February 9, 1989

Docket No. 50-261

DISTRIBUTION
See next page

LICENSEE: Carolina Power and Light Company

FACILITY: H. B. Robinson Steam Electric Plant, Unit 2

SUBJECT: MEETING SUMMARY OF JANUARY 11, 1989 - MEETING ON THE DESIGN BASIS DOCUMENTATION PROGRAM FOR H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

A meeting on the Design Basis Documentation (DBD) program was held on January 11, 1989, at the NRC Headquarters, between representatives of Carolina Power & Light Company (CP&L) and the the NRC staff. Also in attendance were certain NRC staff consultants. The list of attendees is enclosed (Enclosure 1).

The Safety System Functional Inspection conducted by the NRC staff at the H. B. Robinson Steam Electric Plant, Unit 2 (HBR-2), on March 9 - April 15, 1987 revealed the need to reconstitute design basis of safety systems at HBR-2. CP&L acknowledges this need and began the DBD program in early 1988. The program, which is scheduled to be completed in 1991 will include 15 safety systems or major safety related pieces of equipment. The design basis documentation for each system will be followed by an inspection and field validation to verify the system's critical design parameters. CP&L has kept the NRC staff informed of the progress on this project and met with the staff on the subject at the Region II office on April 5 and September 30, 1988.

The meeting was opened by CP&L with an introduction provided by the CP&L Nuclear Licensing Manager. The meeting presentation was then given, using the Enclosure 2 viewgraphs, by the CP&L Nuclear Engineering Vice President. Several related discussions took place during the presentation as summarized below.

The HBR-2 is a turnkey plant where the CP&L participation in the design was low in comparison with other plants. This factor coupled with the evolve-ment of safety systems functional and regulatory requirements, codes and standards, and the plant modification that had taken place over the years highlighted the need for a design basis reconstitution effort.

The DBD will document the functional requirements of safety systems to meet design basis (original licensing basis, plus all other commitments, e.g., LERs, NUREG 0737, etc.). The DBD, however, will not be a system description or a system design document.

The physical validation of the systems against design basis will be an integral part of the program. However, the scope of the program does not include validation against detail system design, nor will the program be intended for system configuration management. There will be an inspection of systems to meet critical design requirements. However, there will be no new tests, e.g., accident modeling or testing for degraded circumstances.

memo-1 DFO1 1/1

The Technical Specifications will remain the governing document for system operability requirements. The DBD will document the system functional requirements so the system performance can meet the intended safety function.

The CP&L DBD staff maintains close communication with the plant staff. When the review uncovers potential safety concerns, CP&L will act immediately; bypassing the original validation schedule, as necessary.

CP&L acknowledges that NRC would "encourage and support licensee initiatives for self-identification and correction of problems" and any enforcement action would include appropriate consideration of discretion, as outlined in Section G of 10 CFR Part 2, Appendix C.

CP&L will keep the staff updated on the progress of the project. The staff is particularly interested to learn of the findings when the pilot program of three systems is completed.

/s/

Ronnie Lo, Senior Project Manager
Project Directorate I/II
Division of Reactor Projects II-1
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

[MEETING SUMMARY ROBINSON NO. 2]

OFC	:LA:PD21:DRPR	:PM:PD21:DRPR	:D:PD21:DRPR	:	:	:	:
NAME	:PAnderson	:RLo:jd	:EReeves	:	:	:	:
DATE	:02/8/89	:02/9/89	:02/9/89	:	:	:	:

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Enclosure 1

CP&L/NRC MEETING

H. B. Robinson Steam Electric Plant, Unit No. 2

Design Basis Documentation

January 11, 1989

Rockville, MD

ATTENDEE	ORGANIZATION
R. Lo	NRR/PDII-1
L. Loflin	CP&L, NUC. LIC
A. Cutter	CP&L,VP NUC. ENG. DEPT.
F. Rosa	NRR/DEST/SELB
D. Tondi	NRR/DEST/SELB
P. Fredrickson	NRC/RII/DRP
B. Grimes	NRC/DRIS
E. Adensam	NRR/PDII-1
R. Parsons	CP&L - NUC ENGR DEPT.
A. DuBouchet	NRC CONS/MECH COMP
G. Imbro	NRC/DRIS
A. Holt	NRC Consultant/SWRI
J. Leivo	NRC Consultant
J. Jacobson	NRC/DRIS
D. Waters	NRC Consultant
T. Hicks	Southern Technical Services
L. Connor	NRC Calendar
T. Tai	SERCH/Bechtel
W. Flanagan	CP&L/Manager Modification Projects
P. Kang	NRC/Electrical Systems Branch
K. Eccleston	NRC/ADR2-TA
H. Wong	OE/NRC
C. Dietz	CP&L/RNPD
J. Thoma	NRC/DRPR/TA

Enclosure 2

CAROLINA POWER & LIGHT COMPANY

PRESENTATION TO THE

NUCLEAR REGULATORY COMMISSION

IN WASHINGTON, D.C.

ON THE

H. B. ROBINSON STEAM ELECTRIC PLANT - UNIT NO. 2

DESIGN BASIS RECONSTITUTION PROJECT

JANUARY 11, 1989

(3738NED/che)

AGENDA

- INTRODUCTION

- PURPOSE OF MEETING

- DESCRIPTION OF CP&L DESIGN BASIS RECONSTITUTION FOR H. B. ROBINSON UNIT 2

  A. OBJECTIVES OF THE PROJECT
  B. HIERARCHY OF DESIGN INFORMATION
  C. TYPICAL CONTENTS OF A SYSTEM DBD

- DEVELOPMENT AND ORGANIZATION OF THE PROGRAM

  A. SYSTEM DBD PREPARATION METHODOLOGY
  B. PROJECT ORGANIZATION AND INTERFACE
  C. PROJECT SCHEDULE

- OVERVIEW OF THE FIELD VALIDATION AND DISCREPANCY RESOLUTION PROCESS

- STATUS

- DISCUSSION OF RELATIONSHIP TO THE ENFORCEMENT PROCESS

PURPOSE OF MEETING

FAMILIARIZE NRC MANAGEMENT WITH CP&L'S COMMITTMENT TO RECONSTITUTE THE DESIGN BASIS FOR ROBINSON NUCLEAR PROJECT

DISCUSS THE POTENTIAL FOR DEFICIENCIES AND CORRECTIVE ACTIONS, AND THE RELATIONSHIP TO THE ENFORCEMENT PROCESS

(3738NED/che)

DBD RECONSTITUTION PROJECT

APPLICABILITY: PLANT SYSTEMS REQUIRED FOR SAFE SHUTDOWN AND MITIGATION

OBJECTIVES:

- STRUCTURE THE CURRENT DESIGN BASES AND CALCULATIONS OF RECORD

- CONTROL THE CURRENT DESIGN BASES AND CALCULATIONS OF RECORD

- VALIDATE CRITICAL DESIGN PARAMETERS RELATED TO THE PLANT PROCEDURES AND HARDWARE AGAINST THE STRUCTURED DESIGN BASIS

- CREATE AND MAINTAIN AN EXPERIENCED KNOWLEDGE BASE WITHIN CP&L THROUGH USE OF INTERNAL EMPLOYEE RESOURCES

MILESTONES:

- 1988 - PILOT PROGRAM FOR COMPLETING THREE DBDS:
  - AFWS; SIS; RPS

- 1988/89 - COMPLETE THE DBDS FOR THE ELECTRICAL SYSTEMS:
  - ELECTRICAL POWER DISTRIBUTION SYSTEM
  - CABLE/RACEWAY

- 1989 - PILOT PROGRAM FOR FIELD VALIDATION OF THREE DBDS

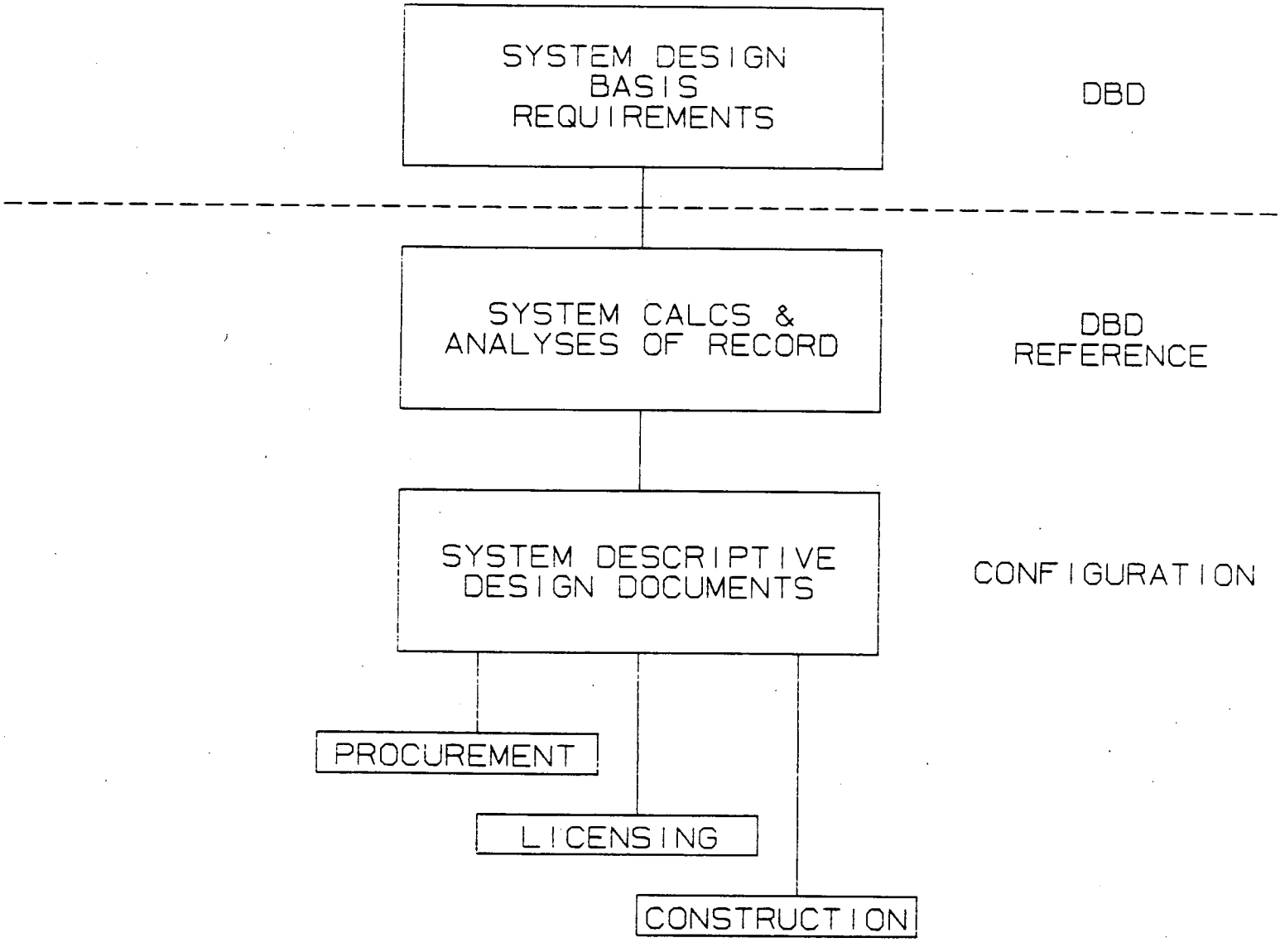
- 1989/91 - COMPLETE THE DBDS FOR THE REMAINING MAJOR SYSTEMS:

  - RHR; CCW; HVAC; SW; NIS; EDG; IIS; CVCS; RCS; RVLIS

- 1989/92 - COMPLETE FIELD VALIDATION FOR REMAINING MAJOR SYSTEMS

(3378NED/che)

HIERARCHY OF DESIGN INFORMATION IN THE SYSTEM DESIGN EVOLUTION



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SYSTEM DESIGN BASIS

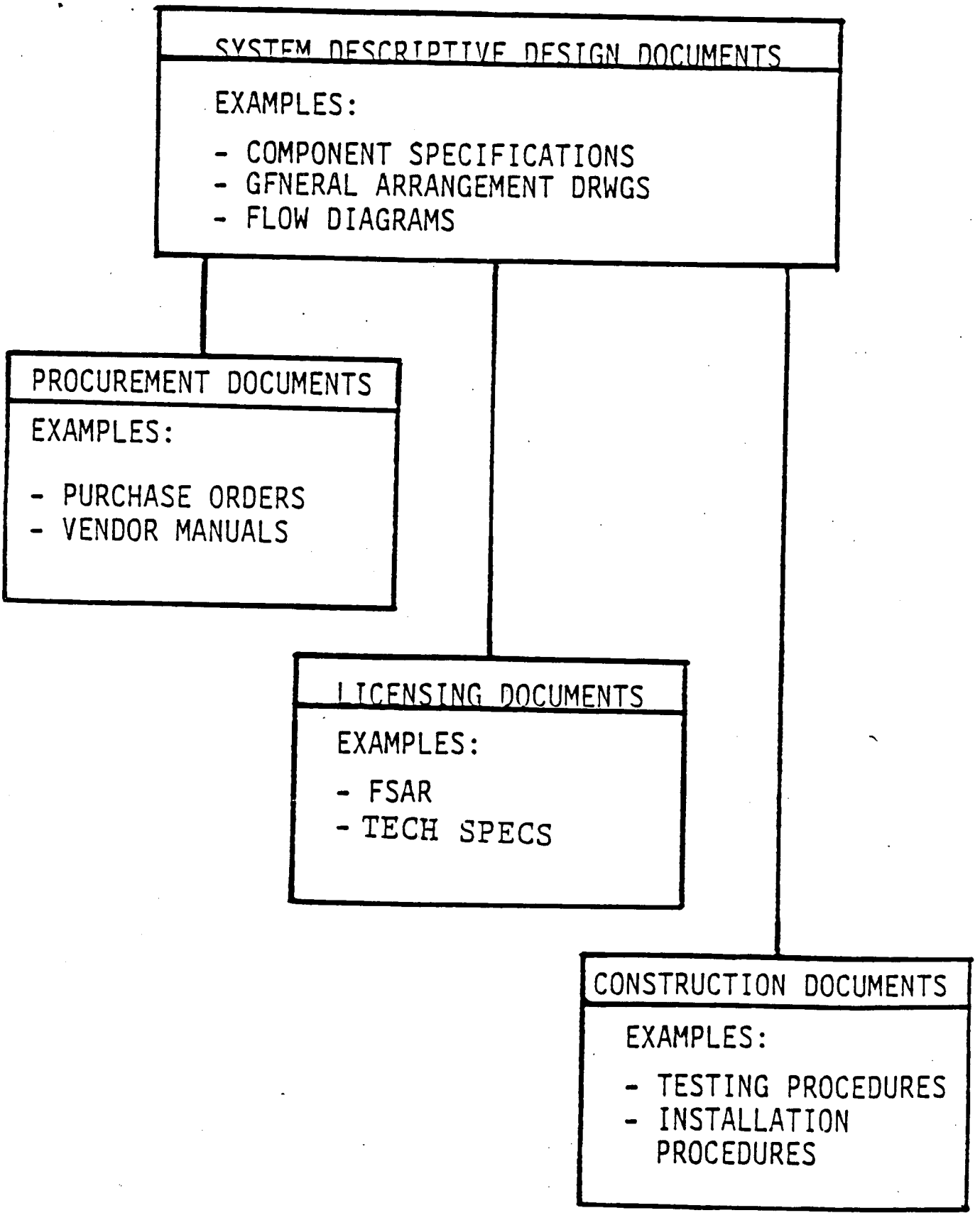
- NSSS IMPOSED FUNCTIONAL REQUIREMENTS
- REGULATORY IMPOSED DESIGN REQUIREMENTS
- DESIGN CODES/STDS OF RECORD

