

PDR

May 23, 1997

EA 97-132

Mr. W. Connell  
Vice President  
Clinton Power Station  
Illinois Power Company  
Mail Code V-275  
P.O. Box 678  
Clinton, IL 61727

SUBJECT: NRC PREDECISIONAL ENFORCEMENT CONFERENCE

Dear Mr. Connell:

This refers to a Predecisional Enforcement Conference conducted by Mr. A. Bill Beach, Regional Administrator, and other members of the Region III and Headquarters staff on May 15, 1997. The subject of this conference was the apparent violations at Clinton Station identified in NRC Inspection Report No. 50-461/97003(DRS). The purpose of this conference was to discuss the violations, root causes, contributing factors, and corrective actions.

You will be notified by separate correspondence of our decision regarding the enforcement action based on the information presented and discussed at the Predecisional Enforcement Conference. No response is required until you are notified of the proposed enforcement action.

During the Predecisional Enforcement Conference, you acknowledged the violations. The presentation included a synopsis of the broader engineering issues identified in the inspection as well as the specific enforcement issues. Also presented was a synopsis of the causes, safety significance, and corrective actions taken for each potential violation. A copy of the handout is enclosed.

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May 23, 1997

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosures will be placed in the NRC Public Document Room.

Sincerely,

/s/ C. D. Pederson

Cynthia D. Pederson, Director  
Division of Reactor Safety

Docket No. 50-461

Enclosures: 1. List of Attendees  
2. Licensee's Presentation

cc w/encls: W. D. Romberg, Assistant Vice President  
P. Yocum, Plant Manager, Clinton Power Station  
R. Phares, Manager, Nuclear Assessment  
J. Sipek, Director - Licensing  
Nathan Schloss, Economist,  
Office of the Attorney General  
G. Stramback, Regulatory Services  
Project Manager, General Electric Company  
Chairman, DeWitt County Board  
State Liaison Officer  
Chairman, Illinois Commerce Commission

Distribution:

Docket File w/encl

**PUBLIC IE-01 w/encl**

OC/LFDCB w/encl

DRP w/encl

DRS w/encl

RIII PRR w/encl

SRIs, Clinton,

Dresden, LaSalle,

Quad Cities w/encl

LPM, NRR w/encl

A. B. Beach, RIII w/encl

J. L. Caldwell, RIII w/encl

RIII Enf. Coordinator w/encl

TSS w/encl

J. Lieberman, OE w/encl

J. Goldberg, OGC w/encl

R. Zimmerman, NRR w/encl

SEE ATTACHED CONCURRENCES

DOCUMENT NAME: G:\DRS\CLI051\_7.DRS

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OFFICE	RIII:DRS	RIII:DRS	RIII:DRP	RIII:EICS	RIII:DRS
NAME	Falevits/kjc	Ring	Wright	Clayton	Grobel/Pederson
DATE	05/ /97	05/ /97	05/ /97	05/ /97	05/23/97

OFFICIAL RECORD COPY

also presented a synopsis of the causes, safety significance, and corrective actions taken for each potential violation. A copy of the licensee's handout is enclosed.

Sincerely,

Cynthia D. Pederson, Director  
Division of Reactor Safety

Docket No. 50-461

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DRP w/encl	LPM, NRR w/encl	J. Goldberg, OGC w/encl
DRS w/encl	A. B. Beach, RIII w/encl	R. Zimmerman, NRR w/encl
RIII PRR w/encl	J. L. Caldwell, RIII w/encl	

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NAME	Falevits/kjc		Ring		Wright	Clayton		Grobe/Pederson	
DATE	05/21/97		05/21/97		05/22/97	05/21/97		05/ /97	

