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New York Power Authority

William J. Cahill, Jr.
Executive Vice President
and Chief Nuclear Officer

November 22, 1994
JPN-94-061

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
FitzPatrick Core Shroud Repair Meeting Handouts

References:
1. NYPA letter, W. J. Cahill, Jr. to NRC (JPN-94-055), FitzPatrick Core Shroud Repair-Design Report," dated October 27, 1994.
2. NYPA letter, W. J. Cahill, Jr. to NRC (JPN-94-053), "Request for NRC Approval of the FitzPatrick Core Shroud Repair," dated October 21, 1994.

Dear Sir:

This letter transmits the four handout packages provided at the November 15, 1994 meeting between the Authority and the NRC regarding the core shroud repairs planned for the James A. FitzPatrick Nuclear Power Plant. The handouts enclosed are listed below. The first two handouts listed contain information that MPR Associates Inc. maintains in confidence and withholds from public disclosure. There are no non-proprietary versions of these two handouts. The Authority requests that these handouts be considered proprietary and withheld from public disclosure in accordance with the provisions of 10 CFR 2.790. The required affidavit is enclosed.

1. "FitzPatrick Shroud Repair Presentation," by MPR Associates, Inc., dated November 15, 1994 (Proprietary).
2. "FitzPatrick Shroud Contingency Repair-Seismic Design," by MPR Associates, Inc., dated November 1994 (Proprietary).
3. "James A. FitzPatrick Nuclear Power Plant Core Shroud Repair," by the New York Power Authority, dated November 15, 1994 (Non-proprietary).
4. "FitzPatrick Shroud Repair Presentation-Inspections," dated November 1994 (Non-proprietary)

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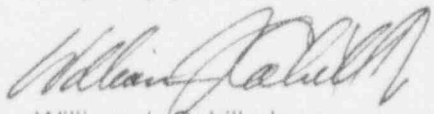
Change: NRC FOR

If you have any questions, please contact Ms. C. D. Faison.

Very truly yours,



William J. Cahill, Jr.
Executive Vice President
and Chief Nuclear Officer
Nuclear Generation

Attachments: as stated

cc: Regional Administrator
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Nicola F. Conicella, Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
U.S. Nuclear Regulatory Commission
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Washington, DC 20555

Office of the Resident Inspector
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MPR
ASSOCIATES INC.
ENGINEERS

November 15, 1994

AFFIDAVIT PURSUANT TO 10 CFR 2.790
RELATIVE TO CORE SHROUD REPAIR
FOR FITZPATRICK

MPR Associates, Inc.
The Commonwealth of Virginia
City of Alexandria

I, Noman M. Cole, depose and say that I am a Principal of MPR Associates, Inc. duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary and referenced in the paragraph immediately below. I am submitting this affidavit in conformance with the provisions of 10 CFR 2.790 of the Commission's regulations in conjunction with New York Power Authority.

The information for which proprietary treatment is sought is contained in the following MPR reports, which were presented to the USNRC at the meeting held at the NRC office in Rockville, MD on November 15, 1994:

1. "FitzPatrick Shroud Presentation," by MPR Associates, Inc., dated November 15, 1994.

2. "FitzPatrick Shroud Contingency Repair - Seismic Design," by MPR Associates dated November 1994.

These reports contain detailed information on the design of the shroud repair system for the James A. FitzPatrick Nuclear Power Plant.

These documents have been appropriately designated as proprietary.

I have personal knowledge of the criteria and procedures utilized by MPR Associates in designating information as a trade secret, privileged or as confidential commercial or financial information.

Pursuant to the provisions of paragraph (b) (4) of Section 2.790 of the Commission's regulations, the following is furnished for consideration by the Commiss on in determining whether the information sought to be withheld from public disclosure, included in the above referenced document, should be withheld.

1. The information sought to be withheld from public disclosure, which is owned and has been held in confidence by MPR Associations, is the design of the shroud repair system for the James A. FitzPatrick Nuclear Power Plant.

