

JUN 05 1984

Docket No.: STN 50-483

Facility: Callaway Plant, Unit 1

Applicant: Union Electric Company

SUBJECT: MINUTES OF MAY 9, 1984 PRELICENSING MEETING

On May 9, 1984, members of the staff met with representatives from Union Electric Company (UE) at the Westminster College in Fulton, Missouri to discuss UE's readiness for fuel load at the Callaway Plant, Unit 1 and to tour the site. Enclosed is a copy of the agenda and the UE briefing book.

The presentation began with the Vice President-Nuclear and the Callaway Plant Manager giving an overview of the UE organization, Callaway history and plant status, staffing and training, experience, and readiness for fuel load. Once these discussions were completed, the staff proceeded to the Callaway Site where it toured several plant areas including the control room, the Callaway plant-specific simulator, the post-accident sampling system, the radwaste system, and the auxiliary feedwater system. In addition, several interviews were conducted with personnel from the plant staff.

To conclude the meeting, the staff returned to Westminster College where it was decided to cancel the UE afternoon presentations and to present the staff summary. Although there were a few areas identified where UE needed to strengthen its program, overall, the staff felt that the results of the visit were favorable and that there were no problems which occluded issuance of the operating license. The staff did, however, request that UE perform a self-appraisal of its readiness for fuel load and submit this for review.

**ORIGINAL SIGNED BY:**

Joseph J. Holonich, Project Manager  
Licensing Branch No. 1  
Division of Licensing

Enclosures: As stated

DISTRIBUTION:

See attached page

LB#1:DL  
JHolonich:kab  
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**NRC BRIEFING  
CALLAWAY PLANT  
MAY 9, 1984**

SCHEDULE OF ACTIVITIES

NRC MANAGEMENT VISIT - CALLAWAY PLANT

MAY 9, 1984

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WESTMINSTER COLLEGE

9:00 INTRODUCTORY REMARKS - NRC  
9:30 UNION ELECTRIC BRIEFING  
10:45 LEAVE FOR CALLAWAY

CALLAWAY

11:15 TRAINING CENTER TOUR AND LUNCH  
12:00 GROUP DISCUSSIONS  
1:00 GENERAL PLANT TOURS  
2:00 NRC INTERNAL DISCUSSION  
(TECHNICAL SUPPORT CENTER)  
2:30 RETURN TO WESTMINSTER COLLEGE

WESTMINSTER COLLEGE

3:00 RESUME UNION ELECTRIC BRIEFING  
4:00 CLOSING COMMENTS - NRC

## BRIEFING AGENDA

### MORNING

#### DONALD F. SCHNELL, VICE PRESIDENT - NUCLEAR

- CORPORATE/PROJECT ORGANIZATION
- PROJECT HISTORY, MILESTONES
- PROJECT/FUNCTION STAFFING
- PLANT STATUS
- STAFF EXPERIENCE

#### STEVEN E. MILTENBERGER, MANAGER - CALLAWAY PLANT

- OPERATIONS ORGANIZATION
- STAFFING/TRAINING
- READINESS FOR OPERATION

### AFTERNOON

#### ROBERT J. SCHUKAI, GENERAL MANAGER - ENGINEERING

- CORPORATE TECHNICAL SUPPORT ORGANIZATION
- ASSISTANCE AGREEMENTS
- STA/ISEG PROGRAM
- RERP STATUS

#### ALAN C. PASSWATER, SUPERINTENDENT - LICENSING

- LICENSING STATUS
- PLANT TECHNICAL SPECIFICATIONS
- CALLAWAY - WOG RELATIONSHIP

#### ROBERT L. POWERS, ASSISTANT MANAGER - QUALITY ASSURANCE

- QUALITY ASSURANCE AND CALLAWAY
- CONSTRUCTION QUALITY VERIFICATION

#### DONALD F. SCHNELL

- REMAINING WORK
- CONCLUSION

UNION ELECTRIC COMPANY  
ORGANIZATION

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PRESIDENT AND  
CHIEF EXECUTIVE OFFICER

