October 8, 1996

LICENSEE: HOUSTON LIGHTING AND POWER COMPANY (HL&P), et al.

FACILITY: South Texas Project, Unit 1 (STP-1)

SUBJECT: SUMMARY MEETING ON STEAM GENERATOR (SG) REPLACEMENT

On September 16, 1996, the licensee met with the staff to discuss their plans for SG replacement at STP-1. Meeting attendees are listed in Attachment 1. A handout provided is Attachment 2.

The purpose of this meeting was to give the staff an early indication of the licensee's plans, anticipated schedule, and staff actions required to support this replacement. This replacement is tentatively planned for refueling outage 9 in early 2000.

The replacement SGs will be different from the existing SGs, both in terms of expected improved resistance to service induced degradation and design features that impact setpoints and accident analyses. As such, staff review and approval of certain aspects of the project are required. Specifically, review and approval of revised accident analyses, which will be performed using new methods, and setpoints contained in technical specifications, will be required. The licensee expects to submit the licensing basis and amendment requests in March 1998 and will request staff approval by March 1999.

Original signed by
Thomas W. Alexion, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-498

Attachments: 1. List of Meeting Attendees
2. Meeting Handout

cc w/atts: See next page

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Document Name: ST96916.MTS

OFC	PM/PD4-1	D/PD4-1
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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MEETING BETWEEN NRC AND HL&P ON STEAM GENERATOR REPLACEMENT

SEPTEMBER 16, 1996

Name	Organization
T. Cloninger	HL&P
D. Wohleber	HL&P
A. McIntyre	HL&P
R. Pate	HL&P
W. Harrison	HL&P
K. Richards	HL&P
T. Kitchen	Westinghouse
S. Griffith	Westinghouse
J. Brennan	Westinghouse
L. Connor	for STS
W. Beckner	NRC
E. Weiss	NRC
C. Liang	NRC
S. Coffin	NRC
J. Tsao	NRC
C. Hinson	NRC
R. Rothman	NRC
B. Thomas	NRC
J. Rajan	NRC

ATTACHMENT 1

SOUTH TEXAS PROJECT
ELECTRIC GENERATING STATION

UNIT 1 STEAM GENERATOR
REPLACEMENT PROJECT

NRC
PRESENTATION
SEPTEMBER 16, 1996

WORLD CLASS

ATTACHMENT 2

AGENDA

INTRODUCTION	Ted Cloninger V.P. Nuclear Engineering
PROJECT OVERVIEW	Dave Wohleber Manager Steam Generator Replacement Project
ENGINEERING ACTIVITIES	Chet McIntyre Manager Steam Generator Replacement Engineering
LICENSING ACTIVITIES	Wayne Harrison Licensing Supervisor
CLOSING COMMENTS	Ted Cloninger V.P. Nuclear Engineering

