21/85
QBB	QB-1	Essential Lighting	08/27/85	08/19/85	09/21/85
QCA	N/A	Yard Lighting	08/13/85	N/A	10/01/85
QEA	N/A	Public Offsite Comm.	09/12/85	N/A	11/25/85
QFA	QF-1	Inplnt Comm Cntl. & Diesel	05/01/85A	10/10/85	11/12/85
QFB	QF-1	Inplnt Comm Radwaste	09/26/85	10/10/85	11/12/85
QFC	QF-1	Inplnt Comm Aux Bldg/Dry.	09/26/85	10/10/85	11/12/85
QFD	QF-1	Inplnt Comm Turb. Bldg.	02/01/85A	10/10/85	11/12/85
QFE	QF-1	Inplnt Comm Admin. Bldg.	09/26/85	10/10/85	11/12/85
QFG	QF-1	Inplnt Comm Admin. Bldg.	N/A	10/10/85	11/12/85
QHA	QH-1	Cathodic Protection	08/13/85	08/27/85	09/29/85
QJA	QJ-1	Freeze Protection	N/A	08/01/85	09/03/85
QKA	QK-1	Fire/Smoke Detec. Yd. Strc.	10/18/84A	09/05/85	10/08/85
QKB	QK-1	Fire/Smoke Detec. Cntl/Die.	05/21/85A	09/05/85	10/08/85
QKC	QK-1	Fire/Smoke Detec. Radwaste	07/18/85	09/05/85	10/08/85
QKD	QK-1	Fire/Smoke Detec. Turbine	04/12/85A	09/05/85	10/08/85
QKE	QK-1	Fire/Smoke Detec. React.	04/10/85A	09/05/85	10/08/85
QLA	N/A	Private Offsite Comm.	09/16/85	N/A	11/25/85
QMA	N/A	Motor Operated Doors	08/01/85	N/A	10/17/85
QMB	N/A	Lab/Shop Equipment	08/01/85	N/A	10/17/85
QMC	N/A	Weld/Pwr Receptacles	08/01/85	N/A	10/17/85
RCA	RC-1	Sampling Aux. Bldg.	07/30/85	10/22/85	11/08/85
RCB	RC-2	Sampling Turb. Bldg.	07/30/85	10/24/85	11/08/85
RCC	RC-3	Sampling React. Bldg.	07/30/85	10/17/85	11/08/85
RCD	RC-4	Contain Post Acc. Sampl.	07/08/85	09/09/85	10/12/85

## 8. STARTUP

### G. TEST PROGRAM SCHEDULE AND CRITICAL PATH (cont.)

<u>Subsystem</u>	<u>Preop</u>	<u>Description</u>	(A) <u>Constr.</u> <u>T/O</u>	(B) <u>Preop</u> <u>Start</u>	(C) <u>Release</u> <u>From Test</u>
RDA	N/A	Meteor Inst.	09/26/85	N/A	11/08/85
RGA	RG	Plant Security	05/07/85A	08/02/85	09/09/85
RGB	RG	Intru. & Access Security	07/17/85	07/19/85	08/27/85
RGC	RG	TV Monitoring Security	05/07/85A	03/09/85	09/16/85
RGD	RG	Comm Security	05/07/85A	N/A	08/10/85
RGE	RG	Grdhs/Diesel Gen. Security	05/07/85A	08/09/85	09/16/85
RGF	RG	Tech. Support Center	N/A	N/A	08/10/85
RHA	RG	Closed Circuit TV	N/A	N/A	11/12/85
RJA	RJ-1	Plant Computer Part I	08/12/83A	Ongoing	09/15/85
RJB	RJ-1	Plant Computer Part II	12/09/83A	Ongoing	09/15/85
RJC	RJ-2	Computer Emergency Resp.	09/02/85	09/23/85	10/26/85
RLA	N/A	CRC Pnls. & Cable	12/09/83A	N/A	09/15/85
SAA	SA-1	Redundant Reac. Ctrl.	12/09/83A	10/04/85	11/15/85
SBA	SB-1	Reac. Protection	04/18/85A	07/01/85	09/25/85
SBA	SB-2	Reac. Protection	N/A	08/05/85	09/25/85
SCA	SC-1	Reac. Instrumentation	08/06/85	09/03/85	10/11/85
SDA	SD-1	Radiation Monitoring	12/09/83A	10/25/85	11/22/85
SEA	SE-1	SU/Intermed Rng Neu. Mon.	07/24/85	08/30/85	10/25/85
SED	SE-2	Reac. Drv Con Neu. Mon.	07/24/85	09/06/85	10/25/85
SEB	SE-3	Pwr Rng Neu. Monitoring	07/24/85	08/30/85	10/25/85
SEC	SE-4	Tip Neu. Monitoring	07/24/85	09/20/85	10/25/85
SFA	SF-1	Reac. Manual Control	03/22/85A	06/20/85	10/25/85
SGA	SG-1	Seismic Instrumentation	04/01/85A	04/24/85A	05/10/85A
SKA	SK-1	Leak Detection	08/20/85	08/30/85	10/12/85
SMA	SM-1	NSSS Shutoff	05/03/85A	07/03/85	10/23/85
SNA	SN-1	Auto. Depressurization	06/13/85A	07/23/85	08/25/85
SPA	SP-1	Proc. Non-Safety Rad Mon	07/05/85	07/19/85	11/22/85
SPB	SP-2	Proc. Nuc. Safety Rad Mon	10/04/85	10/18/85	11/22/85
STA	N/A	Transient Monitor (GTARS)	07/01/85	N/A	09/01/85
SVA	SV-1	Remote Shutdown	12/09/83A	08/12/85	09/13/85



## 8. STARTUP

### G. TEST PROGRAM SCHEDULE AND CRITICAL PATH (cont.)

In summary, the project has developed a high quality integrated project schedule. The schedule is updated on a continual basis to provide the most up-to-date information and enhance the overall product. Monitoring of the schedule provides continual feedback to management and high visibility on the project's four most critical paths: the completion of the NSSS/ECCS system's preoperational test and operational hydro, the Reactor Building HVAC system completion and testing, the installation of the radiation monitoring system and subsequent testing, and completion of the solid radwaste system.

Management actions are taken immediately as required. It is this problem identification/resolution process that gives us confidence in managing the project to a successful completion.

### H. STAFFING PLAN

The following is the current and projected manpower to support the Preoperational Test Program (Phase II) to fuel load:

<u>STARTUP GROUP</u>	<u>CURRENT</u>	<u>PROJECTED</u>
Test Program Supervisors	20	20
Test Engineers	130	159
PTP Support	55	55
T/A Support	192	216
Contract Technicians:		
GPPMA	110	140
I & C	98	114

The projected figures above represent additional staffing which has recently been authorized. The vacant positions are expected to be filled by early July 1985.



8. STARTUP

I. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEMS</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD</u>		
a) Aggressive testing schedule.	Closely monitor startup progress.	To date we have met the challenge of an aggressive schedule. This is evident in the following: <ul style="list-style-type: none"><li>- An early turnover of the CRC</li><li>- An early integrated flush</li><li>- An early code hydro</li><li>- An advancement of the preoperational test schedule</li></ul>
b) Project learning curve associated with new startup program.	Develop training and communication programs.	The program is in place and functioning well.
c) Shortage of qualified personnel.	Increase staffing as needed.	Well qualified personnel have been and continue to be hired by PSE&G on an as needed basis.  The current Startup group staff has been aided by the availability of very strong Bechtel personnel with current experience from Limerick, Susquehanna, etc., in addition to the acquisition of experienced personnel from other sources.

8. STARTUP

I. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEMS</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
1) <u>RESOLUTION OF PROBLEMS IDENTIFIED IN LAST CASELOAD (Cont.)</u>		
d) Increasing scope of testing by regulation or plant experience.	Improve lines of communication.	<p>Strong communication with other facilities undergoing startup ahead of Hope Creek has helped identify and incorporate new requirements into our program.</p> <p>The project continues to use services such as INPO note pad.</p> <p>There is a tracking system in place and functioning addressing new testing issues and concerns.</p> <p>The Startup group has been staffed with personnel who have had recent</p>
2) <u>CURRENT PROBLEMS</u>		
a) Accumulation of many preop tests at certain periods of time.	Develop a levelized testing schedule.	<p>A levelized preop schedule has been developed and is in place. This is continuously monitored and adjusted as necessary to maintain our overall startup goals.</p>
b) Backlog of preoperational test procedure preparation.	Increase staffing.	<p>Additional procedure writers with experience in writing and conducting preop tests have been added to the Startup staff. This group has been successful in improving the quality of procedures as well as the rate of production.</p>

8. STARTUP

1. PROBLEMS/SOLUTIONS

DESCRIPTION OF PROBLEMS	CORRECTIVE ACTION	CURRENT STATUS
2) <u>CURRENT PROBLEMS</u> (Cont.)		
c) Backlog of I&C calibrations and loop checks.	Increase staffing and improve production.	Additional technicians, supervisors, and test engineers have been acquired. This has resulted in an increase in the rate of performing the I&C tests.
d) SDR program workoff.	Develop a plan based on priority to close out outstanding SDRs.	Teams have been developed and are in place to coordinate the workoff effort.  Additional engineering and construction support has been provided.  Priority SDRs have been identified and all SDRs are scheduled to accommodate the overall plan.
e) Last minute design changes which impact testing.	Increase communication between the home office engineering and field construction and testing groups.	Weekly conference calls take place with the Bechtel Home Office to permit an early start on developing workaround plans when necessary.  A program is in place to expedite material procurement for modifications (CORE Team).

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8. STARTUP

I. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEMS</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
2) <u>CURRENT PROBLEMS</u> (Cont.)		
f) Radwaste testing program.	Establish a dedicated radwaste group.	A dedicated radwaste group has been established and is functioning. This group is staffed with a sufficient number of test engineers and support personnel to meet the schedule.
g) HVAC testing critical path.	Increase schedule visibility to allow management to reallocate the project's resources to critical areas and anticipate problem areas.	<p>A detailed schedule has been developed to monitor the final stages of HVAC work. This schedule receives constant management attention to ensure immediate problem resolution.</p> <p>The system teams have been augmented to ensure timely response to schedule impacting issues.</p>
h) NSSS testing critical path.	Increase schedule visibility to allow management to reallocate the project's resources to critical areas and anticipate problem areas.	A detailed schedule has been developed for the completion of NSSS/ECCS system testing, operational hydro, TIP system, and NLRT in support of fuel load commencement. The schedule is updated regularly and receives daily management attention.

## 8. STARTUP

### J. SUMMARY

A dedicated effort by Public Service, Bechtel, and other contract personnel has made an earlier fuel load date of December 1, 1985, achievable. The project team approach has been effective in coordinating the various parts of the startup program necessary to reach fuel load. A continued, integrated effort by project team members will achieve that goal.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

9. LICENSING STATUS

Questions: Detailed discussion of potential scheduler influence due to change attributed to NUREG-0737 and other recent licensing requirements.

A. INTRODUCTION

Since the April 1983 Caseload Forecast Panel Meeting, Hope Creek has achieved a number of fundamental licensing milestones on or ahead of schedule, and at levels of success equal to the best performance of any other operating license effort over the past several years. These milestones included issuance of the "Safety Evaluation Report" and the "Final Environmental Statement". Other significant licensing milestones include the issuance of a letter by the NRC Advisory Committee on Reactor Safeguards, endorsing full power operation of the plant, and a successful independent negotiation of the contentions in the Atomic and Safety Licensing Board hearing process resulting in termination of the hearings.

B. OPERATING LICENSE APPLICATION STATUS

1. March 1, 1983 - Application Submitted
2. June 29, 1983 - Application Docketed
3. November 18, 1983 - ASLB Pre-Hearing Conference
4. March 6, 1984 - Draft Safety Evaluation Report
5. May 31, 1984 - Byproduct Material License Issued
6. June 29, 1984 - Draft Environmental Statement
7. October 1984 - Safety Evaluation Report
8. November - December 1984 - ACRS Meetings
9. December 17, 1984 - ASLB Second Pre-Hearing Conference
10. December 1984 - Final Environmental Statement
11. January 17, 1985 - Technical Specifications Submitted
12. March 1, 1985 - ASLB Hearing Terminated
13. March 1985 - Supplement 1 to SER



## 9. LICENSING STATUS

### C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
I.A.1.1	Shift technical advisor	Hope Creek Generating Station will meet requirements by training SROs to meet STA requirements - see training procedure TP-303 (due to be complete 3/85) and FSAR sections 13.1 and 13.2.1 STA shift requirements will be incorporated into procedures upon receipt of INPO - NRC approved resolution.	TP-303 - approved.	Use of SROs are acceptable. (13.1.2.1).
I.A.1.2	Shift supervisor responsibilities	Responsibilities are outlined in the following policies and or procedures: *VPN-PLP-01 *SA-AP.ZZ-002(Q) *OP-AP.ZZ-002(Q) Also discussed in FSAR section 13.1.2	VPN-PLP-01 - approved. SA-AP.ZZ-002(Q) - approved. OP-AP.ZZ-002(Q) - approved.	Acceptable (13.5.1.7).
I.A.1.3	Shift manning	Meets current NRC policy on maximum work hours provided in policy statement dated 2/11/82 and generic letter 82-12, see FSAR section 13.1.2 and procedure OP-AA.ZZ-002 (Q).	OP-AP.ZZ-002(Q) - approved.	Acceptable (13.5.1.7).
I.A.2.1	Immediate upgrading of operator and senior operator training and qualification.	Meet requirements by having all SRO candidates sit for cold license and by training program supplying equivalent of experience they require - see FSAR section 13.2.1.1.		Acceptable - pending receipt and review of simulated training program (13.2.1.4) OI - 12d submitted 1/7/85 to NRC.
I.A.2.3	Administration of training programs.	Hope Creek Generating Station will meet all requirements.		Acceptable pending verification that requirements have been met prior to issuance of a license (13.2.1.4).

## 9. LICENSING STATUS

### C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
I.A.3.1	Revise scope and criteria for licensing examinations	Requirements outlined in training procedure TP-305-HC and FSAR section 13.2.	TP-305-HC - approved	Under NRC review (13.2.1.4) (01-12d).
I.B.1.2	Evaluation of organization and management.	Hope Creek Generating Station meets requirements. Discussed in FSAR sections 13.1 and 13.4.4.		Acceptable (13.4.3).
I.C.1	Short-term accident analysis and procedure review.	EOPs will follow guidelines of BWR Owner's Group Emergency Procedures and will be available 3/1/85.	EOPs - draft	PGP is under NRC review (PGP is 01-14). Response to PGP RAI due 7/12.
I.C.2	Shift relief and turnover procedures.	Included in procedures OP-AP.ZZ-107(Q) and OP-AP.ZZ-017(Q).	OP-AP.ZZ-107(Q) - approved. OP-AP.ZZ-017(Q) - draft.	Acceptable (13.5.1.7).
I.C.3	Shift supervisor responsibilities.	Included as part of TMI item I.A.1.2.		Acceptable (13.5.1.7).
I.C.4	Control Room Access	Authority delineated in SA-AP.ZZ-002(Q) and OP-AP.ZZ-002(Q).	SA-AP.ZZ-002(Q) - approved. OP-AP.ZZ-002(Q) - approved.	Acceptable (13.5.1.7).

## 9. LICENSING STATUS

### C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAK	DOCUMENTATION	RESOLUTION - SER
I.C.5	Feedback of operating experience.	The following procedures provide information on the dissemination of information: *OP-AP.22-105(Q) *M3-POP-001 *TP-306HC & TP-307HC replaced by commitment tracking lists. In additon, an integrated nuclear department procedure will be provided by 3/85, which will be incorporated into Hope Creek Generating Station procedures (SA-AP.22-047Q - approved).	OP-AP.22-105(Q) - approved. Acceptable (13.5.1.7). M3-POP-001 - draft. TP-306HC - deleted. TP-307HC - deleted.	
9.4 I.C.6	Verify correct performance of operating activities.	The following procedures provide the required information: OP-AP.22-108(Q) - draft OP-AP.22-109(Q) - draft OP-AP.22-002(Q) - approved SA-AP.22-12(Q) - approved SA-AP.22-15(Q) - approved SA-AP.22-009 - approved SA-AP.22-13(Q) - approved OP-AP.22-017(Q) - draft		Acceptable (13.5.1.5).
I.C.7	NSSS vendor review of procedures.	Hope Creek Generating Station will comply.		Acceptable (13.5.2.3).
I.C.8	Pilot monitoring of selected emergency procedures for near-term operating license applicants.	Not applicable to Hope Creek Generating Station.		Not applicable to Hope Creek Generating Station (13.5.2.3).

9. LICENSING STATUS

C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
I.D.1	Control Room Design Review	Provided CRDR summary report to NRC 8/14/85.		Additional information due 11/85 to resolve 11/84 audit findings (18 SSER1).
I.D.2	Plant SPDS	SPDS scheduled for submittal to NRC 9/84. (Submitted to NRC 4/10/85).		01-15 submitted to NRC 4/10/85.
I.G.1	Training during low power testing.	Hope Creek Generating Station will comply as required during low power testing.		Acceptable (14.2).
II.B.1	Reactor coolant system vents.	The HPCI, RCIC and/or ADS meet the requirements.		Acceptable - (15.9.1).
II.B.2	Plant shielding	A post accident shielding design and access review was performed as required (see FSAR section 12.3.2).		Acceptable (12.3.2).
II.B.3	Post-accident sampling.	Hope Creek Generating Station design complies (see FSAR section 9.3.2).		Acceptable (9.3.2).
II.B.4	Training for mitigating core damage.	A training program has been implemented (see FSAR section 13.2).		01-12d submitted to NRC 1/7/85.
II.D.1	Relief and safety valve test requirements.	Test program analysis submitted to NRC 10/25/83.		Under NRC review (3.10.2) (01-2b).
II.D.3	Relief and safety valve position indication.	Hope Creek Generating Station complies - see FSAR section 7.5.1.3.6.		Acceptable (7.5.2.2).

NRC 7 (A-5)a

## 9. LICENSING STATUS

### C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
II.E.1.1	Aux. feedwater (FW) system evaluation.	Not applicable to BWRs.		
II.E.1.2	Aux. FW system initiation and flow.	Not applicable to BWRs.		
II.E.3.1	Emergency power for pressurizer heaters.	Not applicable to BWRs.		
II.E.4.1	Dedicated hydrogen control penetrations.	Hope Creek Generating Station complies with clarification (1) of TMI Item II.E.4.1. •		Acceptable (6.2.5).
II.E.4.2	Containment isolation dependability.	Hope Creek Generating Station complies - see FSAR section 6.2.4.		Acceptable (6.2.4).
II.F.1	<u>Accident Monitoring Instrumentation</u>			
II.F.1.1	Noble gas effluent monitor.	Hope Creek Generating Station complies - see FSAR section 11.5.		Acceptable (11.5.2).
II.F.1.2	Sampling and analysis of plant effluents.	Hope Creek Generating Station complies - see FSAR section 11.5.		Acceptable (11.5.2).
II.F.1.3	Containment high-range radiation monitor.	Hope Creek Generating Station complies - see FSAR section 11.5.		Acceptable (12.3.4.1).
II.F.1.4	Containment pressure monitor.	Hope Creek Generating Station complies - see FSAR section 7.5.1.		Acceptable (7.5.2.5).
II.F.1.5	Containment water level monitor.	Hope Creek Generating Station complies - see FSAR section 7.5.1.		Acceptable (7.5.2.5).
II.F.1.6	Containment hydrogen monitor.	Hope Creek Generating Station complies - see FSAR section 7.3.		Acceptable (7.5.2.5).

