

NOV 5 1984

Docket Nos. 50-498
and 50-499

APPLICANT: Houston Light & Power Co. (HL&P)
FACILITY: South Texas Project (STP), Units 1 & 2
SUBJECT: SUMMARY OF MANAGEMENT MEETING BETWEEN HL&P AND THE NRC
HELD ON SEPTEMBER 13, 1984 IN BETHESDA, MD

On September 13, 1984, the NRC staff and applicant representatives met in Bethesda, Maryland for the purposes of discussing the resumption of the operating license safety review. The applicant presented the status of Unit 1 & 2 engineering, construction licensing and operations. Enclosure 1 is a copy of the slides the applicant presented. Enclosure 2 is a list of attendees.

The applicant finalized their concerns into three areas for the NRC's consideration:

- . NRC conduct the remainder of the STP review consistent with the schedule provided in the Bevill report.
- . NRC assign reviewers for the various areas to be reviewed.
- . NRC commit to assign full time Project Manager to STP through to completion of the NRC review.

The staff noted the following for the applicant's consideration:

- . QA personnel training and qualification credentials needs to be carefully investigated. In our experience on some other plants, we have found that personnel are not usually as qualified as their credentials state.
- . The applicant should strive to have their procedures in place and approved prior to operators being tested. Quite frequently operators have failed their tests because the procedures were not completed in time for the operators to be thoroughly familiar with them.

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A PDR

- . Provide hot operating experience for yet to be licensed STP operators.
- . All regulatory items that must be complete for full power operation must be done by the time the license is issued at core load or exemptions will be needed.
- . A fully working allegation program should be established now so that the applicant can deal with allegations in a timely fashion.
- . A meeting with the staff on operator qualification training.
- . Major changes to pre-operational and start-up programs (FSAR Chapter 14 changes) could take the staff as much as two months to review and approve. Therefore, to avoid delaying OL issuance, changes at the time of OL issuance should be avoided.
- . Pre-service inspection problems in the past have occurred with cast piping. Since pre-service inspection of cast piping is done near plant completion, problems that require NRC staff action need to be identified early to avoid delays in OL issuance.

ORIGINAL SIGNED BY

Victor Nerses, Project Manager
Licensing Branch No. 3
Division of Licensing

Enclosures:
As stated

cc: See next page

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W...es/yt
10/29/84

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SOUTH TEXAS PROJECT
HOUSTON LIGHTING & POWER COMPANY

September 13, 1984

MEETING WITH NRC TO DISCUSS REMAINDER OF
OL APPLICATION SAFETY REVIEW

AGENDA
HL&P PRESENTATIONS
MEETING WITH NRC MANAGEMENT
SEPTEMBER 13, 1984

<u>Subject</u>	<u>Presenter</u>	<u>Time</u>
I. Introduction and STP Status		
A. Introduction and Project Chronology	J. H. Goldberg	10 minutes
B. Status of Design and Construction Construction Schedule EA Program SAFETEAM	J. T. Westermeier	5 minutes
C. Operating Staff Status	J. G. Dewease	5 minutes
D. Licensing Status	M. R. Wisenburg	5 minutes
II. South Texas Design Basics		
A. Similarities to Comanche Peak/ Votgle/etc.	E. W. Dotson	15 minutes
B. STP Unique Features		
III. Closing Comments	J. H. Goldberg	5 minutes
	Total	45 minutes