INTRODUCTION

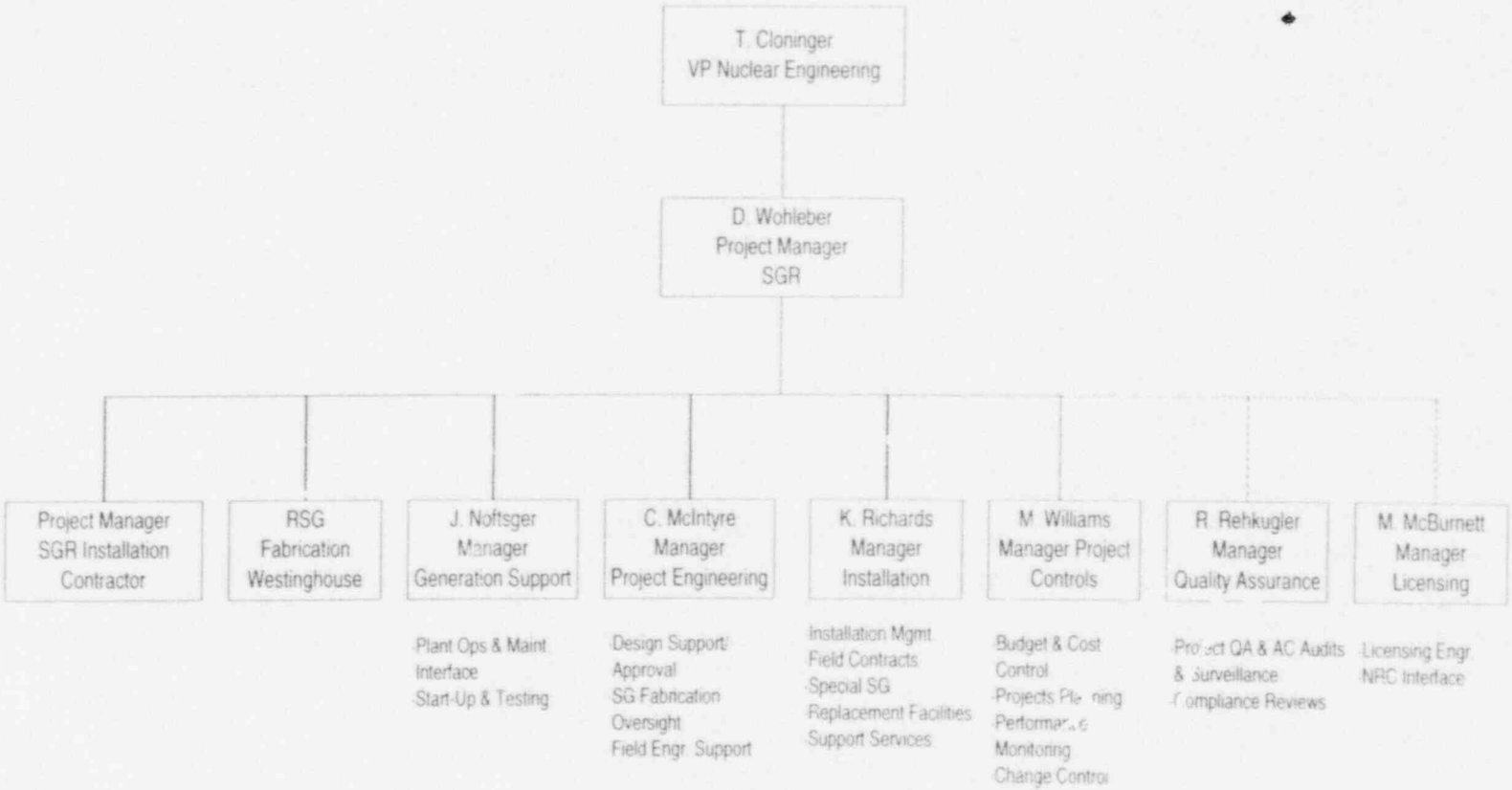
- PURPOSE OF THE MEETING
  - Provide the South Texas Project Plan for Replacing the Unit 1 Steam Generators in the Spring of 2000
- DESIRED OUTCOME
  - Knowledge of STP Plan and Schedules
  - Understanding of Licensing Methodology
    - 10 CFR 50.59
    - Amendments
  - Licensee Awareness for Inspection and Review Plans

BACKGROUND

- Commercial Operation - August 1988
- 4 Loop Westinghouse PWR
- 3800 MWT Core Power
- Westinghouse Model E Steam Generator - Current
- Westinghouse Model Delta 94 Steam Generators - Replacement
- S/G Replacement Outage - 9th Refueling - Spring 2000