SYSTEM CALCS/ANALYSES OF RECORD*

EXAMPLES:

- ACCIDENT ANALYSES
- COMPONENT SIZING CALCS
- PIPING STRESS ANALYSES

* BY REFERENCE


SYSTEM DESCRIPTIVE DESIGN DOCUMENTS
EXAMPLES:
- COMPONENT SPECIFICATIONS
- GENERAL ARRANGEMENT DRWGS
- FLOW DIAGRAMS
PROCUREMENT DOCUMENTS
EXAMPLES:
- PURCHASE ORDERS
- VENDOR MANUALS
LICENSING DOCUMENTS
EXAMPLES:
- FSAR
- TECH SPECS
CONSTRUCTION DOCUMENTS
EXAMPLES:
- TESTING PROCEDURES
- INSTALLATION PROCEDURES

CONTENT OF DESIGN BASIS DOCUMENT

BASED ON HARRIS NUCLEAR PROJECT DBDs DISCUSSION WITH OTHER UTILITIES:

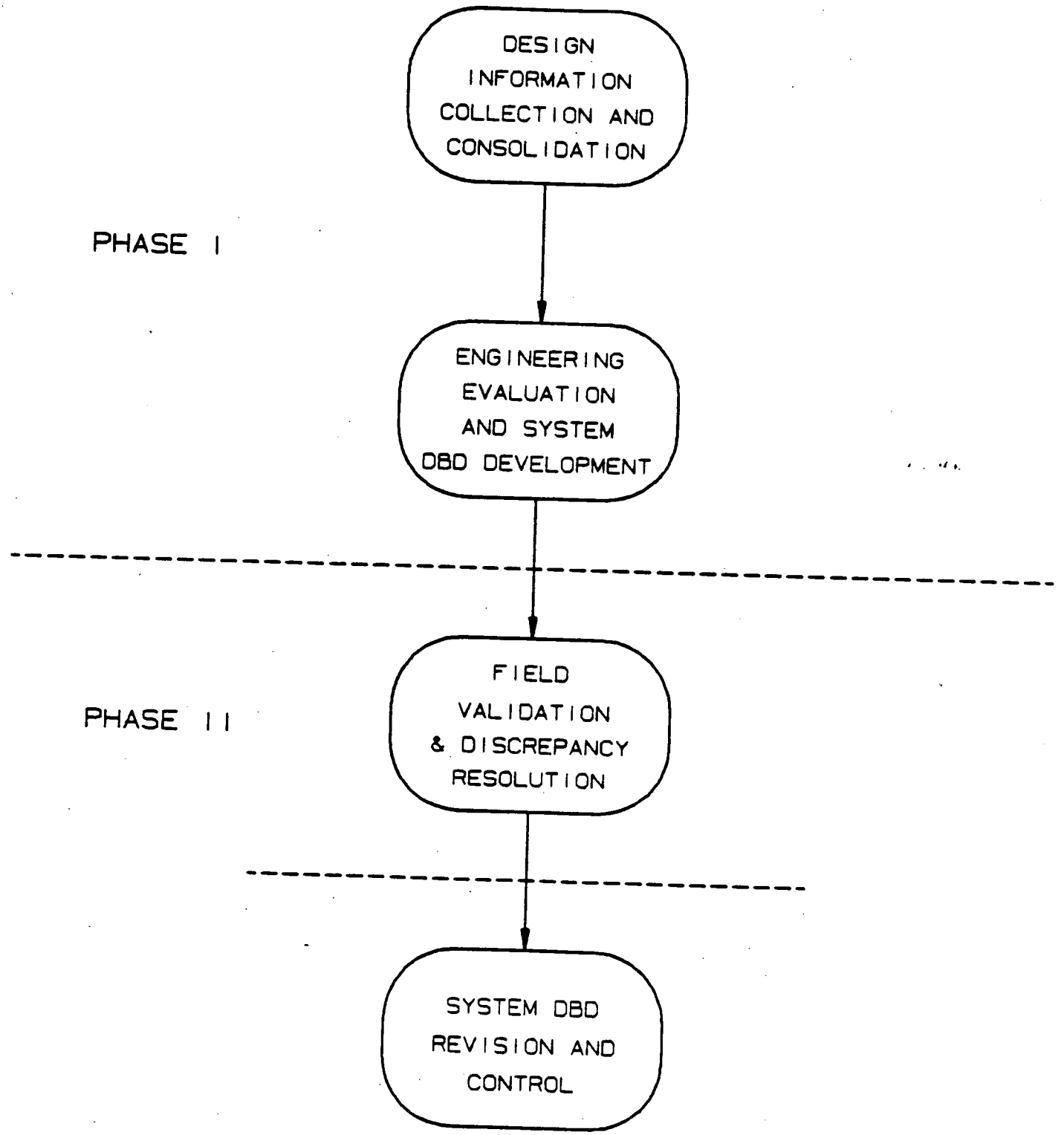
PROVIDE A BASELINE FOR DESIGN ENGINEER TO EVALUATE PLANT CHANGE AGAINST

PROVIDE A BASELINE FOR SYSTEM ENGINEER TO VALIDATE SYSTEM PERFORMANCE AGAINST

CRITICAL PARAMETER/REQUIREMENT BASE, WITH SUFFICIENT DESCRIPTIVE MATERIAL TO MAKE "USER FRIENDLY"

H. B. ROBINSON STEAM ELECTRIC PLANT - UNIT 2
SYSTEM DESIGN BASIS DOCUMENT
TABLE OF CONTENTS

SYSTEM DBD PREPARATION METHODOLOGY



I. DESIGN INFORMATION COLLECTION AND CONSOLIDATION

- ACQUIRE THE ORIGINAL SYSTEM DESIGN BASIS; I.E., SYSTEM REGULATORY AND FUNCTIONAL REQUIREMENTS AND CODES/STANDARDS OF RECORD.

- INTEGRATE POST-OPERATING LICENSE (OL) REGULATORY COMMITMENTS.

- DOCUMENT AND/OR ACQUIRE THE SYSTEM CALCULATIONS/ANALYSES OF RECORD.