## 9. LICENSING STATUS

### C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
11.F.2	Instrumentation for detection of inadequate core cooling.	Hope Creek Generating Station endorses results of BWROG. Hope Creek Generating Station to incorporate necessary modifications when final resolution is reached with NRC.		Acceptable (4.4.7).
11.G.1	Power supplies for pressurizer relief valves, block valves and level indicators.	Not applicable to BWR.		
11.K.1	IE bulletins on measures to mitigate small break locas and loss of FW breaks.			
11.K.1.5	Assurance of proper engineered safety features functioning.	Hope Creek Generating Station to provide procedure by 3/85.	Final due 7/15.	Staff to verify procedure - - satisfies requirements (15.9.2).
11.K.1.10	Operability status.	Hope Creek Generating Station to provide procedure by 3/85.	Final due 7/15.	Staff to verify procedure - - satisfies requirements. (15.9.2).
11.K.1.17		Not applicable to Hope Creek Generating Station.		
11.K.1.20		Not applicable to Hope Creek Generating Station.		
11.K.1.21		Not applicable to Hope Creek Generating Station.		
11.K.1.22	Proper functioning of heat removal systems.	Hope Creek Generating Station endorses BWROG position - see FSAR sections 5.4.6 and 5.4.7.		Acceptable (15.9.2).
NRC 7 (A-7)a				



## 9. LICENSING STATUS

### C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
11.K.1.23	Reactor vessel water level indication.	Hope Creek Generating Station provided requested information.		Acceptable (15.9.2).
11.K.2	Commission orders on B&W plants.	Not applicable to Hope Creek Generating Station.		
11.K.3	Final recommendations of B&O Task Force.			
11.K.3.1		Not applicable to Hope Creek Generating Station.		
11.K.3.2		Not applicable to Hope Creek Generating Station.		
11.K.3.3	Failure of PORV or safety valve to close.	Hope Creek Generating Station provided requested information.		Acceptable (15.9.3).
11.K.3.5		Not applicable to Hope Creek Generating Station.		
11.K.3.7		Not applicable to Hope Creek Generating Station.		
11.K.3.9		Not applicable to Hope Creek Generating Station.		
11.K.3.10		Not applicable to Hope Creek Generating Station.		
11.K.3.11		Not applicable to Hope Creek Generating Station.		
11.K.3.12		Not applicable to Hope Creek Generating Station.		
NRC 7 (A-8)a				

## 9. LICENSING STATUS

### C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
11.K.3.13	Separation of HPCI or RCIC system initiation levels - analysis and implementation.	Hope Creek Generating Station endorses BWROG position.		Acceptable pending verification of installation of equipment for automatic restart of RCIC on low water level. (15.9.3).
11.K.3.15	Modify break detection logic to prevent spurious isolation of HPCI and RCIC systems.	Hope Creek Generating Station meets requirements by installing Class 1E time delay relays.		Acceptable pending verification of installation of relays (15.9.3).
11.K.3.16	Reduction of challenges and failures of relief valves - feasibility study and system mods.	Hope Creek Generating Station endorses BWROG position. In addition, will provide maintenance procedure by 3/85.	Draft	Acceptable (15.9.3).
11.K.3.17	Report on outages of ECCS systems license report and proposed tech. spec. changes.	Hope Creek Generating Station provided their methodology.		Acceptable (15.9.3).
11.K.3.18	Modification of ADS logic.	Hope Creek Generating Station endorses Option 4 of the BWROG position.		C-37 - PSE&G to submit verification of installation of inhibit switch.
11.K.3.21	Restart of core spray and LPCI systems. B	Hope Creek Generating Station endorses BWROG position - no changes are required.		Acceptable (7.3.2.8).
11.K.3.22	Automatic switchover of RCIC suction.	Hope Creek Generating Station complies - see FSAR sections 5.4.6.1 and 7.4.1.1.2.		Acceptable (7.4.2.2).

# 9. LICENSING STATUS

## C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
11.K.3.24	Confirm adequacy of space cooling for HPCI and RCIC systems.	Hope Creek Generating Station complies.		Acceptable (9.4.2).
11.K.3.25	Effect of loss of AC power on pump seals.	Hope Creek Generating Station endorses BWROG study.		Acceptable (15.9.3).
11.K.3.27	Provide common reference level for vessel level instrumentation.	Hope Creek Generating Station complies.		Acceptable (18 SSER1).
11.K.3.28	Verify qualification of accumulators on ADS valves.	Hope Creek Generating Station complies - see sections 6.3 and 9.3.6.		Under NRC review (3.10.2).
11.K.3.30	Revise small break loca methods.	Hope Creek Generating Station endorses GE model.		Acceptable (15.9.3).
11.K.3.31	Plant specific calculations to show compliance with 10CFR50.46.	Hope Creek Generating Station provided requested information.		C-14 submitted 3/1/85 to NRC.
11.K.3.44	Evaluation of anticipated transients with single failure to verify no fuel failure.	Hope Creek Generating Station endorses BWROG generic response.		Acceptable (15.9.3).
11.K.3.45	Evaluation of depressurization with other than ADS.	Hope Creek Generating Station endorses BWROG generic response.		No changes required. However, Hope Creek Generating Station subjected to requirements of 9/27/82 memoranda on integrity of vessel welded connections. (15.9.3).

9. LICENSING STATUS

## C. THE IMPACT OF NUREG 0737

ITEM NO.	SUBJECT	RESOLUTION - FSAR	DOCUMENTATION	RESOLUTION - SER
II.K.3.46	Responding to michelson concerns.	Hope Creek Generating Station endorses GE response to this issue.		Acceptable (15.9.3).
III.A.1.1	Emergency preparedness, short term.	Hope Creek Generating Station complies - see FSAR section 13.3.		C-36 additional information to be provided 6/85 (13.3.2.17).
III.A.1.2	Upgrade emergency support facilities.	Hope Creek Generating Station will comply - see FSAR section 7.5.		C-36 information to be provided 6/85 (13.3.2.17).
III.A.2	Emergency preparedness.	Hope Creek Generating Station will comply - see FSAR section 13.3.		C-36 information to be provided 6/85 (13.3.2.17).
III.D.1.1	Primary coolant outside containment.	Hope Creek Generating Station complies.		Acceptable - Hope Creek Generating Station to submit inspection procedures and acceptance criteria to staff within 2 months of startup (15.9.4).
III.D.3.3	Improved inplant iodine instrumentation under accident conditions.	Hope Creek Generating Station to provide information 6/85.		C-35 (12.5.2). Information sent June.
III.D.3.4	Control Room habitability.	Hope Creek Generating Station complies - see FSAR section 6.4.		Acceptable (6.4).

## 9. LICENSING STATUS

### D. ACRS COMMITMENTS

The Advisory Committee on Reactor Safeguards (ACRS) Subcommittee and Full Committee meetings were held November 28, 29 and December 13, 1984, respectively. On December 18, 1984, the ACRS issued the Hope Creek Generating Station a full power recommendation letter. Only three items required further attention:

1. Turbine overspeed test
2. Control Room habitability
3. Ultimate Plant Protection System (UPPS)

Pursuant to a December 21, 1984 request by NRC, Hope Creek submitted information on the turbine overspeed test program and the UPPS applicability on April 24, 1985. Hope Creek personnel have also been active in aiding the NRC staff with the Control Room habitability item.

## 9. LICENSING STATUS

### E. OPEN SER ITEMS

OPEN ITEM NO.	TITLE	SUBJECT	STATUS
01-1	Riverborne Missiles (24.5, 2.4.10, 3.4.1, 3.5.1.4, 3.5.2, 9.2.1)	The effects of ships and other debris with a draft of less than 12 feet hitting the walls and penetrations of safety-related structures.	All responses submitted to NRC by 5/08/85.
01-2	Equipment Qualification (3.10 & 3.11)	Concerns on seismic, pump and valve operability and environmental qualifi- cation of equipment.	SQRT and PVORT audits were held in May 1985. E.Q. audit scheduled for July 15 - 18.
01-3	Preservice Inspection Program (5.2.4 & 6.6)	Resolution of comments on the Preservice Inspection Program and submittal of relief requests.	All comment resolutions submitted to NRC by 3/19/85. Relief requests to be submitted in November 1985. Additional info due July.
01-4	GDC 51 Compliance (6.2.7)	Augmented Inservice Inspection Program for feedwater check valves.	Response submitted to NRC 03/12/85.
01-5	Solid-State Logic Modules (7.3.2.5)	Adequacy of Bailey 862 solid-state logic modules at Hope Creek Generating Station.	Test plans submitted to NRC June 5. Test results due July and November.
01-6	Post Accident Monitoring Instrumentation (7.5.2.3)	Resolution of comments on the post accident monitoring instrumentation.	Resolution of comments submitted to NRC on 5/14/85.
01-7	Minimum separation between non-class 1E conduit and class 1E cable trays (8.3.3.3.3)	Provide justification for one inch separation.	Justification submitted to NRC on 4/04/85. Additional info due July.



## 9. LICENSING STATUS

### E. OPEN SER ITEMS

OPEN ITEM NO.	TITLE	SUBJECT	STATUS
01-8	Control of Heavy Loads (9.1.5)	Respond to comments on heavy loads program.	Response submitted to NRC on 1/18/85. Closed per SSER #1.
01-09	Alternate and Safe Shutdown (9.5.1.4)	Alternate and safe shutdown capability.	Hope Creek Generating Station design under review by NRC. Safe shutdown to be resub- mitted August.
01-10	Delivery of Diesel Generator Fuel Oil and Lube Oil (9.5.4.2)	Delivery and filling of diesel fuel oil and lube oil during flooded conditions.	Response included as part of Amendment 8. This item closed in SSER #1.
01-11	Filling of Key Manage- ment Positions (13.1.1.3)	Fill open key management positions and provide resumes in FSAR.	Presentation to NRC in July on organizational changes.
01-12	Training Program Items (13.2.1.1)	Resolve comments on training programs.	Responses submitted to NRC on 12/28/84, 1/07/85 and 4/26/85.
01-13	Emergency Dose Assessment Computer Model (13.3.2.9)	Provide description of emergency dose assessment computer model.	Description provided to NRC on 1/07/85.
01-14	Procedures Generation Package (13.5.2.2 and 13.5.2.3)	Submit procedure generation package (PGP) to staff for review.	PGP submitted to NRC on 1/28/85. Supplemental information was submitted to NRC on 4/10/85. Additional info due July 12.
01-15	Human Factors Engineering (18)	1. Provide supplemental DCRDR summary report. 2. Provide SPDS safety analysis.	1. Report to be submitted to NRC in November 1985. 2. SPDS safety analysis submitted to NRC on 4/10/85. Additional info due July.

## 9. LICENSING STATUS

### F. NRC AUDITS

<u>Item No.</u>	<u>Audit/Subject</u>	<u>Schedule</u>	<u>Status</u>	<u>PSE&amp;G Sponsor</u>
1.	Independent Design Verification Program - NRR, I&E - QA, Region I A. As-built prewalkdown B. As-built walkdown	March - August  May 29, June 13 -18,		W. Gailey  W. Gailey/J. Blenx W. Gailey/J. Blenx
2	NRC Independent Measurements - Region I	April 22 - May 3	Completed	F. Barnabei
3.	TMI Action Plan - Region I	April/June	Ongoing	A. Giardino
4.	SQRT/PVORT - NRR	May 7 - 10	Completed	A. Kao
5.	Emergency Planning Pre-appraisal - Region I, I&E	May 16 - 17	Completed	D. McCloskey
6.	Security - Region I	May 13 - '17,	Completed	J. Bavlish
7.	Fire Protection - Region I	May 20 -24,	Completed	J. Pantazes/ W. Pavincich
8.	Radwaste - METB -NRR	June 19	Completed	G. Dalton
9.	Caseload Forecast Panel - NRR, Region I	June 26 - 27		T. Brauchle
10.	Clad Pipe NDE - NRR	July	Tentative	L. Lake
11.	Power Systems Electrical Walkdown - NRR	July	Tentative	R. W. Skwarek/ W. M. Pavincich
12.	Operator License Audit - NRR, Region I	July 8 - 19		J. Hagan
13.	EQ - NRR	July 15 - 18		J. Wroblewski/ C. Lambert
14.	PSI - NRR, Region I	July	Tentative	L. Lake

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## 9. LICENSING REQUIREMENTS

### F. NRC AUDITS

<u>Item No.</u>	<u>Audit/Subject</u>	<u>Schedule</u>	<u>Status</u>	<u>PSE&amp;G Sponsor</u>
15.	SPDS - NRR	August	Tentative	R. W. Skwarek/ T. R. McGuire
16.	Emergency Planning Appraisal - Region I	August 12 - 16		D. McCloskey
17.	ECCS - NRR	August	Tentative	R. Drewnowski
18.	Fire Protection - NRR, Region I	August	Tentative	J. Pantazes/ W. M. Pavincich
19.	ICSB - NRR	September	Tentative	R. W. Skwarek/ R. W. Rosko
20.	Nuclear Material License - Region I	September	Tentative	T. Busch
21.	ILRT - Region I	October 18 -19		L. Lake
22.	Emergency Planning Drill - I&E, FEMA	October 29		D. McCloskey
23.	Security - NMSS	October	Tentative	J. Bavlish
24.	Operator License Audit - NRR, Region I	4th quarter		J. Hagan
25.	Security - Region I	4th quarter	Tentative	J. Bavlish
26.	Operational Readiness - Region I	4th quarter		S. LaBruna
	a) Procedures	e) HP		
	b) Tech Specs	f) Maintenance		
	c) As-Built Configuration - 9/30/85	g) Operational QA		
	d) Chemistry	h) Training		

9. LICENSING REQUIREMENTS

F. NRC AUDITS

<u>Item No.</u>	<u>Audit/Subject</u>	<u>Schedule</u>	<u>Status</u>	<u>PSE&amp;G Sponsor</u>
27.	Operating Readiness Visit - director of NRR	1 month prior to fuel load		B. A. Preston
28.	Commissioner's Visit - NRC Commissioners;	1-2 months prior to fuel load		B. A. Preston
29.	Commission Meeting for Full Power Vote	June 1986		B. A. Preston

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## 9. LICENSING STATUS

### G. SUMMARY

As in the past, Hope Creek will continue its aggressive pursuit of the closure of the remaining open and confirmatory items. Our basic licensing philosophy of working with the NRC staff reviewers to resolve technical differences of opinion without resorting to undue "appeals" or "claims of backfit" will continue to guide our efforts to resolve all remaining items in support of the December 1, 1985 fuel load date.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

Question: Discussion of schedular impact, if any, regarding potential deficiencies reported in accordance with 10 CFR 50.55 (e).

A. INTRODUCTION

Since the 1983 caseload there have been a number of significant accomplishments in the Quality Assurance Program area. The early completion and acceptance of the large pipe hangers is an example.

In preparation for ACRS review of Hope Creek, Region I submitted an evaluation to the Hope Creek subcommittee. The report stated the following in part:

"Region I inspections indicate the applicant to be: 1) Responsive to facility construction needs and to be providing aggressive management attention to NRC concerns, 2) Improving QA/QC programs and increasing QA/QC manpower, and 3) Recognizing the necessity of continuous management attention to assure quality performance.

Region I has developed a high degree of confidence in the Hope Creek non-destructive examination (NDE) program, as a result of the independent verification of the applicant's examination, using the NRC Region I Mobile Laboratory (NDE Van).

SALP reports have generally indicated a strong involvement by PSE&G management in their overview of construction. Management has initiated many new and innovative programs to improve communications and jobsite morale. Examples of such initiatives undertaken by the applicant during the last SALP period assessed have included:

- \*A transition plan to coordinate orderly transfer of the Hope Creek project from the construction phase to operations.

- \*A documentation and record turnover (DART) team, established to identify all records and schedule their turnover, format, and location (storage).

- \*Bechtel QA review of all past 10 CFR Part 21 reports, for applicability to Hope Creek using printouts from the Public Document Room.

- \*Applicant QA verification that corrective actions taken to correct past violations are still in effect.



10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

A. INTRODUCTION (cont.)

"An independent program has been developed to receive and evaluate safety concerns of any site employee (past or present). The program, initiated at Fermi by Detroit Edison is now being marketed as SAFETEAM and is intended to surface and resolve safety concerns at an early date.

As a result, the applicant's strong commitment to quality assurance has been reflected by a quality project."

These initiatives are in addition to those such as Response Coordination Team and PRIDE, which were mentioned earlier.

In addition, the NDE van returned to Hope Creek in April for another in-depth NDE review. For the second time no violations were identified at Hope Creek.

Following is the status of the 27 open construction deficiency reports at Hope Creek. Extensive progress has been made in correcting these items and no schedule impact should result from these issues.

In fact, 17 of the 27 open items have had the work completed. Summaries of all 27 are included in the handout. Those with remaining potential exposure, indicated by an asterisk, will be discussed.

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
1. <u>81-00-04 Limitorque Motor Operator Deficiencies</u>		
- Numerous deficiencies have been identified in Limitorque Motor Operators which include: <ul style="list-style-type: none"><li>* improper use of fiber shims under contact screws</li><li>* poor wiring practices</li><li>* use of unqualified electrical equipment</li></ul>	- Bechtel QC inspected all safety-related operators prior to cable termination.	- Rework completed on all 281 Limitorque Motor Operators installed in safety related applications. Final report scheduled for 7/17/85.
2. <u>83-00-08 Faulty Valve Operators -Xomox</u>		
- BIF valves reported via Part 21 that a Xomox supplied actuator had failed seismic testing. Twelve (12) similar valves had been shipped to Hope Creek.	- The twelve operators were returned to the vendor for rework and seismic qualification testing.	- Rework and testing complete. Valves returned and reinstalled. Final report sent 10/6/84.
3. <u>83-00-09 Defective Capstan Springs</u>		
- Several Pacific Scientific mechanical shock arrestors under test revealed broken capstan tangs. Stresses induced during spring forming resulted in cracking during subsequent silver plating. 87 suspect arrestors had been supplied to Hope Creek.	- 86 mechanical shock arrestors returned to Pacific Scientific for inspection/rework. They replaced capstan springs in 25 shock arrestors. The one missing shock arrestor has been added to the N-5 data package checklist as a control measure.	- Rework complete. Final report sent 8/16/84.

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
4. <u>83-00-13 GE Type AKR-30 Circuit Breakers</u>		
<ul style="list-style-type: none"><li>- Numerous fabrication deficiencies were noted in type AKR-30 breakers supplied by GE; to include:<ul style="list-style-type: none"><li>- Defective and loose switches</li><li>- Improperly heat treated closing spring prop</li><li>- Loose buffer assembly, loose screw on "G" switch</li><li>- Short motor spacers, worn driving pawl</li><li>- Broken solder joints</li><li>- Broken driving pawl shear pin</li><li>- Improperly installed cut-off switch plate</li></ul></li></ul>	<ul style="list-style-type: none"><li>- At their Connecticut facility, GE performed a complete reinspection, rework and test program for all of the affected circuit breakers.</li></ul>	<ul style="list-style-type: none"><li>- Rework completed on 244 AC and 91 DC AKR-30 circuit breakers. Final report sent 11/26/84.</li></ul>
5. <u>84-00-01 Jacket Water Check Valves - EDG</u>		
<ul style="list-style-type: none"><li>- Colt Industries reported via Part 21 that jacket water check valves may "disassemble in service". Four of these check valves manufactured by GPE controls are installed on our diesel generators.</li></ul>	<ul style="list-style-type: none"><li>- Check valves were returned to GPE for rework in accordance with Colt's Part 21 Report.</li></ul>	<ul style="list-style-type: none"><li>- Rework completed and valves reinstalled. Final report sent 4/13/84.</li></ul>

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10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

10.5

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
6. <u>84-00-07 Defects in Lube Oil Pump Discharge Nozzles</u>		
- Colt Industries submitted a Part 21 report regarding cracks in bosses on discharge nozzles discovered during factory testing of a D/G set. Similar surface indications were found on the Hope Creek units.	- Colt recommended that the face of the bosses be machined down .060 inch to determine the extent of the surface indications. This resulted in complete removal of indications as confirmed by NDE.	- Rework completed. Final report sent 9/28/84.
7. <u>84-00-04 Manufacturing Defects in GE HEA Relays</u>		
- General Electric Service Advice letters PSM-175.1 and PSM-165.1 advised of two potential problems with HEA relays supplied to Hope Creek project: failure to meet specified trip force values and malformed tension springs.	- Test HEA relays in accordance with SAL PSM-175.1 and replace defective relays. Replace all suspect relays identified per SAL PSM-165.1.	- Rework completed; 39 relays were replaced. Final report sent 9/20/84.
8. <u>84-00-10 Economizing Resistors - EDG</u>		
- Resistors installed on our Emergency Diesel Generator (EDG) exciter control panels were improperly secured and/or incorrectly sized. Colt Industries advised Bechtel of the problem as identified by Basler Electric.	- Basler Electric representative inspected and corrected any noted deficiencies. Three resistors were remounted and 2 resistors replaced.	- Rework completed. Final report sent 7/14/84.