STP CHRONOLOGY

- 1973: HOUSTON LIGHTING & POWER COMPANY SELECTED A WESTINGHOUSE NUCLEAR STEAM SUPPLY SYSTEM AND SELECTED BROWN & ROOT AS ARCHITECT/ENGINEER AND CONSTRUCTOR.
- 1974: PSAR DOCKETED ON JULY 5TH.
- 1975: LIMITED WORK AUTHORIZATION ISSUED ON AUGUST 12TH. CONSTRUCTION PERMIT ISSUED DECEMBER 22ND.
- 1978: FSAR DOCKETED ON JULY 17TH.
- 1979: SAFETY RELATED WELDING AND CONCRETE PROBLEMS STARTED TO SURFACE.
- 1980: SHOW CAUSE ORDER AND \$100,000 FINE.
- 1981: QUADREX REVIEW OF BROWN & ROOT ENGINEERING COMMENCED IN JANUARY. QUADREX REPORT RECEIVED BY HOUSTON LIGHTING & POWER COMPANY ON MAY 8TH.
ASLB OPERATING LICENSE HEARINGS COMMENCED MAY 12TH.
BROWN & ROOT RELIEVED OF RESPONSIBILITY AS ARCHITECT/ENGINEER AND CONSTRUCTION MANAGER ON SEPTEMBER 24TH.
BECHTEL SELECTED AS NEW ARCHITECT/ENGINEER AND CONSTRUCTION MANAGER.
BROWN & ROOT WITHDRAWS AS CONSTRUCTOR ON NOVEMBER 4TH. CONSTRUCTION WORK HALTED.
- 1982: EBASCO NAMED AS NEW CONSTRUCTOR ON FEBRUARY 15TH.
NON-SAFETY RELATED CONSTRUCTION RESUMED ON JUNE 15TH.
SAFETY RELATED CONSTRUCTION RESUMED ON AUGUST 6TH.
- 1983: BECHTEL ENGINEERING TRANSITION PROGRAM COMPLETED IN JANUARY. LICENSING SCHEDULE SUBMITTED TO NUCLEAR REGULATORY COMMISSION ON MAY 17TH.
EMERGENCY COOLING WATER PIPE WELDING COMPLETED. REACTOR COOLANT LOOP PIPING FOR UNIT 1 COMPLETED. UNIT 1 CONTAINMENT DOME CONCRETE COMPLETED.
- 1984: COMMENCED ROLLING FOUR TENS CONSTRUCTION ACTIVITY IN JANUARY. ASLB ISSUED A FAVORABLE PARTIAL INITIAL DECISION FOR THE OPERATING LICENSE HEARINGS ON MARCH 14TH.
NRC REPORT TO CONGRESS ON THE FORD AMENDMENT ON APRIL 20TH. HOUSTON LIGHTING & POWER COMPANY HIGHLIGHTED VIA LETTER TO TOM NOVAK THE FSAR "TRAIL" ON JULY 2ND.

MAJOR MILESTONE SCHEDULE

	<u>UNIT 1</u>	<u>UNIT 2</u>
ENERGIZE SWITCHGEAR	JUN 85	JUN 87
COLD HYDRO	JUN 86	JUN 88
INTERGRATED LEAK RATE TEST	AUG 86	AUG 88
HOT FUNCTIONAL TEST	SEP 86	SEP 88
FUEL LOAD	DEC 86	DEC 88
COMMERCIAL OPERATION	JUN 87	JUN 89

SUMMARY STATUS

	CONSTRUCTION PERCENT COMPLETE				KEY DATES		VAR. FROM MILESTONE
	PERIOD		CUMULATIVE		FUEL LOAD	COMMERCIAL OPERATION	WEEKS
	SCHED	ACT	SCHED	ACT			
UNIT 1 POWER BLOCK	2.0	2.0	64.9	64.6	12/86	6/87	0
UNIT 2 POWER BLOCK	1.1	1.2	36.6	37.5	12/88	6/89	0
BALANCE OF PLANT*	1.2	1.0	83.6	83.4	*INCLUDES TURNED OVER FACILITIES FROM PREVIOUS CONTRACTOR, COMMON FACILITIES, AND YARD.		
DISTRIBU-TABLES	1.5	1.5	56.8	57.0			
TOTAL	1.5	1.5	56.8	57.0			

	PERIOD		CUMULATIVE	
	SCHED	ACTUAL	SCHED	ACTUAL
	ENGINEERING PERCENT COMPLETE	.7	.6	80.3

- **ENGINEERING ASSURANCE PROGRAM**

- INDEPENDENT TECHNICAL ASSESSMENT

- ACCEPTED BY NRC IN LIEU OF INDEPENDENT DESIGN VERIFICATION PROGRAM (IDVP)