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W E CORNELIUS

EXEC VICE PRESIDENT

E K DILLE

EXEC VICE PRESIDENT

S W SMITH JR

CONTROLLER

VICE PRESIDENT  
EMPLOYEE RELATIONS

VICE PRESIDENT  
FINANCE

VICE PRESIDENT  
INDUSTRIAL RELATIONS

MANAGER  
CORPORATE PLANNING

VICE PRESIDENT  
ENGRG & CONSTR

GENERAL MANAGER  
ENVIRONMENTAL SERVCS

VICE PRESIDENT  
NUCLEAR

VICE PRESIDENT  
POWER OPERATIONS

VICE PRESIDENT  
SUPPLY SERVICE

VICE PRESIDENT  
COMPUTER SERVICES

VICE PRESIDENT  
CUSTOMER SERVICE

GENERAL COUNSEL

VICE PRESIDENT  
PUBLIC RELATIONS

VICE PRESIDENT  
RATES

VICE PRESIDENT  
REGIONAL EAST

VICE PRESIDENT  
REGIONAL WEST

VICE PRESIDENT  
TRANS & DISTR

NUCLEAR FUNCTION ORGANIZATION

WALTER H. WEBER, MANAGER  
NUCLEAR CONSTRUCTION

STEVEN E. MILTENBERGER,  
MANAGER, CALLAWAY PLANT  
NUCLEAR OPERATIONS

FRANK D. FIELD, MANAGER  
QUALITY ASSURANCE

JOHN F. MC LAUGHLIN, JR.  
ASST. TO VICE PRESIDENT

DONALD F. SCHNELL  
VICE PRESIDENT -  
NUCLEAR

DONALD W. CAPONE  
MANAGER  
NUCLEAR ENGINEERING

ROBERT J. SCHUKAI  
GENERAL MANAGER -  
ENGINEERING

DONALD E. SHAIN  
MANAGER  
NUCLEAR FUEL

MILTON A. STILLER  
MANAGER  
NUCLEAR SAFETY AND  
EMERGENCY PREPAREDNESS

JOSEPH W. RINKE  
MANAGER  
NUCLEAR SERVICES

FRED W. BRUNSON  
COORDINATOR  
NUCLEAR DEVELOPMENT

## CALLAWAY SCHEDULE MILESTONES

<u>MONTHS AFTER CP</u>	<u>ACTIVITY</u>	<u>DATE</u>
- 24	APPLICATION FOR CP	APRIL, 1974
- 8	LWA GRANTED	AUGUST, 1975
	<u>CP ISSUED</u>	<u>APRIL, 1976</u>
3	FIRST "Q" CONCRETE	JULY, 1976
34	SET REACTOR VESSEL	FEBRUARY, 1979
42	APPLICATION FOR OL	OCTOBER, 1979
59	STARTUP TRANSFORMER ENERGIZED	MARCH, 1981
73	FIRST "Q" PREOPERATIONAL TEST	MAY, 1982
86	PRIMARY SYSTEM HYDRO	JUNE, 1983
91	HOT FUNCTIONAL TESTING	NOVEMBER, 1983
93	SIT/ILRT	JANUARY, 1984
97	FUEL LOAD	MAY, 1984
105	COMMERCIAL OPERATION	JANUARY, 1985

CALLAWAY PROJECT STAFFING

MAY 1, 1984

	<u>SITE</u>	<u>HOME OFFICE</u>
UNION ELECTRIC		
◦ ENGINEERING		
EMPLOYEES	30	78
OUTSIDE PERSONNEL	46	1
◦ CONSTRUCTION		
EMPLOYEES	10	
OUTSIDE PERSONNEL	29	
◦ QUALITY ASSURANCE		
EMPLOYEES	20	9
OUTSIDE PERSONNEL	16	
◦ OPERATIONS		
EMPLOYEES	520	
OUTSIDE PERSONNEL	265	
SECURITY (BURNS)	188	
TOTAL UE EMPLOYEES	580	87
DANIEL & SUBCONTRACTORS		
CRAFT PERSONNEL	1,750	
SUPPORT PERSONNEL	783	
BECHTEL SITE LIAISON	64	
WESTINGHOUSE	36	

5/7/84



CALLAWAY PROJECT STATUS - QUANTITIES

MAY, 1984

	<u>TOTAL PROJECTED</u>	<u>% TO GO</u>
CONCRETE, CU YDS	222,663	0.2
STRUCTURAL STEEL, TONS	10,976	0.0
LARGE PIPE, FT	254,843	0.0
SMALL PIPE, FT	165,623	0.0
PIPE SUPPORTS, EA	29,400	0.0
WHIP RESTRAINTS, EA	296	0.0
FIELD MOUNTED INSTRUMENTS, EA	4,222	0.0
INSTRUMENT TUBING, FT	145,993	0.0
ELECTRICAL CABLE, FT	5,858,536	0.0
CABLE TRAY, FT	87,955	0.0
CONDUIT, FT	359,342	0.1
ELECTRIC CIRCUITS, EA	17,607	0.1
TERMINATIONS, EA	167,143	0.1
CONDUIT SUPPORTS, EA	60,118	0.1

5/4/84

CALLAWAY PROJECT STATUS  
ENGINEERING MANHOURS (10<sup>6</sup>)

	<u>TOTAL PROJECTED</u>	<u>5/1/84 EXPENDED</u>	<u>% COMPLETE</u>
POWER BLOCK	6.55	6.22	95 *
SITE	<u>0.77</u>	<u>0.75</u>	97 *
TOTALS	7.32	6.97	95

\* NOTE: PRODUCTION ENGINEERING IN SUPPORT OF FIELD CONSTRUCTION  
IS ESSENTIALLY COMPLETE.

5/7/84

CALLAWAY PROJECT STATUS  
CONSTRUCTION MANHOURS (10<sup>6</sup>)

	<u>CURRENT FORECAST</u>	<u>5/1/84 EXPENDED</u>	<u>% COMPLETE</u>
DIRECT CRAFT	25.1	25.0	99.6
INDIRECT CRAFT	9.8	9.7	99.0
TECHNICAL SUPPORT	<u>14.4</u>	<u>14.3</u>	99.3
TOTALS	49.3	49.0	99.4

CALLAWAY PROJECT STATUS

PROJECT COST (10<sup>9</sup>)

	<u>TOTAL PROJECTED</u>	<u>5/1/84 EXPENDED</u>	<u>% EXPENDED</u>
DIRECT PLANT	\$ 1.80	\$ 1.75	97
AFUDC & TAXES	<u>1.05</u>	<u>0.83</u>	79
TOTALS	\$ 2.85	\$ 2.58	90