2. The information consists of design information or other similar data concerning a repair system, method or component, the application of which results in substantial competitive advantage to MPR Associates. MPR has a patent application pending for this shroud repair system.

3. The information is of a type customarily held in confidence by MPR Associates and not customarily disclosed to the public. MPR Associates has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. This system was applied in determining that the subject document herein is proprietary.

4. The information is being transmitted to the Commission in confidence under the provisions of 10 CFR 2.790 with the understanding that it is to be received in confidence by the Commission.

5. The information, to the best of my knowledge and belief, is not available in public sources, and any disclosure to third parties has been made pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence.

6. Public disclosure of the information is likely to cause substantial harm to the competitive position of MPR Associates because:

   a. Other repairs for similar purposes are performed and sold by major light water reactor competitors of MPR Associates.

   b. Development of these repair designs by MPR Associates required thousands of manhours and hundreds of thousands of dollars. To the best of my knowledge and belief, a competitor would have to undergo similar expense in generating equivalent information.

   c. In order to acquire such information, a competitor would also require considerable time and inconvenience to develop these repair designs.

   d. The information consists of information related to repair of cracked shrouds in the James A. FitzPatrick Nuclear Power Plant and other BWRs as well. The application of which provides a competitive economic advantage. The availability of such information to competitors would enable them to modify their designs to better compete with MPR Associates, take marketing or other actions to improve their position or impair the position of MPR Associates' design, and avoid developing similar data and analyses in support of their design methods or shroud repair system.

e. In pricing MPR Associates products and services, significant research, development, engineering, analytical, manufacturing, quality assurance and other costs and expenses must be included. The ability of MPR Associates' competitors to utilize such information without similar expenditure of resources may enable them to sell at prices reflecting significantly lower costs.

f. Use of the information by competitors in the international marketplace would increase their ability to market such repair designs by reducing the costs associated with their technology development. In addition, disclosure would have an adverse economic impact on MPR Associates' potential for obtaining or maintaining foreign licensees.

Further the deponent sayeth not.

Noman M. Cole
A Principal

Sworn to before me
this 15th day of November, 1994

Notary Public

My commission expires: March 31, 1996

James A. FitzPatrick Nuclear Power Plant
Core Shroud Repair

Presentation to NRC
November 15, 1994

By

New York Power Authority

Agenda

1. Introduction

2. Overview

3. Design

   - Design Description
   - Design and Acceptance Criteria
   - Seismic Design
   - Evaluation Results

4. Material and Fabrication

5. Installation

6. Inspections

7. Conclusions

FitzPatrick Shroud Repair Presentation

Introduction and Overview

November, 1994

FitzPatrick Shroud Repair - Overview

- NYPA Proactive Approach to Core Shroud Issue
- BWROG VIP Participation
- Project Organization
- NYPA Internal Project Organization
- Repair Approach
- Installation Plans
- Current Project Status
- Meeting Objectives

FitzPatrick Shroud Repair - Overview

NYPA Proactive Approach

1993

- Evaluated shroud materials of construction
- Began preparations for shroud inspection and repair
- Vendor pre-qualification
- Lessons learned from Brunswick

1994

- Decided to Inspect during 1994 refueling outage
- Obtained management commitment for major investment
- Recognized need for comprehensive repair
- Developed design requirements and solicited bids
- Selected B&W Nuclear Technologies as prime vendor
- Began BWROG VIP participation