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## LIST OF ATTENDEES

### Illinois Power Company

G. Baker, Acting Manager, Nuclear Assessment  
W. Connell, Vice President  
D. Kornemann, Projects Manager - Engineering  
D. Lukash, System Engineer  
A. Mueller, Assistant Plant Manager - Maintenance  
R. Phares, Assistant to the Vice President  
R. Reding, Electrical Breaker Task Manager  
W. Romberg, Assistant Vice President  
B. Sherman, Licensing  
J. Sipak, Director - Licensing  
M. Stickney, Licensing Supervisor  
D. Thompson, Manager, Nuclear Station Engineering  
W. Toohey, Plant Steward IBEW  
E. Turner, Financial Controller  
K. Trone, Electrical Maintenance  
M. Wagner, Engineering  
P. Yocum, Plant Manager

### Consumers Energy

T. Bordine  
D. Shapiro, Morgan, Lewis & Bockius  
K. Toner

### Illinois Department of Nuclear Safety

N. Howey  
D. Zemel

### U.S. Nuclear Regulatory Commission

A. Beach, Regional Administrator  
F. Brown, Project Engineer, Division of Reactor Projects  
J. Caldwell, Deputy Regional Administrator  
B. Clayton, Enforcement Coordinator  
Z. Falevits, Reactor Engineer, Division of Reactor Safety  
J. Foster, Emergency Preparedness Analyst, Division of Reactor Safety  
R. Gardner, Acting Deputy Director, Division of Reactor Projects  
J. Grobe, Deputy Director, Division of Reactor Safety  
G. Marcus, Director, Project Directorate III-3, Office of Nuclear Reactor Regulation  
C. Miller, Acting Chief, Projects Branch 4, Division of Reactor Projects  
D. Pickett, Project Manager, Office of Nuclear Reactor Regulation  
E. Schweibinz, Project Engineer, Division of Reactor Projects  
R. Westberg, Acting Chief, Engineering Specialists Branch 2, Division of Reactor Safety  
G. Wright, Chief, Clinton Oversight Team, Division of Reactor Projects

# Clinton Power Station

*Enforcement Conference*

*May 15, 1997*

ILLINOIS  
POWER

## AGENDA

Introduction

W. Connell  
Vice President -  
Clinton Power Station

Breakers

D. Thompson  
Manager-Engineering

Lubricants

T. Mueller  
Assistant Plant Manager-  
Maintenance

Engineering Department Initiatives

D. Thompson  
Manager-Engineering

Closing Remarks

W. Connell  
Vice President -  
Clinton Power Station

## Breaker Issues

- Apparent Violation: Failure to Take Prompt Corrective Action to Address Indications of Hardened or Hardening Grease
- Affected Several Classes of Breakers
- Weak Response to Indications From Inspections and Maintenance
- Insufficient Response to Industry Information
- Vendor Recommendations Not Followed



## Causes of Breaker Problems

- Narrow Focus in Response to Indications of Breaker Problems
- Weak Focus and Response to Industry/Vendor Issues
- Lack of Documentation and Trending of Breaker Problems for Analysis of Generic Implications
- No Programmatic Approach to Breaker Maintenance Activities
- Insufficient Site-Wide Focus on Breaker Issues



## Establishment of Breaker Plan

- Establishment of Multi-Disciplined Breaker Team
  - Analysis of Vendor Information
  - Review of Industry Experience
  - Creation of Inspection and Refurbishment Plan
- Improvements Since December 1996

## **ABB 480V Breakers**

- 33 Safety-Related Breakers
- 1995 Refurbishment and Findings
- Current ABB Breaker Plan Status:
  - 21 Safety-Related Breakers Refurbished and In Service by the End of RF-6
  - This Completes Refurbishment on All Division II Breakers
  - Acceleration of Refurbishment Schedule of All Remaining Safety-Related Breakers by End of RF-7

## GE Magna Blast Breakers

- 5 General Electric 4160 Volt "Magna Blast" Breakers
  - All on Division III Safety Bus
- RF-6 Inspection and Acceptance Criteria
- Schedule for Inspection/Refurbishment of Remaining Breakers