CALLAWAY COST INCREASE  
1977 - 1984  
MILLIONS \$

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	<u>1977</u>	<u>1984</u>	<u>DIFFERENCE</u>	<u>% INCREASE</u>
BASE SCOPE (1976 DOLLARS)	702	1,235	533	76
ESCALATION	110	598	488	444
AFUDC	<u>276</u>	<u>1,017</u>	<u>741</u>	<u>268</u>
	1,088	2,850	1,762	162

## CALLAWAY PROJECT MANAGEMENT

<u>POSITION</u>	<u>INDIVIDUAL</u>	<u>DEGREE</u>	<u>TOTAL UE EXPERIENCE</u>	<u>CALLAWAY EXPERIENCE</u>
VICE PRESIDENT NUCLEAR	D. F. SCHNELL	BS, MSME	28	13
ASST. TO THE VICE PRESIDENT	J. F. MC LAUGHLIN	BSME	36	5
MANAGER CALLAWAY PLANT	S. E. MILTENBERGER	BSEE, MSNE	16	4
GENERAL MANAGER NUCLEAR ENGINEERING	R. J. SCHUKAI	BS, MSEE	24	9
MANAGER QUALITY ASSURANCE	F. D. FIELD	BSEE	32	12
MANAGER NUCLEAR ENGINEERING	D. W. CAPONE	BSME	26	11
MANAGER EMER PREP & NUCLEAR SAFETY	M. A. STILLER	BS, MSME	31	10
MANAGER NUCLEAR CONSTRUCTION	W. H. WEBER	BSME, MSAM	36	10
MANAGER NUCLEAR FUEL	D. E. SHAIN	BSEE, MBA	29	10
MANAGER NUCLEAR SERVICE	J. W. RINKE	BS MATH	18	4

ALL MANAGEMENT PERSONNEL ARE REGISTERED PROFESSIONAL ENGINEERS.

## SNUPPS

### STANDARDIZED NUCLEAR UNIT POWER PLANT SYSTEM

#### MEMBERSHIP

- NORTHERN STATES POWER (THROUGH JULY 1979)
- ROCHESTER GAS & ELECTRIC (THROUGH JANUARY 1980)
- KANSAS CITY POWER & LIGHT
- KANSAS GAS & ELECTRIC
- UNION ELECTRIC

#### ADVANTAGES

- MORE COMPLETE DESIGN DEFINITION
- MULTIPLE UTILITY DESIGN REVIEW
- POSITIVE DESIGN CONTROL
- EFFICIENT LICENSING
- LEVERAGE IN PROCUREMENT
- CONSTRUCTION EXPERIENCE FEEDBACK
- COMMON SPARES/INTERCHANGEABLE HARDWARE
- EMERGENCY ASSISTANCE BETWEEN MEMBERS
- OPERATING EXPERIENCE FEEDBACK
- SAVINGS THROUGH COST SHARING
- CONTINUITY OF SNUPPS STAFF EXPERTISE
- PROMISE OF HIGHER PLANT AVAILABILITY
- BROAD QA COVERAGE

## OPERATING SHIFT COMPETENCE ASSURANCE

### CANDIDATE SELECTION PROCESS

PERSONALITY, COMPATIBILITY TRAITS  
BASIC MATH & SCIENCE TEST  
EXPERIENCE HISTORY  
STRESS/PSYCHOLOGICAL CHARACTERISTICS