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
9. <u>84-00-09 Underrated Cable - Valcor Solenoid Valves</u>		
- A SNUPPS Part 21 Report concerning design deficiency also applied to Hope Creek. Cable intended for conductor temperatures not exceeding 90°C for normal operation was used in the connection of Valcor solenoid valves in the instrument gas system. Cable rated for 150°C should have been specified.	- Replacement of the underrated cable with cable capable of withstanding the higher operating temperatures. All other Valcor solenoids were found correctly wired.	- Rework complete. Final report sent 9/28/84.
10. <u>84-00-11 A/D Globe Valves - Non-Rotating Stems</u>		
- NRC I&E Information Notice 83-70 identifies a potential slippage problem with Anchor Darling globe valves with non-rotating stems.	- Per vendor recommendations, the stem collar setscrews will be checked for tightness. Affected valves installed in systems subject to steady state vibration will have their setscrew locked.	- Rework completed. 59 valves were checked for collar setscrew tightness and 27 valves had setscrews locked. Final report sent 9/28/84.
11. <u>84-00-12 Incorrect Pin Material - BIF Butterfly</u>		
- Cleanliness inspection of two (2) thirty-six inch valves indicated extensive corrosion damage to tapered pins securing valve stem to disc. Investigation determined pin material to be stainless steel rather than Monel as had been specified.	- Use nitric acid test to verify disc pin material. Problem limited to four (4) thirty-six inch valves. Bechtel replaced disc pins on the two valves installed in Unit No. 1. The two stored Unit 2 thirty-six inch valves have been identified and controlled as non-conforming.	- Rework completed and design application at Hope Creek rendered the problem not reportable per 10 CFR 50.55 (e). See final report to Region I dated 5/20/85.

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
12. <u>84-00-13 Wiring in Comsip Panels</u>		
<ul style="list-style-type: none"> <li>- Comsip Customline Inc. supplied eight electrical panels that contain wiring that does not meet the specified insulation wall thickness requirements. These panels may not be acceptable in harsh environments.</li> </ul>	<ul style="list-style-type: none"> <li>- Bechtel replaced the suspect wire with wire that meets specified requirements.</li> </ul>	<ul style="list-style-type: none"> <li>- Rework completed. Final report sent 10/4/84.</li> </ul>
*13. <u>84-00-14 Induced Voltage Actuations - Bailey</u>		
<ul style="list-style-type: none"> <li>- During preoperational testing, incorrect actuations of Bailey controls Model 862 digital logic modules were noted in 1E and non-1E circuits. As originally designed, the logic module circuitry did not adequately suppress or filter the induced voltages.</li> </ul>	<ul style="list-style-type: none"> <li>- Develop and install circuit modification to the input signal isolation on the Model 862 logic card to discriminate between valid signals and induced voltages.</li> </ul>	<ul style="list-style-type: none"> <li>- Modification work completed on all 1E and non-1E circuits for EMI problem. All testing expected to be complete by 10/15/85. Final report sent 10/15/84.</li> </ul>
14. <u>84-00-15 Topaz Inverters - Incorrect Low Voltage Setting</u>		
<ul style="list-style-type: none"> <li>- GE advised that Topaz may have set the low voltage cut off at 105 volts instead of 100 volts. Topaz class 1E inverters supply power for the 24 VDC instrument buses for RHR, core spray, HPCI, RCIC, ADS and Leak Detection Systems.</li> </ul>	<ul style="list-style-type: none"> <li>- GE issued FDI-WTJD providing for adjustment and testing the undervoltage, overvoltage and restart setpoints for each inverter.</li> </ul>	<ul style="list-style-type: none"> <li>- Final report to Region dated 12/14/84 withdrew this item as not reportable per Hope Creek design.</li> </ul>



10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
15. <u>84-00-16 GE Ground Break Relays</u>		
- General Electric Service Advice letter 175-9.12 informed Bechtel that ground break relays Model TGSR-12 may have a manufacturing defect. * Bechtel identified eight such relays installed in class 1E 480 volt unit substations.	- Replace defective relays with acceptable relays supplied by General Electric.	- Rework completed. Final report sent 12/31/84.
10.8 16. <u>84-00-17 Brown-Bovari Type 5HK Circuit Breakers</u>		
- NRC I&E Information Notice #83-84 advised of a possible deficiency in 4KV circuit breakers puffer piston push rods supplied by Brown-Boveri.	- Inspect and replace as required, the puffer piston rods in the fourteen identified 4.16 KV switchgear assemblies.	- Rework complete. Final report sent 1/10/85.

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
<p>*17. <u>84-00-18 Incompatible Grease - Limitorque Operators</u></p> <p>- During routine maintenance activities, craft personnel added Exxon Lidoc EP-2 grease to Limitorque valve operators that were shipped from the manufacturer with Exxon Nebula EP-0, EP-1, or Sun Oil 50EP grease. Potential exists for mixture to cake or run out of the operators.</p> <p>10.9 Subsequently, PSE&amp;G Maintenance Department personnel added Exxon Unirex N-2 to the gear box of 94 Limitorque operators. This lubricant is incompatible with the existing grease and has the potential for the mixture to cake or run out of the operators.</p>	<p>- Inspect and remove the EP-2 grease from the Limitorque operators.</p> <p>- Inspect and remove the Unirex N-2 grease from the Limitorque operators.</p>	<p>- 513 of 530 operators reworked. Safety analysis complete. Final report submitted 1/21/85.</p> <p>- Work in process. Grease has been removed from 71 Limitorque operators. Report to be sent 6/28/85.</p>
<p>*18. <u>84-00-19 Ruskin Fire Dampers</u></p> <p>- Ruskin Manufacturing Company reported via Part 21 that spring closure fire dampers may fail and/or exhibit reduced performance under air flow conditions.</p>	<p>- Investigate problem and provide specific system/damper solutions.</p>	<p>- Working with Bechtel and Ruskin, PSE&amp;G Site Engineering has developed specific system/damper fixes for the problems. Test results underwriting the efficiencies of the fixes should be available by July.</p>

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

	<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
10.10	*19. <u>85-00-01 EDG Fuel Pump Valve Holder</u>  - Colt Industries advised of a possible defect in the fuel injection pump delivery valve holders on our Emergency Diesel Generators. A fatigue crack can occur at the filter seat radius and progress to the holder O.D. There are 12 potentially defective pump delivery valve holders on each of the 4 diesel generators.	- Replace all forty-eight of the affected components with acceptable replacements supplied by the manufacturers.	- Safety analysis completed and submitted in final report dated 2/12/85. Replacement of components pending receipt of parts. Ship date of 6/30/85 from Colt.
	*20. <u>85-00-03 Motor Operated Valve - HPCI Steam Supply Line</u>  - During startup testing HPCI steam supply valve 1-FD-HV-F001, failed to operate due to an incorrect D.C. motor in the valve operator.	- Replace installed motor with a motor as described on the motor data sheet. Review all other DC motor operated valves supplied to Hope Creek for motor application.	- Rework pending receipt of replacement motor from the vendor. Investigation complete and indicates no additional discrepancies. Safety analysis provided with interim report dated 4/15/85. Final report to be sent 6/28/85.
	*21. <u>85-00-04 Heat Buildup - EDG Cabinets</u>  - Louis Allis submitted a Part 21 Report identifying a potential heat buildup problem within the EDG control cabinets. The source of heat is three transformers mounted in the cabinets.	- Monitor ambient temperature in Hope Creek EDG control cabinets. Coordinate with Colt Industries, Basler Electric and Louis Allis on resolving problem.	- To date, Bechtel has not received sufficient information from Colt Industries, Basler Electric or Louis Allis to perform an analysis of safety implications. An interim report was submitted to Region I on 5/6/85. Final report scheduled for 8/3/85.

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
*22. <u>85-00-05 TOBAR Transmitters - Signal Drift</u>	- Investigate concern with vendor. Provide safety analysis report.	- Investigation in progress. Additional report to Region I scheduled for 6/28/85.
- Model 32 series 2 pressure transmitters supplied by TOBAR, Inc. of Tempe, Arizona. have exhibited output signal drift in excess of allowable tolerances, apparently as a result of ambient temperature changes.		
23. <u>85-00-07 Air Baffle Cracks - EDG</u>	- Repair utilizing a continuous fillet weld backed with a seal weld.	- Repairs completed on the four Hope Creek EDGs. Final report submitted on 5/31/85.
- Louis Allis submitted a Part 21 Report advising of weld cracks in the conical air baffles on Emergency Diesel Generators. Public Service Quality Assurance personnel inspected the suspect welds on the Emergency Diesel Generators. On three of the Emergency Diesel Generators, linear indications were found on the vendor stitch welds securing the baffles to the generator shrouds.		
*24. <u>85-00-06 Unqualified Fuses in Comsip Panels</u>	- Investigation confirmed the problem is limited to fuse sizes identified by Comsip. Replace fuses with qualified fuses.	- 155 fuses identified for replacement. Final report submitted 6/24/85.
- Comsip, Inc. advised Bechtel that 1/10, 1/4 and 1/2 AMP Bussman fuses, installed by Comsip in electrical panels supplied to Hope Creek, are not qualified for class 1E service.		

10.11

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
<p>*25. <u>85-00-08 Corrosion in Jumpers in Bailey Type RZ Modules</u></p> <p>- Bailey Controls Type RZ push button modules contain spring steel jumper clips over two terminals of the push button contactor. Oxidation of several clips has prevented correct initiation of the digital and analog logic systems.</p>	<p>- Bechtel Project Engineering is to provide fix. Field personnel to implement fix.</p>	<p>- Investigation in progress. Interim report scheduled for submittal to Region I by July 5, 1985.</p>
<p>10.12 26. <u>85-00-02 Misapplied Sequencer Relays</u></p> <p>- Manufacturer has indicated the relay contact gap may be insufficient to quench the arc drawn when breaking 125 V DC. A total of 144 suspect relays are installed in Hope Creek equipment.</p>	<p>- Bechtel will replace 26 affected relays with replacements qualified for high loading application.</p>	<p>- Pending receipt of replacement relays. Final report sent April 30, 1985.</p>

10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

B. DEFICIENCIES REPORTED (Cont.)

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
27. <u>84-00-02 EDG Pressure Switches</u>  GE advised that four uninstalled "static-O-ring" pressure switches probably are equipped with uncured O-rings that could permit oil to enter electrical portion of switches rendering them inoperable.	- Return suspect switches to GE for rework/replacement.	- Replacement pressure switches installed. Final report sent September 28, 1983.

10.13



10. POTENTIAL DEFICIENCIES - 10 CFR 50.55

C. SUMMARY

No potential deficiencies identified to date will have any schedular impact on fuel load.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

11. CONSTRUCTION/STARTUP INTERFACE

Question: Overview of current construction and startup management organization showing interfaces between the two.

A. INTRODUCTION

The Hope Creek Project has adopted an integrated team concept to facilitate communication between the Startup and Construction organizations. The success of this concept is evident in the 153 system turnovers and 1,301 RFT's returned to date. These eight teams are chartered with the responsibility of managing systems from the construction completion stage, through startup testing, and continuing until the system is successfully tested and released for operations.

B. MANAGEMENT/TEAM CONCEPT

Team membership consists of a lead test engineer and construction representatives from field supervision, engineering, quality control, and planning and scheduling. Additional support is provided by the resident engineering and procurement departments. The lead test engineer is responsible for outlining system testing and sequencing, construction support requirements, and priorities. Supporting the lead test engineer is a startup planning and scheduling engineer who prepares the schedule for testing and support activities within overall project schedule parameters. Construction responsibilities are focused on supporting the test engineer by coordinating the efforts of the construction groups.

## 11. CONSTRUCTION/STARTUP INTERFACE

### B. MANAGEMENT/TEAM CONCEPT

#### Construction/Startup Team Responsibility Summary

##### ----- PHASE I -----

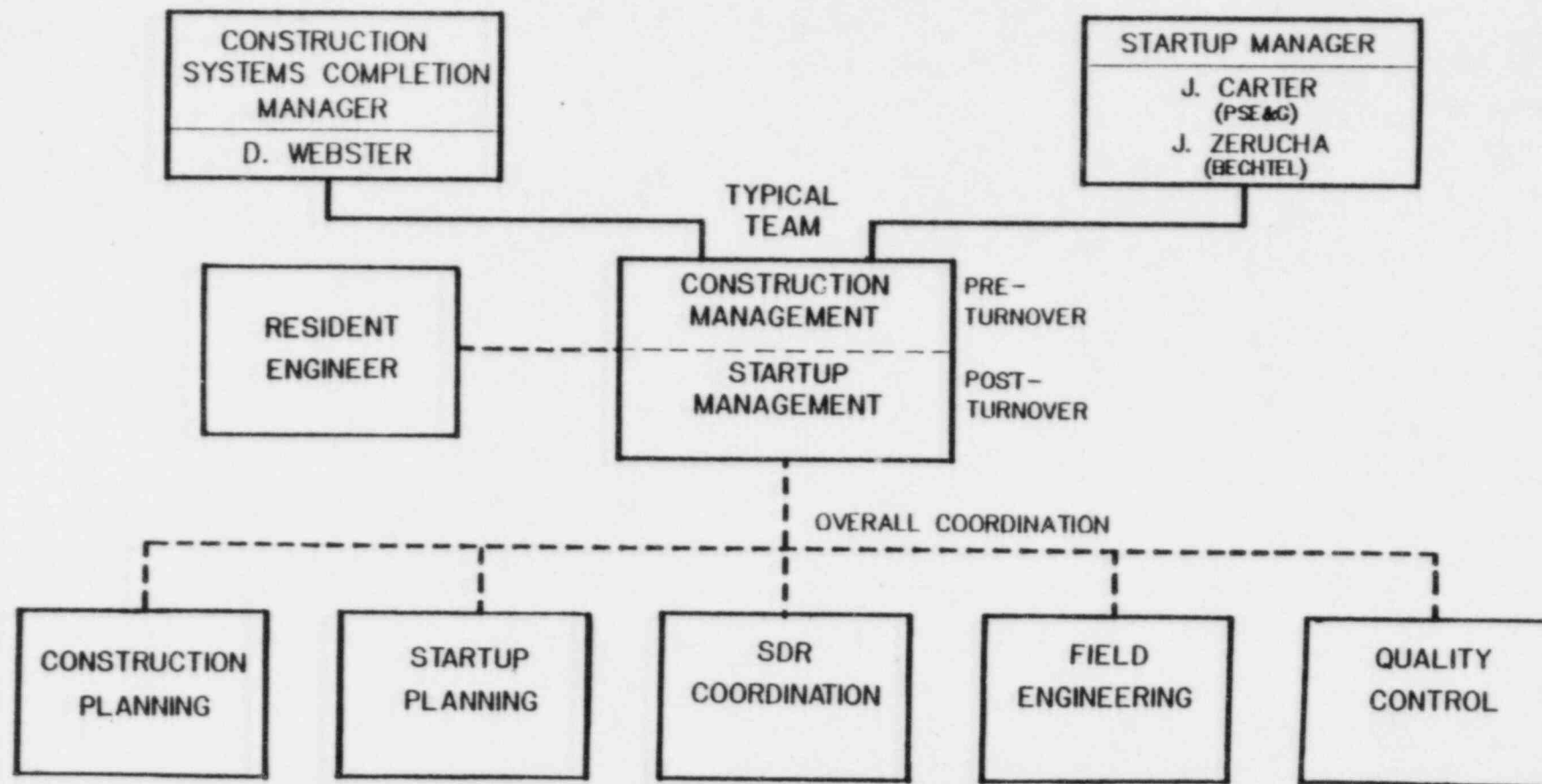
<u>PSSUG Lead Test Engineer</u>	<u>Bechtel Team Construction Manager</u>
*Prepares release for functional test (RFT)	*Monitors and coordinates discipline activities to ensure proper RFT and system turnover progress
*Prepares procedures	*Coordinates and expedites activities to support PSSUG
*Directs functional testing utilizing RFT system	*Develop system turnover package
*Reviews system prior to turnover release	

##### ----- PHASE II -----

<u>PSSUG Lead Test Engineer</u>	<u>Bechtel Team Construction Manager</u>
*Directs functional testing	*Monitors and coordinates completion of SDRs.
*Directs construction support required for startup testing	*Coordinates and expedites activities to support PSSUG.
*Conducts preoperational test	
*Prepares package for turnover to operations.	

11.2

HOPE CREEK GENERATING STATION  
**SYSTEMS COMPLETION TEAM  
TYPICAL ORGANIZATION**



11.3

## 11. CONSTRUCTION/STARTUP INTERFACE

### C. SUMMARY

The establishment of teams at Hope Creek has provided a network of small groups each having a diverse, multidiscipline membership. Each team has been assigned a manageable group of systems to match the team members' expertise. The result is an efficient vehicle to plan, monitor, and expedite activities. The teams are more able to establish joint objectives, to better serve the project, and accommodate on the spot problem solving. Given high flexibility, the team concept is seen as an effective tool capable of getting the Hope Creek Project from construction to operations.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

12. SPECIFIC ISSUES

Question: Detailed review and current status of design, engineering and construction effort; including quantities, work-off rates, current status and schedule for completion for:

- a. ATWS-3A Design Changes
- b. Appendix R Design Implementation
- c. NSSS Loads Adequacy Evaluation
- d. High Energy Line Break (HELB)
- e. Moderate Energy Line Breaks (MELB)
- f. Control Rod Drive System
- g. Primary and Secondary Containment
- h. Control Room Panel Modifications (PGCC)
- i. Pipe Stress (As-Built)
- j. N-Stamp Certification Program
- k. Updating Drawings and Specifications to As-Built Condition
- l. Environmental Qualification of Safety-Related Equipment
- m. Seismic Qualification of Safety-Related Equipment
- n. Hanger Reconciliation Program

A. INTRODUCTION

The following sections describe the current status of several major areas of interest at Hope Creek. As can be seen, the status of each issue indicates completion supporting the Hope Creek December 1, 1985 fuel load.

B. SPECIFIC ISSUES

a. ATWS-3A Design Changes

The decision to incorporate ATWS 3A fixed was made in 1981.

Design Status - Complete

Construction Status - Complete with the exception of rework of input isolators in RRCS panels. Scheduled completion - August 1985.