- IDENTIFY AND CATALOG POST-OL MODIFICATION DESIGN BASIS INFORMATION.

II. ENGINEERING EVALUATION AND SYSTEM DBD DEVELOPMENT

- INTEGRATE THE INFORMATION INTO A DRAFT SYSTEM DBD.
- PERFORM INTERDISCIPLINE DESIGN VERIFICATION OF THE DRAFT SYSTEM DBD.
- APPROVE AND ISSUE IT AS A CONTROLLED DOCUMENT ON A PRELIMINARY USE BASIS.

III. FIELD VALIDATION

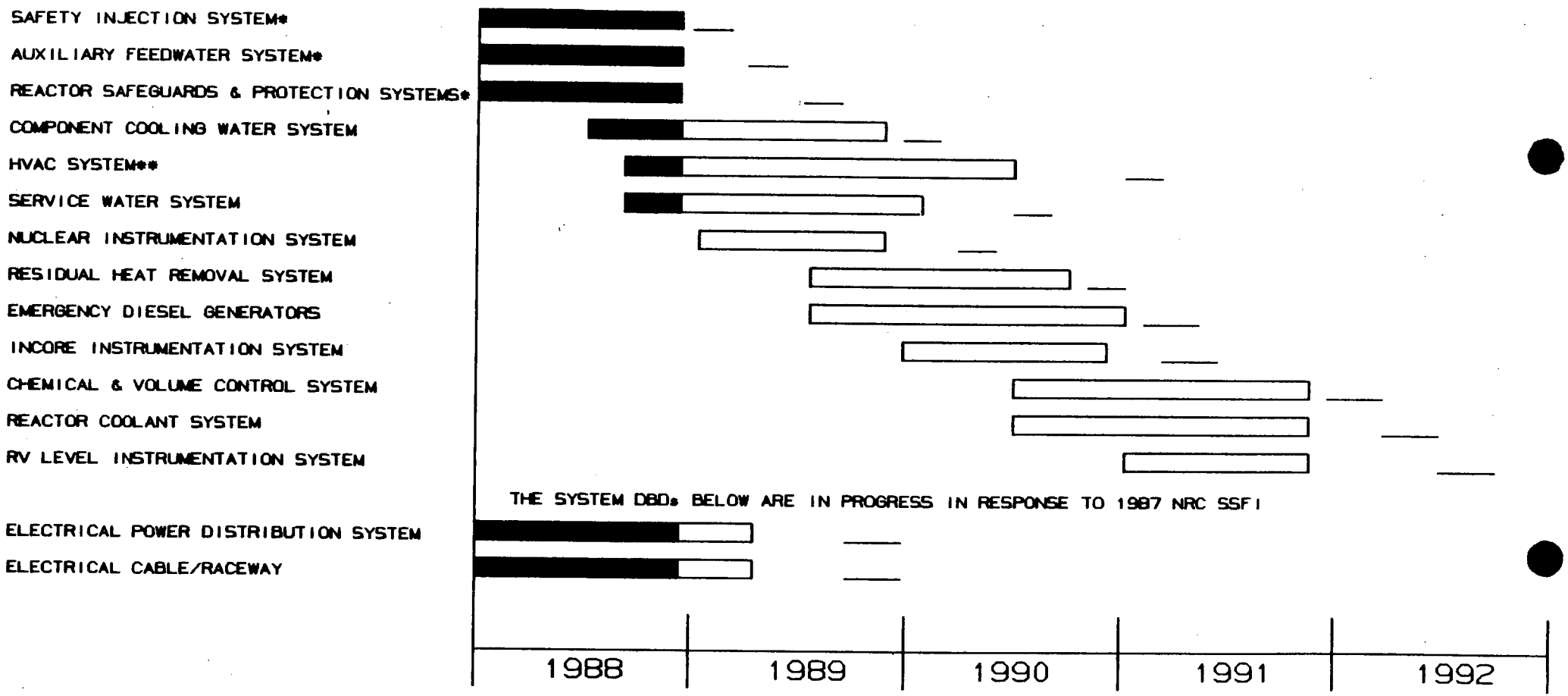
- PERFORM A PROCEDURE AND HARDWARE INSPECTION OF CRITICAL DESIGN BASIS PARAMETERS ON THE SUBJECT SYSTEM USING THE APPROVED SYSTEM DBD AND ITS REFERENCES AS THE INSPECTION'S STANDARD.

IV. SYSTEM DBD REVISION AND CONTROL

- REVISE THE SYSTEM DBD TO INCORPORATE IMPROVEMENTS IDENTIFIED.