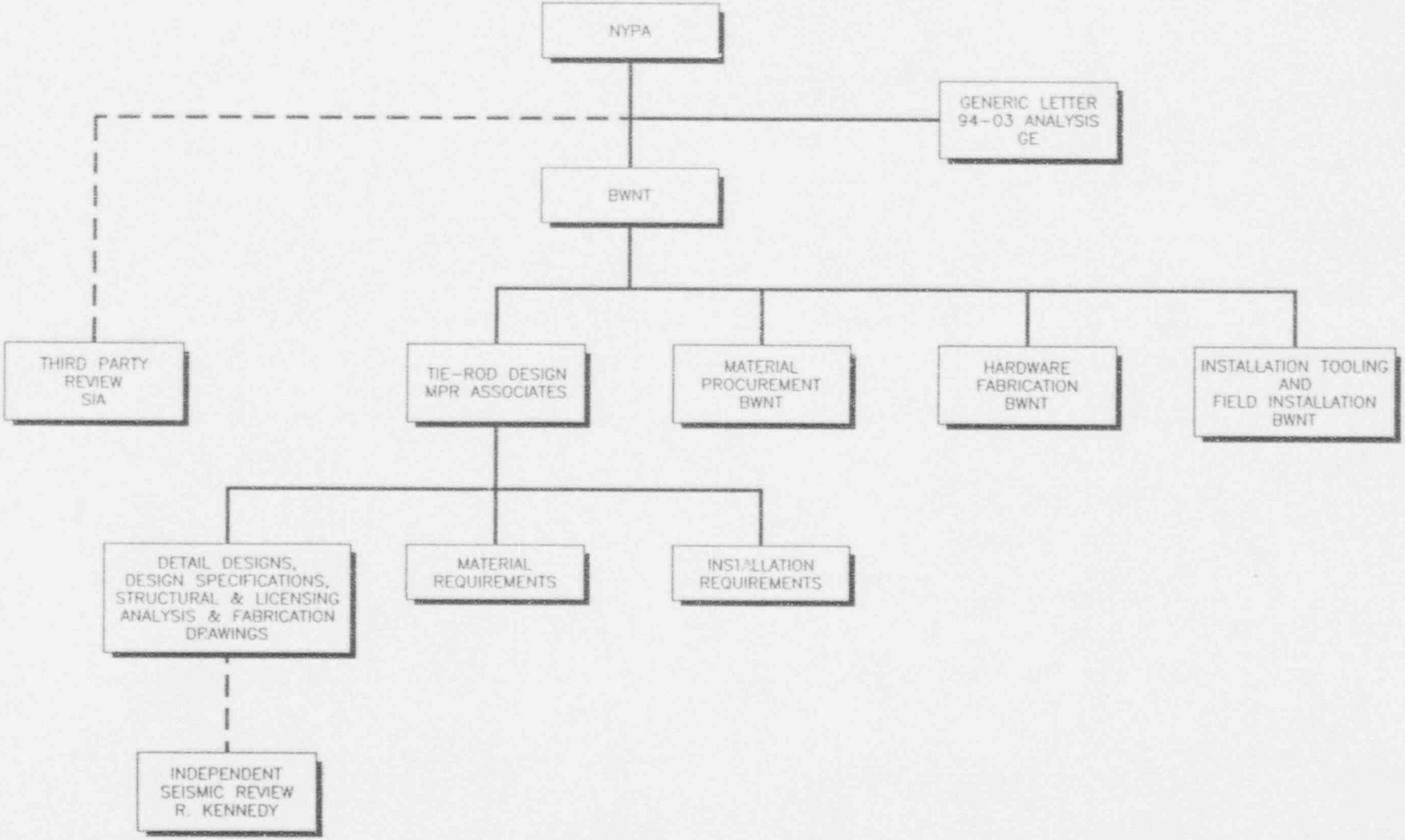
FitzPatrick Shroud Repair - Overview

BWROG Vessel and Internals Project (VIP)

NYPA Membership

Integration	(Task 1)	-	Robert Penny
Inspection	(Task 2)	-	Dave Sancic Joe Lafferty
Assessment	(Task 3)	-	Peter Donahue
Mitigation	(Task 4)	-	Jeff Goldstein
Repair	(Task 5)	-	Joe Lafferty