### TRAINING PROGRAM

EXCEPTIONAL TRAINING STAFF  
STATE-OF-THE ART PROGRAM  
FULL SCOPE CALLAWAY SIMULATOR  
TOTAL IN-HOUSE CAPABILITY

### OPERATING PLANT ASSIGNMENTS

SIMILAR 3/4-LOOP WESTINGHOUSE PLANTS  
4 - 6 WEEK OBSERVATION/PARTICIPATION

### CALLAWAY EXPERIENCE

ON SHIFT SINCE MAY, 1981  
INVOLVED IN PREOP TEST PROGRAM  
COMMAND OF PLANT SINCE NOVEMBER, 1983

### PERFORMANCE EVALUATIONS

INTERNAL EVALUATIONS  
NRC LICENSE EXAMINATION  
CONTINUED TRAINING/EXAMINATION

### SHIFT CREW COMPOSITION

BALANCE EDUCATION, EXPERIENCE, COMPETENCE  
LARGE POWER PLANT EXPERIENCE  
PERSONAL COMPATIBILITY

### SHIFT ADVISORS

ACRS COMMITMENT  
UTILITY WORKING GROUP COMMITMENT



## SHIFT OPERATING EXPERIENCE

EXTRACTED FROM D. F. SCHNELL'S PRESENTATION  
TO NRC COMMISSIONERS, FEBRUARY 24, 1984

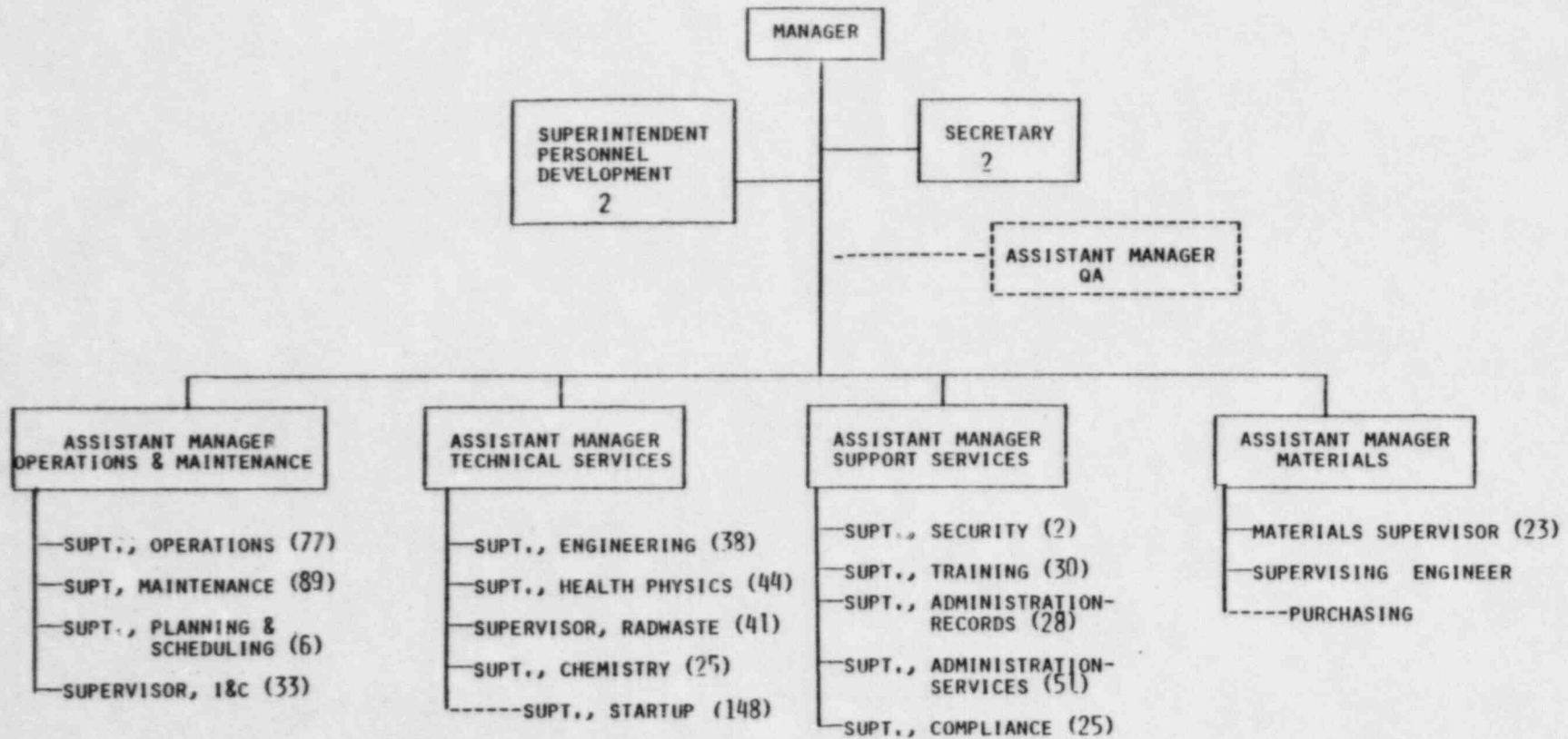
... "WE AT UNION ELECTRIC ALSO RECOGNIZE OUR MANAGEMENT RESPONSIBILITY TO PROPERLY SELECT AND TRAIN OPERATORS SO THAT CALLAWAY PLANT IS STARTED AND OPERATED IN A MANNER WHICH HELPS ENSURE PUBLIC HEALTH AND SAFETY, WHILE AT THE SAME TIME PROTECTING OUR INVESTMENT IN THE PLANT. WE EXPECT CALLAWAY TO PROVIDE SAFE, RELIABLE AND EFFICIENT GENERATION TO OUR SYSTEM; NOTHING LESS WILL BE TOLERATED.

"WITH THIS GOAL IN MIND, WE HAVE SELECTED AN OUTSTANDING GROUP OF OPERATOR CANDIDATES WHO, THOUGH LIGHT IN COMMERCIAL NUCLEAR PLANT EXPERIENCE, HAVE ALREADY DEMONSTRATED THEIR COMPETENCE AND RELIABILITY IN ACTIVITIES LEADING TO PLANT STARTUP. TO PREPARE OUR OPERATORS FOR THIS HEAVY RESPONSIBILITY, WE HAVE ASSEMBLED A TRAINING STAFF OF SUPERIOR INDIVIDUALS AND HAVE INVESTED IN AN ON-SITE TRAINING CENTER WHICH INCLUDES A FULL SCOPE CALLAWAY REFERENCE SIMULATOR. THE SIMULATOR HAS BEEN IN OPERATION AT CALLAWAY SINCE MID-1982; A CALLAWAY/SNUPPS SIMULATOR HAS BEEN OPERATIONAL AND AVAILABLE TO OUR PERSONNEL SINCE 1979 AT THE WESTINGHOUSE TRAINING CENTER. WE HAVE ALSO SENT OUR SRO/RO CANDIDATES TO OPERATING PLANTS FOR PARTICIPATION TRAINING. THEY HAVE ASSISTED IN PREOPERATIONAL TEST ACTIVITIES AT CALLAWAY AND HAVE HAD SHIFT RESPONSIBILITY FOR OUR HOT FUNCTIONAL TEST PROGRAM. I AM CONVINCED WE HAVE PREPARED THESE PEOPLE TO HANDLE THE RESPONSIBILITY OF OPERATING CALLAWAY PLANT.

