

February 15, 1996

Carolina Power & Light Company
ATTN: Mr. H. W. Habermeyer
Vice President
Nuclear Engineering Department
Carolina Power & Light Company
P. O. Box 1551 - Mail Code: OHS7
Raleigh, NC 27602

SUBJECT: MEETING SUMMARY - ENGINEERING PROGRESS (BRUNSWICK 50-325, 50-324,
HARRIS 50-400, AND ROBINSON 50-261)

Dear Mr. Habermeyer:

This refers to the meeting requested by Carolina Power & Light Company on February 8, 1996, in Atlanta, Georgia. The purpose of the meeting was to discuss the status of Carolina Power & Light Engineering. It is our opinion, that this meeting was beneficial.

Enclosed is a List of Attendees and Carolina Power & Light Handout. The agenda included discussions of the following topics: Engineering Progress Since February 1995; CP&L Engineering Today; Future Activities; Fuel and Probabilistic Safety Assessment.

In accordance with Section 2.790 of the NRC's "Rules of Practice, "Part 2, Title 10 Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning this letter, please contact us.

Sincerely,

Orig signed by M. B. Shymlock

9603050020 960215
PDR ADOCK 05000261
P PDR

Milton B. Shymlock, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Docket Nos.: 50-325, 50-324
50-400, and 50-261

License Nos.: DPR-71, DPR-62
NPF-63, and DPR-23

cc w/encs: 1. List of Attendees
2. CP&L Presentation Handout

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cc w/encls:

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cc w/encls: Continued see page 3

cc w/encls: Continued
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cc w/encl: Continued see page 4

CP&L

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cc w/encl: Continued
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Hartsville Memorial Library
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LIST OF ATTENDEES

Carolina Power & Light Company

H. Habermeyer, Vice President, Nuclear Engineering Department
G. Gibbs, Manager, Brunswick Nuclear Engineering
R. Grazio, Chief Engineer
G. Miller, Manager, Robinson Nuclear Engineering
W. Orser, Executive Vice President, Nuclear Generation Group
D. Poteralski, Manager, Nuclear Fuel Management and Safety Analysis
G. Rolfson, Manager, Harris Nuclear Engineering
T. Walt, Manager, Performance Evaluation and Regulatory Affairs

Nuclear Regulatory Commission

J. Brady, Project Engineer, Division of Reactor Projects (DRP), Branch 4, RII
C. Casto, Chief, Division Reactor Safety (DRS), Engineering Branch, RII
A. Gibson, Director, DRS, RII
J. Jaudon, Deputy Director, DRS, RII
J. Lenahan, Reactor Inspector, DRS, Engineering Branch, RII
E. Merschoff, Director, Division of Reactor Projects, RII
L. Reyes, Deputy Regional Administrator, RII
M. Shymlock, Chief, Reactor Projects, Branch 4, RII
D. Trimble, Brunswick Project Manager, NRR
G. Wiseman, Project Engineer, DRP, Branch 4, RII

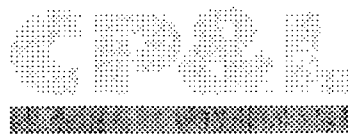
ENCLOSURE 1

CP&L PRESENTATION HANDOUT

ENCLOSURE 2

CP&L Engineering Progress Report

February 8, 1996



CP&L Engineering Progress Report

State of CP&L Engineering - 1996

- **Progress since 2/15/95 meeting with NRC - B. Habermeyer**
- **CP&L Engineering Today**
 - **Enhance Human Performance of the Individual Engineer - G. Rolfson**
 - **The Engineering Team - G. Miller**
- **Future Activities - G. Gibbs**
- **Fuel and Probabilistic Safety Assessment - D. Poteralski**
- **Summary - B. Habermeyer**