- CONTROL UNDER DESIGN DOCUMENT CONTROLS

H.B. ROBINSON STEAM ELECTRIC PLANT - UNIT 2
PROPOSED DESIGN BASIS RECONSTITUTION PROJECT SCHEDULE



LEGEND

*PILOT PROGRAM SYSTEM DBD

**POST ACCIDENT RESPONSE PORTIONS ONLY

DBD DEVELOPMENT COMPLETE

DBD DEVELOPMENT

DBD VALIDATION

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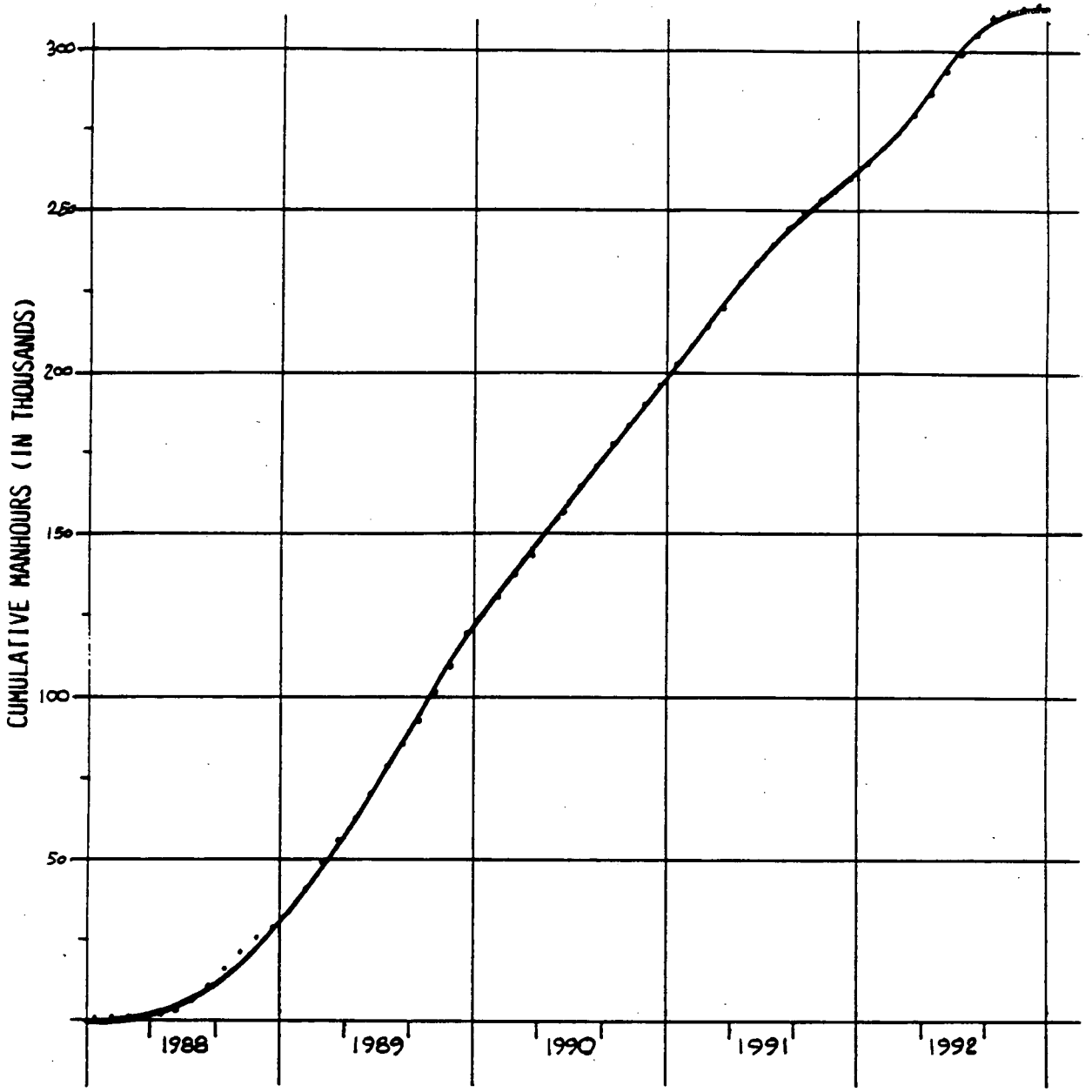
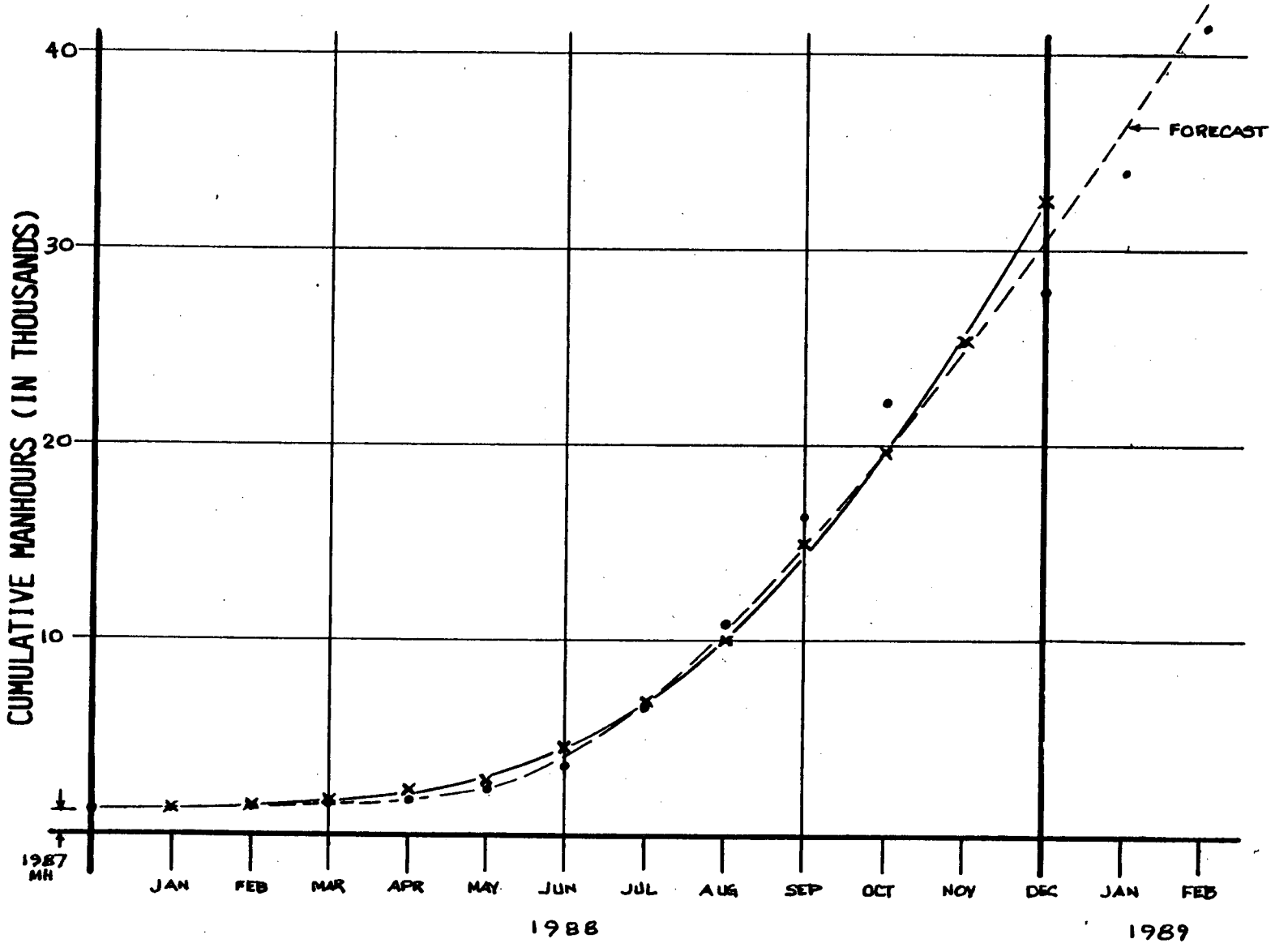
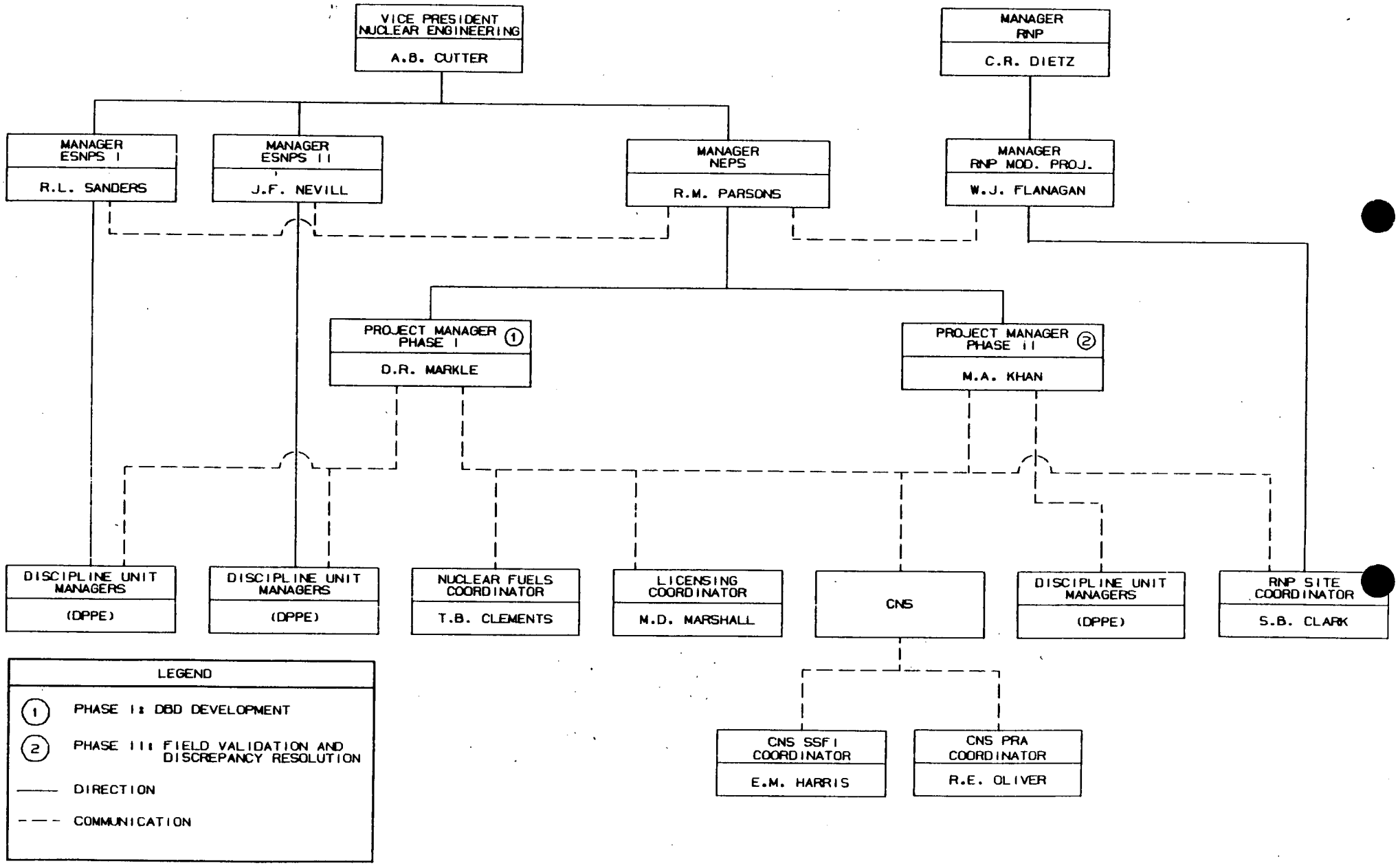
HBR2 DBD RECONSTITUTION PROJECT
CUMULATIVE PROJECT MANHOURS