- **SAFE TEAM**

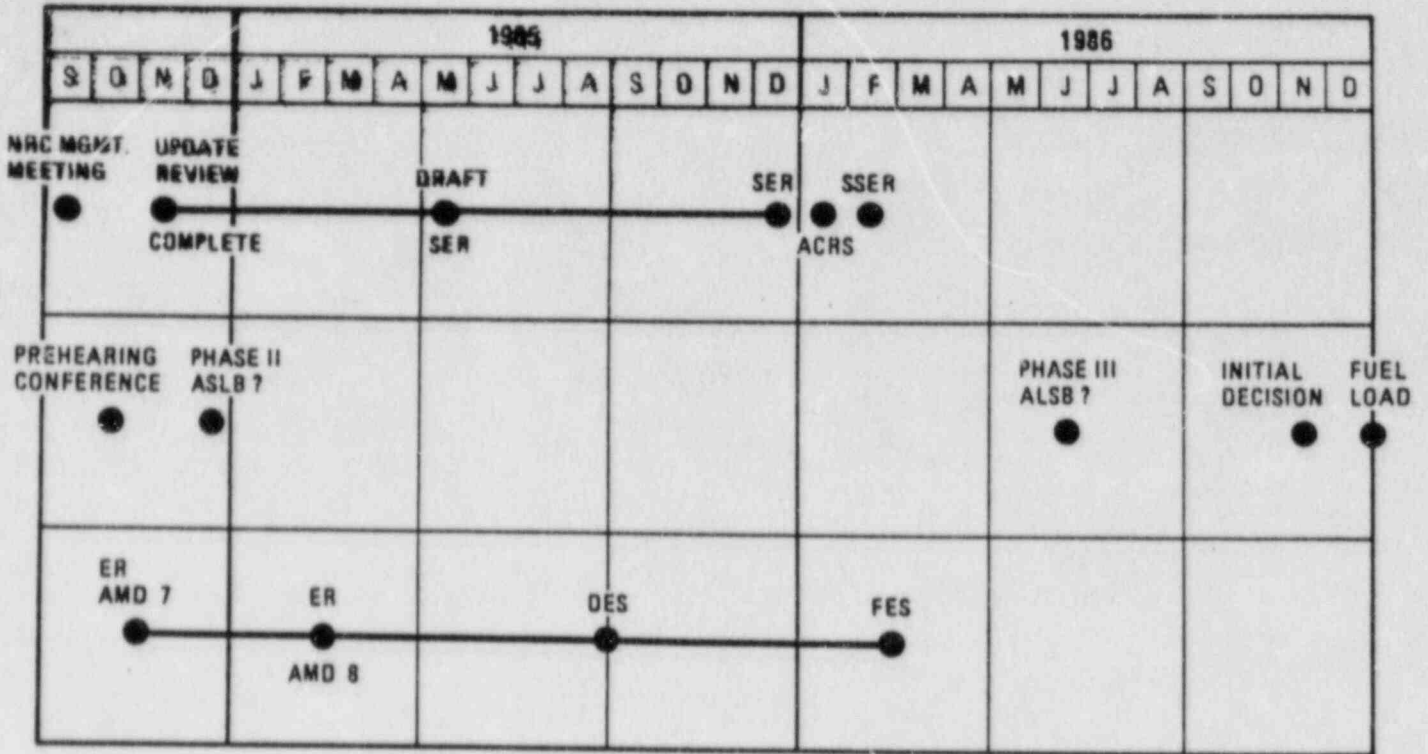
- PURPOSE: REDUCE LATE ALLEGATIONS

- APPROACH:

- INTERVIEW PERSONNEL EXITING PROJECT

- SOLICIT ON-GOING PROBLEMS

SOUTH TEXAS PROJECT LICENSING SCHEDULE



SOUTH TEXAS PROJECT
Licensing Milestones

Close of Discovery for Phase II OL Hearings	08/31/84
Phase II OL Hearing PreHearing Conference	10/15/84
Phase II OL Hearings Begin	12/84
NRC issue Draft Safety Evaluation Report (SER)	05/85
NRC issue Draft Environmental Statement (DES)	09/85
NRC issue SER	12/85
ACRS	01/86
NRC issue Supplemental SER	02/86
NRC issue Final Environmental Statement (FES)	02/86
Begin Phase III OL Hearings	06/86
ASLB issues Final Decision	12/86
NRC issues OL	12/86

SOUTH TEXAS PROJECT
Operating License Hearing

PHASE I

Character and Competence

Partial Initial Decision 03/14/84

PHASE II

Handling of Quadrex Report
Hurricane Winds

Pre-Hearing Conference 10/15/84
Oral Arguments 12/84 (?)

PHASE III

Operational QA Program
Pressurized Thermal Shock

Oral Argument 06/86 (?)