State of CP&L Engineering - 1996

Progress Since 2/15/95 Meeting With NRC

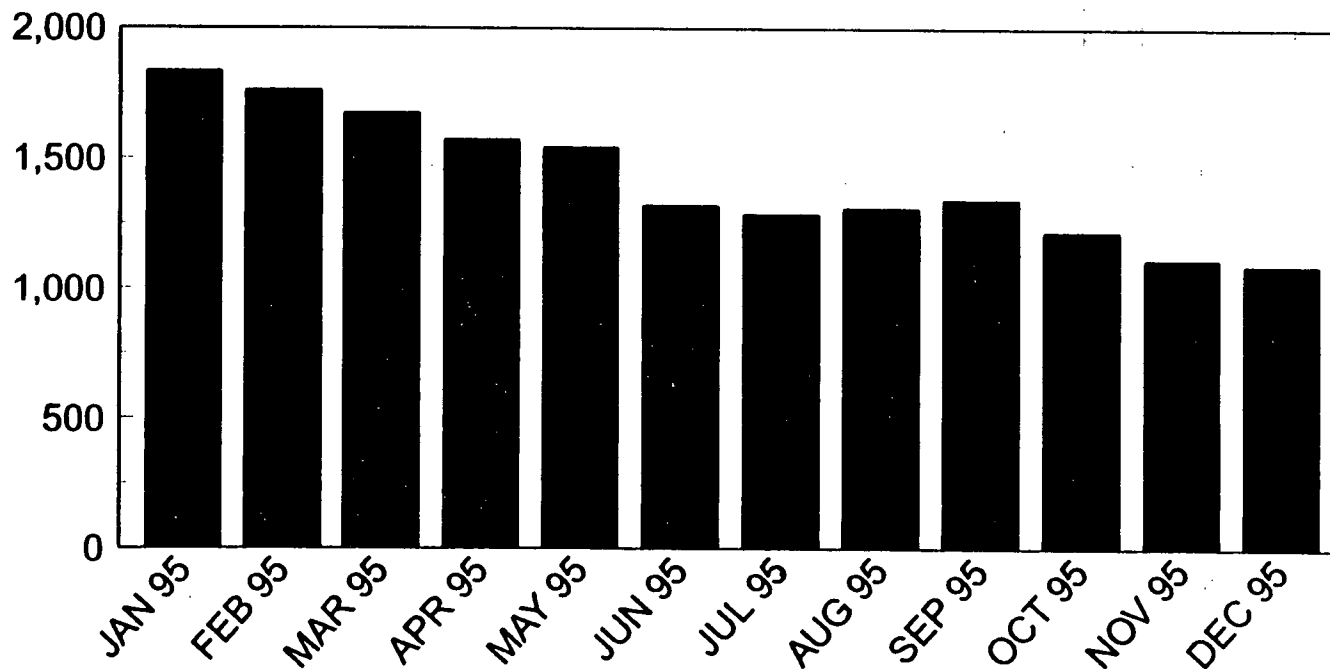
- Completed Engineering Reorganization
- Identified Improvement Initiatives
 - Engineering Service Request (ESR)
 - Engineering Development
 - Reinforced Accountabilities
- Improved Configuration Management Process
- Reduced the Backlog
- Controlled Costs
 - Staff Augmentation Contractors
 - Engineering Support



