

**DUKE POWER:  
PLANT PROCESS DATA AND OIL SYSTEMS**

by

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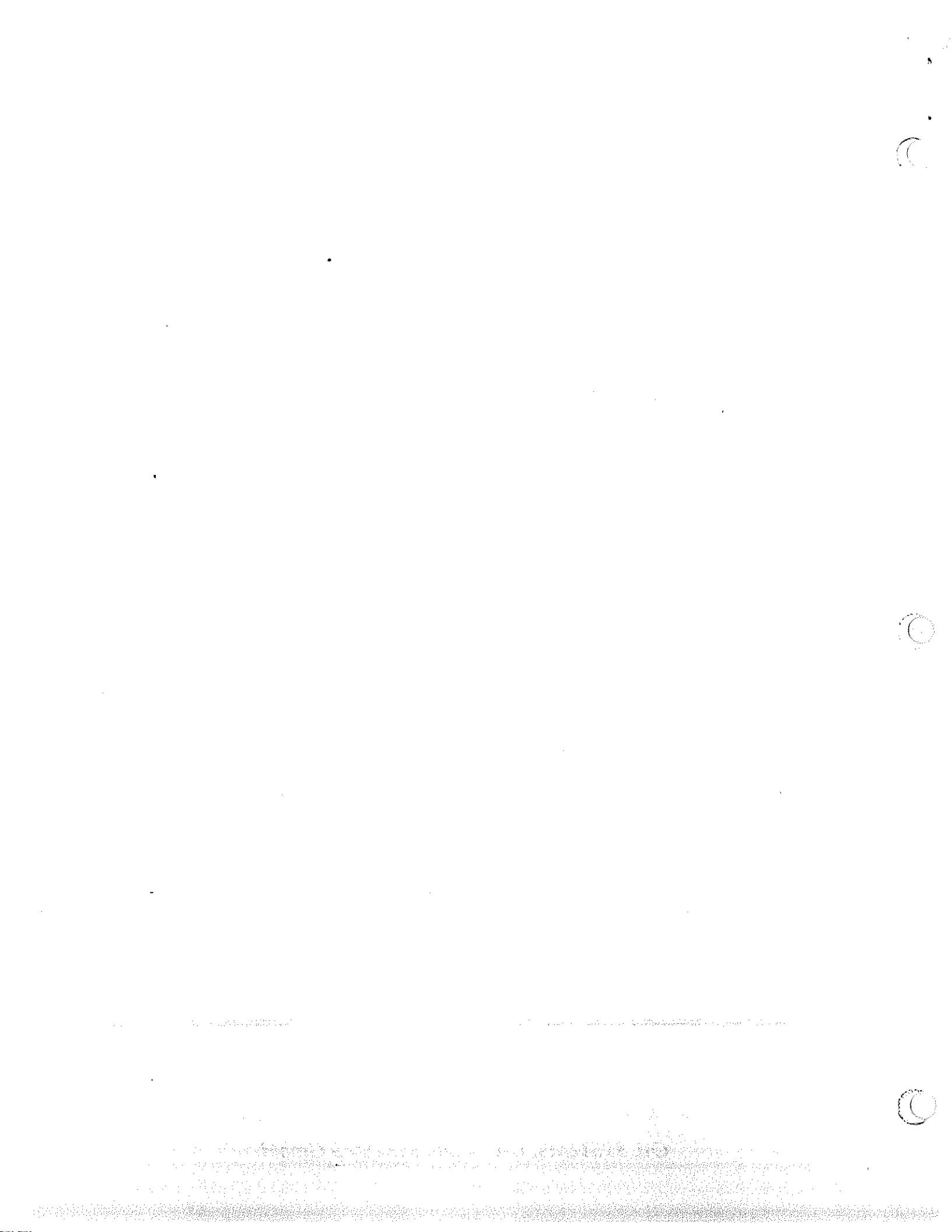
and

Ginger Dellinger  
Duke Power  
Charlotte NC

Presented at the

**1993 PI SYSTEM  
USERS CONFERENCE**  
March 1-3, 1993  
Hyatt Regency  
Burlingame CA

T14/W31



# Duke Power Plant Process Data and Oil Systems

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Presentation Handouts for the  
**OILS User Conference**  
March 1993  
San Francisco, California

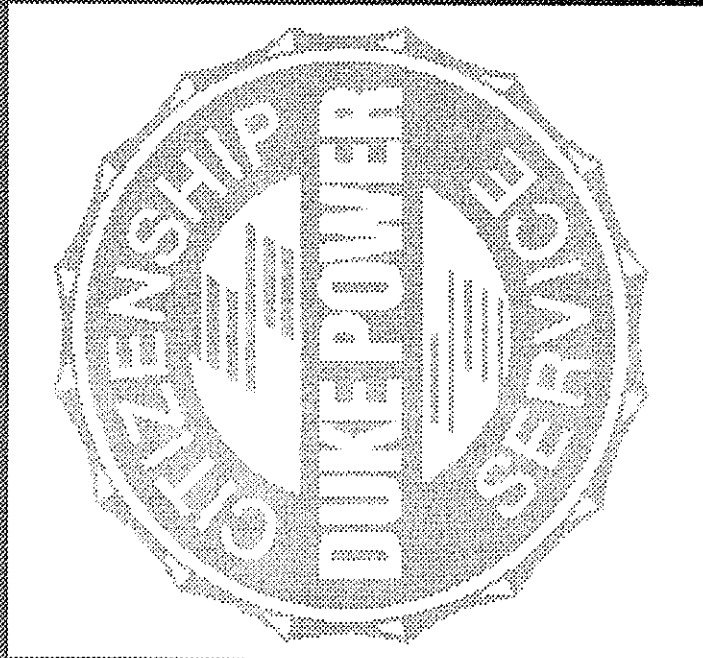
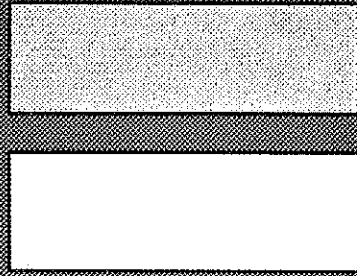
Presented by:

**DUKE POWER COMPANY**

Ginger Dellinger

Phyllis McAllister

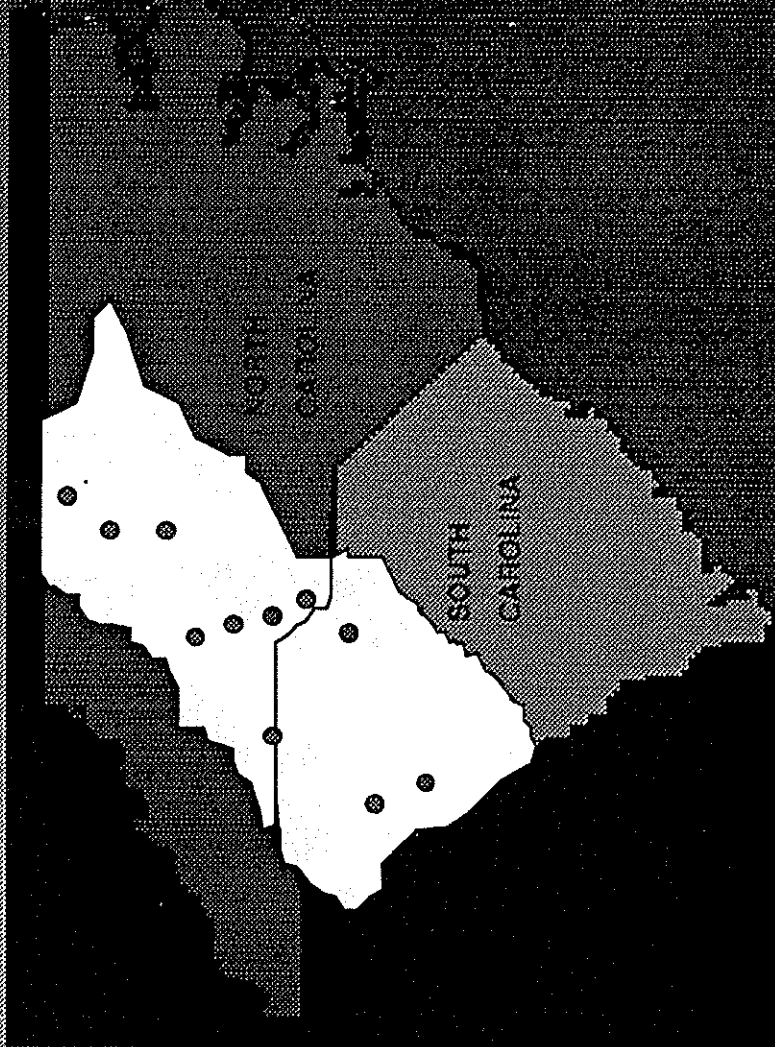
David A. Dwyer



# DUKE POWER

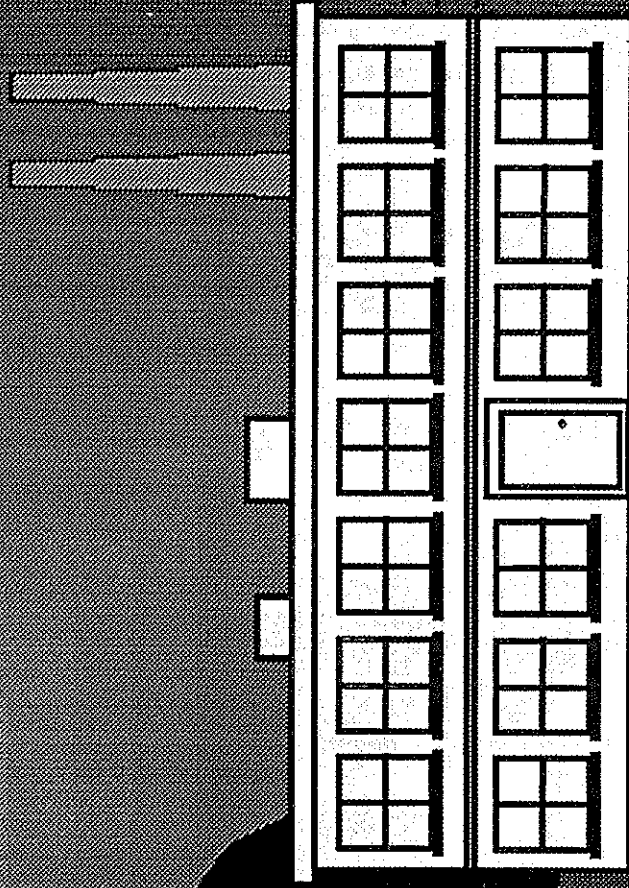


# DUKE POWER'S SERVICE AREA



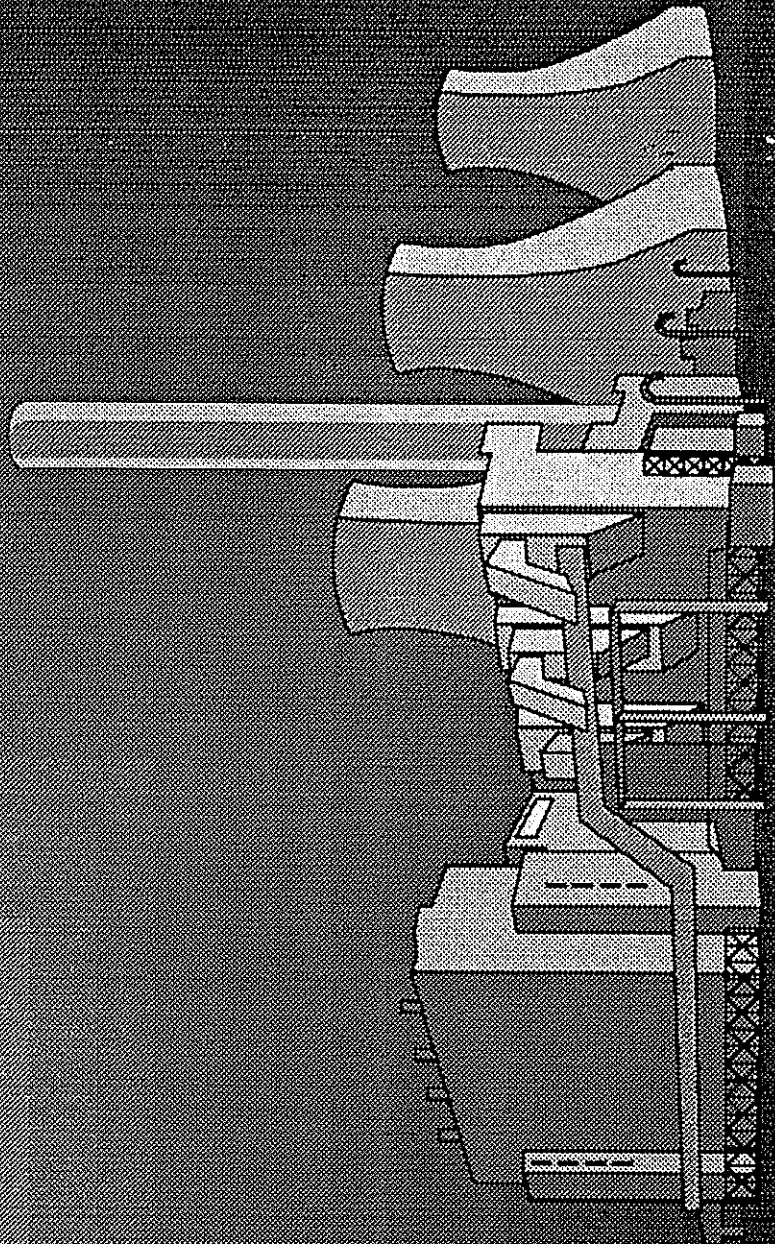
- -FOSSIL (COAL FIRED) STATIONS
- -NUCLEAR STATIONS