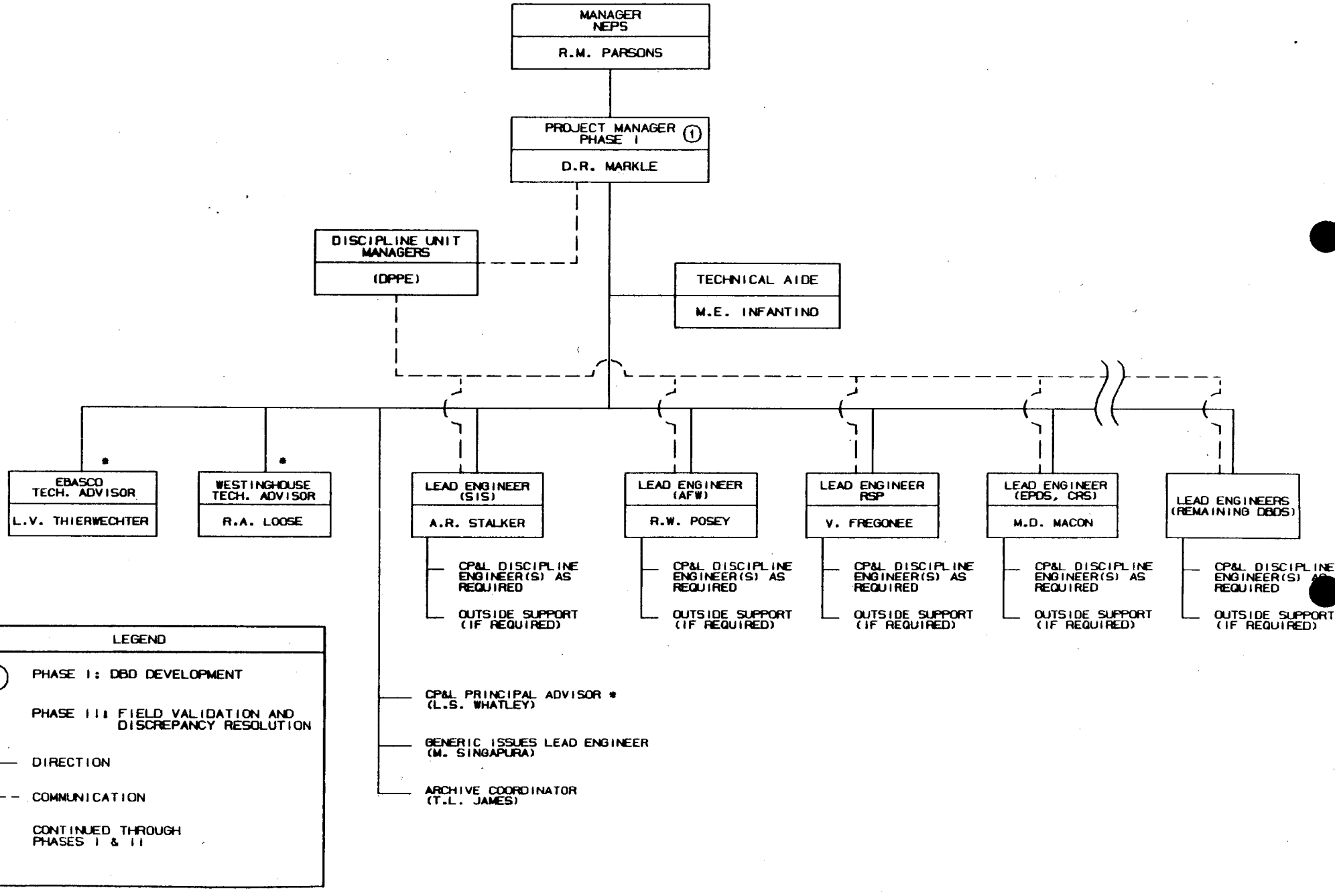
HBR2 DBD RECONSTITUTION PROJECT
CUMULATIVE PROJECT MANHOURS
FORECAST VS ACTUALS



ROBINSON NUCLEAR PROJECT
DESIGN BASIS RECONSTITUTION PROJECT
INTERDEPARTMENTAL ORGANIZATION CHART



ROBINSON NUCLEAR PROJECT
DESIGN BASIS RECONSTITUTION PROJECT
ORGANIZATION CHART - PHASE I



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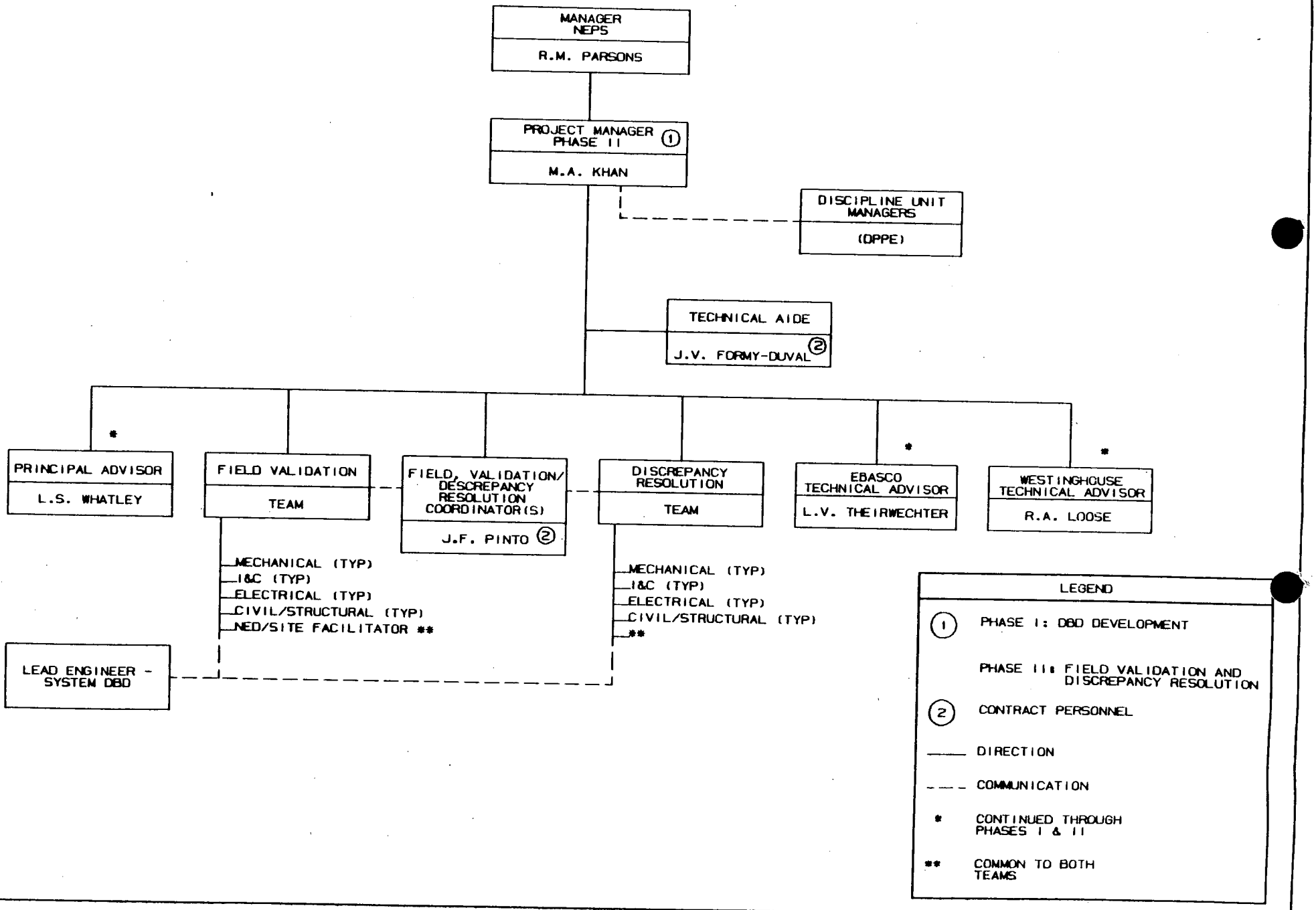
ROBINSON NUCLEAR PROJECT
DESIGN BASIS RECONSTITUTION PROJECT
ORGANIZATION CHART - PHASE II



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OVERVIEW OF THE FIELD VALIDATION

AND

DISCREPANCY RESOLUTION PROCESS

(3738NED/che)

DBD FIELD VALIDATION

SUBSEQUENT TO THE APPROVAL OF EACH SYSTEM DBD FOR PRELIMINARY USE:

- AN INSPECTION WILL BE PERFORMED TO CHECK PLANT PROCEDURAL CONSISTENCY WITH THE DBD
- FIELD VALIDATION WILL BE PERFORMED OF THE SYSTEM'S CRITICAL DESIGN BASIS PARAMETERS AS THEY RELATE TO THE SYSTEM HARDWARE AND ITS PERFORMANCE AND CONFIGURATION

SELECTED SYSTEMS (SI, SW, EDG, AND CVCS) WILL BE SUBJECTED TO AN INTERNAL SSFI TYPE EXAMINATION TO:

- ENSURE THAT MAINTENANCE, TRAINING, AND PROCEDURE DEVELOPMENT PROCESSES ARE IN PLACE
- ASSURE CONSISTENT INCORPORATION OF DESIGN IMPACTED AREAS