## Westinghouse 4.16kV and 6.9kV Breakers

- 26 Safety-Related Breakers
  - 6 Reactor Recirculation System
  - 10 Division I
  - 10 Division II
- CPS and Industry History of Breaker Performance
- Inspection and Testing of All Reactor Recirculation System Division I Breakers and 1 Division II Breaker During RF-6
  - 11 Tested to Date Have Passed
- Schedule for Further Inspection/Refurbishment
  - All Remaining Division II Breakers Refurbished During Cycle 7

## Summary of CPS Breaker Plan

- All ABB Safety-Related Breakers Will Be Refurbished by the End of RF-7
- All GE Magna Blast Breakers Will Be Refurbished During the Upcoming Operating Cycle
- All Westinghouse Safety-Related Breakers Will Be Either Inspected and Tested During the Current Outage or Refurbished During the Upcoming Operating Cycle

## **Additional Actions to Ensure Strong Breaker Program**

- Operator Requalification Training
- Procedural Training for Maintenance Craft
- Designation of Breaker Task Manager
- Use of Outside Expertise to Ensure Breaker Program is Consistent with Best Industry Practices
- Improved Process for Documenting, Trending, and Analyzing Breaker Inspection and Maintenance Results

## **Breaker Issues - Conclusions**

- Specific Problems Addressed
- Confidence in Breaker Performance
- Action to Ensure Breaker Maintenance in Future
- Generic Action to Address Causes



## **Lubricant Issues**

- Control and Dissemination of Lubricants
- Use of Unapproved Cleaners and Lubricants on Breakers
- Insufficient Maintenance Guidance on Mixing of Greases and Cleaning
- Discrepancies Between Approved Vendor Manuals and Implementing Plant Procedures
- Incomplete Equipment Lubrication Standard

## Causes of Lubricant Problems

- Insufficient Programmatic Controls to Ensure Proper Lubrication of Electrical Breaker Components, i.e., Lack of Procedure Quality
- Failure to Follow Proper Lubricating Standards

## **Specific Corrective Actions**

- Mixing of Mobil 28 Grease
  - Revision of GE Magna Blast Procedure
  - Validation and Training on GE Magna Blast Procedure
  - Inspection of Breaker
  - Improved Process of Processing Vendor Information
- Use of Never-Seize
  - Removal From Breaker and Proper Lubrication of Breaker
  - Preventive Maintenance and Breaker Inspections
- Use of Freon
  - Procedure Change Caution Statement
- Machine Oil
  - Procedure Change

## Actions to Ensure Strong Lubricant Program

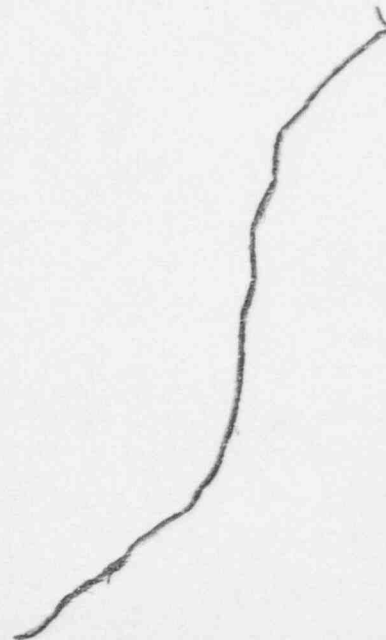
- Controls on Dissemination of Lubricants
- Expansion of Equipment Lubrication Standard
- Guidance on Lubricant Use and Procedure Revision
- Increased Monitoring to Ensure Expectations for Control and Use of Lubricants are Met
- Training Sessions on Lessons Learned From This Event
- Site-Wide Effort on Procedure Use and Adherence