# Duke Power's 8 Fossil (Coal) Stations Plan to Use PI





# Duke Power has 3 Nuclear Stations Planning to Use PI

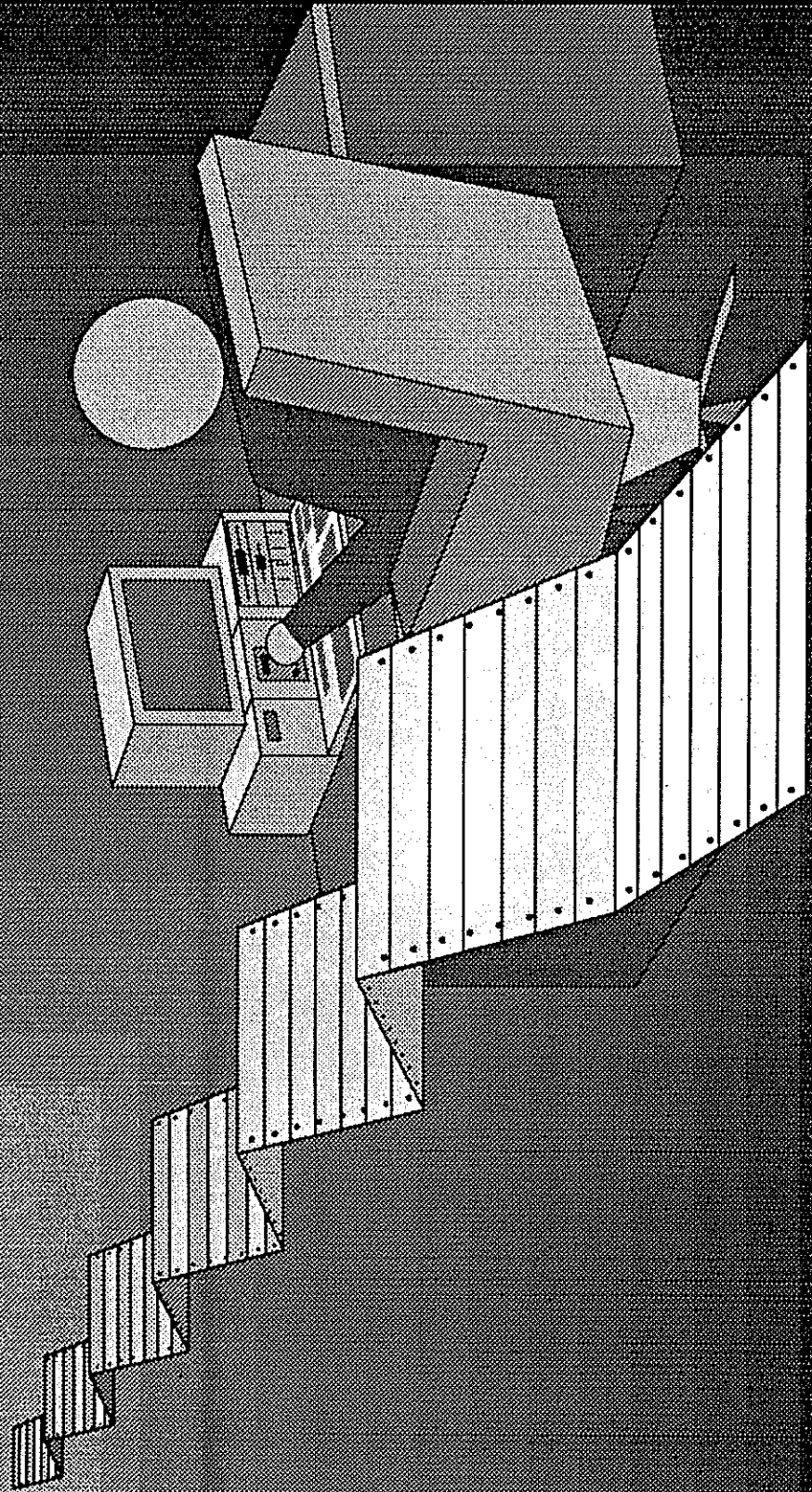


# WHY PI?

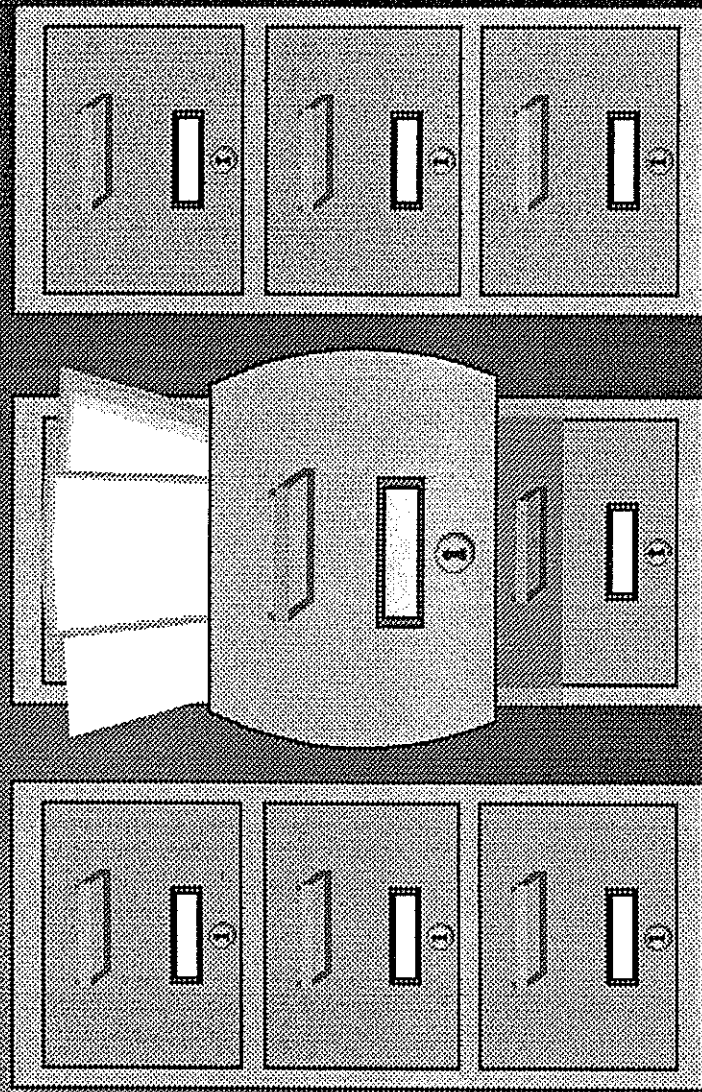
- Need centralized data archive system.
- Data must be accessible to many areas of the company yet provide security for control systems.
- Need system with flexibility of system operation.
- Need consistency in reporting data to regulatory agencies.
- Need system that we can "grow" with.