## 12. SPECIFIC ISSUES

### B. SPECIFIC ISSUES (Continued)

#### b. Appendix R Design Implementation

The design basis for Hope Creek is SRP9.5-1. (Appendix R is not a design basis for Hope Creek.)

The NRC Region I and NRR fire protection/safe shutdown walkdown was completed the week of May 20-24, 1985. Thirteen open items will appear in the NRC trip report. None of these items are considered major.

The potential design changes include:

- (1) Adding some additional sprinkler heads and detectors;
- (2) Adding a manual suppression system to the control console pit;
- (3) Adding a panel wall to separate Diesel Generator HVAC panels;
- (4) Adding some emergency lights.

In addition the spurious signal and fire area analysis are to be included in the shutdown procedures. The schedule for issue of the design for these changes is August 1985.

Construction Status -

All fire protection systems including the above modifications are more than 75 percent complete and will be installed and operational by fuel load.

#### c. NSSS Loads Adequacy Evaluation

An evaluation was conducted to demonstrate design adequacy of essential NSSS equipment when subjected to various dynamic loads and load combinations (GE new loads program). These dynamic loads result from seismic events and/or annulus pressurization related phenomena.

Design Status - Complete

Construction Status - Complete

## 12. SPECIFIC ISSUES

### B. SPECIFIC ISSUES (Continued)

#### d. High Energy Line Break (HELB)

Design Status -

Complete with the exception of a final (pre-turnover) engineering walkdown to confirm the installation of barriers and to confirm that safety related commodities have not been relocated in jet impingement or pipe whip zones.

Construction Status -

Complete installation of pipe whip restraints and barriers. (Twenty of the 22 required barriers inside the Drywell have been installed.)

#### e. Moderate Energy Line Break (MELB)

Design Status -

Complete with the exception of a final (pre-turnover) engineering walkdown to confirm the installation of spray shields and to verify that safety related commodities have not been relocated so as to be impacted by non-safety grade pipe failures.

Construction Status -

Complete installation of spray shields (less than 10) by October 1985.

#### f. Control Rod Drive System

Design Status -

Complete including consideration of water hammer and failed buffer issues.

Construction Status - Complete

The system was turned over to Startup on March 18, 1985.

#### g. Primary and Secondary Containment

##### 1) Primary Containment

Design Status - Complete

Construction Status - Complete

Structural integrity test per ASME Section III NE requirement was completed in November 1979. The vessel was N-stamped in September 1983. Torus mods (per Mark I Owners Long Term Program) were completed in May 1984. The Appendix J leakage test is scheduled for October 2, 1985.

## 12. SPECIFIC ISSUES

### B. SPECIFIC ISSUES (Continued)

#### g. Primary and Secondary Containment (cont.)

##### 2) Secondary Containment

Design Status - Complete

Construction Status - Complete

Secondary containment leakage testing is ongoing, with results to date below 1,500 CFM at 1/4 inch water gauge. Final documented negative leak rate testing is scheduled for October 1985.

#### h. Control Room Panel Modifications

Design and Construction Status -

All Design Change Packages (DCPs) resulting from the human factors engineering reviews have been issued and are being implemented prior to fuel load. These changes were minor in nature (e.g. seals changes). (Note: Hope Creek does not have a PGCC.)

#### i. Pipe Stress (As-Built)

(See Section 12/B/n for discussion.)

#### j. N-Stamp Certification Program

(See Section 12/B/n for discussion.)

#### k. Updating Drawings and Specifications to As-Built Condition

Design Status -

Documents are maintained in an as-built condition by the incorporation on a ongoing basis of all Change Authorizing Documents (CADs) such as FCRs and FCNs as implemented by project specification G-14. By procedure such incorporation is required within a 90 day period from the approval of the CADs. The effectiveness of this program has been periodically evaluated and has been found to be satisfactorily implemented.

## 12. SPECIFIC ISSUES

### B. SPECIFIC ISSUES (Continued)

#### 1. Environmental Qualification of Safety-Related Equipment

The Hope Creek Environment Qualification Program includes safety-related mechanical and electrical equipment. Various segments of the EQ program are ongoing and are currently on schedule to support fuel load. We currently anticipate the NRC audit on July 15, 1985.

By July 1985, it is expected that approximately 117 of 128 vendor packages will have been reviewed and approved by PSE&G. The remaining package will be completed by fuel load.

#### m. Seismic Qualification of Safety-Related Equipment

The NRC Equipment Qualification Branch conducted the SQRT/PVORT Audit at Hope Creek site the week of May 6, 1985. The NRC Audit Team, at the conclusion of the audit, stated that the PSE&G Audit was one of the best audits that had been conducted to date.

There were three open items and nine confirmatory issues. None of these are considered major; all will be closed by fuel load.

Outstanding Activities -

Complete resolution of SQRT/PVORT audit action items

## 12. SPECIFIC ISSUES

### B. SPECIFIC ISSUES (Continued)

#### n. Hanger Reconciliation Program

##### 1) Introduction

Because pipe stress As-Built Reconciliation (ABR), and N-5 packaging are all interdependent (see Pipe Hanger Overview), agenda items 12i, 12j and 12n are all being addressed here.

Stress analyses of process piping systems were performed during the design phase. Field engineering, upon completion of the installation of a piping system, sends to San Francisco the field revision of the piping system isometric drawing, along with a list and copies of all Field Change Requests (FCR) and Field Change Notices (FCN) not yet incorporated in the San Francisco design drawing. San Francisco engineering incorporates all FCRs and FCNs on the piping isometric drawings, including all hanger location and orientation changes. Preliminary stress analysis (Phase I) is performed on this information to reduce the work required during the final As-Built Reconciliation (ABR). For Q systems, the Quality Control (QC) group completes their inspection and final piping and hanger information is submitted to Project Engineering for final stress analysis (Phase II). The attached chart shows the project schedule for this activity, including final stress calculations and the preparation of N-5 data packages. When the stress and hanger reconciliation efforts have been completed the piping isometric drawings are issued "As-Built".

##### 2) Status

	<u>Total Stress Calculations</u>	<u>Phase I Submitted</u>	<u>Phase II Submitted</u>
Q and Non Q	632	460	236
Q only	337	202	50

To expedite hanger completion and subsequent As-Built Reconciliation (ABR) package submittal, milestones were established for QC acceptance of large and small pipe hangers of June 1 and June 30, 1985, respectively. Construction achieved the large pipe hanger milestone and is progressing on schedule to support the June 30, 1985, small pipe hanger milestone.

The rate of issuance of as-built submittals based on final QC acceptance (Phase II) has increased in conjunction with the completion of the large pipe hanger milestone.

## 12. SPECIFIC ISSUES

### B. SPECIFIC ISSUES (Continued)

#### n. Hanger Reconciliation Program (cont.)

##### 2) Status (cont.)

San Francisco Engineering, upon completion of As-Built Reconciliation, provides the following documents to field engineering for inclusion in the N-5 data sheet documentation.

- \*A copy of the as-built isometric drawing of the piping system.
- \*A copy of the final stress calculation cover sheet.
- \*A copy of the pipe support details issued to show the loads and movements of the final stress calculation and the as-built configuration within the installation tolerances of 10855-P-410(Q) and 10855-G-014.

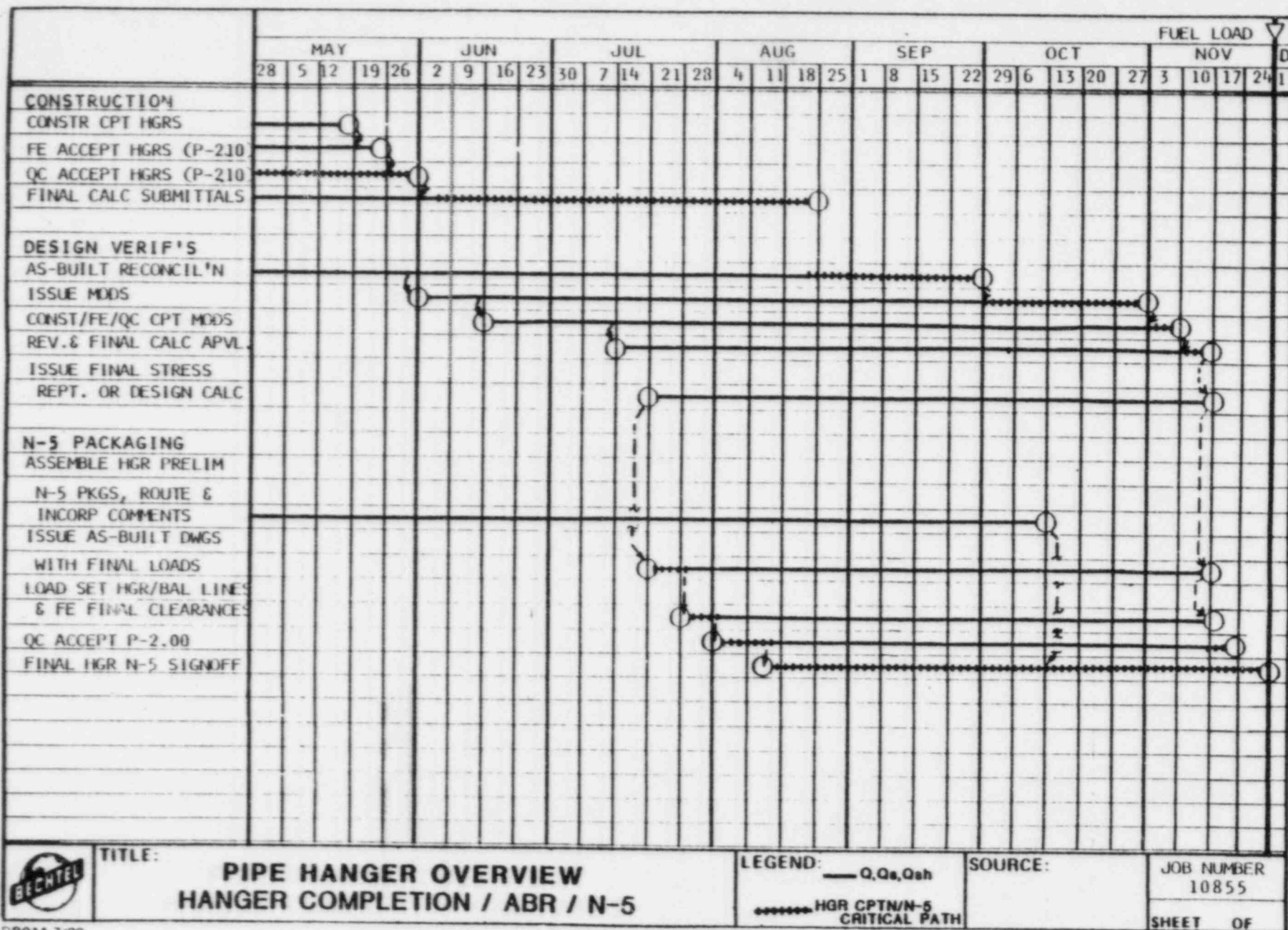
Preliminary N-5 processing commenced in April 1985. A dedicated group at the jobsite develops, coordinates, and packages the documentation required for certification of the required systems.

<u>Status</u>	<u>Total Packages</u>	<u>Completed Packages</u>	<u>Forecast Completion</u>
Piping	83	13	November 1, 1985
Instrumentation	26	0	November 1, 1985
Hangers	65	0	November 30, 1985
Combined Piping/ Hanger	5	5	Completed
Total	179	18	

##### 3) Summary

Based on the preliminary ABR work completed as a part of the projects Phase I program described above and the early completion of hanger installation and inspection, both the engineering and construction activities associated with pipe stress as-builts, ABR, and the N-5 package will support a December 1, 1985 fuel load.





TITLE:

# PIPE HANGER OVERVIEW

## HANGER COMPLETION / ABR / N-5

## 12. SPECIFIC ISSUES

### C. PROBLEMS/SOLUTIONS

#### DESCRIPTION OF PROBLEM

The As-Built Reconciliation of "Q" piping systems in support of N-5 package signing is an aggressive schedule.

#### CORRECTIVE ACTION

- \*Management -  
Established milestones for large and small pipe support completion.
- \*Construction -  
Modified their organization and focused more attention and manpower to achieving the milestone.
- \*Engineering -  
Modified staffing plans to support the remaining reconciliation effort.
- \*To date engineering has been reconciling as-builts prior to QC acceptance in order to expedite the effort. The QC accepted as-builts will then require less time to reconcile.

#### CURRENT STATUS

- \*As of 6/18/85.
- \*Construction -  
Q supports
 

	L.P.	S.P.
Total	6,327	6,590
Accepted	6,155	4,779
To Go	172	1,811
- \*Large pipe supports are 99% installed and 97% QC accepted. Fifty field engineering inspected Q calculations have been submitted to S.F. engineering.
- \*Small pipe supports are 98% installed and 73% QC accepted. Small pipe isometrics have been submitted to engineering. Completion of QC acceptance will occur by 6/30/85 and submittal of small pipe isometrics by 7/15/85.
- \*Engineering -  
Thirty large pipe "Q" calculations and 26 small pipe isometrics have been reconciled on a preliminary basis. Completion of reconciliation is scheduled for 10/30/85 and N-5 data packages by the end of November.

## 12. SPECIFIC ISSUES

### D. SUMMARY

The foregoing discussion demonstrates that the engineering design effort and support to construction, licensing, and startup are consistent with the needs of the overall project schedule. No potential problems due to design rework are anticipated at this time. The home office engineering, site engineering, and resident engineering organizations are structured to provide maximum and timely support to construction to expedite resolution of construction related problems. Further, all known licensing requirements have been addressed, and where applicable, have been factored into the plant design.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

13. ROOM TURNS

Question: Detailed review of room/area turnover schedule and status.

A. INTRODUCTION

In early 1985 management assigned a completion team to coordinate and expedite room and area turnovers. Although maximum emphasis must continue to remain with the systems completion and startup testing support, the project recognizes that emphasis will move to the room turnover effort as the project approaches fuel load. The room turnovers will drive the completion of all civil/architectural work and those commodities and activities not specifically associated with systems. To date 266 rooms or 30 percent of the total 890 rooms have been turned over.

The project has established a room turnover philosophy which maintains a high level of completeness at turnover in order to minimize post turnover construction activities in the released areas. The philosophy has recently been expanded to address not only the civil/architectural work items, but also any system related items which may be inside the rooms/areas being evaluated for turnover.

For convenience of control, rooms in the same area and of the same priority are grouped together into "packages". These packages are identified to building and elevation.

An overall completion plan for room turnover packages has been established and is integrated with the requirements of all project groups (ie. Construction, Startup and Plant Operations). The overall plan is to have all rooms and areas turned over by November 1985.



13. ROOM TURNS

C. PROBLEMS/SOLUTIONS

DESCRIPTION OF PROBLEM	CORRECTIVE ACTION	CURRENT STATUS
Recent progress on room and area package turns has been less than planned.	Complete construction on final group of major systems to allow resources to be concentrated on room and area turnover efforts	Within the month, the list of the major process systems will be completed and released to Startup. This will allow additional resources to be assigned to room/area activities.
	Priority areas required to support Operation's activities must be identified and expedited if necessary.	To-go room turnover plan and associated priorities have been reviewed and integrated with Operation's requirements for specific areas. Required areas have and will continue to be expedited as required. To date all requirements for specific turns have been met.

13.3



### 13. ROOM TURNS

#### D. SUMMARY

The room and area turnover activities are being addressed in a manner which places maximum emphasis on completeness of all work within the areas being turned over. Although this approach has resulted in some delays in the turnovers to date, these delays will not impact the overall schedule. Critical rooms and areas have been and will continue to be turned over to support the project requirements, and all rooms and areas will be completed and turned over by the December 1, 1985 fuel load.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

14. INCOMPLETE ITEMS AT THE TIME OF LICENSING

Question: Projected requests for relief of incomplete items, systems, or test completions at the time of licensing, identifying each.

A. INTRODUCTION

The project schedule calls for all systems to be completed and tested prior to fuel load to support licensing. Much emphasis has been placed on fully completing all work and minimizing any exceptions at system turnover or release from test.

B. POTENTIAL EXPOSURES

Aggressive schedules, supporting fuel load, are in place for two systems, but they represent a potential exposure. They are:

1) Radiation Monitoring System

The current plan is to have completed, as a minimum, all installation and testing of the system required to support licensing. Enhancements to the system such as data acquisition will be incorporated as available.

2) Solid Radwaste System

As the system capacity was originally designed for two units there is a certain amount of excess capacity and redundancy. Some exposure does exist that only that equipment required to support fuel load will be installed and tested with the balance coming later.

C. SUMMARY

The project is working toward and anticipating that all systems will be completed and tested prior to fuel load and no requests for exception will be required.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

15. OPEN PUNCHLIST ITEMS

Question: Review of open punchlist items by category (hardware/paperwork) identifying each and work-off rate versus add on rate.

A. INTRODUCTION

The Startup Deviation Report (SDR) is the vehicle which identifies every item of work to be performed on a system after Startup accepts a system from Construction. The SDR is generated by the system test engineer and assures closeout of all open issues within a system.

The SDR program encompasses items originating from many sources, such as incomplete punchlist items which are exceptions at turnover (TOX), non-conformance reports (NCR), design change packages (DCP), out of calibration reports, retest requirements, equipment failures, etc.

Although such items as NCRs and DCPs are tracked in their own categories, they are also tracked in the SDR program for consistency and accuracy in reporting project status.

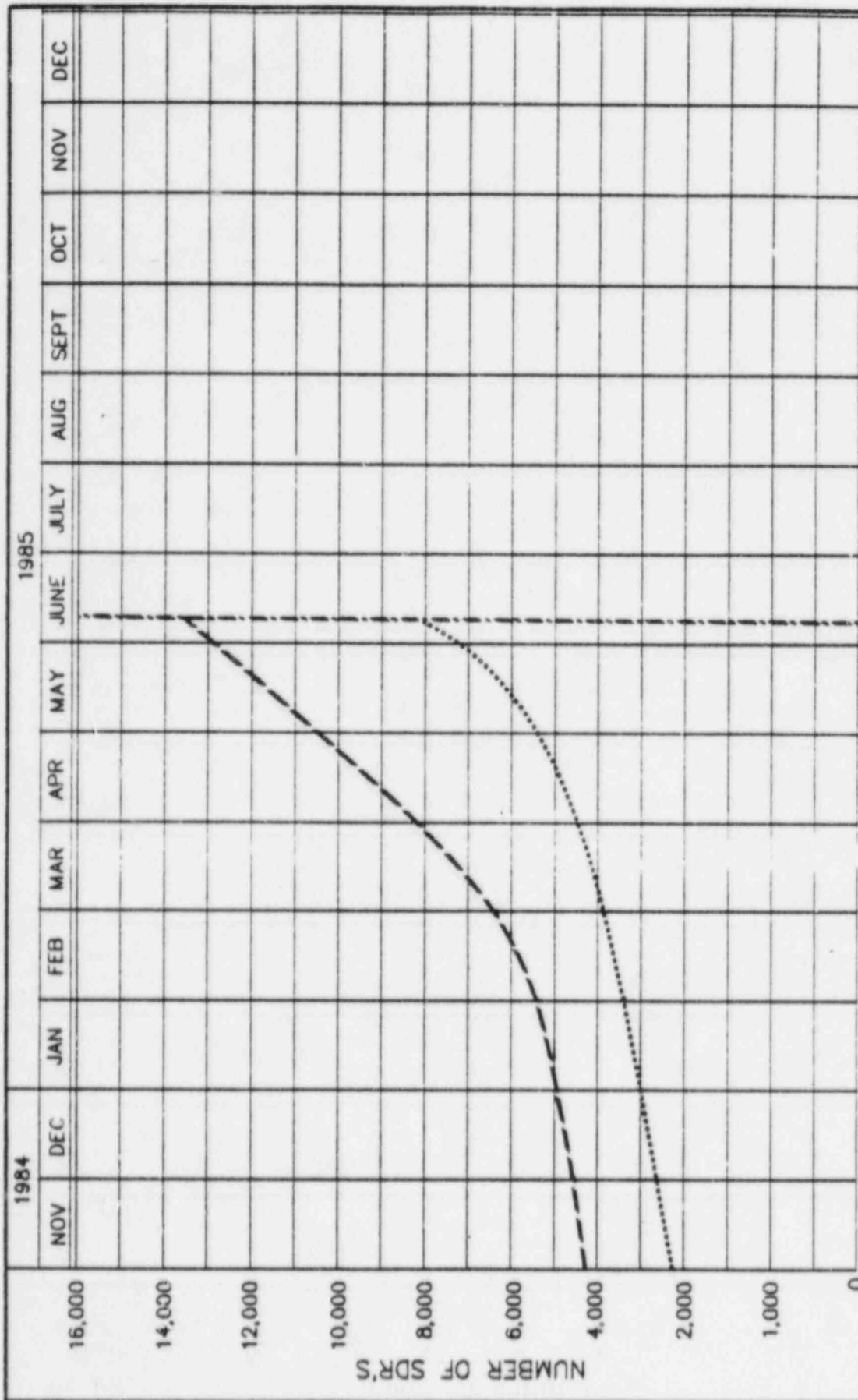
As SDRs are generated they are reviewed for the category of work, schedule requirements identified to system and/or room requirements, and applicable system and room designations. These are input into a dedicated data base for high visibility of status.