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION
UNIT 1 STEAM GENERATOR REPLACEMENT PROJECT

PROJECT ORGANIZATION



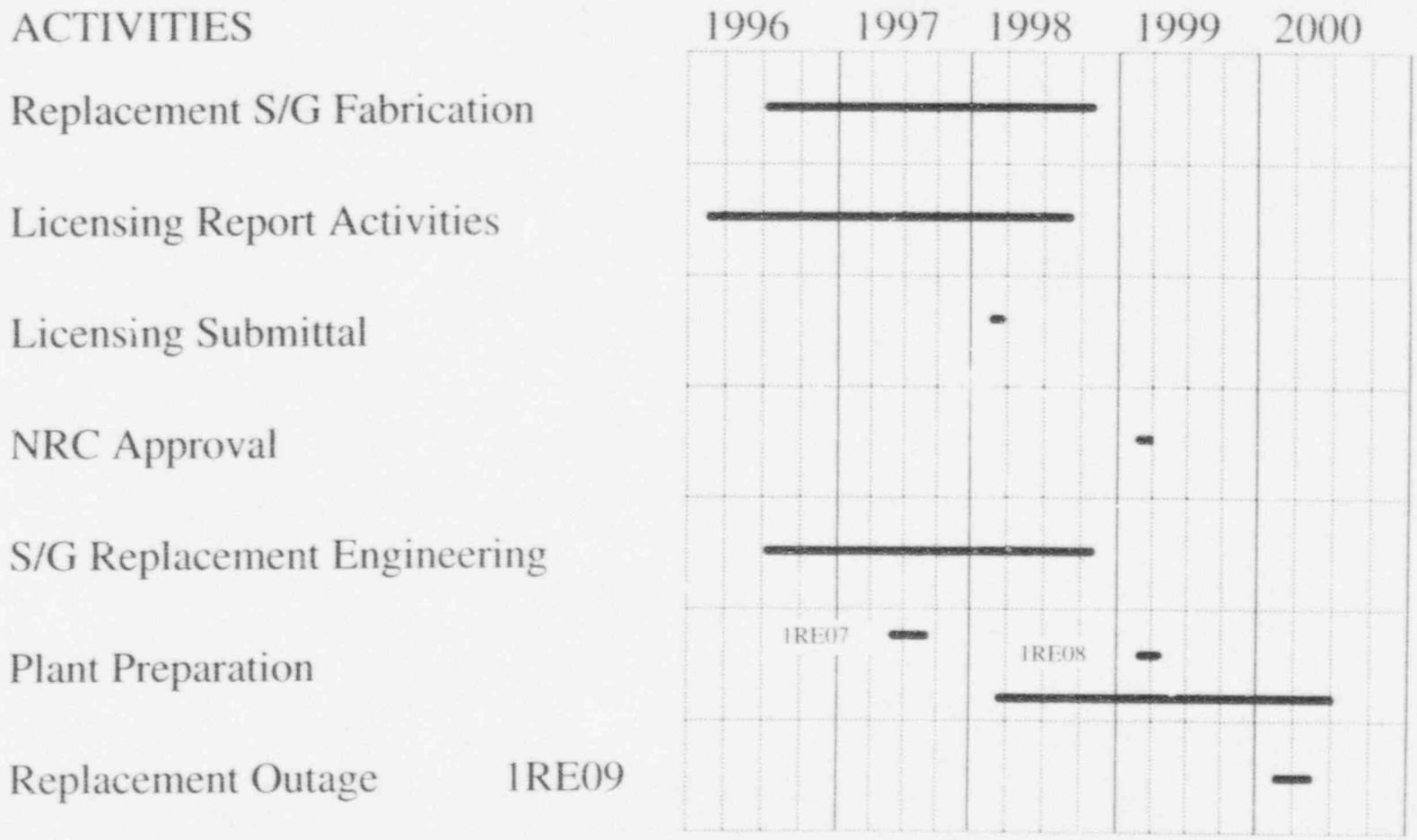
INDEPENDENT OVERSIGHT

- DESIGN / PROCUREMENT / LICENSING
  - Licensee Will Assure Compliance Through Aggressive Oversight
    - Audits
    - Surveillance
    - Inspection
    - Nondestructive Examination
  - Westinghouse Primary Responsibility to Perform Activities and Provide Products that Meet or Exceed Established Requirements
    - Westinghouse Pensacola
    - Westinghouse Pittsburgh
    - Subtier Suppliers

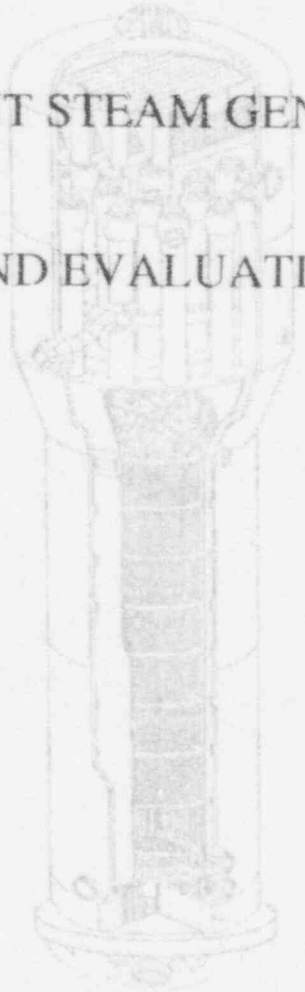
INDUSTRY LESSONS LEARNED

- QUALITY and SAFETY-HIGHEST PRIORITY
- TOTAL STATION INVOLVEMENT
- TEAM BUILDING PROGRAM
- OPEN and FREQUENT COMMUNICATION WITH REGULATORS
- READINESS REVIEW MEETINGS
- CONTINGENCY PLANS