# Too Much Re-Keying of Data is Necessary with Current Systems

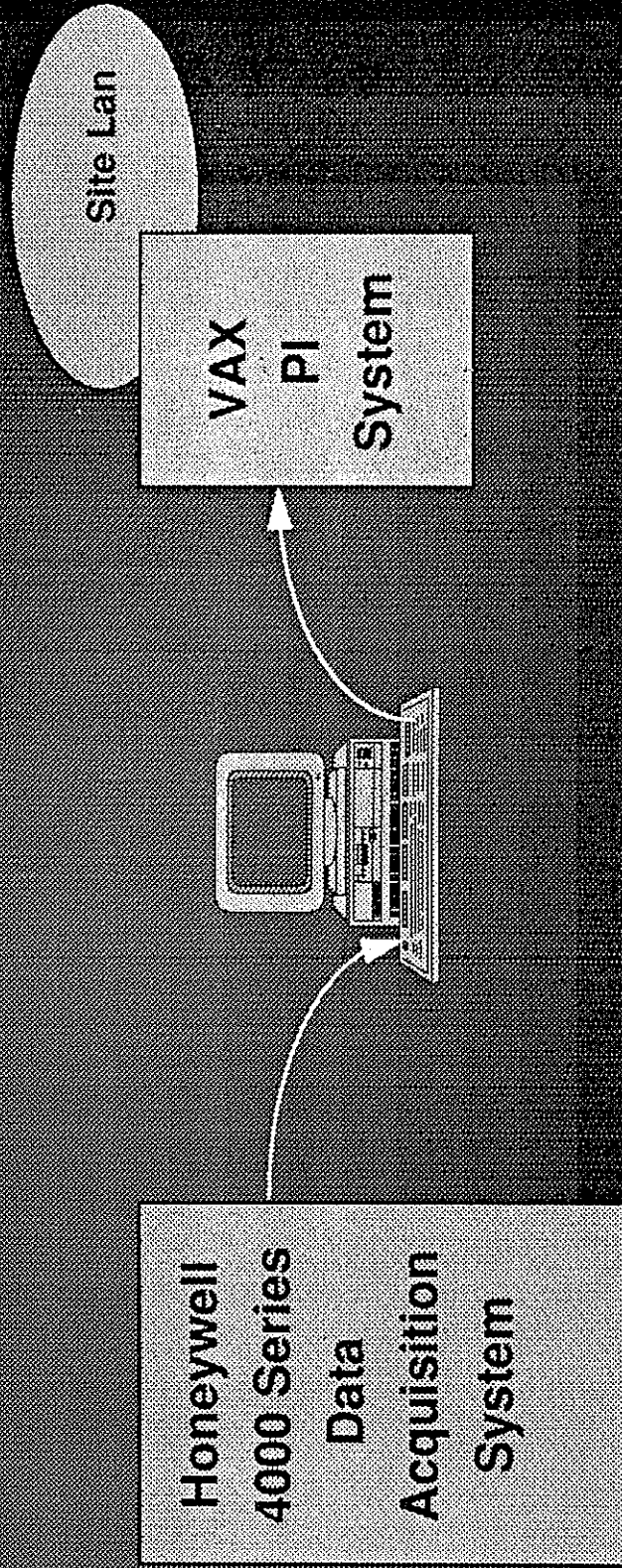


# Need to Eliminate “Hard Copies”

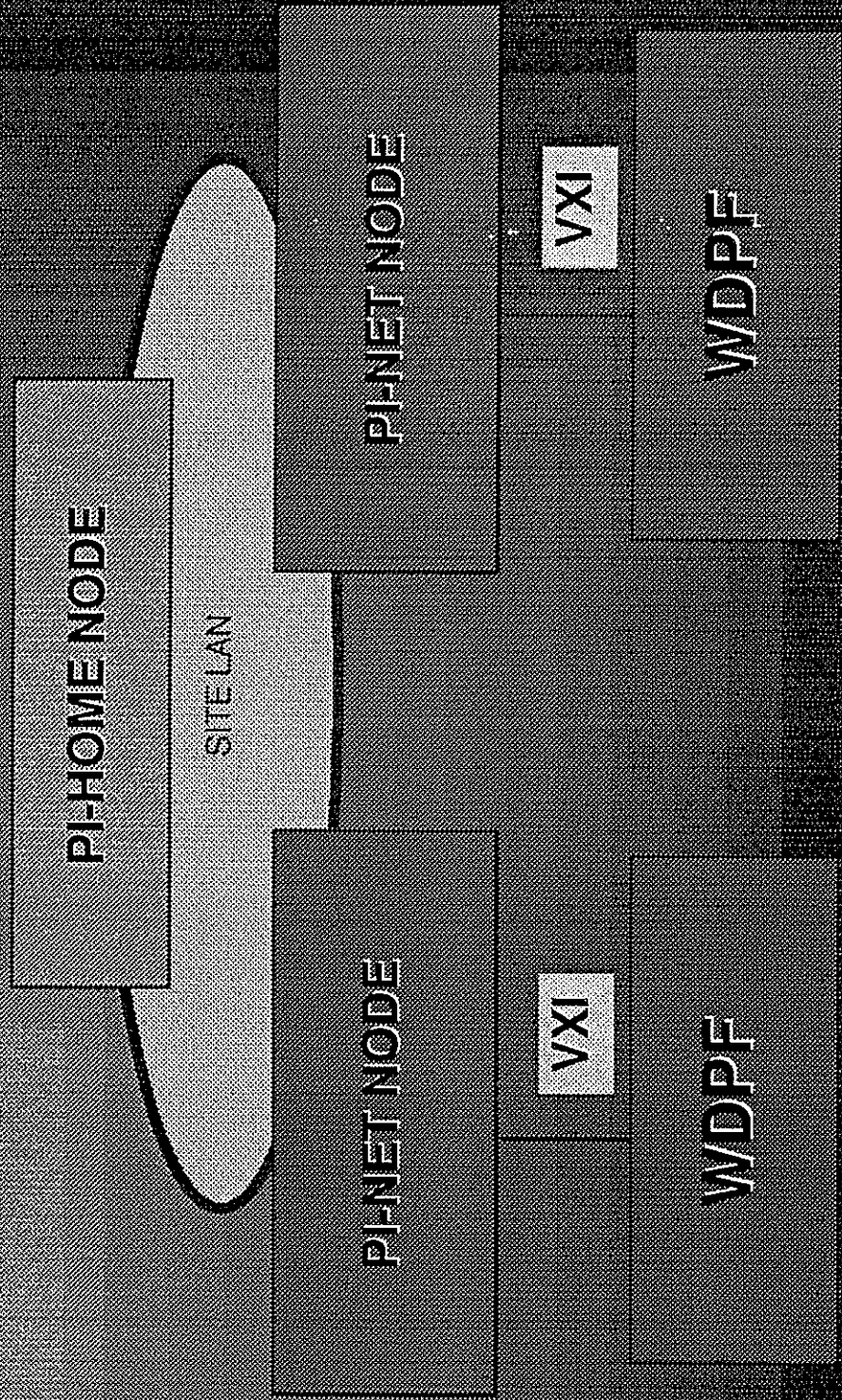




# Typical Setup of Fossil Station Using Stand-Alone PI System