NEW YORK POWER AUTHORITY
FITZPATRICK SHROUD REPAIR PROJECT



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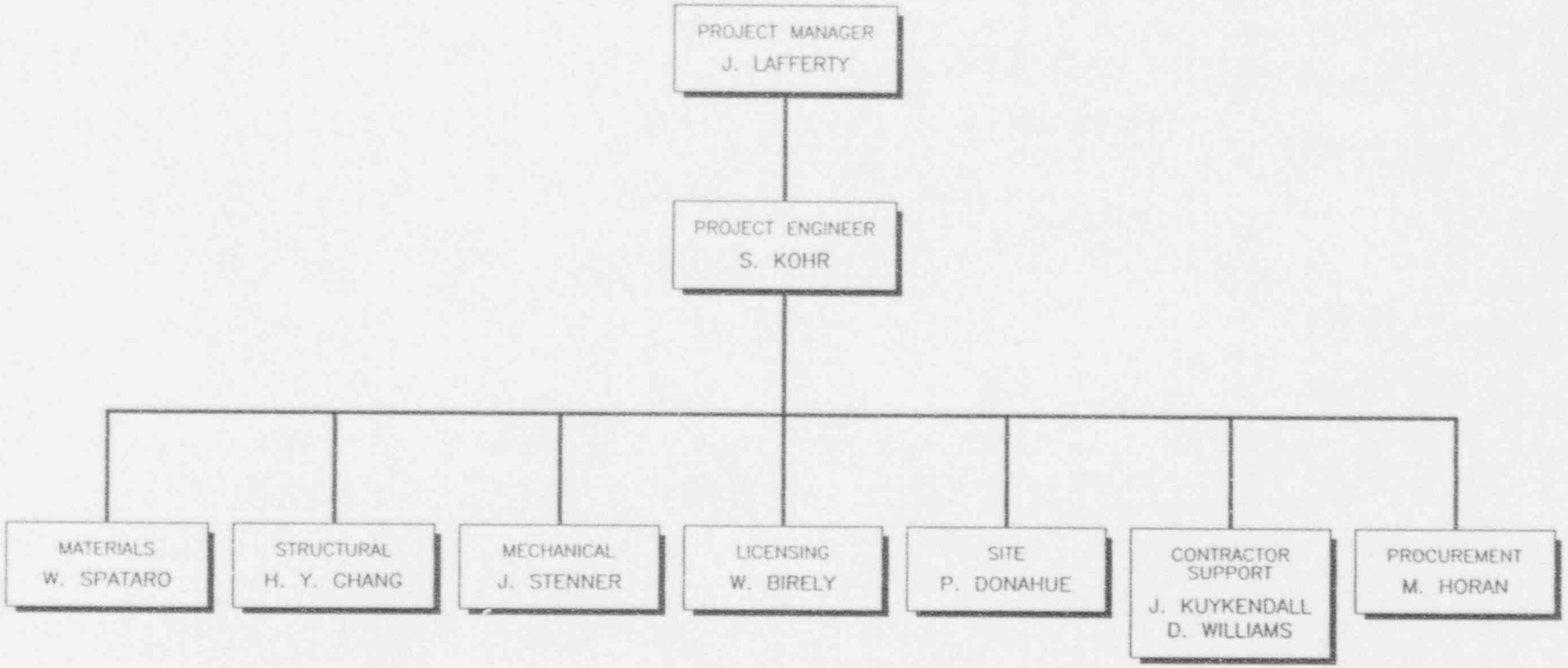
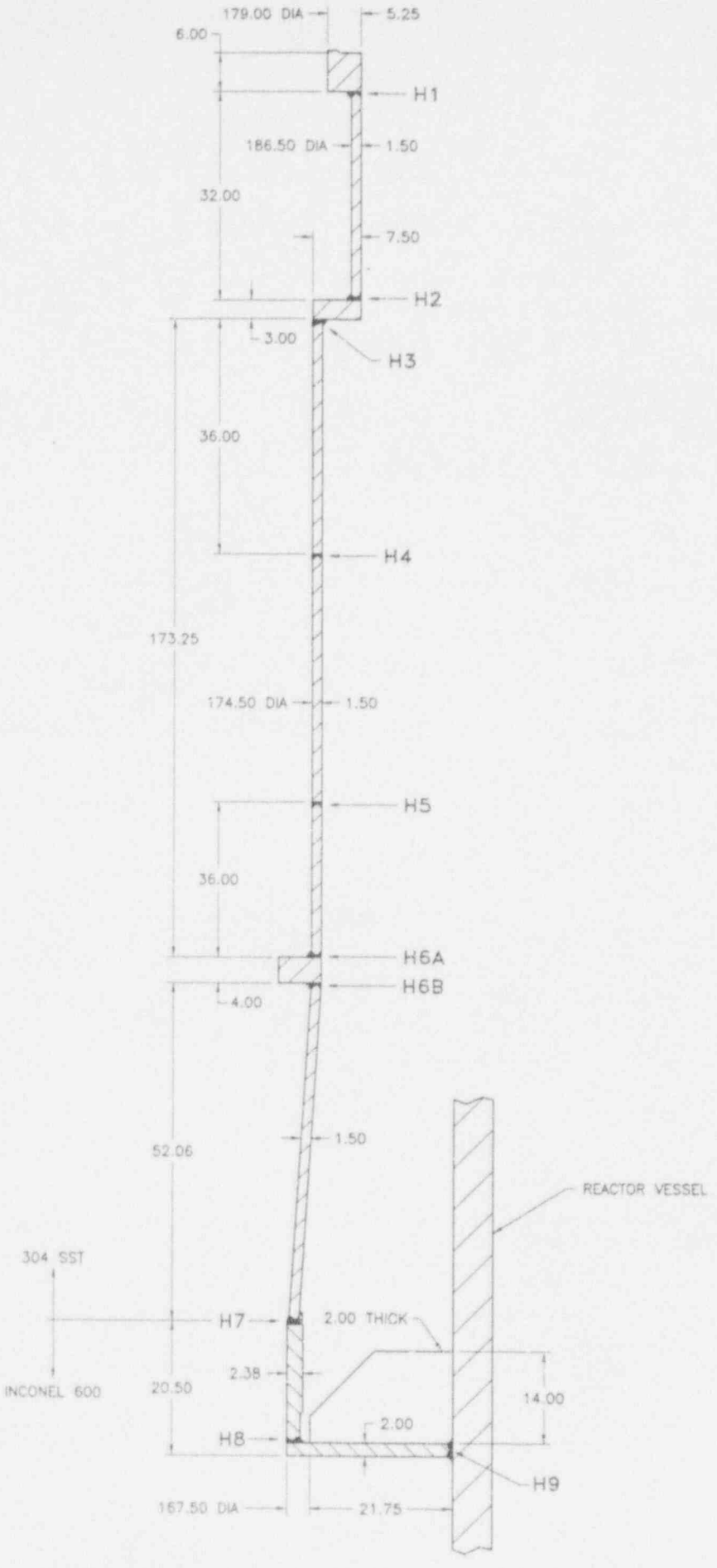
NEW YORK POWER AUTHORITY
INTERNAL PROJECT ORGANIZATION