OVERALL PROJECT MILESTONE



ENGINEERING ACTIVITIES



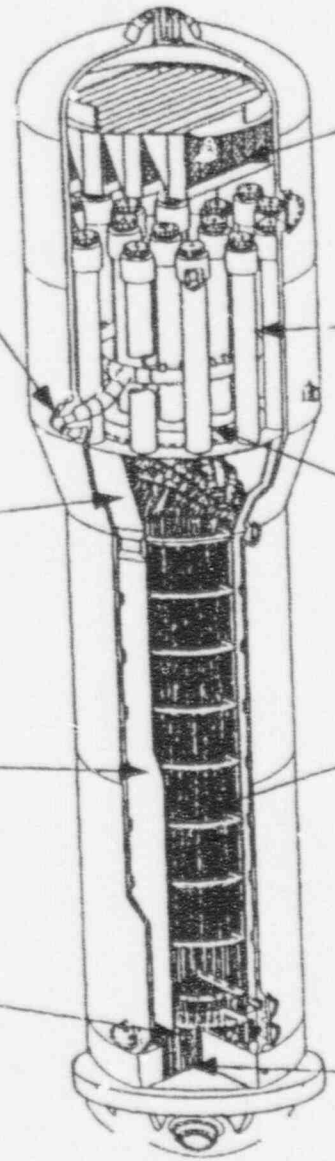
- REPLACEMENT STEAM GENERATOR FEATURES
- ANALYSES AND EVALUATION

DELTA 94 REPLACEMENT STEAM GENERATOR

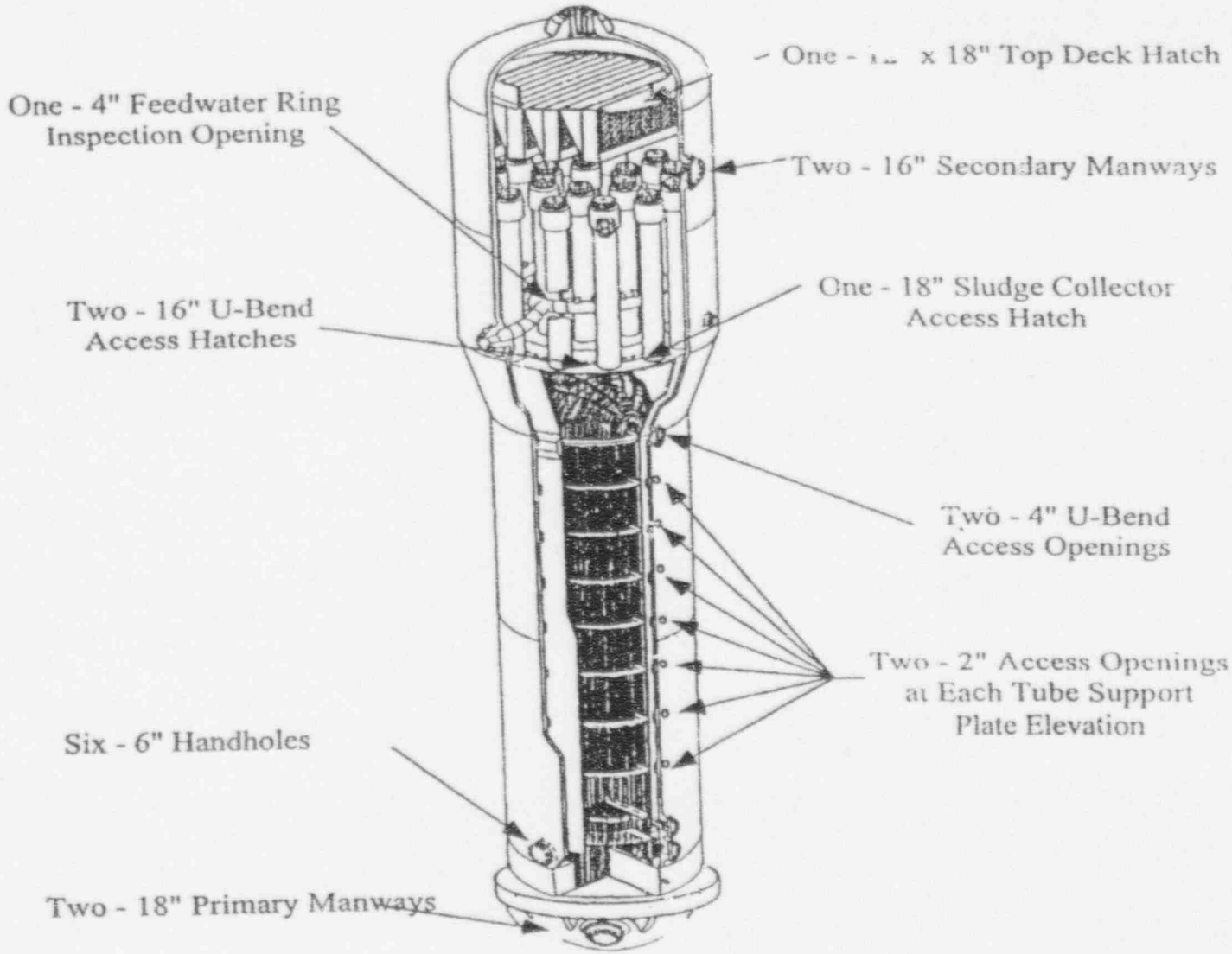
- THE DELTA 94 STEAM GENERATOR IS A LARGER VERSION OF THE WESTINGHOUSE DELTA 75 REPLACEMENT STEAM GENERATORS INSTALLED AT V.C. SUMMER.
- Key Design Features Based on Delta 75
- Key Materials Based on Delta 75
- Larger Heat Transfer Area to Meet South Texas Performance