to Collect Data from Older Data Acquisition System

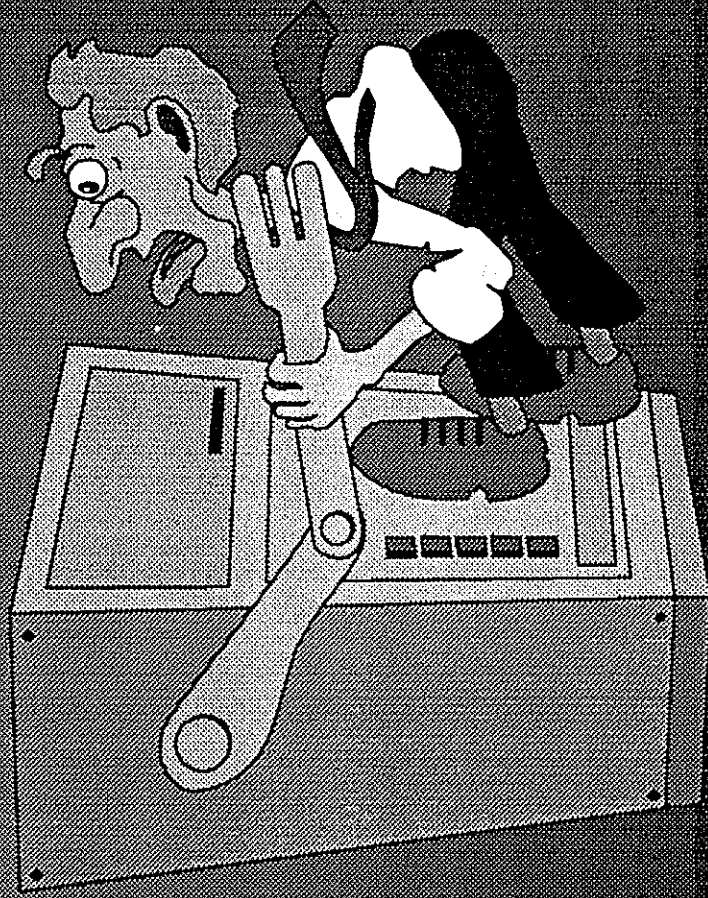


# Typical Fossil Site Setup Using WDPF System

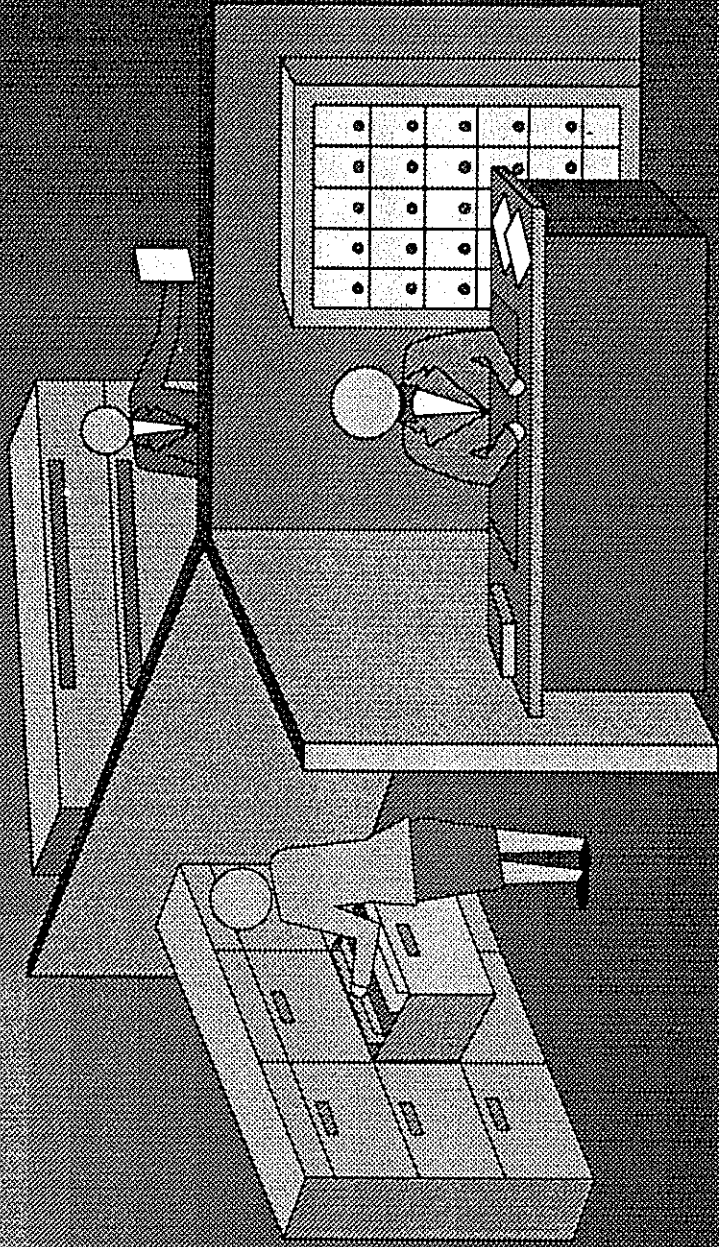




**Existing Systems  
NOT  
User Friendly & Very  
Difficult to Access Data**