SOUTH TEXAS PROJECT
Licensing Activity
1982 - 1984

- o 17 FSAR Updating Amendments Submitted
- o 825 NRC Questions Responded to
- o Topical Meetings with NRR Staff on:
 - SSI
 - Fire Protection
 - RG 1.97/TSC/EOF
 - Three Train Design
 - Equipment Qualification
 - Technical Specifications
- o Control Room Design Review
- o Engineering Assurance Program
- o IVC Tornado Missile Protection
- o Control of Heavy Loads
- o RCS Leak-Before-Break
- o Arbitrary Intermediate Breaks
- o Steam Generator Tube Integrity
- o Licensing Schedule
- o NRC LPM's:
 - D. Sells
 - H. Schierling
 - A. Vietti
 - V. Nerses
 - (B. K. Singh)

SOUTH TEXAS PROJECT
NRC Questions on FSAR

Accident Evaluation Branch	27
Auxiliary Systems Branch	30
Chemical Engineering Branch	40
Core Performance Branch	24
Containment Systems Branch	43
Emergency Planning	09
Effluent Treatment Systems Branch	10
Generic Issues Branch	13
Geosciences Branch	14
Human Factors Engineering Branch	01
Hydrologic & Geotechnical Engineering Branch	35
Instrumentation & Controls Systems Branch	45
Operating Licensing Branch	08
Mechanical Engineering Branch	32
Materials Engineering Branch	49
Power Systems Branch	113
Procedures & Test Review Branch	21
Radiological Assessment Branch	19
Reactor Systems Branch	99
Siting Analysis Branch	03
Structural Engineering Branch	60
Quality Assurance Branch	<u>130</u>
TOTAL	825

SOUTH TEXAS PROJECT
Preparations for Remainder of NRC Review

- o Washington Area Office
 - Staff full time
 - 1) Consultant
08/01/84
 - 1) HL&P Engineer
10/01/84

- o HL&P Licensing & Engineering Resources
 - 65 Engineers available to discuss technical issues with appropriate NRC Staff reviewers

- o Bechtel and Westinghouse Support

- o Prepared to Come to Bethesda for Technical Meetings
 - One Day Notice
 - Pre-meetings/Follow-up meetings
 - Section by Section walk-through of FSAR keyed to detailed NRC Staff review schedule

COMPARISON WITH SIMILAR FACILITY DESIGNS

SYSTEM COMPONENT

REACTOR
REACTOR COOLANT SYSTEM
CONTAINMENT HEAT REMOVAL SYSTEM

COMBUSTIBLE GAS CONTROL
CONTROL ROOM HABITABILITY SYSTEM
REACTOR TRIP SYSTEM
SYSTEM REQUIRED FOR SAFE SHUTDOWN
SAFETY-RELATED DISPLAY INSTRUMENTATION
OFFSITE POWER

ONSITE STANBY POWER GENERATION &
DISTRIBUTION
ONSITE DC POWER SYSTEMS
CLASS 1E BATTERY CHARGERS
125-VAC INSTRUMENT BUSES
NEW FUEL STORAGE
SPENT FUEL STORAGE
SPENT FUEL POOL COOLING & CLEANUP
SYSTEM
FUELS HANDLING SYSTEMS
ULTIMATE HEAT SINK
RADWASTE MANAGEMENT SYSTEMS

FACILITIES WITH SIMILAR DESIGNS

W.B. MC GUIRE & COMANCHE PEAK
COMANCHE PEAK
POINT BEACH, CRYSTAL RIVER NO. 3,
ZION, & OTHERS
BYRON, BRAIDWOOD, & ZION
BYRON, BRAIDWOOD, & ZION
COMANCHE PEAK
COMANCHE PEAK
COMANCHE PEAK
COMANCHE PEAK 1 & 2, WATTS BAR 1 & 2, &
ALVIN W. VOGTLE 1, 2, 3, & 4
WATTS BAR, VOGTLE

COMANCHE PEAK, WATTS BAR, VOGTLE
COMANCHE PEAK
COMANCHE PEAK, WATTS BAR, & VOGTLE
WATTS BAR, COMANCHE PEAK
PALISADES, ST. LUCIE 1
SEQUOYAH, WATTS BAR, BYRON,
BRAIDWOOD, & VOGTLE
COMANCHE PEAK
COMANCHE PEAK
VOGTLE, COMANCHE PEAK, BEAVER VALLEY