Once a system is released from test to operations, station administrative procedures (SAP) apply to new work items and will be monitored under a work order system.

The project is in the process of reinstituting the category designation of hardware and paperwork so that statistics are not available at this time.

B. SDR STATUS

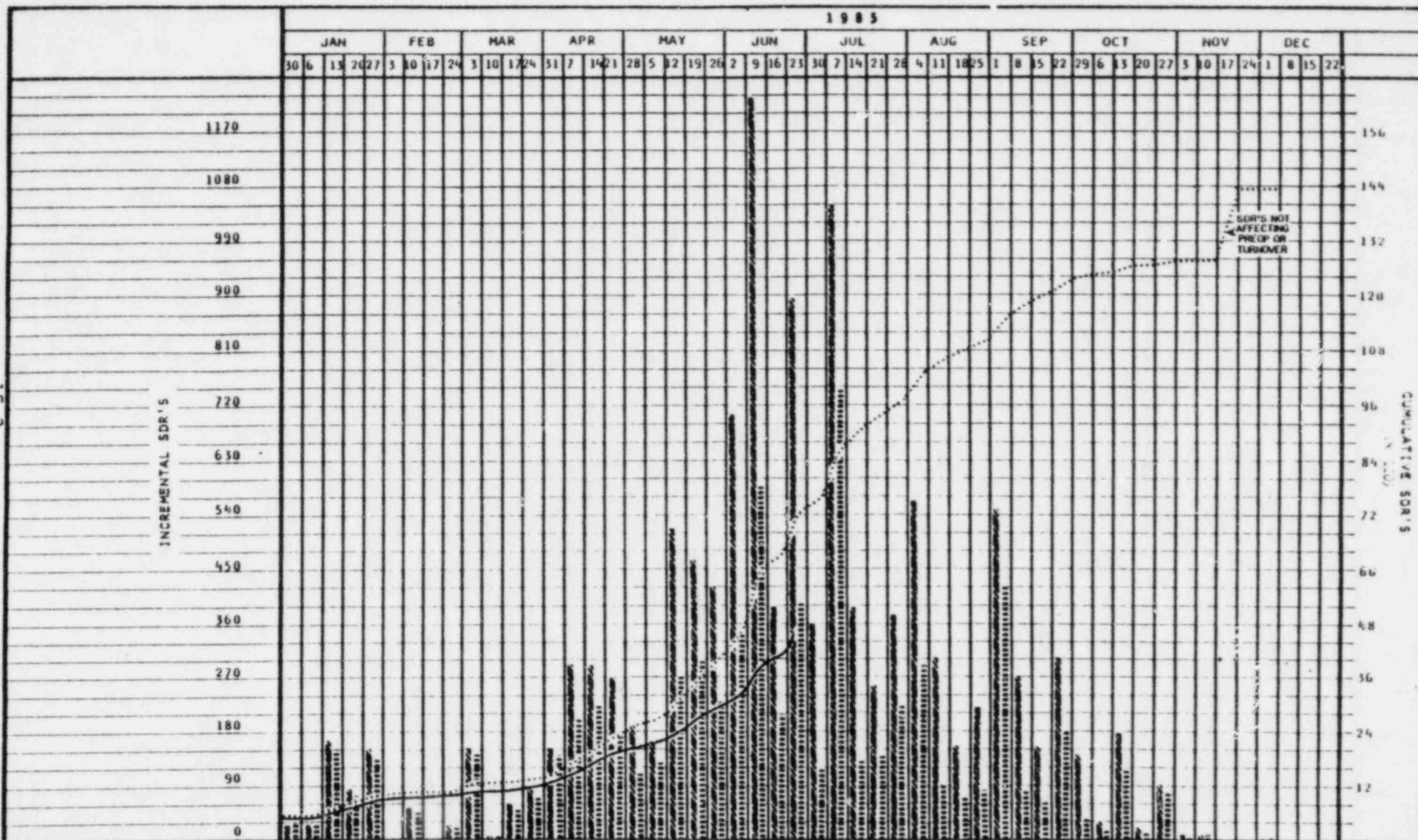
See following charts.



SOURCE: Public Service SDR Database

LEGEND:	..... TOTAL CLOSED	PROJ: HOPE CREEK GENERATING STATION Public Service Electric & Gas Company	TITLE: TOTAL SDR'S SUMMARY	Job No. 10855
	- - - - - TOTAL ISSUED			Sched. No.
			Sheet of	10855

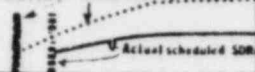
15.3



JOB NO.  
10855

**HOPE CREEK  
GENERATING STATION**  
PUBLIC SERVICE ELECTRIC & GAS CO.

LEGEND: Issued SDRs by N.Y.N.E.C.



SOURCE:

TITLE:

**SCHEDULED SDRs**

REV	BY	CKD	APVL	DATE	SCHEDULE NO.

SHEET OF

# 15. OPEN PUNCHLIST ITEMS

## B. SDR STATUS (Cont.)

Below is a SDR report from the project's computerized program indicating numerically the SDR'S Issued, Closed and Open by system and facility through June 11, 1985. System descriptions are available in section 8G.

<u>SYSTEM</u>	<u>ISSUED</u>	<u>CLOSED</u>	<u>OPEN</u>
AB	232	90	142
AC	96	24	72
AC	393	263	130
AE	278	146	132
AF	112	30	82
AK	105	72	33
AM	51	48	3
AN	168	76	92
AP	160	114	46
BB	690	249	441
BC	758	423	335
BD	238	85	154
BE	247	151	96
BF	143	61	82
BG	219	96	123
BH	117	69	48
BJ	167	82	85
BN	50	38	12
CA	53	24	29
CB	82	39	43
CC	15	4	11
CD	4	1	3
CE	18	1	17
CF	31	8	23
CG	53	34	19



15. OPEN PUNCHLIST ITEMS

## B. SDR STATUS (Cont.)

<u>SYSTEM</u>	<u>ISSUED</u>	<u>CLOSED</u>	<u>OPEN</u>
CH	57	33	24
CJ	18	7	11
DA	189	138	51
DD	36	25	11
DE	27	15	12
EA	382	207	175
EC	171	90	81
ED	144	89	55
EE	325	186	139
EG	367	200	167
EP	1	1	0
EG	35	28	7
FA	163	157	6
FB	17	6	11
FC	14	6	8
FD	9	5	4
FW	16	11	5
GA	108	89	19
GB	175	63	112
GD	8	6	2
GE	123	71	52
GF	63	51	12
GH	19	7	12
GJ	10	9	1
GK	62	28	34
GL	22	3	19
GM	139	12	127
GP	3	2	1
GQ	55	46	9
GR	58	13	45

15. OPEN PUNCHLIST ITEMS

## B. SDR STATUS (Cont.)

<u>SYSTEM</u>	<u>ISSUED</u>	<u>CLOSED</u>	<u>OPEN</u>
GS	130	28	102
GT	154	85	69
GU	73	16	57
HA	6	1	5
HB	98	20	78
HC	23	8	15
HG	1	0	1
HH	1	0	1
HJ	0	0	0
JA	76	69	7
JE	108	85	23
KA	135	104	31
KB	85	47	38
KC	560	348	212
KD	80	71	9
KE	54	8	46
KF	30	6	24
KG	4	2	2
KH	3	1	2
KJ	805	474	331
KL	117	33	84
KP	10	3	7
LA	1	0	1
LE	4	2	2
LF	3	2	1
MA	18	12	6
MC	111	110	1
MD	99	96	3
ME	2	2	0
MF	7	7	0

15. OPEN PUNCHLIST ITEMS

B. SDR STATUS (Cont.)

<u>SYSTEM</u>	<u>ISSUED</u>	<u>CLOSED</u>	<u>OPEN</u>
MTE	35	31	4
NA	36	35	1
NB	215	203	12
NF	0	0	0
NG	149	125	24
NH	85	84	1
NJ	17	14	3
NK	85	74	11
NL	8	4	4
NG	67	50	17
PB	79	77	2
PG	115	100	15
PH	36	33	3
PJ	41	29	12
PK	134	117	17
PN	113	66	47
PR	0	0	0
QA	8	5	3
QF	32	15	17
QH	4	0	4
QK	46	15	31
RC	12	5	7
RG	50	15	35
RJ	285	155	130
RK	47	34	13
RL	747	603	144
SA	13	8	5
SB	99	57	42
SC	11	8	3
SE	32	20	12

15. OPEN PUNCHLIST ITEMS

B. SDR STATUS (Cont.)

<u>SYSTEM</u>	<u>ISSUED</u>	<u>CLOSED</u>	<u>OPEN</u>
SF	27	18	9
SG	27	24	3
SH	1	1	0
SK	26	18	8
SM	66	43	23
SN	16	12	4
SP	6	5	1
SS	1	1	0
ST	6	1	5
SV	34	9	25
ZA	10	3	7
ZB	12	5	7
ZC	32	14	18
ZZ	509	344	165
A077	3	3	0
A102	1	1	0
A120	1	1	0
D087	1	1	0
D102	19	12	7
D124	47	35	12
D137	49	40	9
E054	34	21	13
E137	61	34	27
F054	2	0	2
F146	13	7	6
F163	16	10	6

15. OPEN PUNCHLIST ITEMS

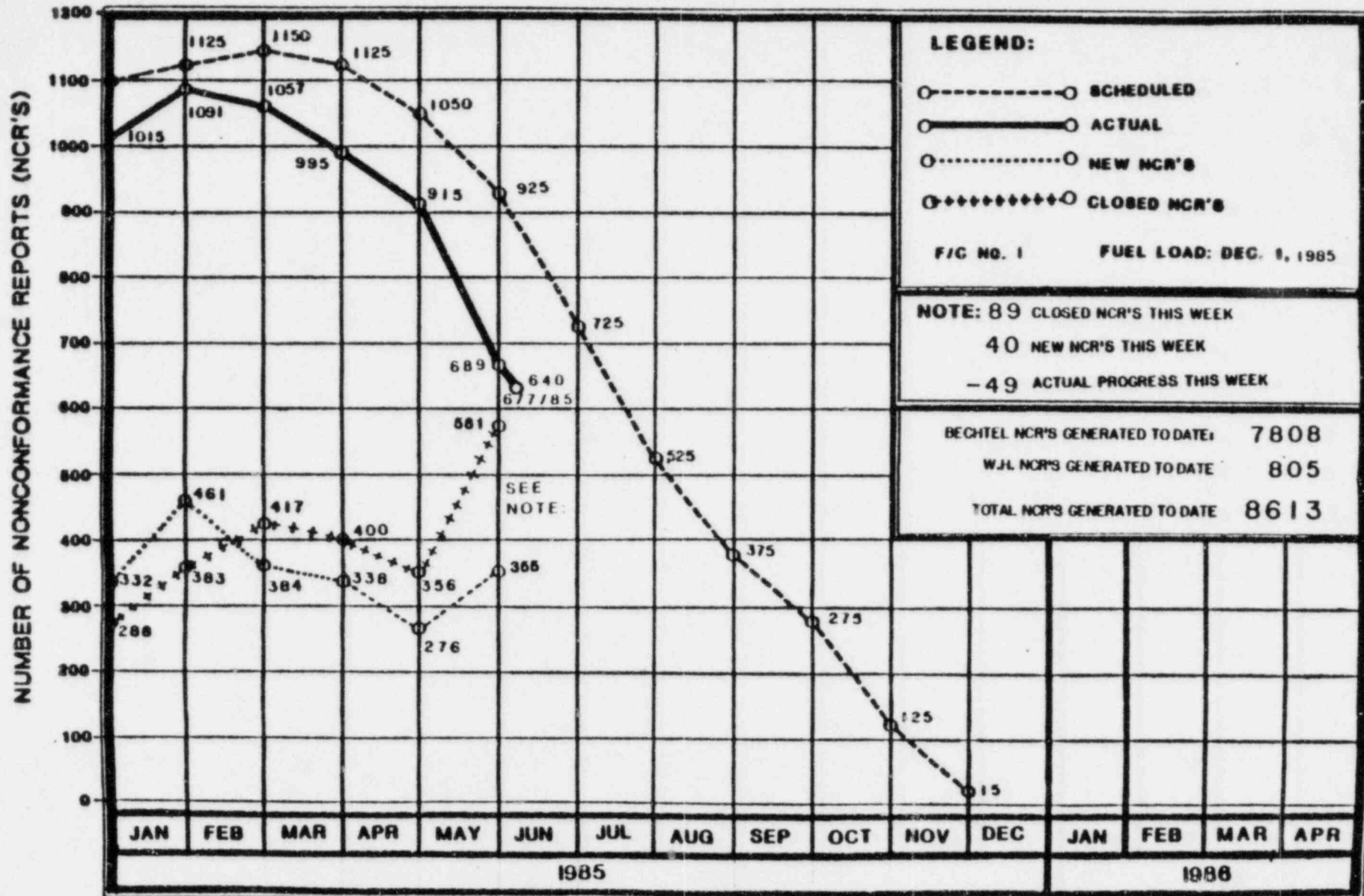
B. SDR STATUS (Cont.)

<u>SYSTEM</u>	<u>ISSUED</u>	<u>CLOSED</u>	<u>OPEN</u>
G102	11	5	6
G120	1	1	0
G123	1	1	0
H102	2	0	2
I102	15	13	2
Q102	0	0	0
Z102	24	9	15
O102	8	5	3
TOTAL	<u>13778</u>	<u>8151</u>	<u>5627</u>



BECHTEL CONSTRUCTION, INC.  
HOPE CREEK GENERATING STATION - JOB 10855

STATUS OF NONCONFORMANCE REPORTS (NCRs vs. TIME)





15. OPEN PUNCHLIST ITEMS

D. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEM</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
<u>SDR Work-Off</u>  Timely closeout of SDRs must continue in order to support the preop testing and system turnover to operation schedule. These SDRs result from primarily two causes: exceptions noted at the time of system turnover and deficiencies/modifications noted during system checkout.	<p>A detailed SDR computer base has been developed that traces the status of each open SDR. This interactive file identifies the system need date for each SDR, current status, priority for each SDR and other miscellaneous information.</p> <p>Critical SDRs are reviewed daily by Construction Management and Startup. Overall work-off curves are continually published indicating progress accomplished and near/long term work-off requirements.</p> <p>The critical path to closing SDRs is primarily non-manual intensive. This includes necessary paperwork packaging, material procurement, and timely buy-offs. Non-manual staffing in this area has been significantly increased and work hours extended.</p>	<p>Recognizing that new SDRs will be generated at the rate of 300-400 per week, the project is targeting for closing approximately 600 per week to clear up the existing backlog. Additional personnel has been added to process these, and results to date indicate that the rate is fully achievable.</p>

15. OPEN PUNCHLIST ITEMS

E. SUMMARY

The volume of completion work as identified in the SDR program is progressing well and will support preop requirements leading to fuel load.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

16. SEISMIC II/I REVIEW

Question: Status and schedule for Seismic II/I review (IEB 79-14).

A. INTRODUCTION

Specification 10855-G-052(Qs) has been issued to implement the Seismic II/I Evaluation Program to meet the requirements of Regulatory Guide 1.29, Position C.2. Seismic II/I considerations were included in the design as bulk layout drawings were issued for construction. Seismic II/I requirements are also indicated on the pipe index, hanger drawings and architectural wall drawings.

Formal walkdowns are being performed in accordance with Specification G-052 for Seismic II/I Evaluation. The walkdown status and completion schedule are shown below and on the attached curve. The walkdown teams evaluate and document the acceptability of the design.

B. STATUS AND SCHEDULE

<u>AREA</u>	<u>INITIAL WALKDOWN % CPT.</u>	<u>INITIAL WALKDOWN F/C CPT.</u>	<u>FINAL WALKDOWN F/C CPT.</u>	<u>FINAL WALKDOWN F/C CPT.</u>
Control/Diesel Gen. Buildings	100	-	50-60	11/08/85
Reactor Building	20	08/30/85	10	11/08/85
Intake Structure	100	-	100	-

C. SUMMARY

The foregoing discussion demonstrates that the engineering design and review efforts to insure implementation of the Seismic II/I program are consistent with the needs of the overall project schedule.

HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

17. POWER ASCENSION AND OPERATIONAL PROCEDURES

Question: Detailed review and current status of power ascension testing procedures and operational procedures.

A) Power ascension test procedures including safety-related and nonsafety-related.

1. Number required
2. Number not started
3. Number in preparation and approval process
4. Number approved

B) Operating procedures required for fuel loading: Including station administrative, station operational, surveillance (e.g. technical specification), maintenance and emergency procedures.

1. Number required
2. Number not started
3. Number in preparation and approval process
4. Number approved

A. INTRODUCTION

The overall procedure effort is 83.1 percent complete. All procedures are scheduled to be finally approved through September 1985. Procedures are being written to include commitments and industry operating experience. Surveillance procedures are being developed in coordination with startup testing to ensure that tests are accomplished in an effective and complementary manner.