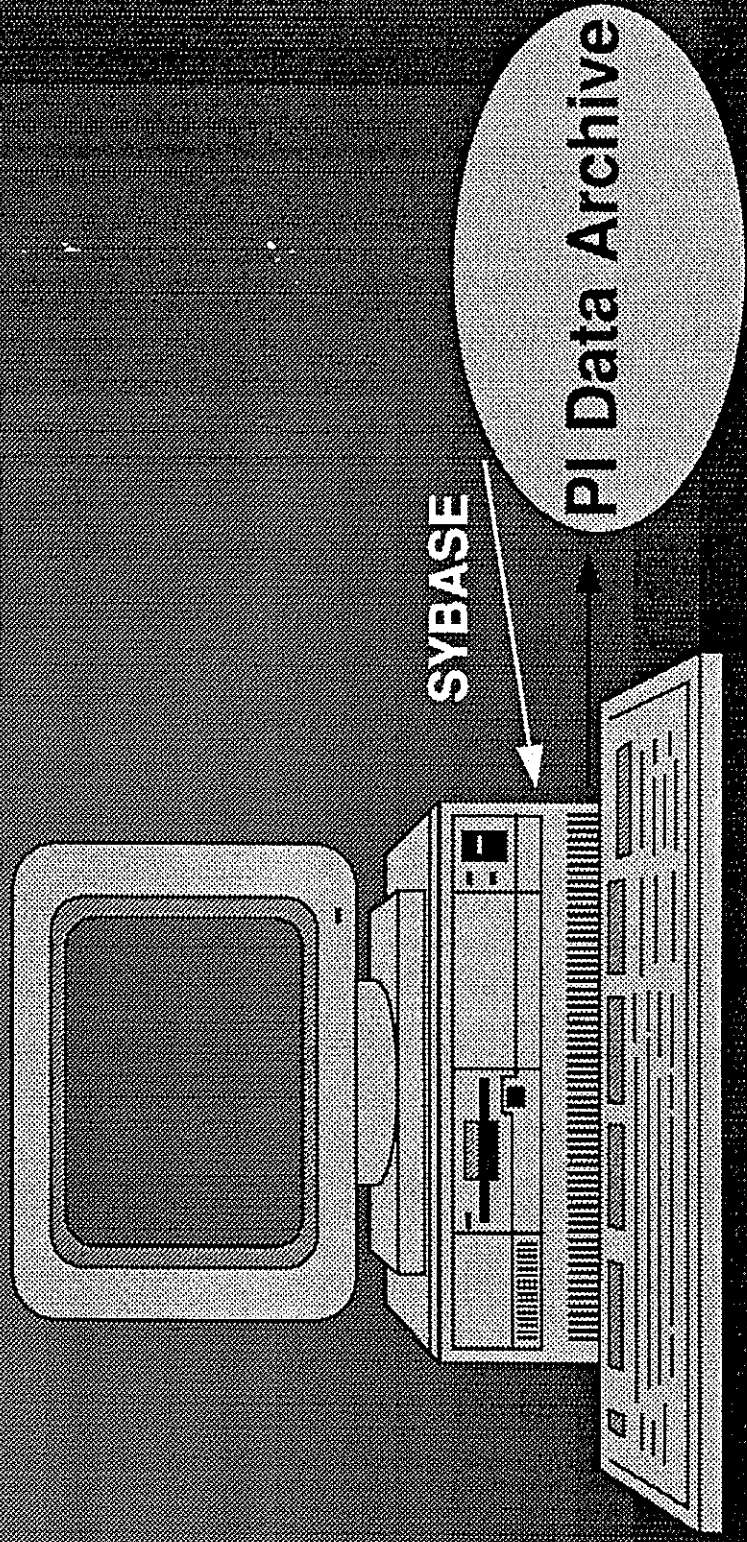


# Current Systems Require Too Much Overhead to Maintain





**With Sybase Gateway,  
Users Will be Able to Use  
“Off-The-Shelf” PC Based Tools to  
Import / Export Data  
In To / From PI**