Progress Since 2/15/95 Meeting With NRC

Reduced the Backlog

Total Engineering Items



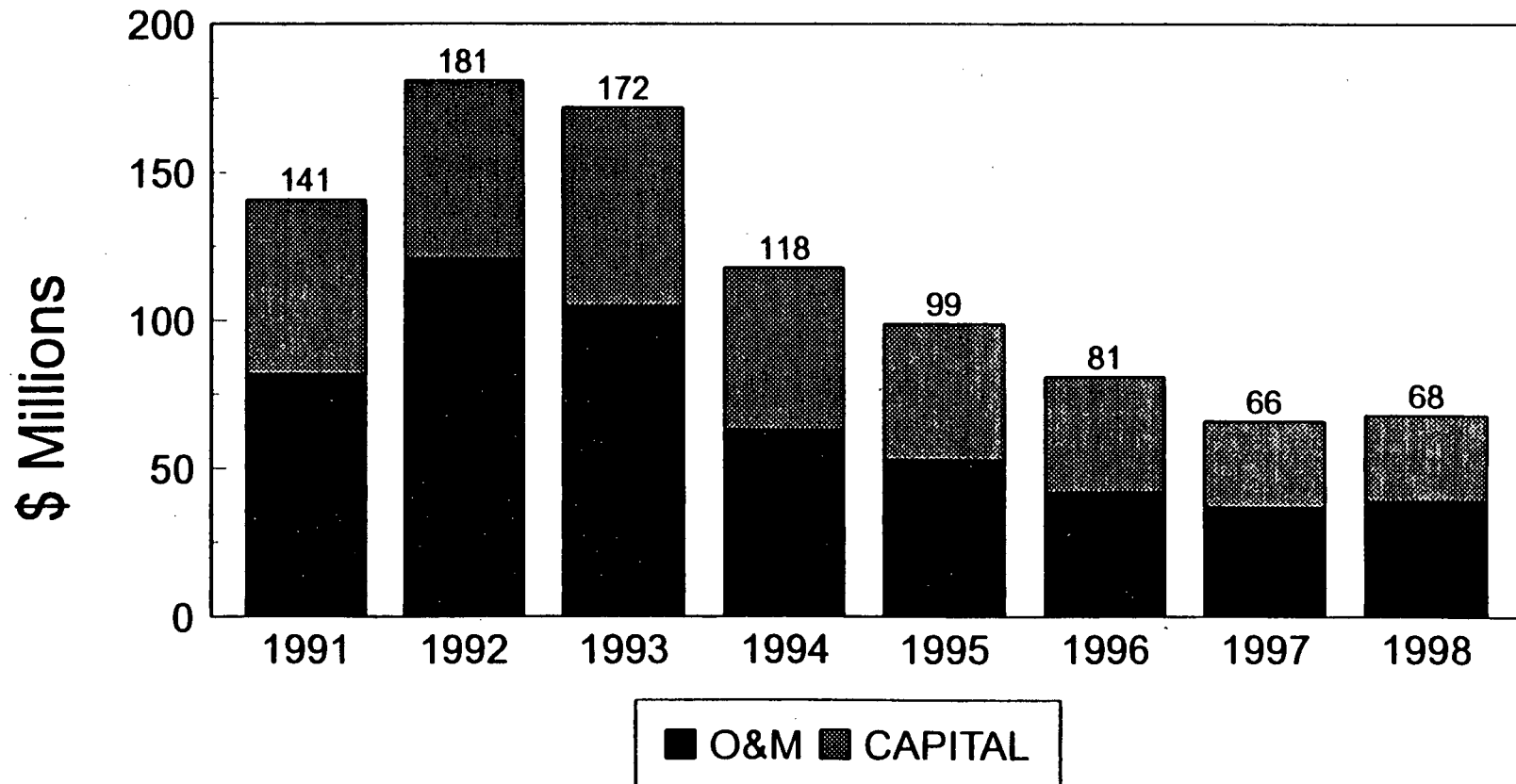
Total Engineering items include:

- All ESRs (excluding mods)
- All condition report evaluations
- All condition reports with corrective actions
- Operating experience/commitment items
- Category "A" drawings