B. POWER ASCENSION TESTING PROCEDURES AND OPERATIONAL PROCEDURES

Below is the current status of power ascension testing procedures and operational procedures.

a) Power Ascension Test Procedure Status

Number required	125
Number not started	0
Number preparation and approval process	121
Number SORC approved	4

# 17. POWER ASCENSION AND OPERATIONAL PROCEDURES

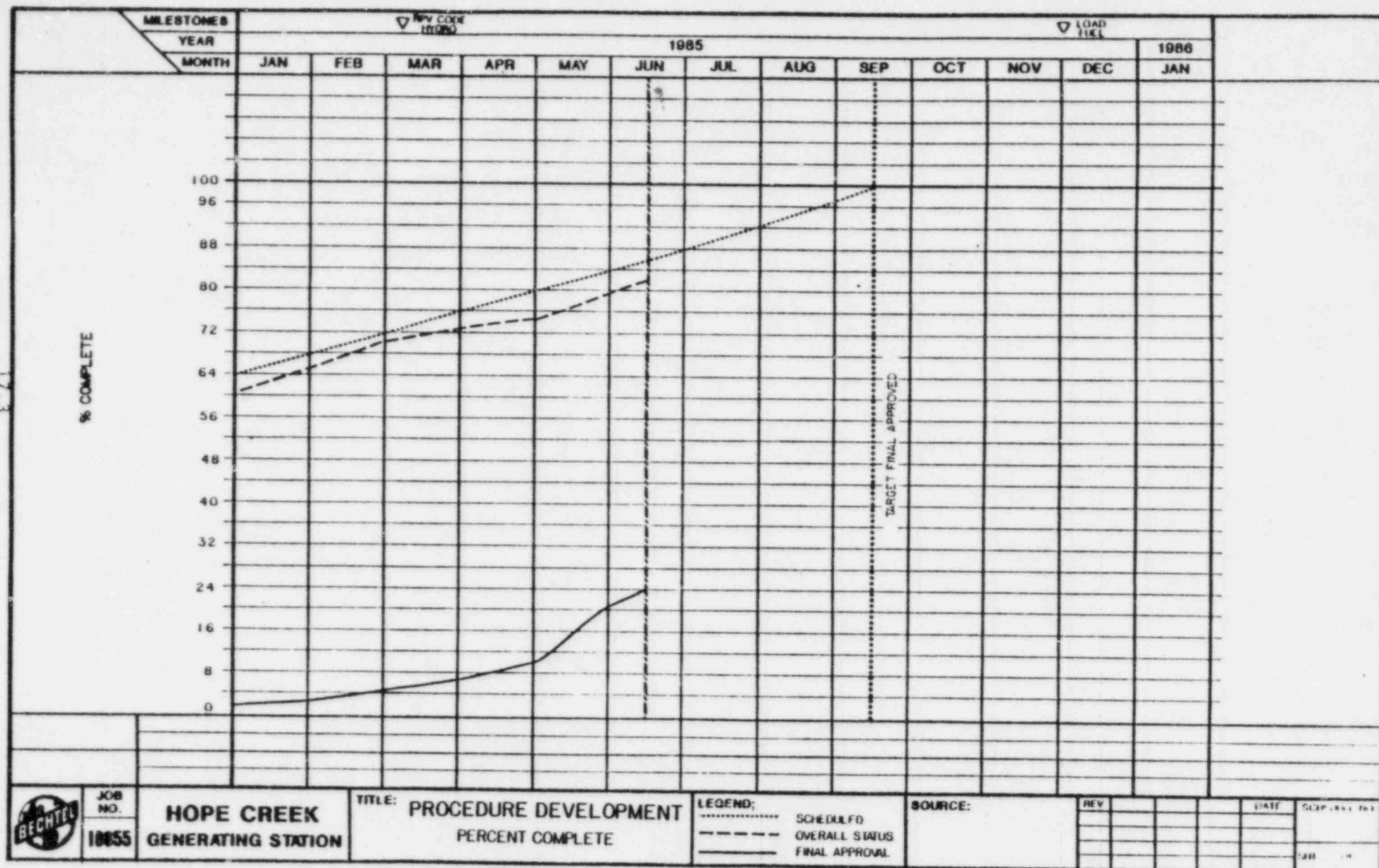
## B. POWER ASCENSION TEST PROCEDURES AND OPERATIONAL PROCEDURES

### Operating Procedure Status

	<u>Required</u>	<u>Not Started</u>	<u>Prep. and Approved</u>	<u>SORC Approved*</u>
Station Administrative*	37 (46)	0	(8)	(38)
Operations	565	35	388	142
Reactor Engineering	50	0	50	0
Chemistry	214	7	103	104
Radiation Protection	80	0	34	46
Maintenance	373	5	233	135
Instrument and Control	1,063	121	817	125
Technical Support	<u>23</u>	<u>0</u>	<u>5</u>	<u>18</u>
Total	2,414	168	1,638	608
Technical Specification Surveillance Procedures (Already Included in Above Totals Among Various Departments	1,005	95	873	37

\*Note: Additional procedures have been added to the original effort of 37 procedures.

17.3





# 17. POWER ASCENSION AND OPERATIONAL PROCEDURES

## B. POWER ASCENSION TEST PROCEDURES AND OPERATIONAL PROCEDURES (cont.)

### Startup Procedures Required for Fuel Load

Below is a listing by type, total number and status of procedures required for fuel load.

<u>Total Number of Procedures for Fuel Load</u>					
<u>Procedure Type</u>	<u>Not Started</u>	<u>Started</u>	<u>In Review</u>	<u>SORC Apprvd*</u>	<u>Total</u>
Station Procedures					
Administrative Procedures	0	3	5	38	46
Station Operating Procedures					
*Admin./Directives/General	1	0	6	10	17
*Operating Procedures/Instructions	8	0	133	39	180
*Abnormal/Emergency Procedures	0	0	57	33	90
*Surveillance/Alarm Responses	26	22	170	60	278
Total	35	22	366	142	565
Station Technical Procedures					
*Technical Document Control	0	1	1	14	16
*Technical Miscellaneous	0	1	47	4	52
*Fuel Management	0	0	5	0	5
*Power Ascension Tests	0	5	116	4	125
Total	0	7	169	22	198

\*Procedures are being exercised in the field during preoperational testing and following turnover to operations (RTO) and required change incorporated.

17. POWER ASCENSION AND OPERATIONAL PROCEDURES

B. POWER ASCENSION TEST PROCEDURES AND OPERATIONAL PROCEDURES (cont.)

Startup Procedures Required for Fuel Load (cont.)

<u>Total Number of Procedures for Fuel Load</u>					
<u>Procedure Type</u>	<u>Not Started</u>	<u>Started</u>	<u>In Review</u>	<u>SORC Apprvd*</u>	<u>Total</u>
Station Maintenance Procedures					
*Qualification Procedures	0	0	2	14	16
*Administrative Procedures	0	2	2	10	14
*General Procedures	2	5	23	21	51
*Corrective/Prevent. Maint. Proc.	3	15	161	77	256
*Special Process Procedures	0	0	3	0	3
*Surveillance	0	1	7	11	19
*Calibration	0	0	0	2	2
*Fuel Handling	0	0	12	0	12
*I&C Administrative Procedures	0	0	0	11	11
*I&C Tech. Spec Surv. Procedures	94	84	612	0	790
*I&C Device Calibration Procedures	<u>1</u>	<u>5</u>	<u>91</u>	<u>41</u>	<u>138</u>
Total	100	112	913	187	1,312
Station Radiation Protection Proc.					
*Emergency Plan Procedures	0	0	0	19	19
*Administrative/Training	0	0	2	8	10
*Calibration/Surveillance/Abnormal	0	5	27	18	50
*Preventive Maintenance	0	0	1	0	1
*Chemistry Admin. Procedures	0	0	2	4	6
*Chemistry Sampling Procedures	3	4	21	35	63
*Chemistry Miscellaneous	<u>4</u>	<u>1</u>	<u>75</u>	<u>65</u>	<u>145</u>
Total	7	10	128	149	294

\*Procedures are being exercised in the field during preoperational testing and following turnover to operations (RTO) and required change incorporated.

## 17. POWER ASCENSION AND OPERATIONAL PROCEDURES

### C. POWER ASCENSION TEST PROGRAM ACCELERATION

- 1) Reduction of shutdowns, unplanned trips, mechanical hold points.
  - Review recent BWR startup scram history
  - Review design and installation of critical systems
  - Review recent BWR startup test history
  - Evaluate recommendations for implementation
- 2) Reduction and simplification of tests
  - Review program for possible test deletions
  - Review tests for duplication/extra content
  - Evaluate recommendations for implementation
- 3) Technical specification relaxation
  - Review technical specifications
  - Evaluate possible relaxation
- 4) Detailed and flexible scheduling
  - Project target schedule (no contingency/optimum performance)
  - Detailed scheduling
  - Testing contingency scheduling
- 5) Aggressive performance
  - Utilize industry experienced people
  - Dedicated integrated test organization
  - Commitment to schedule
  - Dedicated engineering for quick decisions
  - Team concept

## 17. POWER ASCESION TESTING

### D. PROBLEMS/SOLUTIONS

DESCRIPTION OF PROBLEMS	CORRECTIVE ACTION	CURRENT STATUS
1) Technical specification surveillance testing prior to fuel load.	<p>Preop tests provide a baseline for plant equipment and systems. The Tech Specs are a reference document for the preops, and Operations review further assures Tech Specs are considered in preop development.</p> <p>Surveillance tests generally are performed independently of the preop. However, certain preops, because of their nature, virtually duplicate Tech Spec items.</p> <p>Other surveillance test procedures are being performed during the preop program; either in concert with the actual preop test or utilization of the surveillance test to satisfy prerequisite to the preop.</p> <p>The surveillance testing is being integrated into the Hope Creek project schedule.</p>	<p>Evaluation is underway to take credit for surveillance/preops in this category.</p> <p>To implement this approach, surveillance test procedure completion has been prioritized to meet preop procedure review dates.</p> <p>The balance of surveillance tests are performed independent of the preop. If greater than 6 months retest cycle, they are scheduled immediately following completion of the preop. Surveillance tests less than a 6-month cycle are performed after preop and scheduled in the final quarter to support fuel load and early power ascension tests.</p>

17. POWER ASCESION TESTING

D. PROBLEMS/SOLUTIONS

<u>DESCRIPTION OF PROBLEMS</u>	<u>CORRECTIVE ACTION</u>	<u>CURRENT STATUS</u>
2) Inclusion of industry/operating experience information into procedures	Each industrial experience document (in addition to FSAR, SER and Emergency Planning requirements), which is resolved through incorporation of the requirement into procedure action for Hope Creek Operations, is assigned a "CD" (Closing Document) number.	<p>The "CD" number assigned provides tracking assistance and documented associated between the commitment and the resulting procedure or procedure steps.</p> <p>Inclusion of the "CD" number into the resultant procedure serves as a means of identifying the commitment and thus assists in verifying commitment completion.</p> <p>Inclusion also provides assistance to technical writers performing rewrites and 2-year reviews.</p>

## 17. POWER ASCENSION TESTING

### E. SUMMARY

Procedure development constitutes a significant effort and is scheduled to complete in September 1985. Sufficient manpower has been applied and management is closely monitoring development progress. This will support NRC operating readiness review in the 4th quarter and provide sufficient time for verification and training as required.



HOPE CREEK GENERATING STATION  
NRC CASELOAD FORECAST

18. STAFFING, TRAINING AND OPERATOR LICENSING

Question: Detailed review and current status of permanent station and support staffing, training and licensing.

- a) Staffing for operation, including presently employed, projected and authorized for each group reporting to the Vice President Nuclear.
- b) Staffing of Hope Creek station organization including presently employed or contracted, projected, and authorized for each organizational subgroup.
- c) Training program: Outstanding training courses required prior to fuel load, identifying job titles, numbers of personnel, and projected completion.
- d) Operator and senior operator licenses presently onsite, contracted, projected, and required for fuel loading.

A. INTRODUCTION

Staffing - 390 PSE&G employees are presently authorized for 1985 and all are projected to be present to support fuel load. The current PSE&G staff level is 360. To augment station maintenance craft a Plant Betterment and Maintenance (PB&M) contract using The General Presidents Agreement is in place for support during preop and power ascension phase as required. Additional contractor personnel are being used to handle the larger than normal workload during startup for procedure development, spare parts ordering and establishment of station programs.

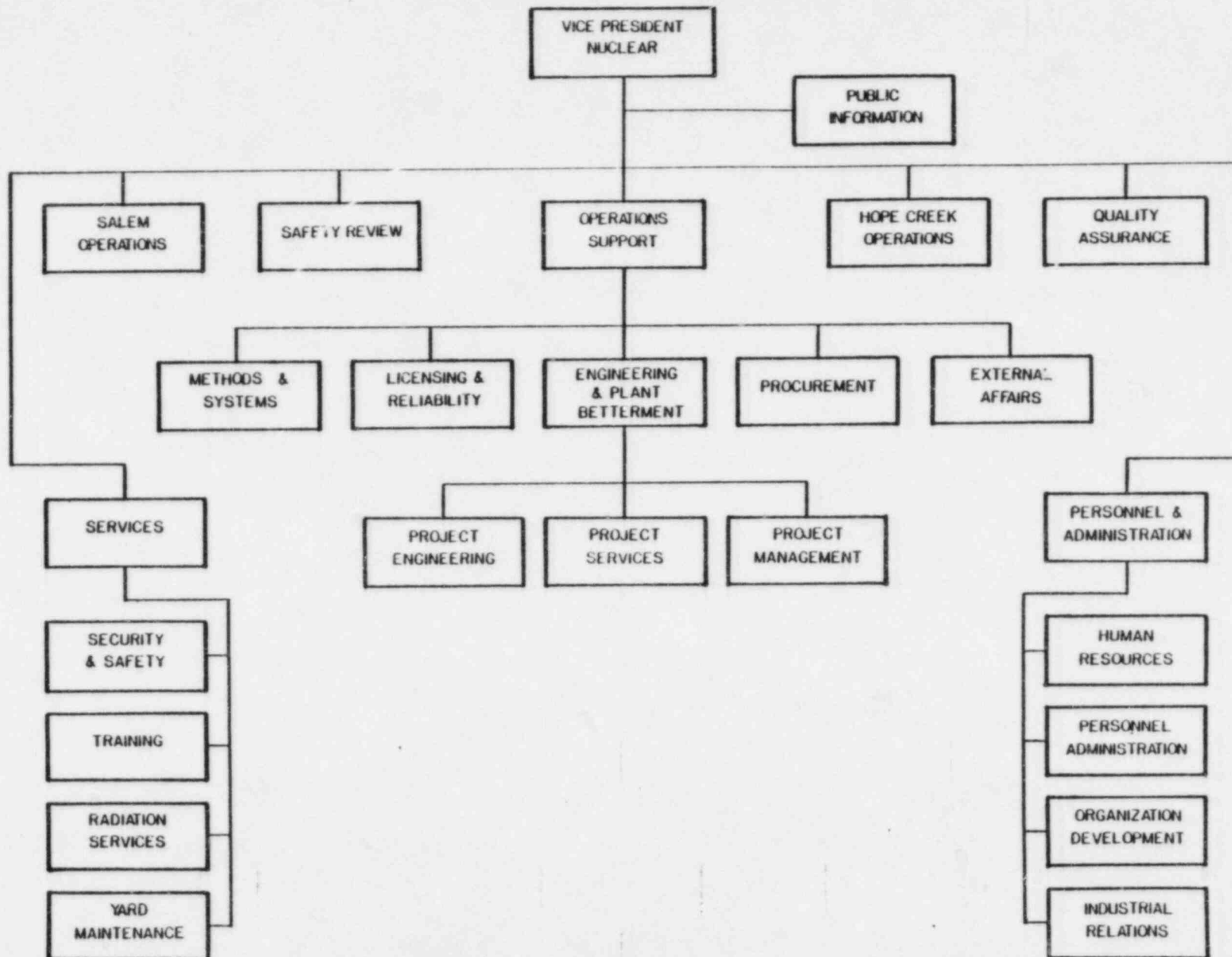
Training - All required training courses will be completed to support fuel load. Additionally, operator licensing exams are scheduled for July and October 1985.

B. STAFFING, TRAINING, AND LICENSING

Following are responses to the specific questions outlined above:

- a) Vice President Nuclear staffing
- b) Permanent station and support staffing
- c) Training program
- d) Operator and senior operator licenses

## VICE PRESIDENT - NUCLEAR REPORTING RESPONSIBILITIES



# 18. STAFFING, TRAINING AND OPERATOR LICENSING

## B. STAFFING, TRAINING AND LICENSING

### a) Vice President Nuclear Staffing

	<u>PRESENTLY PSE&amp;G</u>	<u>PSE&amp;G PROJECTED AT FUEL LOAD</u>	<u>PSE&amp;G AUTHORIZED</u>
Safety Review	10	21	21
Quality Assurance	86	115	115
Personnel & Administration	41	41	41
Operations Support	353	314	314
Operations Services	305	316	316
Salem Operations	524	530	530
Hope Creek Operations	358	390	390
VP-N and Staff	21	8	8

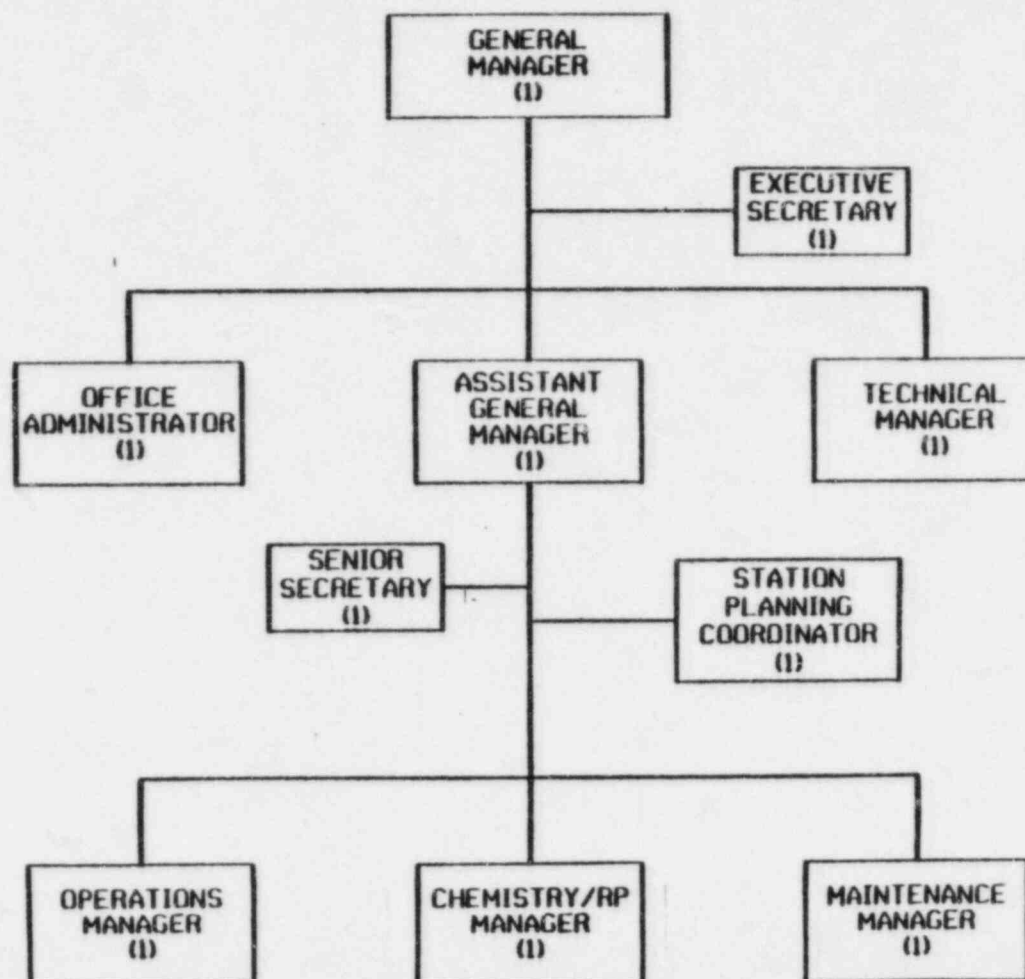
### b) Permanent Station and Support Staffing

	<u>PRESENTLY EMPLOYED PSE&amp;G* 6/10/85</u>	<u>CONTRACT 6/1/85</u>	<u>PSE&amp;G PROJECTED AT FUEL LOAD</u>	<u>PSE&amp;G AUTHORIZED</u>
Management/Admin.	20	11	24	24
Operations	93	20	79	79
Technical	22	26	43	43
Maintenance	116	62	115	115
I&C	44	44	45	45
Rad. Protection	41	2	59	59
Chemistry	<u>24</u>	<u>6</u>	<u>25</u>	<u>25</u>
Totals	360	171	390	390

\* PSE&G numbers do not include two transition positions. There are two people in this category; one in Management/Admin. and one in Technical.