## Lubricant Issues-Conclusions

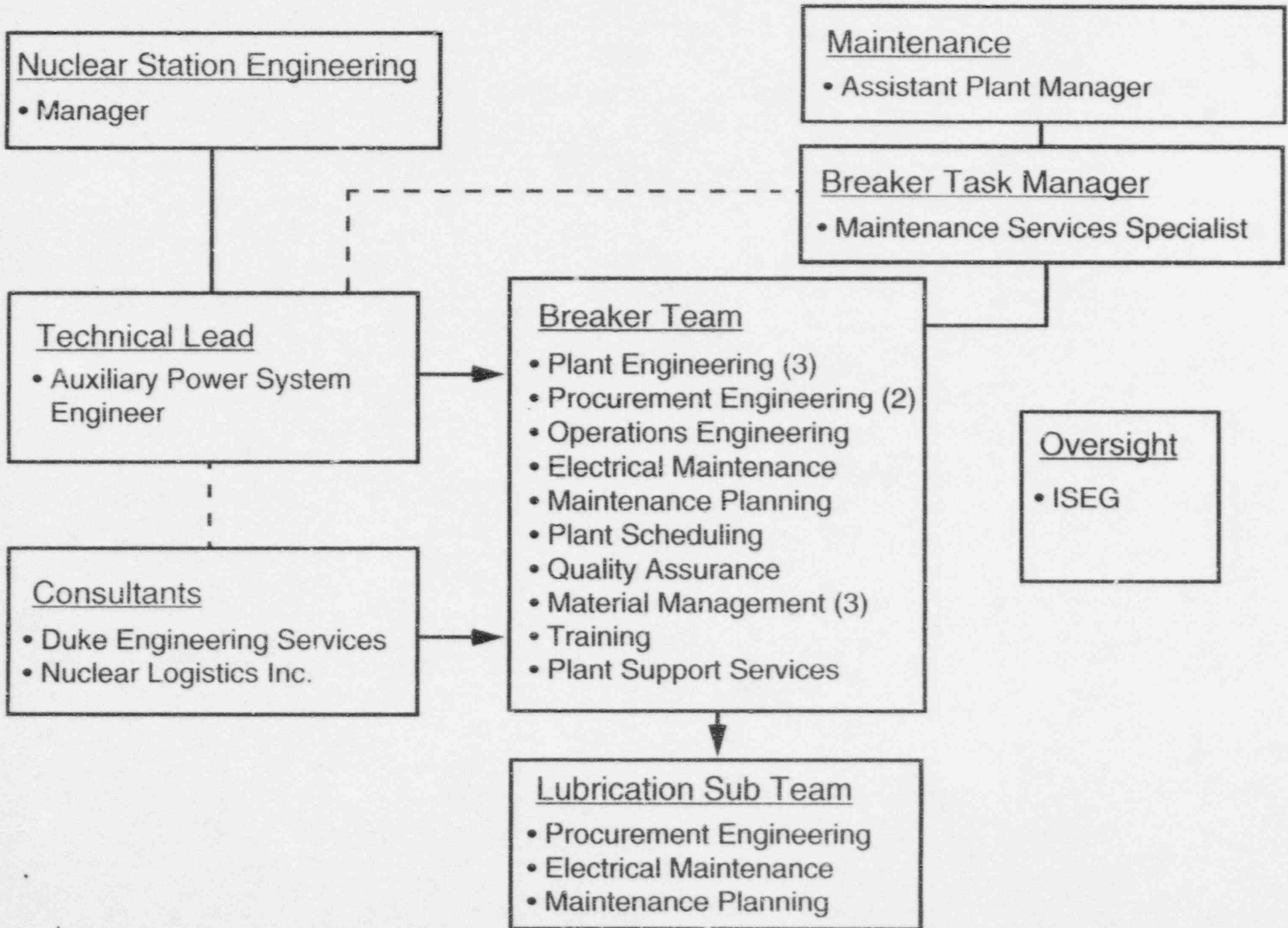
- Specific Lubricant Problems Corrected
- Action to Improve Future Performance
- Broader Action to Address Potential Generic Implications

## Generic Engineering Department Improvement Actions

- Reorganization of Engineering Department
  - Increased Supervision and Accountability
  - Work Disposition
  - Engineering Assessment Strengthened
  - Creation of Engineering Response Team