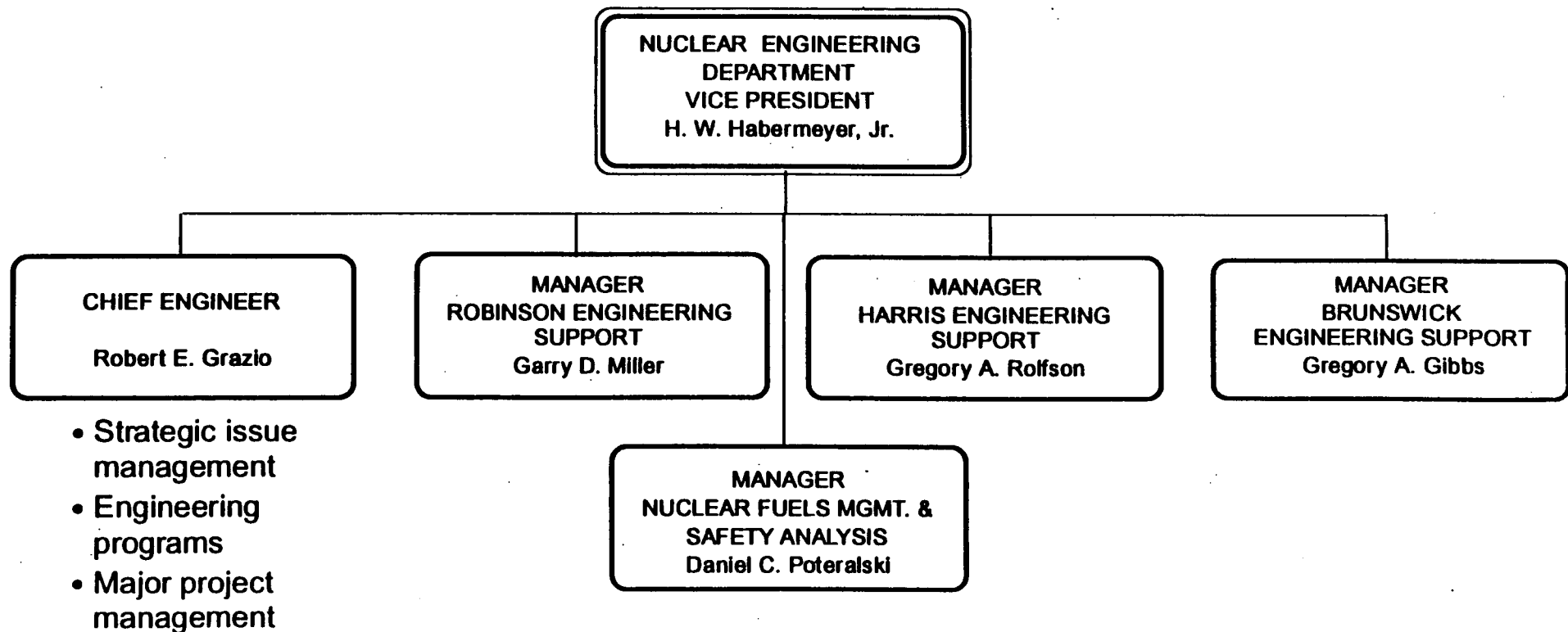
Progress Since 2/15/95 Meeting With NRC

Total Engineering Costs



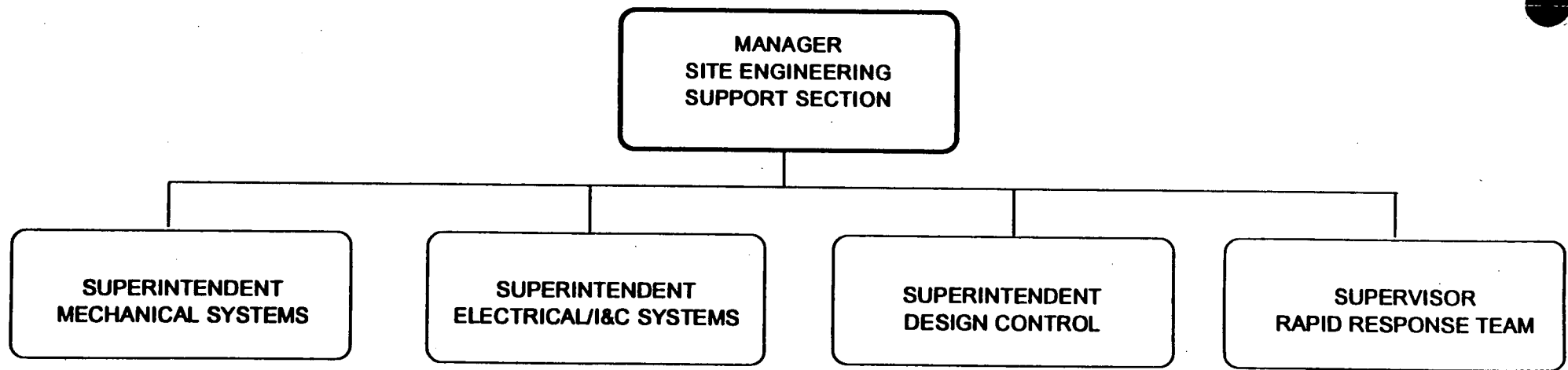
Engineering Reorganization

Nuclear Engineering Department Organization



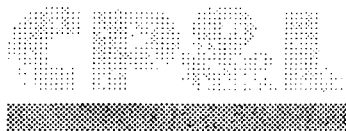
Nuclear Engineering Department

"Typical" Site Engineering Support Section



Enhance Human Performance of the Individual Engineer

Greg Rolfson



The Individual Engineer

Enhance Human Performance

- **Plant Engineer**
 - Broaden knowledge base of engineers
 - Maintain individual expertise
 - Focus on plant operation and maintenance
 - Selection and staffing
 - Design and systems training
 - Workshops and mentorship