"NOTWITHSTANDING THIS, THE STAFF AS WELL AS THE ACRS HAS REQUIRED THE ADDITION OF ADVISORS TO SUPPLEMENT OUR SHIFT EXPERIENCE BASE. WE COMMITTED TO ADD SHIFT ADVISORS IN 1981 AND HAVE RELIED ON THIS CONCEPT TO SATISFY NRC'S CONCERN OVER THE COMMERCIAL EXPERIENCE ISSUE. I MIGHT ALSO POINT OUT THAT WE HAVE INTENTIONALLY AVOIDED SOLICITING OPERATIONS PERSONNEL AWAY FROM OTHER UTILITIES WITH OPERATING PLANTS, BELIEVING THIS PRACTICE TO BE OUTSIDE THE BEST INTERESTS OF THE INDUSTRY."

NUCLEAR OPERATIONS

5/1/84



STAFF: 520

CALLAWAY TRAINING PROGRAMS

GENERAL EMPLOYEE TRAINING

- GET I ACCESS CONTROL 2-3 DAYS
- GET II ADMINISTRATIVE AND SYSTEMS 4 WEEKS

LICENSE TRAINING

- PHASE I FUNDAMENTALS 14 WEEKS
- PHASE II SYSTEMS 11 WEEKS
- PHASE III SIMULATOR 13 WEEKS
- OBSERVATION AT OPERATING PLANT 4-6 WEEKS
- SYSTEM QUALIFICATIONS 6-12 MONTHS

NON-LICENSE FOR: MAINTENANCE

INSTRUMENT & CONTROL  
RADIATION/CHEMISTRY

- GET II 4 WEEKS
- FUNDAMENTALS 2-5 WEEKS
- CORE COURSES 3-6 WEEKS
- SPECIALTY COURSES 6-10 WEEKS

MANAGEMENT AND PROFESSIONAL STAFF

- STA'S 18-20 WEEKS
- PLANT ENGINEERS 5-10 WEEKS
- CORPORATE TRAINING 2 WEEKS

INPO ACCREDITATION

LICENSE STATUS

SFO

SHIFT SUPERVISORS	9
OPERATING SUPERVISORS	12
TRAINING SUPERVISORS	5
SUPERINTENDENT AND ASSISTANT SUPERINTENDENT, OPERATIONS	2

RO

REACTOR OPERATORS	<u>14</u>
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TOTAL:	42
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SHIFT COMPLEMENT

SHIFT SUPERVISOR	1
OPERATING SUPERVISOR	1
REACTOR OPERATOR	2
EQUIPMENT OPERATOR	4
INSTRUMENT & CONTROL TECHNICIAN	2
RAD/CHEM FOREMAN	1
RAD/CHEM TECHNICIAN	6
RAD/CHEM HELPERS	2
SHIFT TECHNICAL ADVISOR	1

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TOTAL PER SHIFT: 20

SHIFT ADVISOR (TO FULFILL FEBRUARY 24, 1984 UTILITY  
WORKING GROUP COMMITMENT)

STAFFING TO SUPPORT A 6 SHIFT ROTATION

5/7/84

TEST PROGRAM STATUS

PRE-OPERATIONAL TESTS:

148 FIELD COMPLETE

1 IN PROGRESS

ACCEPTANCE TESTS:

69 FIELD COMPLETE

PRE-OP TEST APPROVAL

APPROVED AND SIGNED 145

APPROVED BUT NOT SIGNED 1

NOT RECEIVED BY JTG 1

ON HOLD 2

RELEASE FOR OPERATIONS

ROOMS AND AREAS: ALL RFO

SYSTEMS: ALL RFO

PREPARATION FOR OPERATION

ON SHIFT SINCE MAY, 1981

- SUPPORT OF STARTUP ACTIVITIES
  - OPERATIONS
  - MAINTENANCE
  - INSTRUMENT & CONTROL
  - CHEMISTRY
  - ENGINEERING
  
- SUPPORT OF PRE-OPERATIONAL TESTS
  
- COMMAND OF PLANT SINCE START OF HFT

PROCEDURE STATUS: ESSENTIALLY COMPLETE

PREOPERATIONAL TEST PROCEDURES 149

LOW POWER & POWER ASCENSION TEST PROCEDURES 79

OPERATIONS PROCEDURES

ADMINISTRATIVE 73

DEPARTMENTAL 2053

SURVEILLANCE 579

TECHNICAL SPECIFICATIONS

HEAVY OPERATIONS INVOLVEMENT



R. J. SCHUKAI

GENERAL MANAGER, ENGINEERING

D. W. CAPONE  
MANAGER, NUCLEAR ENGINEERING  
45 UE ENGINEERING STAFF  
34 CONSULTANT SUPPORT

M. A. STILLER  
MANAGER, NUCLEAR SAFETY & EMERGENCY PREPAREDNESS  
8 ISEG/STA  
4 EMERGENCY PLANNING  
4 EP CONSULTANT SUPPORT