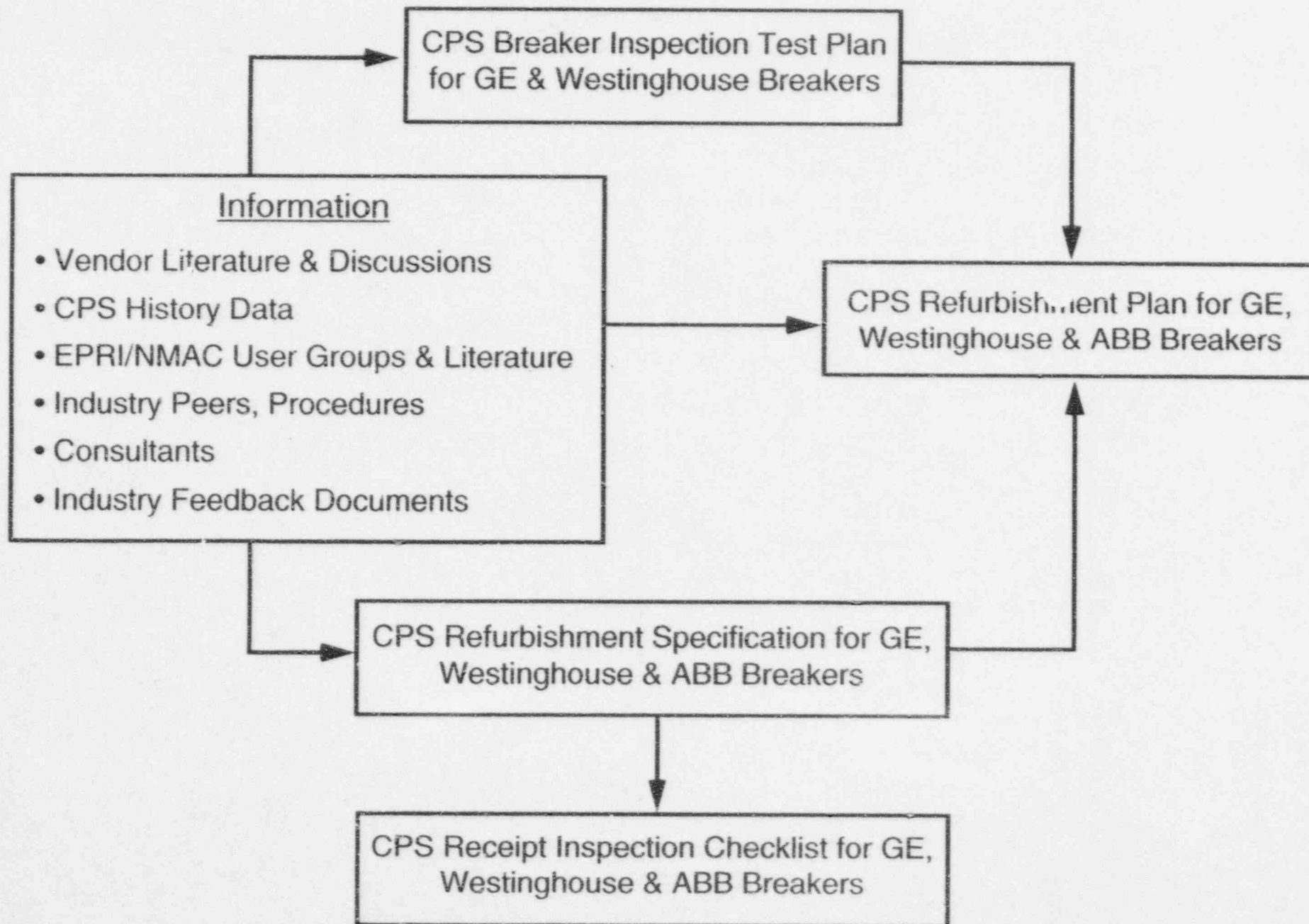


# CPS Breaker Team

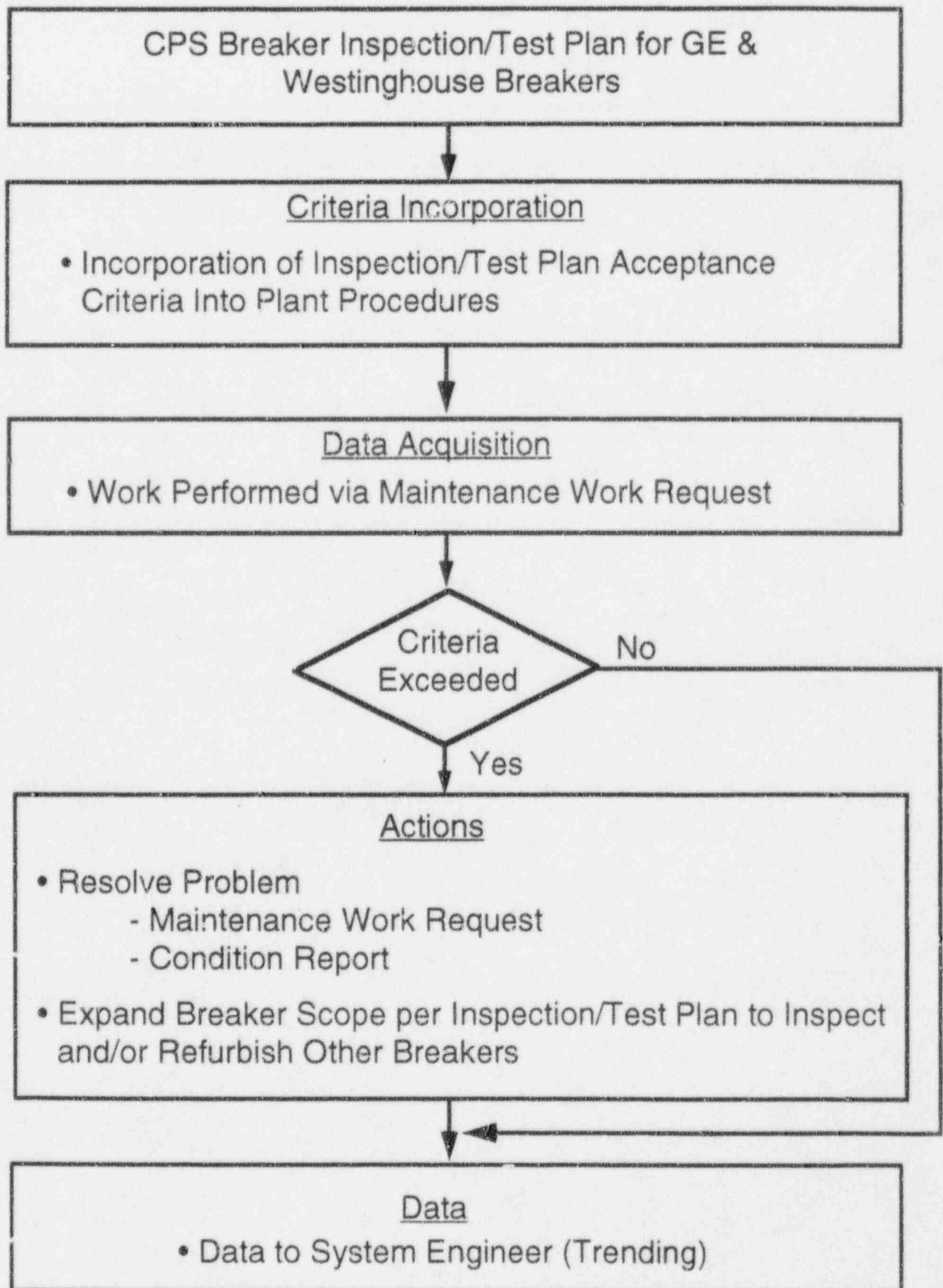