SIGNIFICANT STP DIFFERENCES

<u>DIFFERENCE</u>	<u>DESCRIPTION</u>
THREE SAFETY TRAINS	MINIMIZES INTERACTION OF SAFETY TRAINS AND DUAL FUNCTION
ERFDADS/QPPS	INTEGRATED APPROACH REQUIRING INTEGRATED REVIEW
TECH SPECS	THREE SAFETY TRAINS MAKES SPECS DIFFERENT
18-INCH CONTAINMENT PURGE	OPEN DURING NORMAL OPERATION, CONSTANT CTMT VENT
ISOLATION VALVE CUBICLE DESIGN	PRA USED IN DESIGN OF ROOF OF IVC
CONTROL ROOM CEILING DESIGN	SEISMIC FIRE WALKWAYS FOR CABLE TRAY
FUEL DESIGN	STP USES LONGER 14-FT. FUEL
RAPID REFUELING	MODIFIED RPV HEAD DESIGN, UPPER INTERNALS AND OTHER FEATURES
ECCS	THREE TRAIN CONCEPT
AUXILIARY FEEDWATER	FOUR INDEPENDENT LINES EACH FEEDING ONE STEAM GENERATOR

SOUTH TEXAS PROJECT

- **THREE-TRAIN ESF SYSTEMS**

- **PHYSICALLY INDEPENDENT***
- **ELECTRICALLY INDEPENDENT**
- **INDEPENDENT ACTUATION SIGNALS**

- **PROVIDE FOR:**

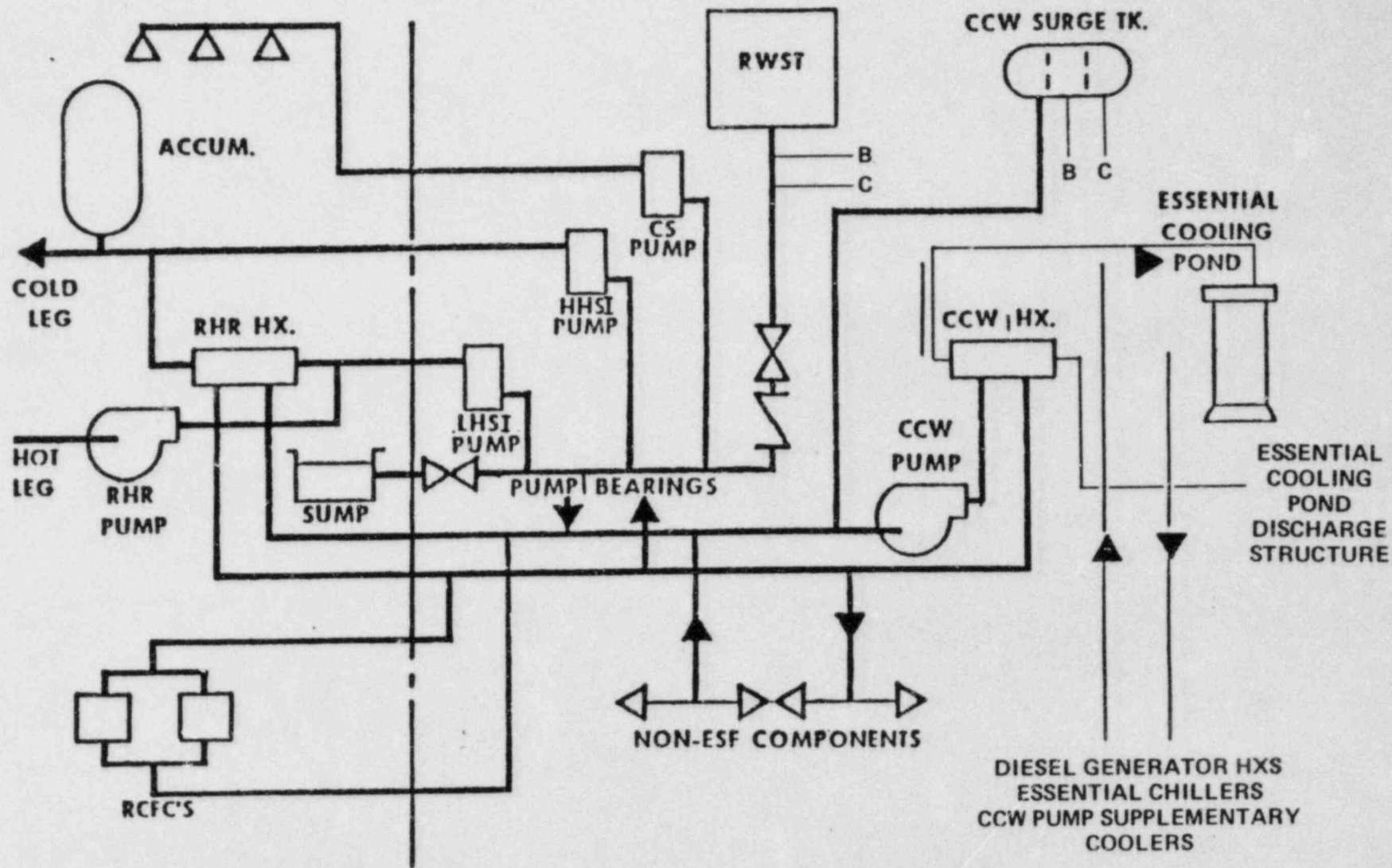
- **HEAT REMOVAL FROM THE CORE**
- **CONTAINMENT ATMOSPHERE**
- **REJECTS HEAT TO THE ULTIMATE HEAT SINK (UHS)**