J. W. RINKE  
MANAGER, NUCLEAR SERVICES  
11 UE COST/SCHEDULE ENGINEERS  
25 ADMINISTRATIVE PERSONNEL

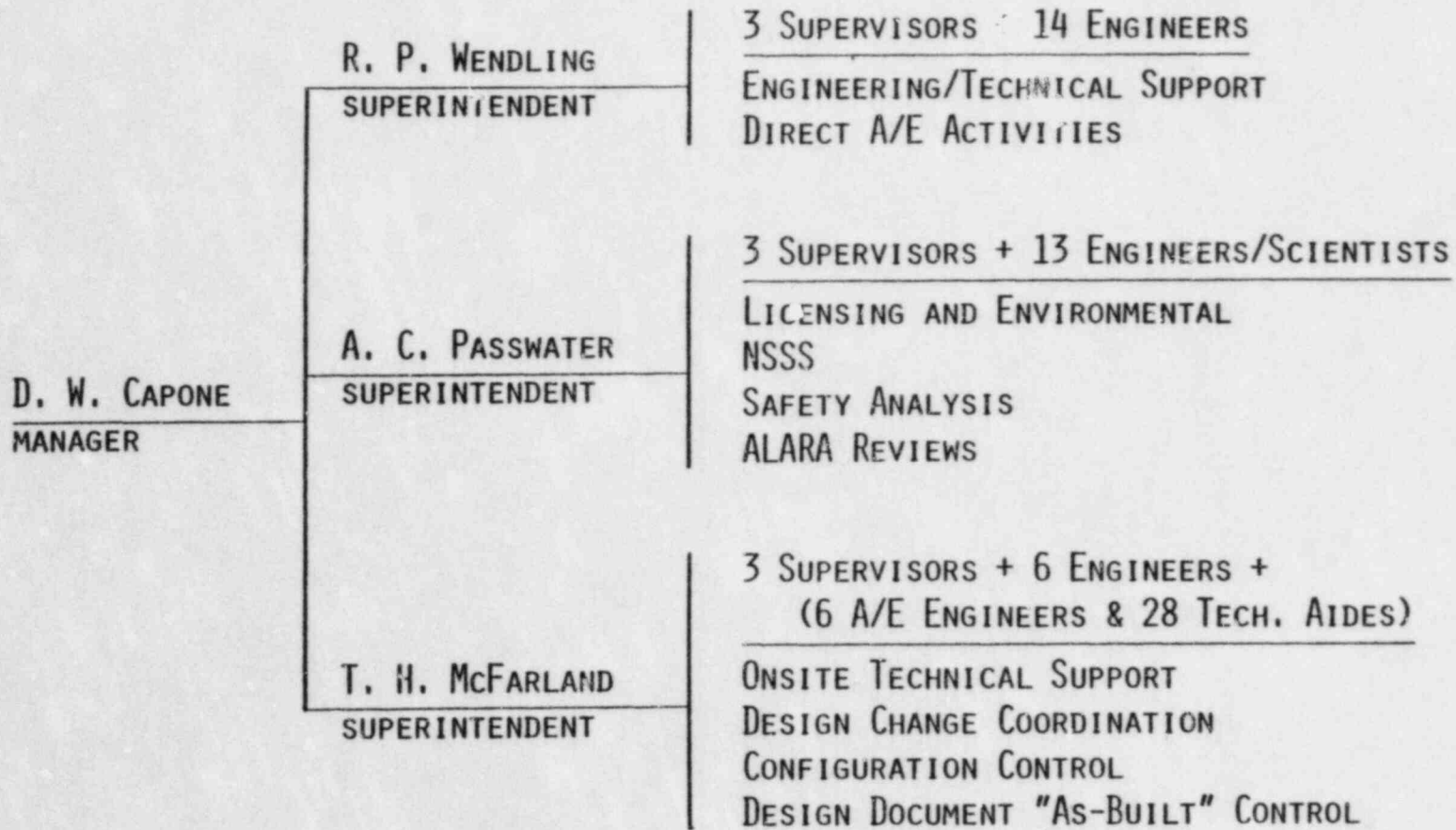
D. E. SHAIN  
MANAGER, NUCLEAR FUEL  
4 UE ENGINEERING STAFF

F. W. BRUNSON  
COORDINATOR, NUCLEAR DEVELOPMENT

ADDITIONAL ENGINEERING/TECHNICAL SUPPORT AVAILABLE FROM

- ° ENGINEERING & CONSTRUCTION  
COMMUNICATIONS & RELAY ENGINEERING
- ° POWER OPERATIONS  
ENVIRONMENTAL, CENTRAL LAB, RELAY TEST, COMMUNICATIONS
- ° COMPUTER SERVICES

NUCLEAR ENGINEERING DEPARTMENT



AGREEMENTS FOR TECHNICAL  
OR EMERGENCY ASSISTANCE

- BECHTEL POWER CORPORATION
- WESTINGHOUSE
- NUCLEAR PROJECTS INC. - SNUPPS
- KANSAS GAS & ELECTRIC COMPANY
- INPO
- VARIOUS SPECIALTY ASSISTANCE
  - RADIATION MANAGEMENT CORPORATION
  - LOCAL FIRE DEPARTMENTS
  - CONSULTANTS TO NUCLEAR SAFETY REVIEW BOARD

## STA/ISEG PROGRAM

### STAFF ASSIGNMENT

- ° PERSONNEL ROTATE BETWEEN STA & ISEG POSITIONS

### SHIFT TECHNICAL ADVISORS

- ° PROVIDE SUPPORT TO SHIFT SUPERVISOR
- ° ROTATE ON SHIFT WITH SAME OPERATING CREW
- ° WORK UNDER DIRECTION OF SHIFT SUPERVISOR  
WHILE ON SHIFT
- ° ALL TRAINING COMPLETE/ON SHIFT DURING HFT
- ° DUTIES INTEGRATED INTO PLANT OPERATIONS
- ° WILL EVENTUALLY HOT LICENSE AT SRO LEVEL