DELTA 94 REPLACEMENT STEAM GENERATOR

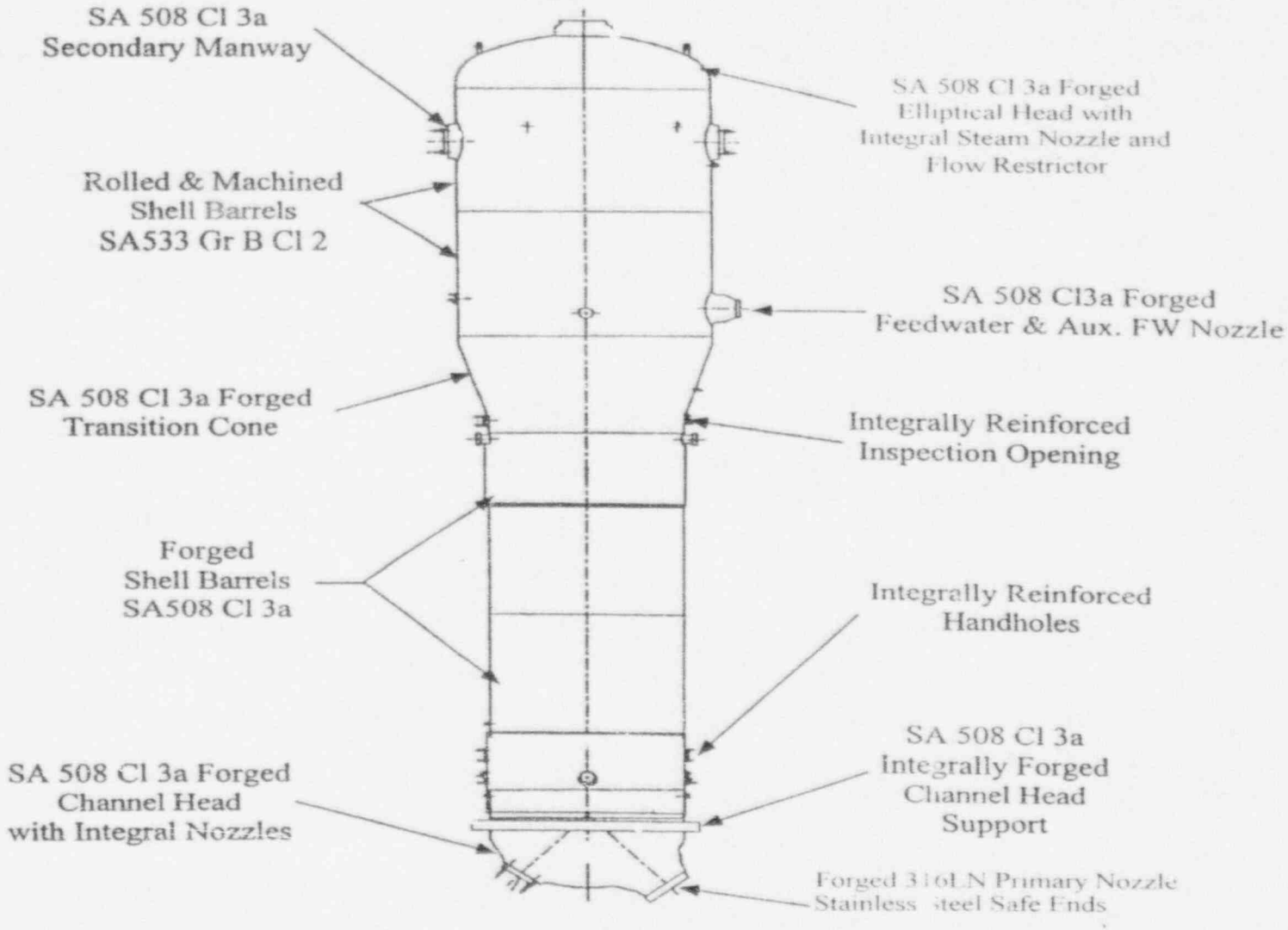
Key Delta 75/Delta 94 Design Features



Delta 94 Maintenance/Access Openings



Delta 94 Pressure Boundary Materials



ANALYSIS / EVALUATIONS

- LOSS-OF-COOLANT ACCIDENT ANALYSIS (LOCA)
  - Large Break LOCA
  - Small Break LOCA
  - POST-LOCA Long Term Core Cooling Subcriticality
  - Hot Leg Switchover Time to Prevent Boron Precipitation
  - LOCA Hydraulic Forces Analysis

ANALYSIS / EVALUATIONS

- NON LOCA
  - Computer Codes RETRAN/VIPRE
- STEAM GENERATOR TUBE RUPTURE
- MAIN STEAM LINE BREAK CONTAINMENT ANALYSIS

ANALYSIS / EVALUATIONS

- LARGE BREAK CONTAINMENT ANALYSIS
  - Computer Code - RELAP5
- RADIOLOGICAL CONSEQUENCES EVALUATION
- EQUIPMENT QUALIFICATION EVALUATION
- OPERATION ANALYSES FOR MARGIN TO TRIP OR ACTUATION SETPOINTS

ANALYSIS / EVALUATIONS

- COLD OVERPRESSURE MITIGATION
- ANTICIPATED TRANSIENT WITHOUT SCRAM
  - Review Based on 1979 ATWS Submittal
- LEVEL TAP LOCATION
  - Optimum Lower Tap Location
  - Nominal, Low-Low, and High-High Setpoints

ANALYSIS / EVALUATIONS