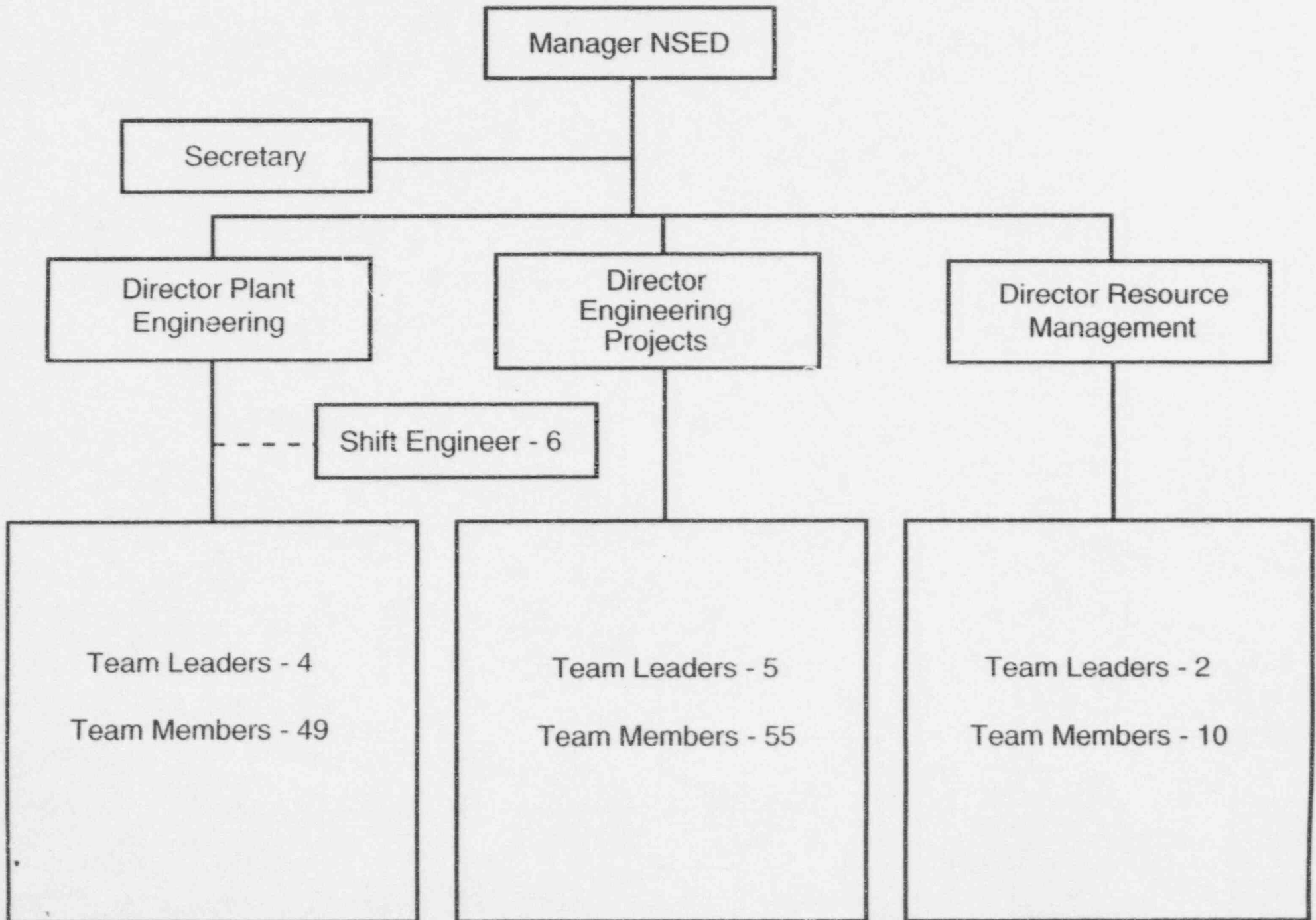
# Breaker Team Documents



# Breaker Inspection Information Flow



## Previous Organization



### Current Organization