### INDEPENDENT SAFETY ENGINEERING GROUP

- ° EVALUATES PLANT OPERATIONS FROM SAFETY PERSPECTIVE
- ° REVIEWS OPERATING EVENT REPORTS
- ° REVIEWS PROCEDURES FOR TECHNICAL ADEQUACY
- ° ASSISTS NUCLEAR SAFETY REVIEW BOARD
- ° STA DUTIES BRINGS OPERATIONAL EXPERIENCE
- ° ACTIVITIES GOVERNED BY PROCEDURES AND INSTRUCTIONS

5/7/84

STA/ISEG PARTICIPATION IN THE FOLLOWING:

- EMERGENCY ACTION LEVELS REVIEW
- VERIFICATION AND VALIDATION OF EMERGENCY RESPONSE GUIDES
- HOT FUNCTIONAL TESTING (ON SHIFT)
- RERP TRAINING AND PARTICIPATION
- RETRAN MODELING/SIMULATOR VERIFICATION
- TSC AND EOF ENGINEERING SUPPORT
- MITIGATING CORE DAMAGE COURSE DEVELOPMENT

RERP STATUS

- NRC ASSESSMENT VISIT JANUARY 1984
- NRC REAPPRAISAL MARCH 19-23, 1984
- INTEGRATED FIELD EXERCISE MARCH 21, 1984
- REMEDIAL EXERCISE - PUBLIC WARNING SYSTEM APRIL 19, 1984
- ACCOUNTABILITY EXERCISE MAY 11, 1984
- NRC OPEN ITEM CLOSEOUT MAY 9-11, 1984
- ON-GOING ACTIVITIES
  - SUPPLEMENTAL TRAINING
  - IDENTIFYING & TRACKING REFINEMENTS
  - RERP MAINTENANCE PROGRAM

5/7/84

## LICENSING STATUS

- AGREEMENT ON ALL SER ISSUES
- LICENSE CONDITIONS
  - 5% POWER
  - STARTUP AFTER REFUELING
  - OTHER SPECIFIC CONDITIONS
  - PLANT LIFETIME
- HEARING PROCESS
- I&E INSPECTION ACTIVITIES
- TECHNICAL SPECIFICATIONS

## TECHNICAL SPECIFICATIONS

- 3 YEARS IN DEVELOPMENT AND REVIEW  
2 UTILITIES, SNUPPS, BECHTEL, WESTINGHOUSE
- GOAL: ENHANCE SAFE OPERATION
- PARTICIPATING IN WOG SUBCOMMITTEE
- COMPLETION STATUS

5/7/84



CALLAWAY/WOG PROGRAMS

- PROCEDURES SUBCOMMITTEE
  - ERG MAINTENANCE PROGRAM
  - ERG REV 1 BACKGROUND DOCUMENTS
  - ERG REV 1 VALIDATION PROGRAM
  - POST ACCIDENT CORE DAMAGE ASSESSMENT
  
- ANALYSIS SUBCOMMITTEE
  - RCP SEAL INTEGRITY
  - SMALL BREAK LOCA
  - RCP TRIP CRITERIA
  
- TECHNICAL SPECIFICATION SUBCOMMITTEE
  - REACTOR PROTECTION SYSTEM (TOPS)
  - NUREG-1024 RESPONSE
  - REACTOR TRIP BREAKER PROGRAM
  
- REGULATORY REVIEW GROUP

MAY 7, 1984

SUCCESS OF THE CALLAWAY QA PROGRAM

- I. UE MANAGEMENT DIRECT INVOLVEMENT
  - CONTINUITY AND MANAGEMENT EXPERIENCE
  - SUPPORT IN RESOLVING QUALITY PROBLEMS
  - RESPONSIVENESS TO NRC INITIATIVES
  - HIGH PERFORMANCE GOALS
  
- II. QUALITY ASSURANCE
  - DEGREED ENGINEERS
  - EXPERIENCED CONSULTANTS
  - DIRECT INVOLVEMENT IN:
    - PROBLEM IDENTIFICATION
    - PROBLEM RESOLUTION
  - DIRECT INTERFACE WITH NRC
  
- III. SNUPPS CONCEPT
  - EXPERIENCED UTILITIES / SNUPPS STAFF
  - DESIGN REVIEW ENHANCEMENT
  - VENDOR PERFORMANCE ENHANCEMENT
  
- IV. A/E - NSS SUPPLIER
  - PROVEN NUCLEAR EXPERIENCE
  - RELATIONSHIP WITH SNUPPS UTILITIES
  
- V. CONSTRUCTOR
  - PROVEN NUCLEAR EXPERIENCE
  - RELATIONSHIP WITH UTILITY
  - CONTINUITY OF JOB

MAY 7, 1984

INDEPENDENT ASSESSMENTS  
OF CALLAWAY

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<u>AREA COVERED</u>	<u>EVALUATOR</u>	<u>DATE</u>
DANIEL CIVIL QC LAB	ERLIN, HIME ASSOC.	1/78
DANIEL CIVIL QC LAB	WISS, JANNEY, ELSNER, ASSOCIATES	2/78
PETROGRAPHIC ANALYSIS PERSONNEL QUALIFICATION	ERLIN, HIME ASSOC.	8/78
ASME III PIPE SUPPORT INSTALLATION	NUTECH	7/80
ELECTRICAL ACTIVITIES	QUADREX	9/80
QUALITY INSPECTION & CERTIFICATION PROGRAM	DANIEL CORPORATE QA TEAM	3/81
DIC TEAM	ELECTRICAL TASK FORCE	8/82
1E ELECTRICAL CONSTRUCTION	EDS NUCLEAR	8/82
SELF-INITIATED CONSTRUCTION EVALUATION	SNUPPS UTILITIES	11/82
HVAC INSTALLATION	BLACK & VEATCH	7/83
I & C INSTALLATION	BLACK & VEATCH	11/83
CODE SURVEY OF DANIEL FOR NA/NPT STAMPS	ASME	5/78 5/81, 4/84
CONCRETE TEST PROGRAM	CCRL	4/76, 8/78 5/81
79-14 WALKDOWN	BECHTEL	3/83 - PRESENT
INDEPENDENT DESIGN INSPECTION	NRC	11/82

MAY 7, 1984

SITE PERSONNEL  
MONITORING QUALITY  
(CONSTRUCTION AND PREOPS.)