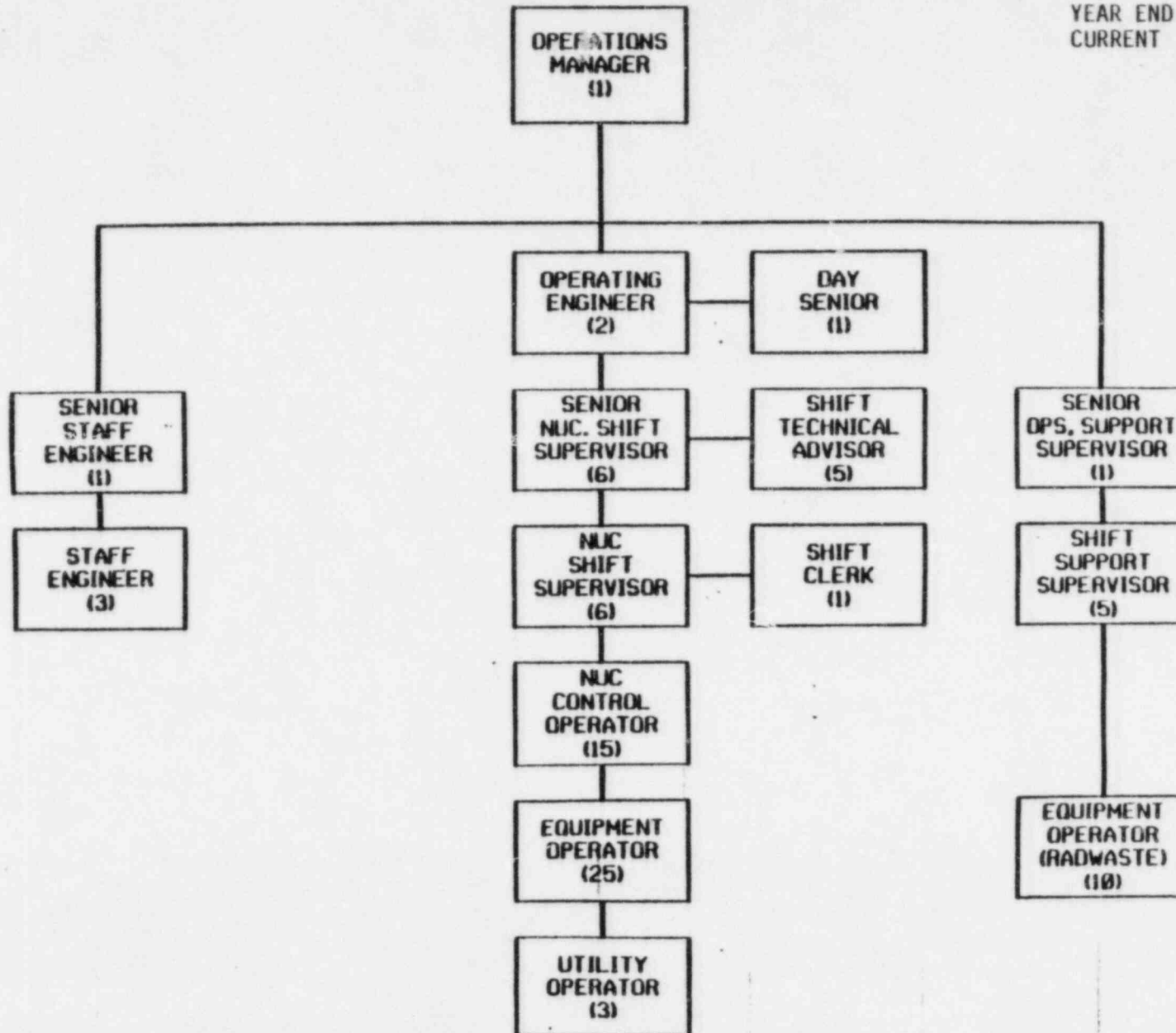
HOPE CREEK OPERATIONS  
GENERAL MANAGER AND STAFF

YEAR END 1985 - 390  
CURRENT - 360



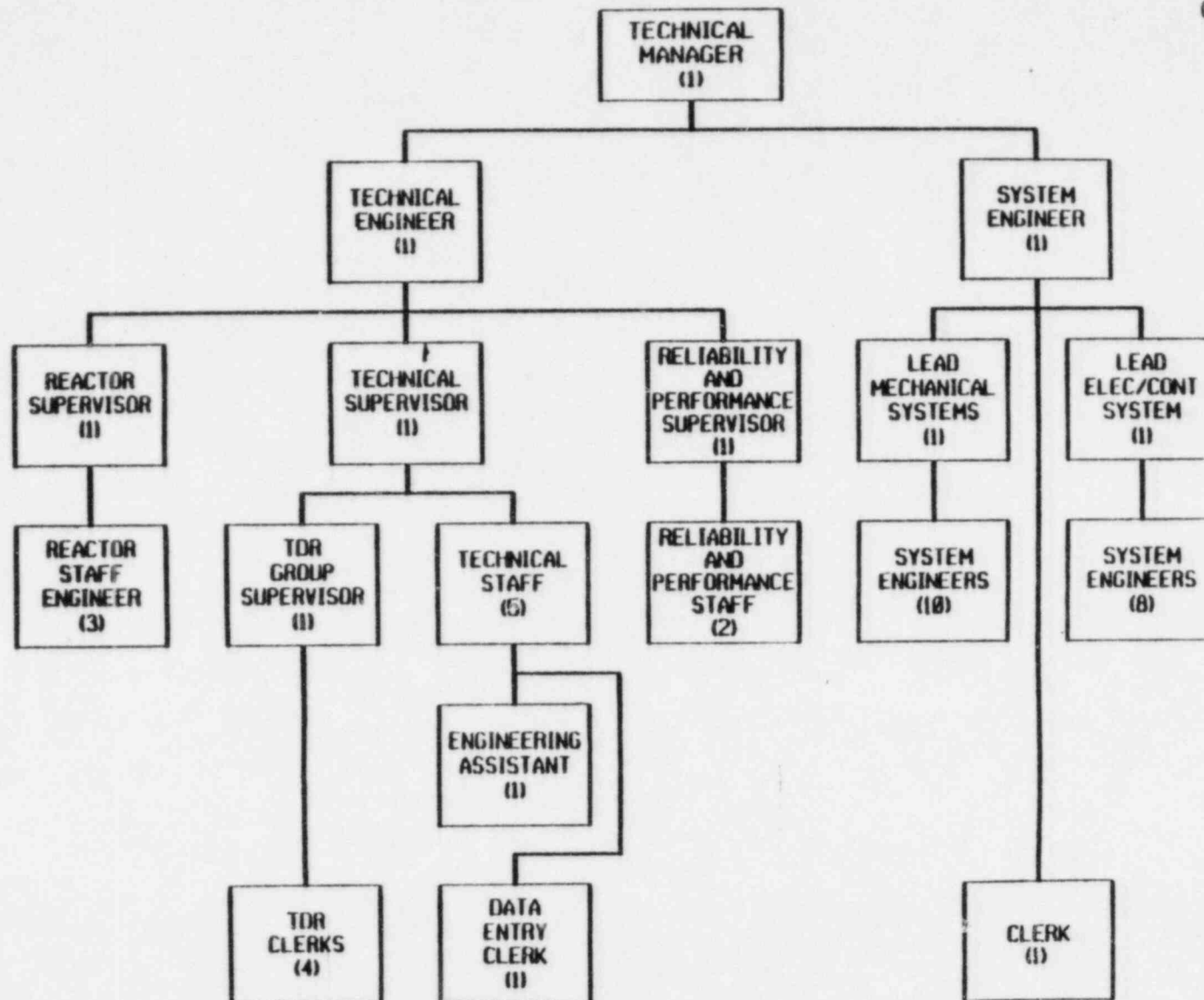
**HOPE CREEK GENERATING STATION  
OPERATIONS DEPARTMENT**

YEAR END 1985 - 79  
CURRENT - 93



HOPE CREEK OPERATIONS  
TECHNICAL

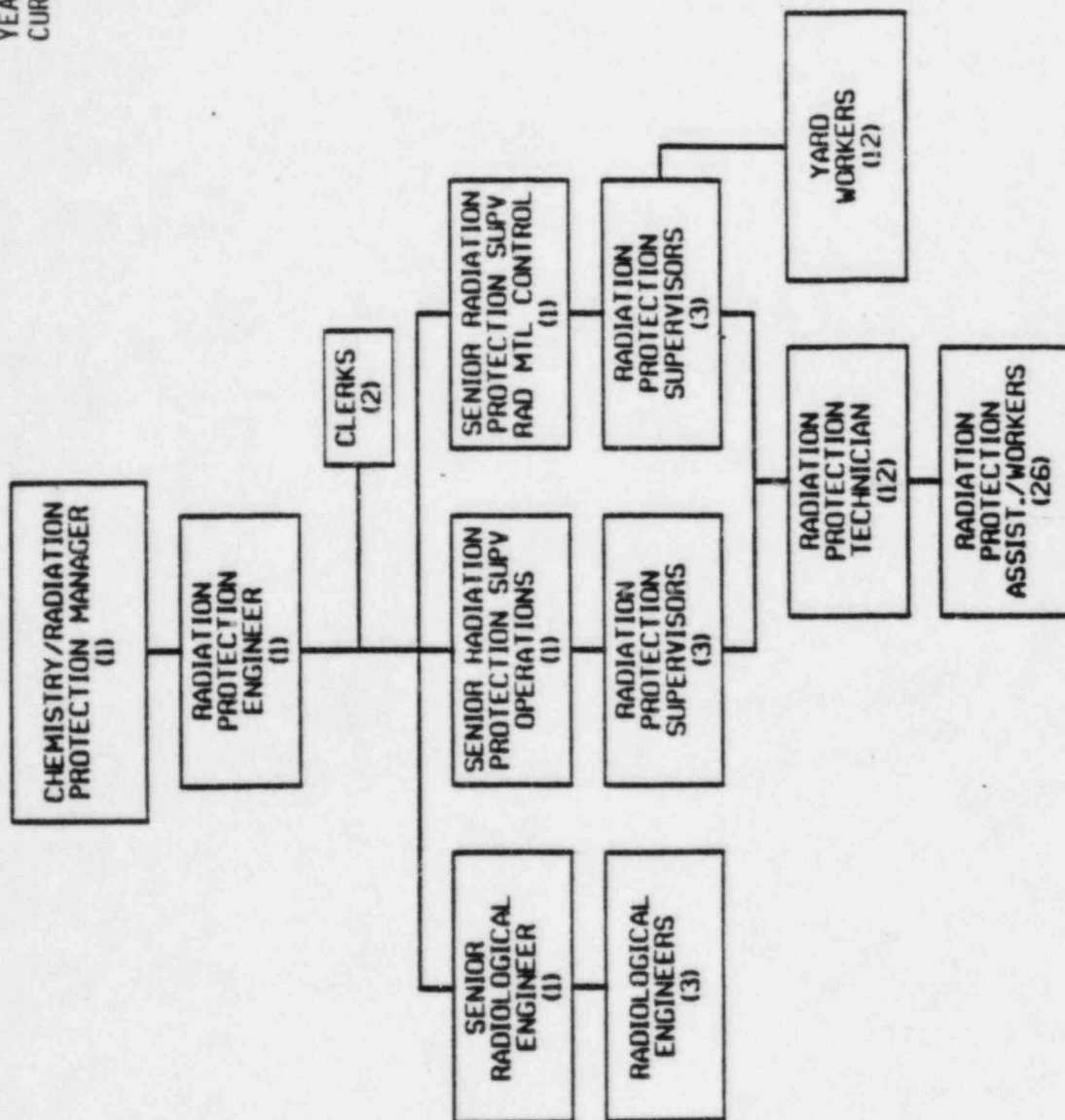
YEAR END 1985 - 43  
CURRENT - 22





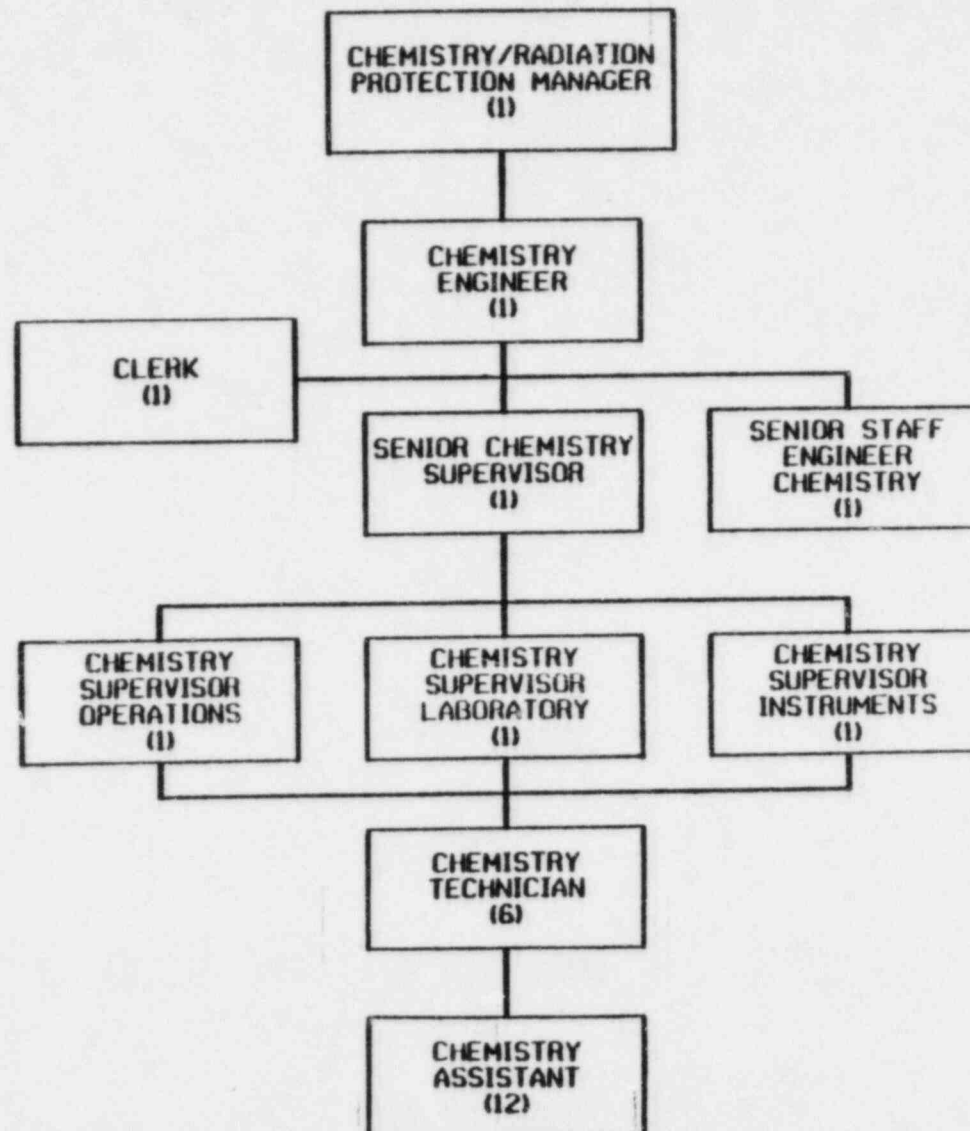
HOPE CREEK OPERATIONS  
RADIATION PROTECTION