The Individual Engineer

Enhance Human Performance

- **Responsible Engineer**

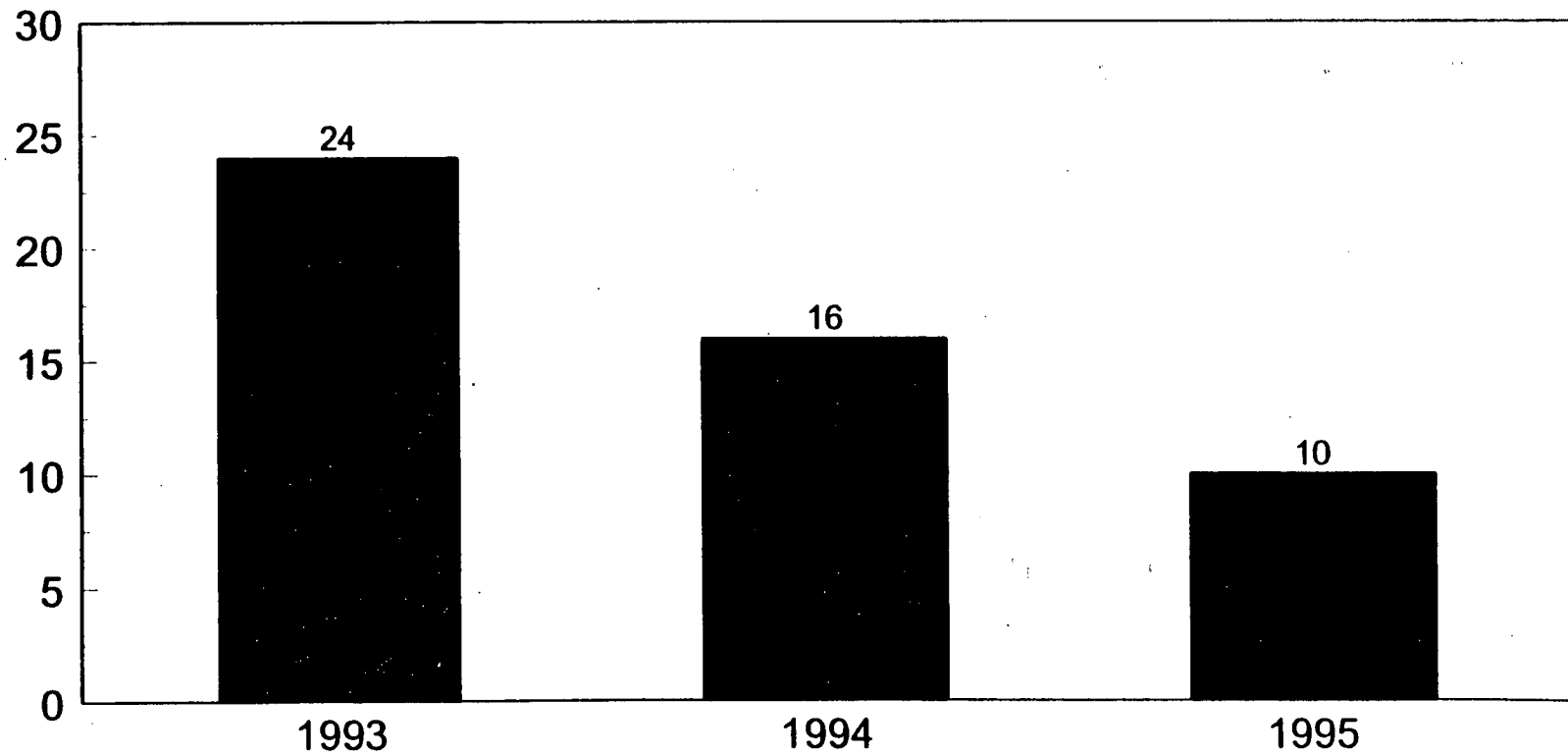
- Single point of accountability
- "Birth to Death" ESR accountability
- Clarify and reinforce expectations through ESR II



The Individual Engineer

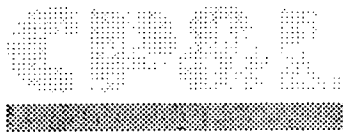
Enhance Human Performance

Engineering Human Performance Events



The Engineering Team

Garry Miller



CP&L Engineering Today

The Engineering Team

- Proactive vs. Reactive Engineering
- Plant Provides Engineering Focus
- Rapid Response Team
- Emphasis on Self-Assessment
- Design Review Team

