

**U.S. DEPARTMENT OF ENERGY  
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**

**PRESENTATION TO  
THE NUCLEAR WASTE TECHNICAL REVIEW BOARD**

**SUBJECT: TECHNICAL INTEGRATION OF  
PERFORMANCE ASSESSMENT  
PROGRAM**

**PRESENTER: DR. PAUL GNIRK**

**PRESENTER'S TITLE  
AND ORGANIZATION: PRINCIPAL CONSULTANT  
RE/SPEC INC.**

**PRESENTER'S  
TELEPHONE NUMBER: (505) 293-2000**

**MAY 16-17, 1989**

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# **SCOPE**

## **THIS PRESENTATION WILL ADDRESS:**

- **PURPOSE**
- **ORGANIZATION**
- **FUNCTION**
- **ACTIVITIES IN RELATION TO  
GENERAL PROGRAM**

## **OF THE PERFORMANCE ASSESSMENT INTEGRATION EFFORT**

# PURPOSE

THE PURPOSE OF THE PA INTEGRATION FUNCTION IS TO COORDINATE AND GUIDE THE VARIOUS PERFORMANCE-ASSESSMENT ACTIVITIES UNDERTAKEN BY THE DOE-HQ PARTICIPANTS AND THE DOE-YMP PARTICIPANTS TO ENSURE THAT:

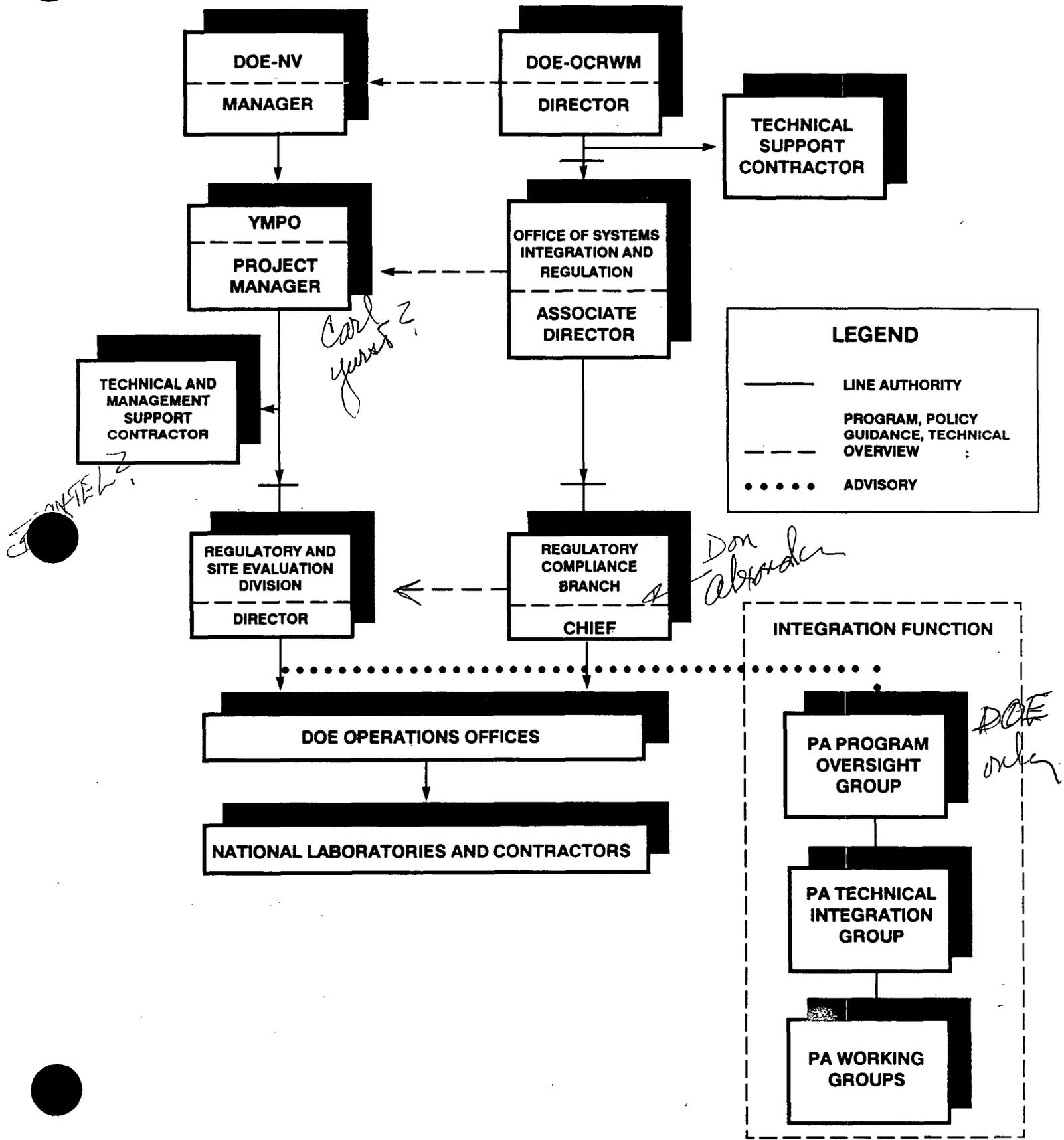
- THE CAPABILITY (METHODOLOGY, TOOLS, EXPERTISE) WILL EXIST TO CONDUCT THE ASSESSMENTS REQUIRED TO SUPPORT PREPARATION OF THE SAFETY ANALYSIS REPORT (SAR) AND THE ENVIRONMENTAL IMPACT STATEMENT (EIS) WHEN REQUIRED BY THE SCHEDULE
- A SEPARATE CAPABILITY WILL EXIST TO REVIEW THESE ASSESSMENTS
- THE CAPABILITY EXISTS TO CONDUCT ASSESSMENTS IN SUPPORT OF SITE CHARACTERIZATION AND REPOSITORY DESIGN