# Duke Power Plant Process Data with Sybase and Oil Systems

There is a vision at Duke Power Company that

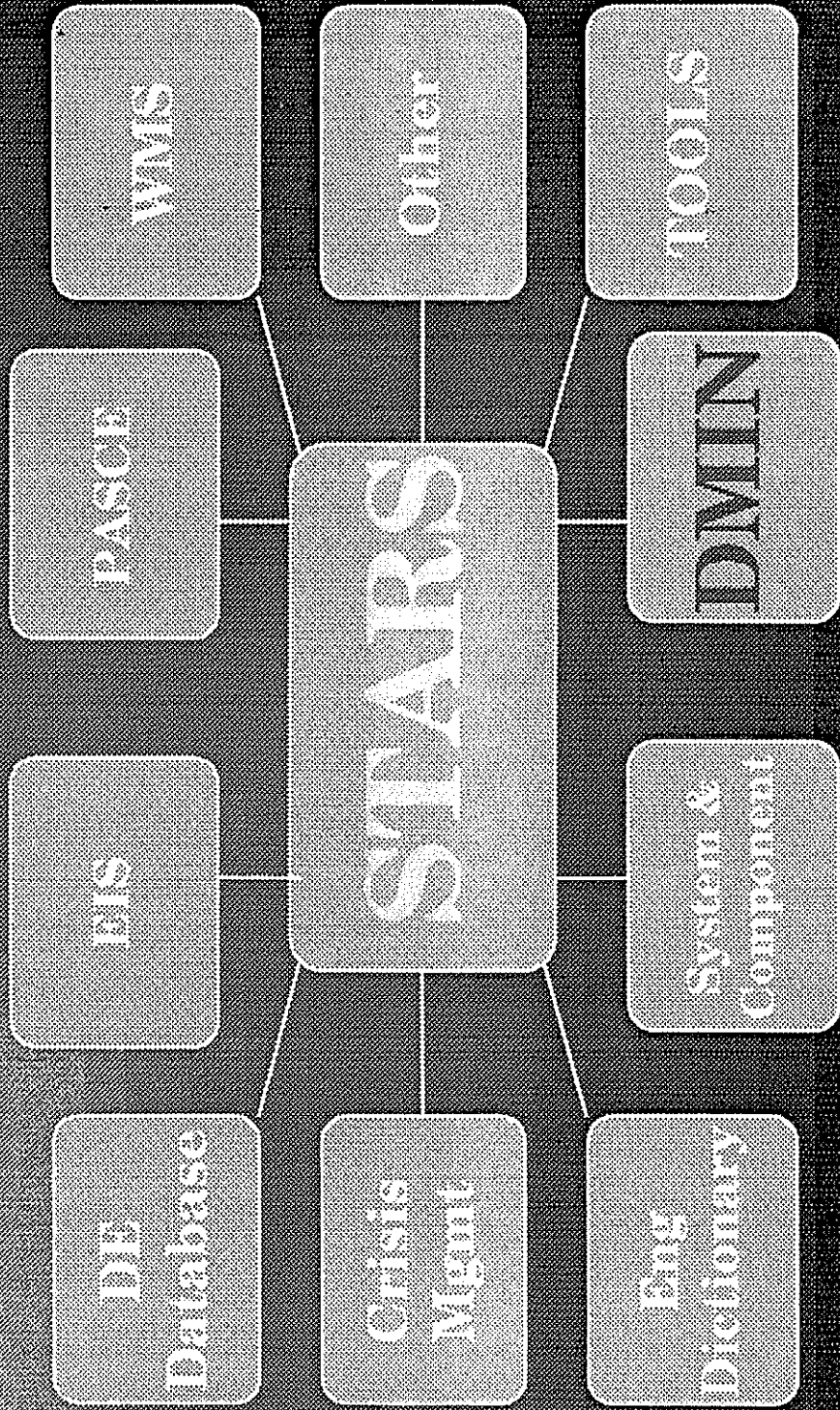
“Any employee or authorized individual can  
get needed information in an intuitive  
manner”

- Without special training, development or technical assistance
- Whenever there is a business need
- Wherever the receiving technology is in place



# Duke Power STARS Overview

“Strategic Transparent Access Retrieval System”