The Engineering Team

Proactive vs. Reactive Engineering

- Prevent problems via diagnosis using performance trending
- Employ Maintenance Rule to improve plant reliability
- Modify the plant only if it:
 - Resolves a safety issue
 - Provides a significant cost benefit
 - Replaces obsolete equipment or raises standards
- Eliminate engineering backlog to allow "forward look"



The Engineering Team

Plant Provides Engineering Focus

- Top 10 List
- Operator Work Around List
- System Performance Trending
- Plant Review Group (PRG) Approved Projects

Plant Provides Engineering Focus

RNP "Top Ten" Equipment Issues List

- Investigate temperature issues in Hagan Room
- Research configuration of plant transmitters
- Eliminate PPS as a continuous monitoring system
- Improve plant net generation
- Improve charging system reliability
- Improve air compressors reliability
- Correct noise on the control and protection loops
- Correct leakage and component failures in hypochlorite system
- Improve steam generator blowdown system reliability
- Improve condensate polishing system valves reliability



Plant Provides Engineering Focus

Typical Operator Work Arounds

- A tygon tube must be used to provide accurate level indication for the diesel fuel oil tank
- Manual manipulation of the hotwell level control valves is required
- Spent fuel pool cooling pumps must be started and stopped to control SFP temperature with lower lake temperatures
- BASTs must be recirculated daily to prevent stratification
- Substitute flow indications are being used because primary indications are not accurate - CCW and CVC systems
- LPMS does not inhibit when rods move
- Hotwell level indication drifts and is not repairable while the unit is in operation



The Engineering Team

Rapid Response Team

- **Provides immediate response**
- **Has multi-disciplined talent**
- **Connects with applicable System Engineer**
- **Improved overall effectiveness of Engineering**



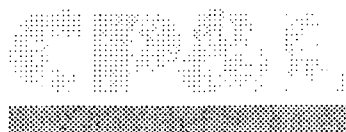
The Engineering Team

Emphasis on Self-Assessment

- Perform targeted self-assessments
- Share self-assessment plans
- Inter-site sharing of
 - Team members
 - Self-assessment results
- Design Review Team

Future Activities

Greg Gibbs



State of CP&L Engineering - 1996

Future Activities

- **Make the Supervisor/Engineer Development Contract a part of performance appraisal**
- **Assess implementation of the Responsible Engineer role**
- **Strengthen Vendor/AE procurement interface**
- **ESR Phase II**
 - **Improve efficiency of engineering process**
 - **Reaffirm accountability to responsible engineer**



State of CP&L Engineering - 1996

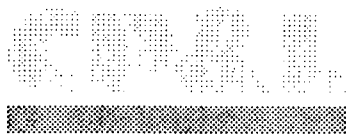
Future Activities (Cont.)

- **Develop real-time measures for engineering performance and product quality**
- **Currently**
 - **Corrective action program**
 - **Self-assessments**
 - **NAS and PES Assessments**
 - **LERs, violations, events**
- **Future real-time measures; potential measures:**
 - **Management observations**
 - **Modification implementation briefing**
 - **DRT observations**
 - **Affirmation**



Fuel and Probabilistic Safety Assessment

Dan Poteralski



State of CP&L Engineering - 1996

Fuel and Probabilistic Safety Assessment (PSA)