<u>YEAR</u>	<u>UEQA</u>	<u>UENC</u>	<u>TPSG</u>	<u>CONTRACTOR QC</u>	<u>CONTRACTOR QA</u>	<u>TOTAL PERSONNEL</u>
1975	1	7		25	1	34
1976	3	10		65	3	81
1977	4	11		110	4	129
1978	6	12		135	4	157
1979	6	11		149	5	171
1980	8	22		171	5	206
1981	10	26		190	5	231
1982	15	22	5	347	8	397
1983	19	18	7	352	12	408
1984	16	17	7	239	8	287
						<u>2101</u>

(OVER 2,101 MANYEARS OF QUALITY MONITORING)

MAY 7, 1984

UNION ELECTRIC  
SALP HISTORY

<u>SALP PERIOD</u>	<u># AREAS EVALUATED</u>	<u>TOTAL RATING POINTS</u>	<u>AVERAGE RATING PER EVALUATION</u>
7/80-9/81	6	12	2.0
10/81-9/82	10	15	1.5
10/82-11/83	13	20	1.5

PERFORMANCE LEVEL DESCRIPTIONS

- 1 - HIGH LEVEL OF PERFORMANCE
- 2 - EXPECTED PERFORMANCE
- 3 - SATISFACTORY, BUT IMPROVEMENT EXPECTED

MAY 7, 1984

CALLAWAY (NRC) NONCOMPLIANCE HISTORY

- ° STANDARD NRC CATEGORIES OF NONCOMPLIANCE
  - A) LEVEL I, II, OR III - SIGNIFICANT VIOLATIONS
  - B) LEVEL IV - REGULATORY REQUIREMENT VIOLATION
  - C) LEVEL V - MINOR SAFETY VIOLATION
  
- ° CALLAWAY HAS RECEIVED NO LEVEL I, II, OR III ITEMS
  
- ° LEVEL V TO IV RATIO IS GREATER THAN 2 TO 1

MAY 7, 1984

JUNE 28, 1982 NRC COMPARISON OF CURRENT  
SIZE OF WORK FORCE AND QA/QC STAFFS  
AT SELECTED CONSTRUCTION SITES

ALL UTILITIES EVALUATED

NO. OF UTILITIES EVALUATED	35
AVERAGE RATIO CRAFT TO QA/QC	12.7:1
UNION ELECTRIC RATIO	7.6:1

REGION III UTILITIES

NO. REGION III UTILITIES EVALUATED	9
AVERAGE REGION III RATIO CRAFT TO QA/QC	8.5:1
UNION ELECTRIC RATIO	7.6:1

## REMAINING WORK

### MASTER TRACKING SYSTEM

#### COMPUTERIZED LISTING OF

- OUTSTANDING WORK DOCUMENTS
- HARDWARE & DOCUMENTATION PROBLEMS
- INSPECTION FINDINGS

### CURRENT STATUS

#### MTS ITEMS TO COMPLETE

- PRIOR TO FUEL LOAD
- PRIOR TO CRITICALITY
- PRIOR TO POWER ASCENSION

### POST FUEL LOAD DEFERRALS

- PREOP TEST EXCEPTIONS/VERIFICATIONS
- PENETRATION/CONDUIT SEALS, CABLE TRAY COVERS
- TMI ITEMS: RVLIS, SUBCOOLING MONITOR, PASS, ERFIS, R<sup>2</sup>IS
- GENERIC LETTER 83-28: REACTOR TRIP BREAKERS
- EQUIPMENT QUALIFICATION
- IE BULLETIN 79-14 ITEMS
- VALVE ACTUATOR & SOLENOID MODIFICATIONS



"IT IS MY VIEW THAT THE OVERALL REGULATORY PERFORMANCE OF THE UNION ELECTRIC COMPANY AT THE CALLAWAY FACILITY CONTINUED AT AN OUTSTANDING LEVEL DURING THE ASSESSMENT PERIOD. I AM CONFIDENT THAT THE MANAGEMENT EFFORT WHICH RESULTED IN THIS PERFORMANCE LEVEL WILL BE CONTINUED AS YOU MOVE INTO THE OPERATING PHASE AT CALLAWAY."

NRC TRANSMITTAL OF SALP 4  
APRIL 6, 1984

Meeting Summary Distribution

Docket File

NRC PDR  
Local PDR  
PRC System  
NSIC  
LB #1 Reading File  
OELD  
Project Manager J. Holonich  
M. Rushbrook  
W. Lovelace\*  
OPA\*

NRC PARTICIPANTS:

J. Holonich  
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D. Muller  
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B. Little  
H. Thompson  
R. Walker  
G. Edison

OTHERS

\*Caseload Forecast Panel Visits