*DEIS  
92-93*

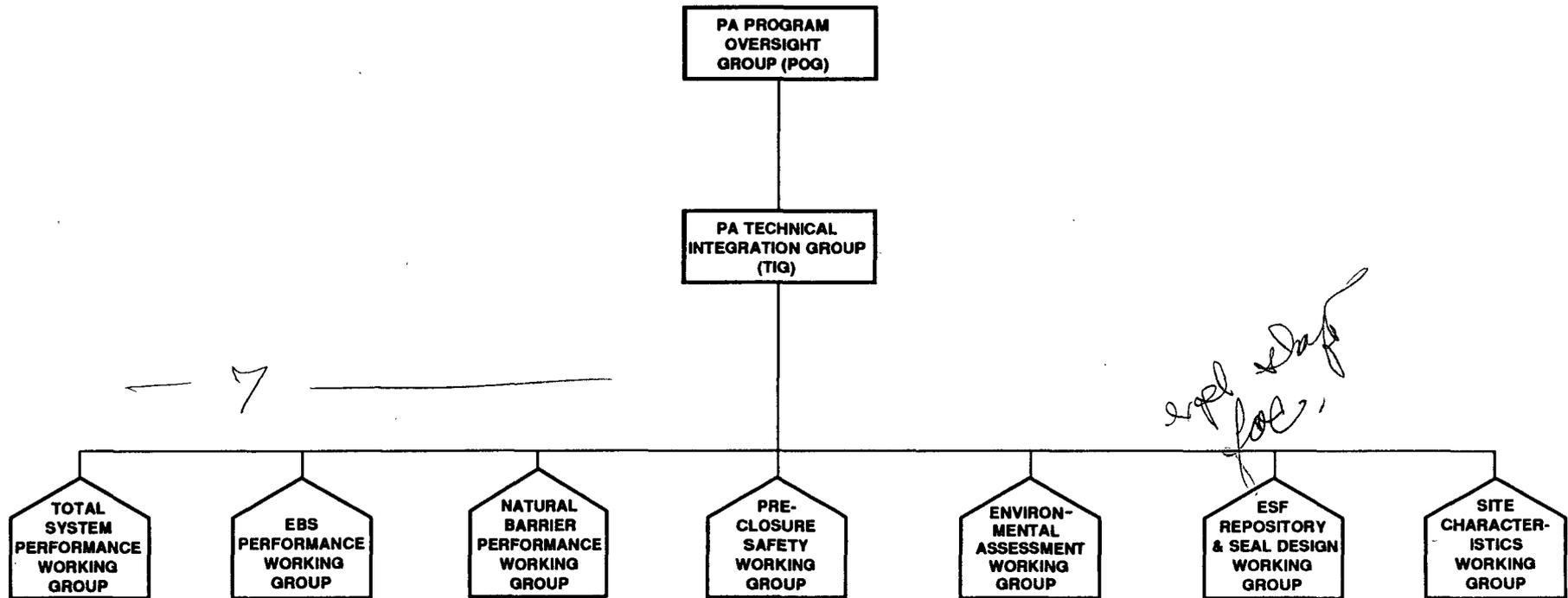
*SAR  
94-95*

*Annual Review*

# MANAGEMENT/INTEGRATION STRUCTURE



# PERFORMANCE ASSESSMENT INTEGRATION STRUCTURE



# PA INTEGRATION PARTICIPANTS

## PROGRAM OVERSIGHT GROUP

D. ALEXANDER, DOE/HQ  
M. BLANCHARD, DOE-NV/YMP

## TECHNICAL INTEGRATION GROUP

P. GNIRK, RE/SPEC  
L. RICKERTSEN, WESTON  
J. YOUNKER, SAIC

## WORKING GROUPS

### TOTAL SYSTEM PERFORMANCE

A. VAN LUIK, PNL  
H. AHAGEN, DOE-NV/YMP  
F. BINGHAM, SNL

### ENGINEERED BARRIER PERFORMANCE

S. GOMBERG, DOE/HQ  
M. CLONINGER, DOE-NV/YMP  
M. APTED, PNL  
U. PARK, SAIC

### NATURAL BARRIER PERFORMANCE

A. BINDOKAS, DOE-CH/RTP  
D. HOXIE, USGS  
C. TSANG, LBL

### PRECLOSURE SAFETY

D. MICHLEWICZ, WESTON  
N. MORLEY, DOE-NV/YMP  
R. SANDOVAL, SNL

### ESE, REPOSITORY AND SEALS DESIGN

H. PERRY, SAIC  
V. MONTENYOHL, WESTON

### ENVIRONMENTAL ASSESSMENT

J. FRIEDMAN, SRA

### SITE CHARACTERISTICS

K. KRUPKA, PNL  
C. VOSS, PNL

# **PRINCIPAL NEAR-TERM INTEGRATION ROLE (FY-1989 AND EARLY FY-1990)**

- **ONGOING REVIEW OF THE PA PROGRAM**

- **PREPARATION OF:**

- **PERFORMANCE ASSESSMENT MANAGEMENT PLAN (PAMP)**
- **PERFORMANCE ASSESSMENT STRATEGY PLAN (PASP)**
- **PERFORMANCE ASSESSMENT IMPLEMENTATION PLAN (PAIP)**

- **GUIDE METHODOLOGY DEVELOPMENT FOR:**