YEAR END 1985 - 59  
CURRENT - 41



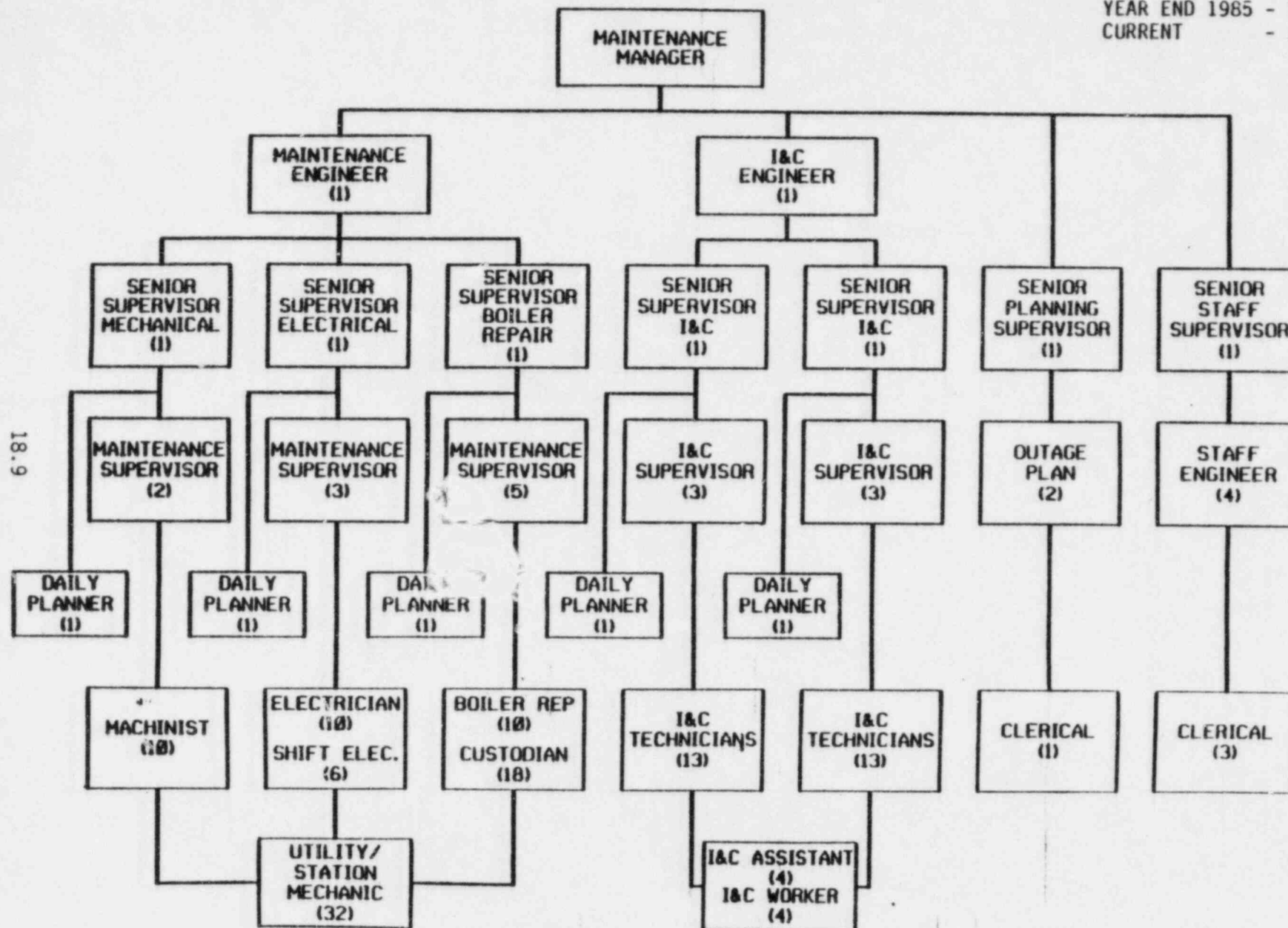
HOPE CREEK OPERATIONS  
CHEMISTRY

YEAR END 1985 - 25  
CURRENT - 24



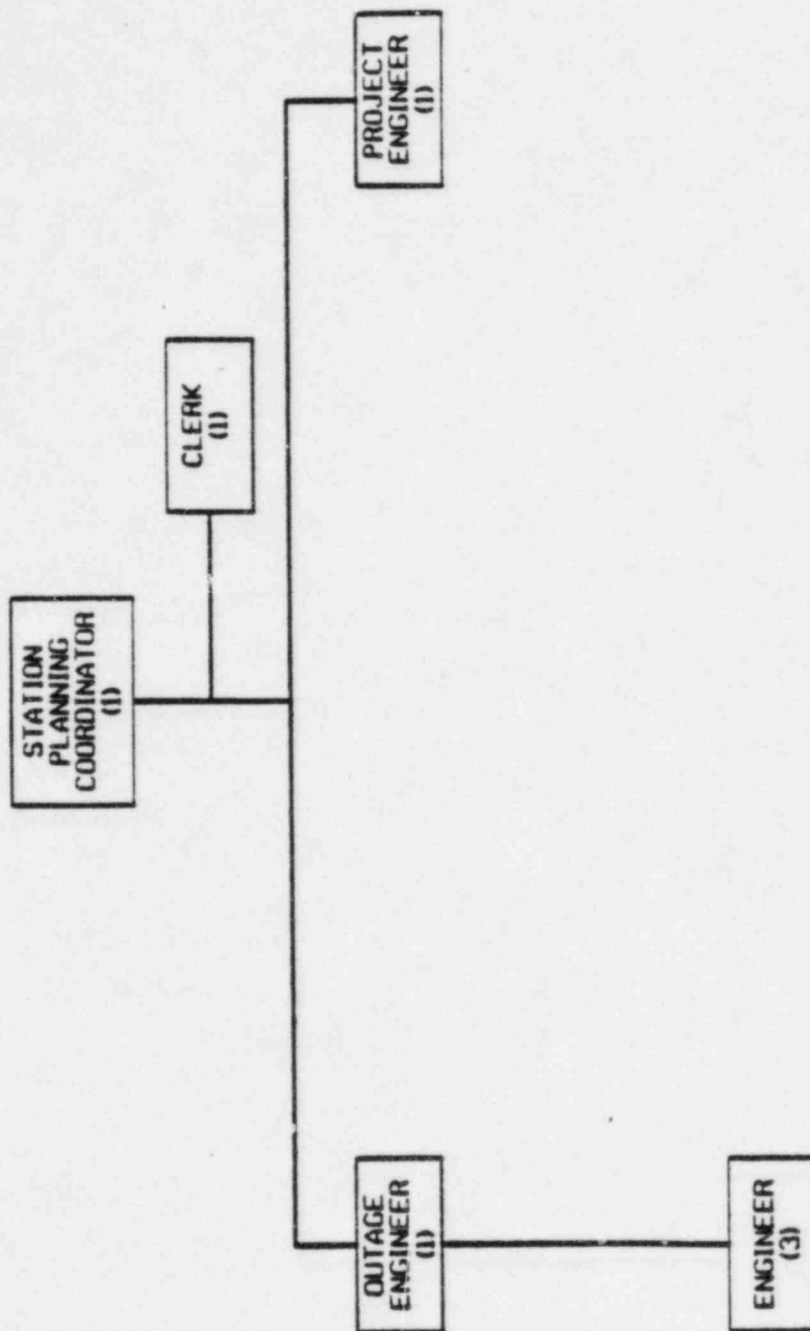
# HOPE CREEK OPERATIONS MAINTENANCE

YEAR END 1985 - 160  
CURRENT - 160



HOPE CREEK OPERATIONS  
STATION PLANNING

YEAR END 1985 - 7  
CURRENT - 0



18. STAFFING, TRAINING AND OPERATOR LICENSING

B. STAFFING, TRAINING AND LICENSING (Cont.)

c) Training Program

Non-Licensing Training Program Status

- Training common to all departments
- Reactor engineers
- Chemistry/radiation protection
- Maintenance Department
- Instrument and control
- Operations

All Departments

	<u>NUMBER TO BE TRAINED</u>	<u>NUMBER COMPLETED</u>
General Employee Training	357	269
Hazardous Waste/Right to Know Training	357	101
Radiation Worker Training	335	0
Respirator Training	Not Avail.	0

---CHEMISTRY--- DEPARTMENT  
NON-LICENSING TRAINING

N - NOT REQUIRED  
C - COMPLETED OR WAIVED

[illegible]



## NON-LICENSING TRAINING

C - COMPLETED OR WAIVED

18.13

RADIATION  
PROTECTION

N - NOT REQUIRED

[illegible]

I & C DEPARTMENT  
NON-LICENSING TRAINING

N - NOT REQUIRED  
C - COMPLETED OR WAIVED

POSITION	NO. REQUIRED	FOR FUEL LOAD	APPRENTICE TRAINING	I&C PROCEDURE	QA	I&C EQUIPMENT	BWR TECH.	SPECIAL	TECH. ADV	TSSP I	AP's	TSSP II				
SR I&C Supv	1		N	C	C	N	C	N	N	C	C	C				
SR I&C Engineer	1		N	C	C	N	C	N	N	N	C	N				
I&C Supv	6		N	C	C	C	C	C	N	C	C	N				
I&C Staff Engineers	3		N	C	C	N	C	N	N	N	C	N				
I&C Tech	17		N	C	C	C	C	C	C	N	C	N				
I&C Assist	7		C	N	N	N	N	N	N	N	N	N				
I&C Worker	1		C	N	N	N	N	N	N	N	N	N				

MAINTENANCE **DEPARTMENT**  
NON-LICENSING TRAINING

N - NOT REQUIRED  
C - COMPLETED OR WAIVED

POSITION	NO. REQUIRED FOR FUEL LOAD	EMERGENCY RESPONSE TRAINING	TSSP II	TSSP I	BWR TECHNOLOGY	DEPARTMENT PROCEDURES	STATION & DEPT ADMIN. PROCEDURES	DIESEL-GENERATOR (E-ELECT, M-MECH)	PHASE I INDOC. TRNG.	PHASE II APPRENTICE TRNG	PHASE III ADVANCED TRNG				
Sr. Maintenance Supervisors	3	C	C	C	C	C	C	20 IN	N	N	N				
Sr. Planning Supervisor	1	N	N	N	N	C	C	N	N	N	N				
Maintenance Supervisors	8	N	N	C	C	C	C	C	N	N	N				
Maintenance Staff	4	N	N	N	N	C	C	N	N	N	N				
Electricians	8	C	N	N	N	C	C	C	C	C	C				
Shift Electricians	5	C	N	N	N	C	C	N	C	C	C				
Machinists	8	C	N	N	N	C	C	N	C	C	C				
Boiler Repair	8	C	N	N	N	C	C	N	C	C	C				
Station/Utility Mechanics	20	N	N	N	N	C	C	N	C	C	N				

## NON-LICENSING TRAINING

N - NOT REQUIRED  
C - COMPLETED OR WAIVED

[illegible]



18. STAFFING, TRAINING AND OPERATOR LICENSING

B. STAFFING, TRAINING AND LICENSING (Cont.)

d) Operator and Senior Operator Licenses

Senior Reactor Operator\*

	<u>TOTAL NO.</u>	<u>PREVIOUS BWR LICENSE</u>	<u>PREVIOUS PWR LICENSE</u>	<u>BWR CERT.</u>	<u>NAVY NUCLEAR</u>	<u>6 MONTHS AT OPERATING BWR</u>	<u>6 WEEKS AT OPERATING BWR</u>
Total Candidates	29	11	4	16	13	5	10
Operating Shift Personnel	16	9	3	6	10	5	5
Management	8	2	1	5	3	0	0
STA	5	0	0	5	0	0	5

\*There are 29 Senior Operator (SRO) candidates to fill 20 SRO positions.

Reactor Operator\*\*

	<u>TOTAL NO.</u>	<u>BWR CERT.</u>	<u>NAVY NUCLEAR</u>	<u>2 WEEKS AT OPERATING BWR</u>
Total Candidates (All Shift Personnel)	16	16	10	16

\*There are 16 Reactor Operator (ROO) candidates to fill 15 RO positions.



**HOPE CREEK OPERATIONS  
LICENSED OPERATOR TRAINING SCHEDULE**

	<u>SRO Candidates</u>	<u>RO Candidates</u>
First NRC Examination July 1985	14	8
Second NRC Examination October 1985	15	8

Two additional NRC Examinations are scheduled for 1986 - one for cold license and one hot license

**LICENSE CANDIDATES TRAINING QUALIFICATIONS AND OPERATING EXPERIENCE**

SRO CANDIDATE	TITLE	PREVIOUS BWR LICENSE	PREVIOUS PWR LICENSE	BWR CERTIFICATION	NAVY NUCLEAR PROGRAM	6 MONTH # OPEN BWR	6 WEEK # OPEN BWR
G. CONNOR	OPERATIONS MANAGER		X		X		
C. VONDRA	OPERATING ENGINEER	X			X		
J. HAGAN	OPERATING ENGINEER			X			X
S. SAUNDERS	SR OPERATIONS SUPERVISOR	X					X
L. AVERSA	SR SHIFT SUPERVISOR			X		X	
M. TRUM	SR SHIFT SUPERVISOR			X		X	
E. RILEY	SR SHIFT SUPERVISOR	X			X		
D. GAINVORS	SHIFT SUPERVISOR	X			X		

SRO CANDIDATE	TITLE	PREVIOUS BWR LICENSE	PREVIOUS PWR LICENSE	BWR CERTIFICATION	NAVY NUCLEAR PROGRAM	6 MONTH # OPEN BWR	6 WEEK # OPEN BWR
R. HOVEY	SHIFT SUPERVISOR	X			X		
D. STOXEN	SHIFT SUPERVISOR	X			X		
R. RIDDLE	SHIFT SUPERVISOR	X					
R. THORSON	SHIFT SUPERVISOR	LACROSS X					X
J. ADAMS	SHIFT SUPERVISOR	X			X		
R. EBRIGHT	SHIFT SUPERVISOR	SHOREHAM X			X		X
F. HUGHES	SHIFT SUPERVISOR		X		X	X	
L. NEWMAN	SHIFT SUPERVISOR			X	X		X
D. POWELL	SHIFT SUPERVISOR	GRAND GULF X			X		X
T. RUSSELL	SHIFT SUPERVISOR		X	X		X	
R. STAMATO	SHIFT SUPERVISOR		X	X		X	
F. HIGGINS	SHIFT SUPERVISOR			X	X		X
S. FUNSTEN	I&C ENGINEER			X			X
R. THOMPSON	RX ENGINEER			X			X
J. HAWRYLAK	RX ENGINEER			X			X
J. JOHNSON	SHIFT TECHNICAL ADVISOR			X			X
M. AZZARO	SHIFT TECHNICAL ADVISOR			X			X

SRO CANDIDATE	TITLE	PREVIOUS BWR LICENSE	PREVIOUS PWR LICENSE	BWR CERTIFICATION	NAVY NUCLEAR PROGRAM	6 MONTH # OPEN BWR	6 WEEK # OPEN BWR
G. NAYLOR	SHIFT TECHNICAL ADVISOR			X			X
J. O'BRIEN	SHIFT TECHNICAL ADVISOR			X			X
W. O'MALLEY	SHIFT TECHNICAL ADVISOR			X			X
M. ROGERS	STAFF ENGINEER			X	X		

RG CANDIDATE	TITLE	BWR CERTIFICATION	NAVY NUCLEAR PROGRAM	2 WEEKS # OPEN BWR
P. BONNET	NUCLEAR CONTROL OPERATOR	X	X	X
J. EDWARDS	NUCLEAR CONTROL OPERATOR	X	X	X
S. HANSELL	NUCLEAR CONTROL OPERATOR	X	X	X
R. RUDY	NUCLEAR CONTROL OPERATOR	X	X	X
B. WILSON	NUCLEAR CONTROL OPERATOR	X		X
S. GEARY	NUCLEAR CONTROL OPERATOR	X		X
R. MYERS	NUCLEAR CONTROL OPERATOR	X		X
T. WILLIAMS	NUCLEAR CONTROL OPERATOR	X	X	X
S. JONES	NUCLEAR CONTROL OPERATOR	X		X
J. WICKS	NUCLEAR CONTROL OPERATOR	X	X	X
A. FAULKNER	NUCLEAR CONTROL OPERATOR	X		X
B. LEWIS	NUCLEAR CONTROL OPERATOR	X	X	X
J. DEDOMINICO	NUCLEAR CONTROL OPERATOR	X		X
T. KIRWIN	NUCLEAR CONTROL OPERATOR	X	X	X
W. CHAUSSE	NUCLEAR CONTROL OPERATOR	X	X	X
T. EASLICK	NUCLEAR CONTROL OPERATOR	X	X	X

## 18. STAFFING, TRAINING AND OPERATOR LICENSING

### C. OPERATIONAL READINESS CONSIDERATIONS

Question: How are the requirements for fuel load and preparation for operation pertinent to Hope Creek Operations (HCO) managed and controlled to insure that they are accomplished on time?

Response: The Hope Creek Operation Management team has a detailed and structured plan to assure meeting and coordinating activities required to support fuel load.

#### Objectives

- \* To have one unique document of all major tasks to be accomplished by Hope Creek Operations to support fuel load.
- \* Assess and portray the status of all major tasks.
- \* Provide a tool for station management to update major task progress.
- \* Identify support required in order to facilitate major task completion.
- \* Make visible Hope Creek Operation's efforts to support fuel load.
- \* Enhance the development and implementation of sound station management practices.
- \* Replace the existing department plans.

#### Technical Department Major Task Identification

TE-1	Staffing
TE-2	Training
TE-3	Procedure Development
TE-4	Commitment Tracking
TE-5	Document Control Program
TE-6	Records Management Program
TE-7	Personnel Training Records
TE-8	Facilities - Computer Hardware Installation
TE-9	Technical Specification Development
TE-10	Technical Specification Surveillances
TE-11	Regulatory Reporting Program
TE-12	Station Operations Review Committee (SORC) Enhancement
TE-13	SDR/DR Resolution Tracking

HOPE CREEK OPERATIONAL READINESS PLAN

RADIATION PROTECTION DEPARTMENT

DATE: February 8, 1985

MAJOR TASK ID NO.: RP-6

MAJOR TASK NAME: Emergency Plan

MAJOR TASK DESCRIPTION:

The objectives of this major task are as follows:

- Support development and implementation of the HCGS Emergency Plan in order to satisfy the applicable requirements of NUREG-0654/FEMA-REP-1, Revision 1.
- Per the established Division of Responsibility (DOR), develop selected Emergency Plan Implementing Procedures.
- Obtain equipment to support emergency preparedness activities as required.
- Review emergency preparedness facility requirements.
- Designate individuals to fill those emergency response positions for which the Radiation Protection Dept. is responsible for manning.
- Complete Emergency Plan training as required.
- Participate in practice drills and NRC/FEMA Emergency Plan full scale exercise as required.

The Nuclear Site Protection Dept. has the overall responsibility for developing and implementing the HCGS Emergency Plan. The 132' el. Technical Support Center (TSC) must be functional by 6/1/85 to support the Emergency Plan Appraisal which is tentatively scheduled for 8/1/85.

MAJOR TASK SPONSOR: E. Karpe

REQUIRED INTERFACE(S):

Nuclear Site Protection Dept., Procurement & Material Control Dept., Radiation Protection Services, Site Engineering, and other HCO Departments.

SUPPORTED MILESTONE(S): Emergency Plan Exercise and Fuel Load

PROJECTED START DATE: N/A - Already in progress.

PROJECTED COMPLETION DATE: October 29, 1984

DEPT. MANAGER APPROVAL: J.R. Lowe



ACTIVITY	DESCRIPTION	START	FINISH	CODE	TCO1	1985											
ID CODE				3	VARIANCE	J	F	M	A	M	J	J	A	S	O	N	
1 TE10	TECH SPEC SURVEILLANCES																
ACR001001	WITH A SYST PROVIDE TECH SPEC SURV COMPUTER SYST	01JAN85	01MAY85	0000	COMPLETE												
ACR001010	ENSURE S & H PREP/DRY TEST VERIFICATION CAPLT	01JAN85	01MAY85														
ACR001020	ENSURE S & H SYST SPT FOR DEPT SMC PLAN OPERATN	01JAN85	01MAY85		COMPLETE												
ACR001030	DEVELOP ARMT SURVEILLANCE RESPONSIBILITY MATRIX	01JAN85	01JAN85		COMPLETE												
ACR001040	REVIEW COMMENTS SURVEILLANCE RESPONSIBILITY MATRIX	01JAN85	01JAN85		COMPLETE												
ACR001050	APPROVE SURVEILLANCE RESPONSIBILITY MATRIX	01JAN85	01JAN85														
ACR001060	VERIFY SMC/SCM BOMBS AT SYST RELEASE ESTIMATED	01JAN85	01JAN85														
2 TE11	REGULATORY REPORTING PROGRAM																
ACR001100	PREPARE S & H PREPARATION PROCEDURE	01JAN85	01JAN85		COMPLETE												
ACR001120	ESTABLISH SYSTEMS IN MECHANISM PERIODIC REPORTING	01JAN85	01JAN85		COMPLETE												
3 TE12	S.O.R.C. ENHANCEMENT																
ACR001200	INTERIM REVISION OF AP-004 APPROVED	01JAN85	01JAN85		COMPLETE												
ACR001210	IMPLEMENT TECHNICAL REVIEW PROCESS	01JAN85	01JAN85														
ACR001220	FINAL REVISION OF AP-004	01JAN85	01JAN85														
ACR001230	REFLECT RVM GROUP/DRYTEST RVM GROUP ESTABLISH	01JAN85	01JAN85														
ACR001240	ESTABLISH QUALIFIED REVIEW GROUP	01JAN85	01JAN85														
ACR001250	IMPLEMENT ENHANCED SAFETY REVIEW PROCESS	01JAN85	01JAN85														
4 TE13	SDR/DR RESOLUTION TRACKING																
ACR001300	REVIEW SDR'S / DR'S AS NECESSARY	01JAN85	01JAN85														

ACTIVITY	DESCRIPTION	START	FINISH	CODE	TCO1	J	F	M	A	M	J	J	A	S	O	N	
ID CODE				3	VARIANCE	1985											
PREPARED UNDER RESPONSIBLE SUPERVISION OF						MASTER PLAN											
PROFESSIONAL REGISTRATION NO.						HOPE CREEK OPERATIONAL READINESS PLAN SCHEDULE											
						CURRENT UPDATE VS. ORIGINAL TARGET SCHEDULE											
						TECHNICAL SUPPORT GROUP - TECHNICAL DEPARTMENT											
						SHEET 4 OF 6											
						ORIGINAL TARG / UP HC ON											
						BASE DATE 01JAN85 TIME NOW 01JUN85 ACTIVITY SIZE 1 / 10 INCHES											
						FINSH DATE 30NOV85 CUTY DATE SHEET 1 GROUPS 1 - 4											
						LODR SPAN 01JAN85 RUN DATE 04JUN85 REVISION											
						UPDR SPAN 30NOV85											
						SUPPORT 4.1 SCHEDULE/PLANNING SYSTEM - A PROPRIETARY PRODUCT OF SIS-ANALYST 4.0											

18. STAFFING, TRAINING AND OPERATOR LICENSING

D. SUMMARY

Hope Creek has an adequate staff onboard to support fuel load. Additionally, licensing exams are scheduled in a timely manner to have sufficient operators to man the plant at fuel load. Non-licensing training is on schedule to complete initial requirements prior to fuel load.