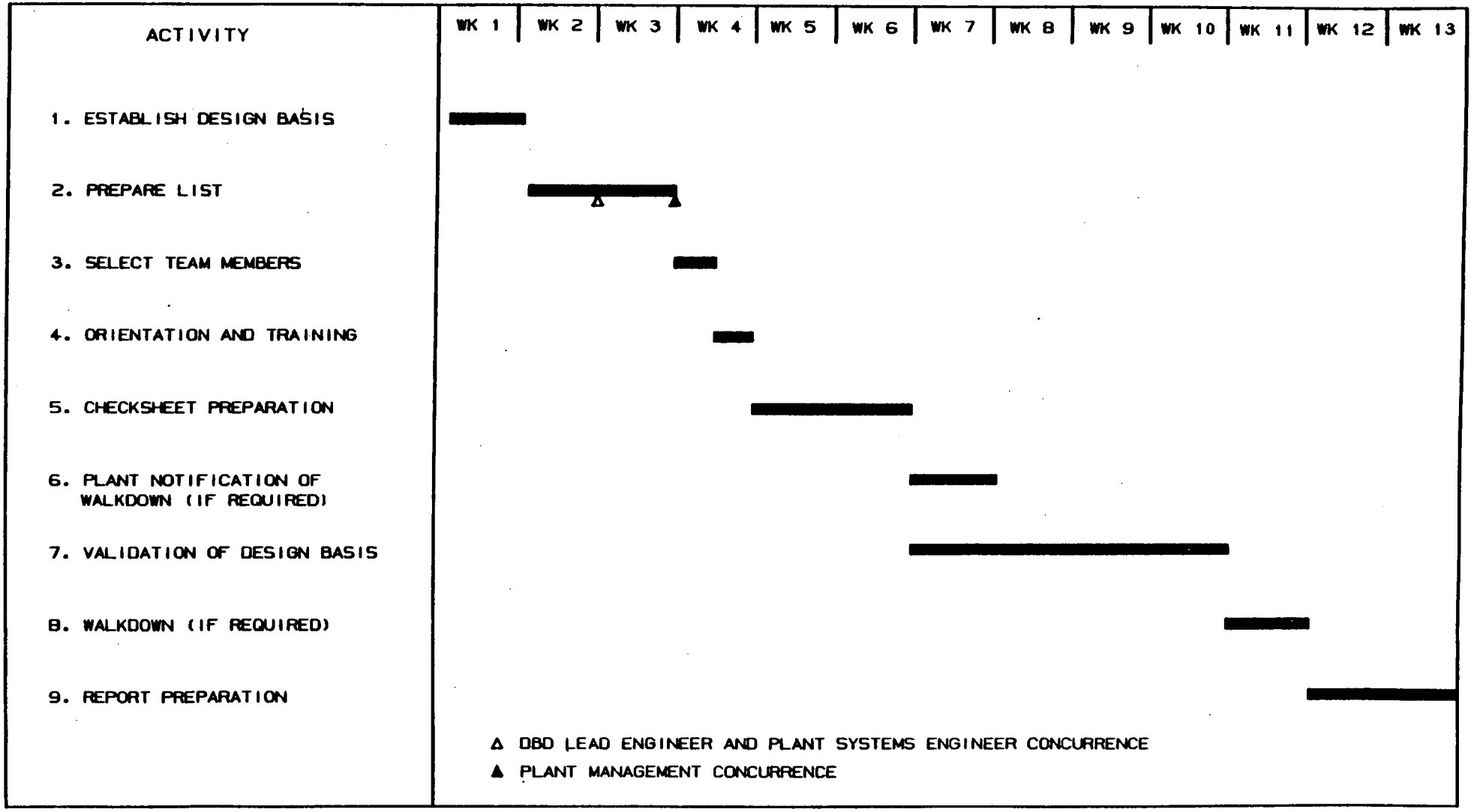
FIELD VALIDATION

INSPECTION PERFORMANCE OBJECTIVES

SYSTEM DESIGN	THE SYSTEM INSTALLATION IS CONSISTENT WITH THE DESIGN BASIS AND CAPABLE OF PERFORMING THE REQUIRED SAFETY FUNCTIONS.
SYSTEM OPERATION	
SYSTEM LINE-UPS	SYSTEM LINE-UPS ARE CONSISTENT WITH DESIGN BASIS REQUIREMENTS.
PROCEDURES	EMERGENCY AND NORMAL OPERATING PROCEDURES ARE CONSISTENT WITH THE DESIGN BASIS.
SYSTEM SURVEILLANCE TESTING	TEST PROGRAMS / PROCEDURES DEMONSTRATE THAT THE SYSTEM PERFORMS ITS SAFETY FUNCTION UNDER EXPECTED CONDITIONS (NORMAL AND TRANSIENTS).

(3378NED/che)

ROBINSON NUCLEAR PROJECT
DESIGN BASIS RECONSTITUTION PROJECT
TYPICAL FIELD VALIDATION MILESTONES AND SCHEDULE



DISCREPANCY RESOLUTION

A DRAFT PROCEDURE HAS BEEN DEVELOPED THAT WILL:

- ADHERE TO 10 CFR REPORTABILITY REQUIREMENTS.
- RELY ON EXISTING CP&L PROCEDURES / GUIDELINES.
- USE A PROGRAMMATIC APPROACH TO IDENTIFY, CONFIRM, PRIORITIZE, TRACK, AND CLOSE OUT EACH POTENTIAL DISCREPANCY.
- USE PROBABILISTIC RISK ASSESSMENT (PRA) IN PRIORITIZING DISCREPANCIES AND RESOLUTION EFFORT.

(3378NED/che)

DISCREPANCY RESOLUTION FLOW PROCESS

EVENT	METHOD OF RESOLUTION/REPORTING
APPLICABLE/POTENTIAL DISCREPANCY	USING ENGINEERING JUDGEMENT, EVALUATION, TECHNICAL EXPERTISE, ETC., DETERMINE WHETHER THE IDENTIFIED POTENTIAL DISCREPANCY IS INDEED A "DISCREPANCY." ENTER INTO TRACKING SYSTEM.
DESIGN DISCREPANCY (NOTIFY PLANT)	ESTABLISH WHETHER THE "DISCREPANCY" IS A "POTENTIAL DESIGN DEFICIENCY."
POTENTIAL DESIGN DEFICIENCY (NOTIFY PLANT)	ESTABLISH WHETHER THE "POTENTIAL DESIGN DEFICIENCY" IS A "DESIGN DEFICIENCY."
DESIGN DEFICIENCY (NOTIFY PLANT)	ESTABLISH/PROCESS "DESIGN DEFICIENCIES" AND REPORT TO THE PLANT. PLANT TO EVALUATE DEFICIENCIES AND REPORT UNDER 10CFR50.72/73 AND 10CFR21, IF REQUIRED.

(3378NED/che)

1988 PROJECT ACTIVITIES

PHASE-I

SYSTEM DBD DEVELOPMENT

1. DEVELOPED THE PROJECT INTERFACE DOCUMENT

2. DEVELOPED THE PROJECT GUIDELINE

3. ESTABLISHED THE PROJECT FUNCTIONAL ORGANIZATION

4. SEARCHED ARCHIVES FOR DESIGN INFORMATION

   - REVIEWED CP&L AND EBASCO ARCHIVES
   - OBTAINED INFORMATION SUMMARY DOCUMENTS TO OL FROM NSSS VENDOR ON PILOT DBDs
   - DEVELOPED PROJECT DATA BASE CONTROL SOFTWARE
   - ENTERED ARCHIVE SEARCH OUTPUT DATA INTO DATA BASE
   - DATA FOR ALL SYSTEMS IS IN DATA BASE

5. COMPLETED PILOT PROGRAM (PRELIMINARY ISSUE OF THREE DBDs) ON SCHEDULE: DECEMBER, 1988

6. RELEASED SYSTEM DBD DRAFTS FOR THE ELECTRICAL POWER DISTRIBUTION SYSTEM AND ELECTRICAL CABLE/RACEWAY FOR INTERDISCIPLINE DESIGN VERIFICATION ON SCHEDULE: DECEMBER, 1988

(3738NED/che)

1988 PROJECT ACTIVITIES

PHASE-II

FIELD VALIDATION & DISCREPANCY EVALUATION

1. REVISED THE PROJECT INTERFACE DOCUMENT TO REFLECT THE PHASE-II PROGRAM

2. DEVELOPED A GUIDELINE ON REPORTING TO RNP OF POTENTIAL SIGNIFICANT DEFICIENCIES

3. DEVELOPED THE VALIDATION PROCEDURE

4. DEVELOPED THE DISCREPANCY RESOLUTION PROCEDURE

5. RESOLVED THE FIRST PROJECT DISCREPANCY ON MCC 5&6 OVERLOAD CONDITION

6. VISITED OTHER ELECTRIC UTILITIES TO GATHER "LESSONS LEARNED" AND ESTABLISHED THE CP&L PHASE-II PROGRAM

(3738NED/che)

CONCLUSION

- CP&L IS STILL COMMITTED TO THE PLAN PRESENTED TO NRC ON APRIL 5, 1988
- CP&L IS PROCEEDING ON SCHEDULE, ALTHOUGH ELEMENTS OF THE SCOPE HAVE INCREASED
- CP&L HAS COMPLETED THREE PILOT SYSTEM DBDS ON SCHEDULE.
- PROGRESS TO DATE REFLECTS CP&L'S ABILITY AND ITS MANAGEMENT'S COMMITMENT TO COMPLETING THE PROJECT AS PLANNED

10CFR PART 2, APPENDIX C, SECTION G

EXERCISE OF DISCRETION

- "BECAUSE THE NRC WANTS TO ENCOURAGE AND SUPPORT LICENSEE INITIATIVE FOR SELF-IDENTIFICATION AND CORRECTION OF PROBLEMS."

- PARAGRAPH 1 ALLOWS SEVERITY LEVEL IV AND V EVENTS WITHOUT A VIOLATION.

- PARAGRAPH 4 ALLOWS A SEVERITY LEVEL III VIOLATION WITHOUT A CIVIL PENALTY.

- THE CONCLUDING PARAGRAPH ALLOWS EXECUTIVE DISCRETION TO REFRAIN FROM A VIOLATION FOR SEVERITY LEVEL III.

- PRIMARY TESTS

  - LICENSEE IDENTIFIED
  - TIMELY REPORTING AND CORRECTIVE ACTION
  - NOT WILLFUL, ROUTINE OR REPEAT

- OUR H. B. ROBINSON DESIGN BASIS RECONSTITUTION PROGRAM SATISFIES THESE TESTS.

- WE EXPECT LIBERAL USE OF PART 2, APPENDIX C, SECTION G BY THE STAFF WHEN DEALING WITH H. B. ROBINSON ISSUES.