***RWST, CCW, CSS**

● **SYSTEM INVOLVED**

EMERGENCY CORE COOLING SYSTEM

- SAFETY INJECTION, HIGH HEAD (HHSI) AND LOW HEAD (LHSI)
- CONTAINMENT SPRAY (CS)
- RESIDUAL HEAT REMOVAL (RHR)
- REACTOR CONTAINMENT FAN COOLERS (RCFC)
- COMPONENT COOLING WATER (CCW)
- ESSENTIAL COOLING WATER (ECW)



INTERRELATIONSHIP OF SYSTEMS IN THE THREE-TRAIN CONCEPT

Utter goes to the

Sum. Tera. Project Management Meeting
9/13/84

VICTOR NERSES	NRC/NRE/DL/LB#3, Lic. Proj Mgr
J. Nelson Grace	IAE Dir of QA. Safeg. & Insp.
HUGH THOMPSON	NRC/NRC / DHFS
J. T. WESTERMEIER	HL+P MANAGER, STP
J. H. GOLDBERG	HL+P Vice Pres., Nuc. ENGI CONST.
J. G. Dewease	HL+P Vice Pres, Nuc Ops
M WISENBERG	" MGR, LICENSING
E DOTSON	" MGR, ENGINEERING
W. JOHNSTON	NRC/DE Asst DIR - ENGINEERING
R. BERNERO	NRC/DSI DIRECTOR
F. Schroeder	NRC/DST Asst. Dir. - benefit Projects
G Knighton	NRC/DL Chief, LB#3
B. K. Singh	NRC/DL Project Manager
JOHN SNEED	CONG. J. HIGHTOWER LEGISLATIVE AIDE
<u>Daryl Hoot</u>	NRC/DL/LB4 Proj. Mgr.
ROBERT E SWEENEY	LBACCO
4.170 E Sweeney	NRC
Ray Stokes	Rep. New House
Ann Shuman	Rep. Jack FIELDS LEGISLATIVE AIDE
Howard Pyle	HL+P
JOHN FULLER	REP. BILL PATMAN LEGISLATIVE ASST.
Larry Guay	REP. MURLEY LEWAND
Minnie Axelrad	Nauman & Holtzman
S.H. KALE	WESTINGHOUSE STPPROJ. MGR.
Rod Rogers	Bechtel
Lynn J. Klement	HL+P Proj Eng. Mgr
	Licensing

<u>Name</u>	<u>Org.</u>
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Charles W. Johnson	AA to Cong. Wilson
Ed R. Grain	Westinghouse
George B. Jones	Bechtel
M. Q. Seoni	Westinghouse
Don Ashton	Bechtel
Bill Johnson	Westinghouse
Pres. Rabe	Westinghouse
T. M. I. O. V. A. I. C.	NRC/NRC

MEETING SUMMARY DISTRIBUTION

Docket No(s): 50-498/499

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Local PDR

NSIC

PRC System

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