- **MODEL VALIDATION/CODE CERTIFICATION**
- **IDENTIFYING AND SCREENING PRECLOSURE INITIATING EVENTS**
- **DETERMINATION OF THE EXTENT OF THE DISTURBED ZONE**
- **EVALUATION OF TOTAL SYSTEM AND WASTE PACKAGE PERFORMANCE AND GROUND-WATER TRAVEL TIME**
- **ASSESSMENT OF POSTCLOSURE ASSESSMENT REQUIREMENTS FOR DEIS**

1989 {

# **PRINCIPAL NEAR-TERM INTEGRATION ROLE**

**(CONTINUED)**

- **GUIDE MODEL/CODE DEVELOPMENT, INCLUDING DOCUMENTATION AND BENCHMARKING**
- **COORDINATE AND MONITOR "TEST PROBLEMS" FOR PRELIMINARY PA OF YUCCA MOUNTAIN**
  - **COORDINATION OF CAPABILITIES AND WORKING INTERFACES**
  - **IDENTIFICATION OF KEY ASSUMPTIONS AND CRITICAL DATA/MODEL NEEDS**

# **LONGER-TERM INTEGRATION ROLE**

## **FY 1990 - 1991 TIMEFRAME**

- **COORDINATE MODEL VALIDATION AND CODE CERTIFICATION ACTIVITIES**
- **ESTABLISH METHODOLOGIES FOR SAR AND DEIS ASSESSMENTS**
- **PRELIMINARY IDENTIFICATION, SCREENING, AND QUANTIFICATION OF DISRUPTIVE PROCESS AND EVENTS FOR POSTCLOSURE SAR AND DEIS ASSESSMENTS**
- **"CALCULATIONAL EXERCISES" FOR PRELIMINARY PA OF YUCCA MOUNTAIN**
  - **EXPECTED SITE AND REPOSITORY CONDITIONS**
  - **IMPACTS OF DISRUPTIVE PROCESS AND EVENTS**

## **FY 1992 TIMEFRAME**

- **CONDUCT ASSESSMENTS TO SUPPORT PREPARATION OF DEIS**