- Zero Defect Initiatives
- PSA Applications

Fuel and Probabilistic Safety Assessment

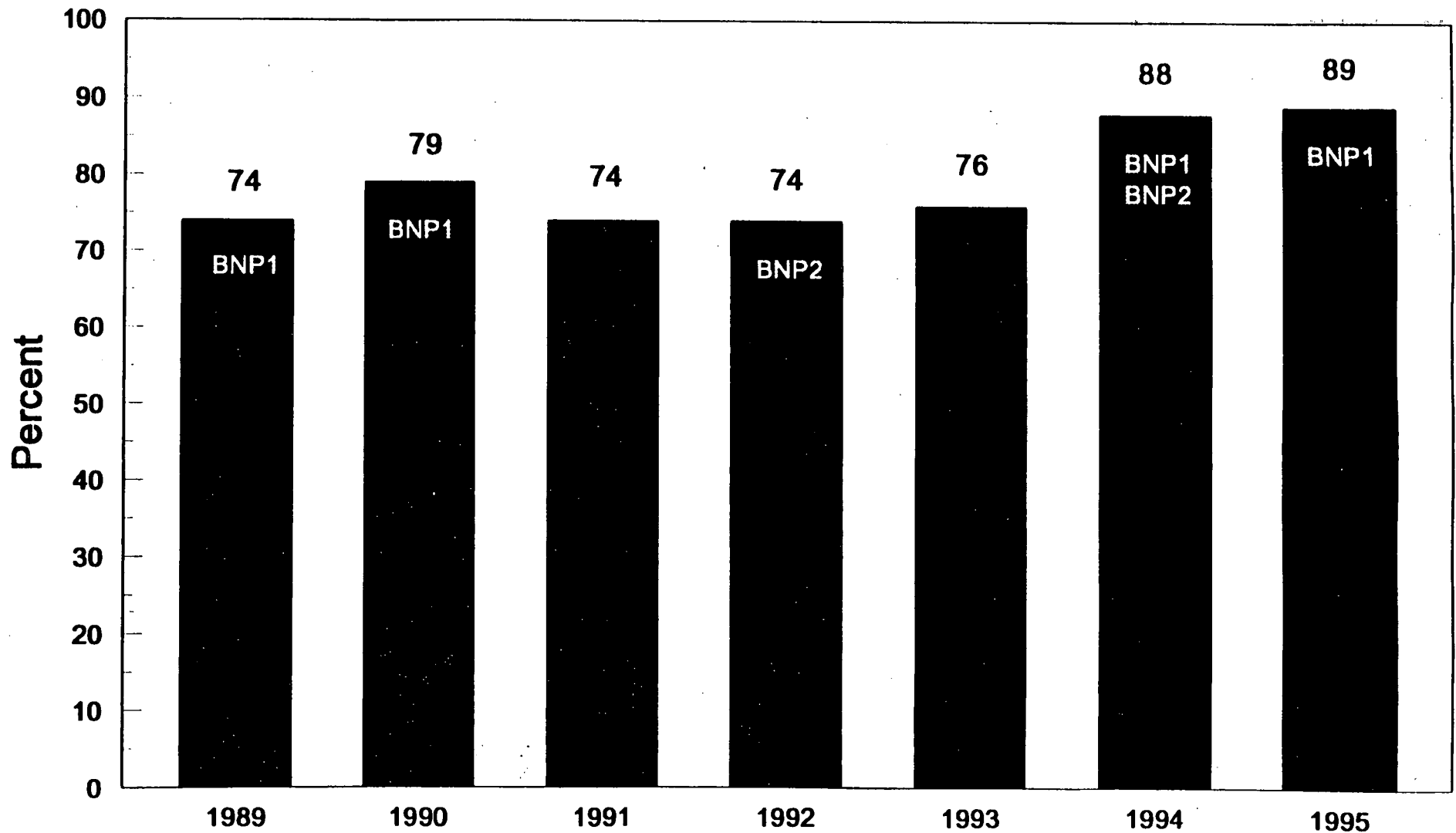
Zero Defect Initiatives

- Corporate Failed Fuel Action Plan
- Change Management
- Industry Best Practices
- Aggressive Fabrication Surveillance Program
- Debris Resistant Fuel Design
- Foreign Material Exclusion (FME) Programs
- 100% Receipt Inspection
- Post Irradiation Exams