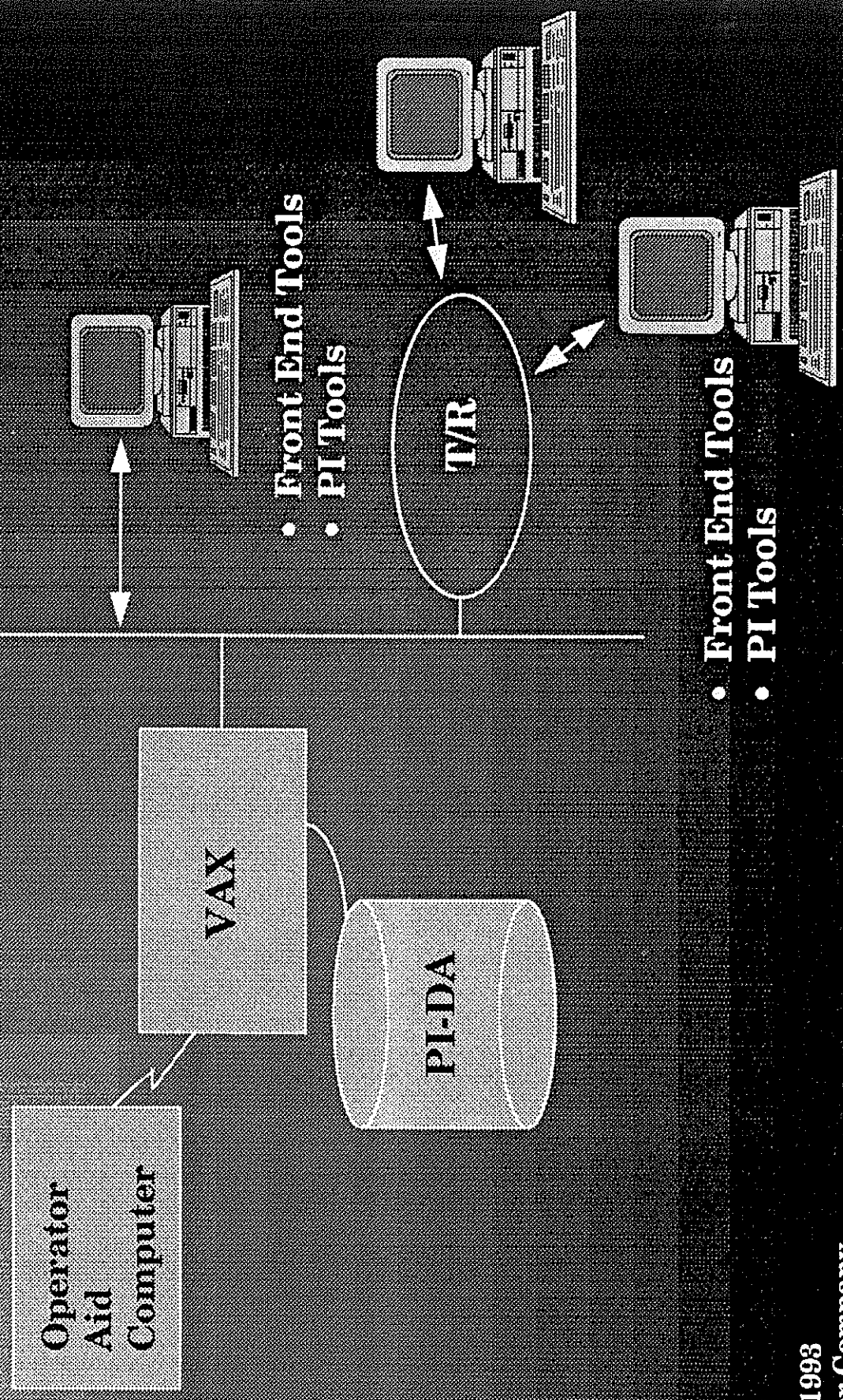


## PI-DA at our Nuclear Sites

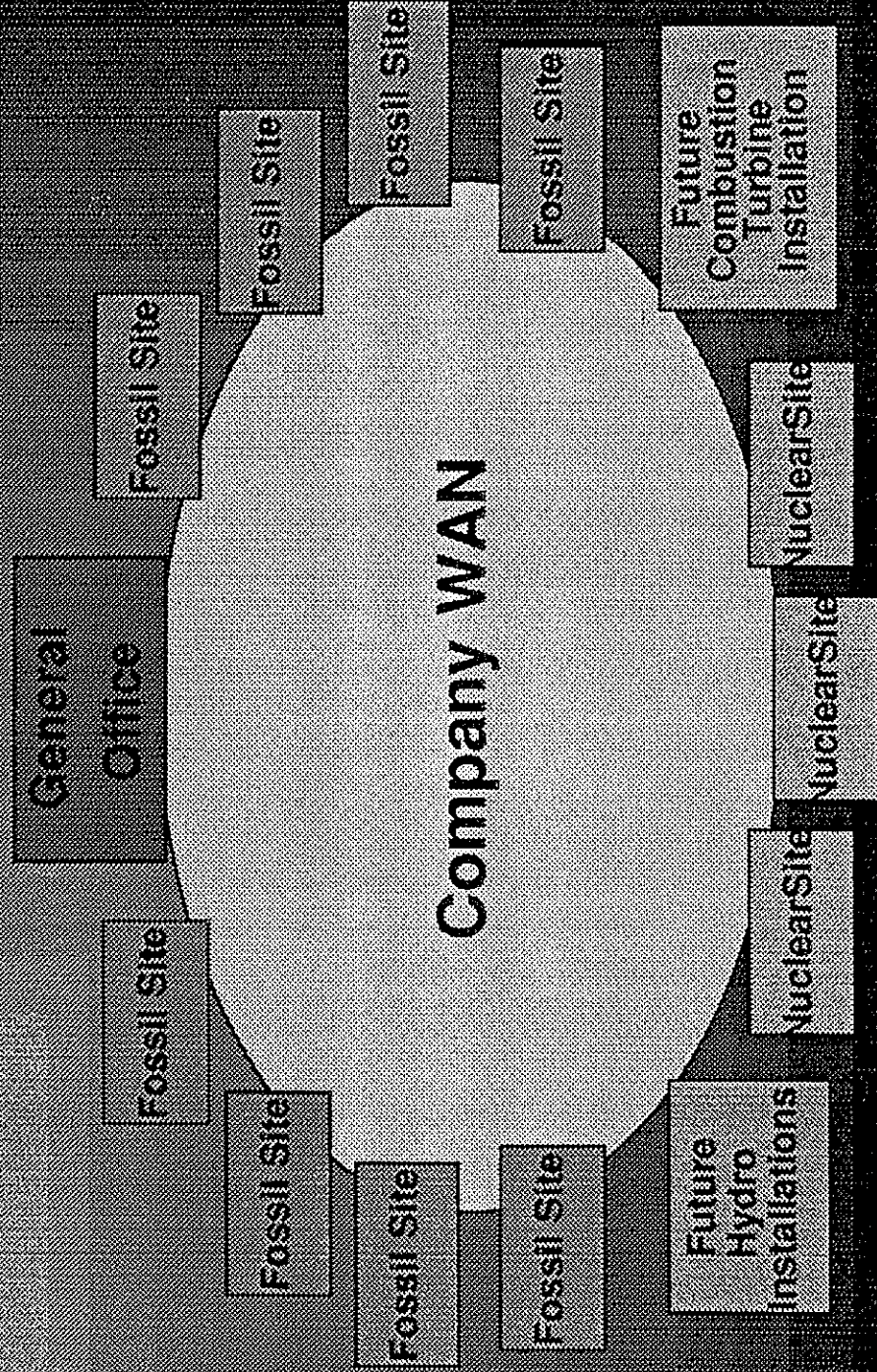
- Three (3) Nuclear Sites, Seven (7) Units
- 10,000 tags per unit
- 10,000 quality tags per unit
- Capture resolution will be every 10 seconds from Operator Aid Computer (OAC)
- 120,000 values each minute
- There will be one PI-DA for each site (3)
- Currently installed at one site on one unit
- Tags are being verified and validated. Not Production yet. First unit will be 4Q93.



# Duke Power Plant Process Data "Data Monitoring Interface Network"



# Duke Plans to Use PI-PI Interface to "Connect" ALL PI Sites





# PI Uses at Duke

- PI will be interfaced to Westinghouse WDPF system using MMI-PI interface.
- Using PI-Net, users will be able to access data without disturbing the DCS.
- PI will be interfaced to Honeywell 4000 series systems using "in house" written programs.
- Using Sybase gateway, PI data will be used with familiar "front-end" tools such as Excel, Lotus, Microsoft Access, etc.
- Using PI-PI interface, data will be combined from all areas of the company.

# A Team of Duke Power Employees Has Been Evaluating the PI System for The Past Six Months