- MECHANICAL ANALYSIS
  - Reactor Vessel Evaluation
  - Reactor Coolant Pump and Motor Evaluation
  - Control Rod Drive Mechanism Evaluation
  - Primary Coolant Loop System Evaluation

ANALYSIS / EVALUATIONS

- FLUID SYSTEMS
  - NSSS / BOP Systems Interface Requirements
  - RCS & NSSS Auxiliary
  - Main Steam
  - Condensate & Feed Water
  - Auxiliary Feed Water
  - S. G. Blowdown & Sampling
  - Chemical Volume Control

LICENSING

- REPLACEMENT PHILOSOPHY
- SCHEDULES
- LICENSING / NRC INTERFACE

REPLACEMENT PHILOSOPHY

- UTILIZATION OF 10 CFR 50.59
- TECHNICAL SPECIFICATION CHANGES
- DEMONSTRATE NO SIGNIFICANT HAZARDS CONSIDERATION
- OPERATOR REQUALIFICATION

POSSIBLE TECHNICAL SPECIFICATION CHANGES

- RCS FLOW RATE
- OP ΔT / OT ΔT SETPOINTS
- STEAM GENERATOR WATER LEVEL SETPOINTS
- STEAM GENERATOR SURVEILLANCE
- REACTOR COOLANT SYSTEM VOLUME
- CONTAINMENT PRESSURE

SCHEDULE

- SUBMITTAL - LICENSING BASIS DOCUMENTS AND AMENDMENTS
  - MARCH 1998
- REQUEST NRC APPROVAL
  - MARCH 1999

LICENSING NRC INTERFACE

- STATUS MEETINGS
- RESIDENT MEETINGS
- INSPECTIONS