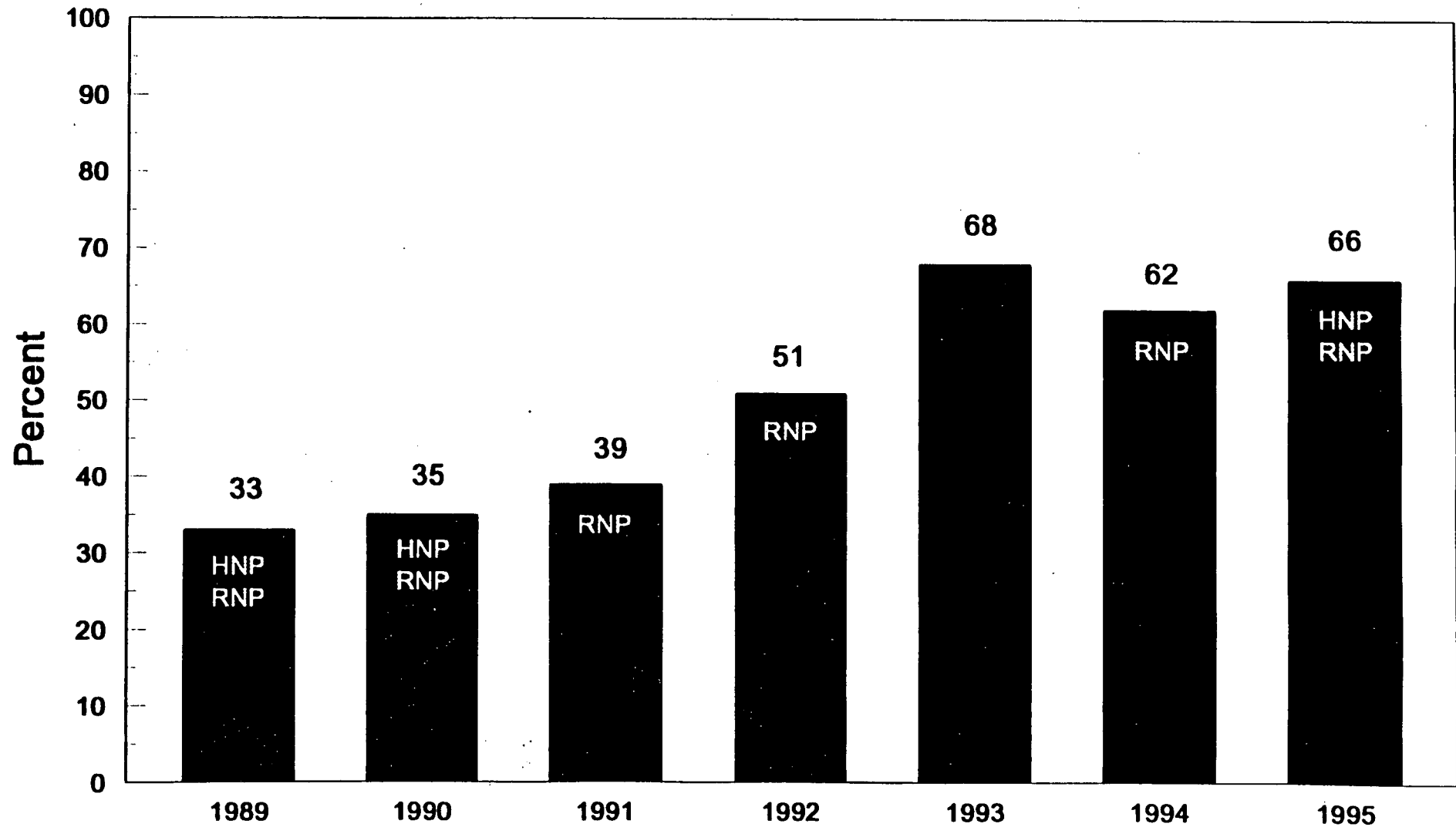
Industry Comparison for Fuel Reliability - BWR

Percent of BWR Units in Industry with Zero Fuel Defects



Industry Comparison for Fuel Reliability - PWR

Percent of PWR Units in Industry with Zero Fuel Defects



Fuel and Probabilistic Safety Assessment

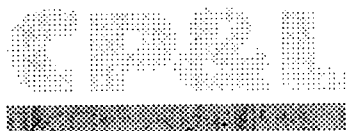
PSA Applications

- **Self-assessment to determine quality, effectiveness, and customer needs**
- **Restructure PSA organization**
 - Provide technology transfer
 - Blend probabilistic and deterministic approaches to plant safety
- **Focus areas for increased emphasis**
 - Work planning
 - System reliability
 - Cost Beneficial Licensing Actions
 - Core damage prevention awareness (pocket cards/posters)
 - Severe accident management



Summary

Bill Habermeyer



State of CP&L Engineering - 1996

Summary

- Reorganization on track
- Engineering more proactive
- Focus on plant operations
- Plant engineer function established
- Personal accountability emphasized
- Fuel reliability maintained
- PSA technology embraced