FitzPatrick Shroud Repair - Overview

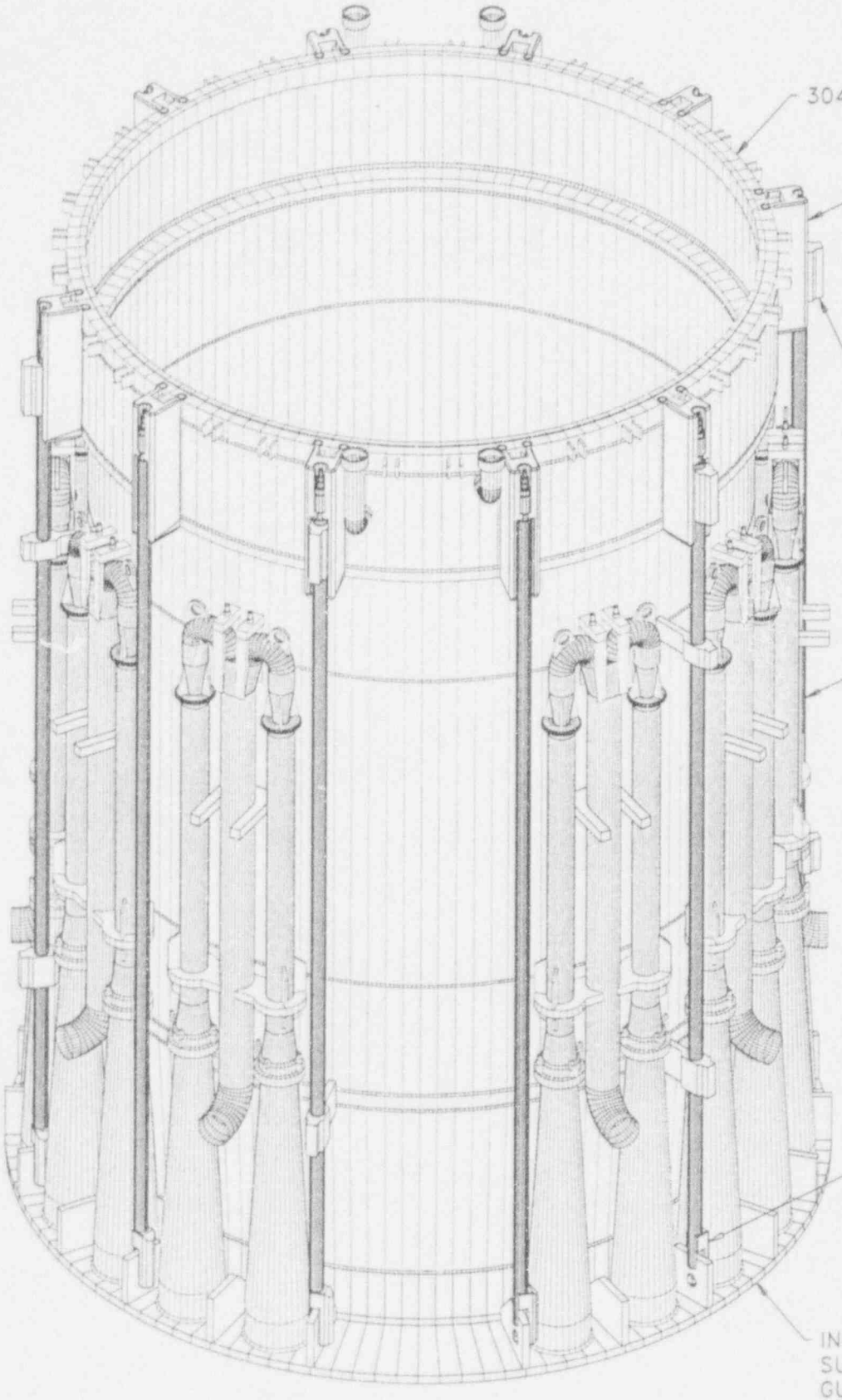
Repair Approach

- Tie-rod/radial restraint system
- Repair functionally replaces shroud circumferential welds



FITZPATRICK SHROUD - HORIZONTAL WELDS

FITZPATRICK SHROUD REPAIR



MPR ASSOCIATES
F-FITZ-3D-B
11-07-94

FitzPatrick Shroud Repair - Overview

Installation Plans

- Install repair during 1994 refueling outage
- Outage begins November 29
- Shroud inspection begins December 4
- Shroud repair window begins December 27
- Estimated installation duration 12.5 days

FitzPatrick Shroud Repair - Overview

Current Project Status

- Repair hardware
  - Design and analysis complete
  - Fabrication in progress
  - Material CERT testing nearly complete
- Tooling and mockup
  - Design and analysis complete
  - Fabrication complete
- Installation
  - Training planned
  - Site pre-outage preparations in progress

FitzPatrick Shroud Repair - Overview

Meeting Objectives

- Facilitate NRC staff review of NYPA submittals
- Request NRC SER by December 9, 1994

FitzPatrick Shroud Repair Presentation

Inspections

November, 1994

Shroud Assessment and Inspection

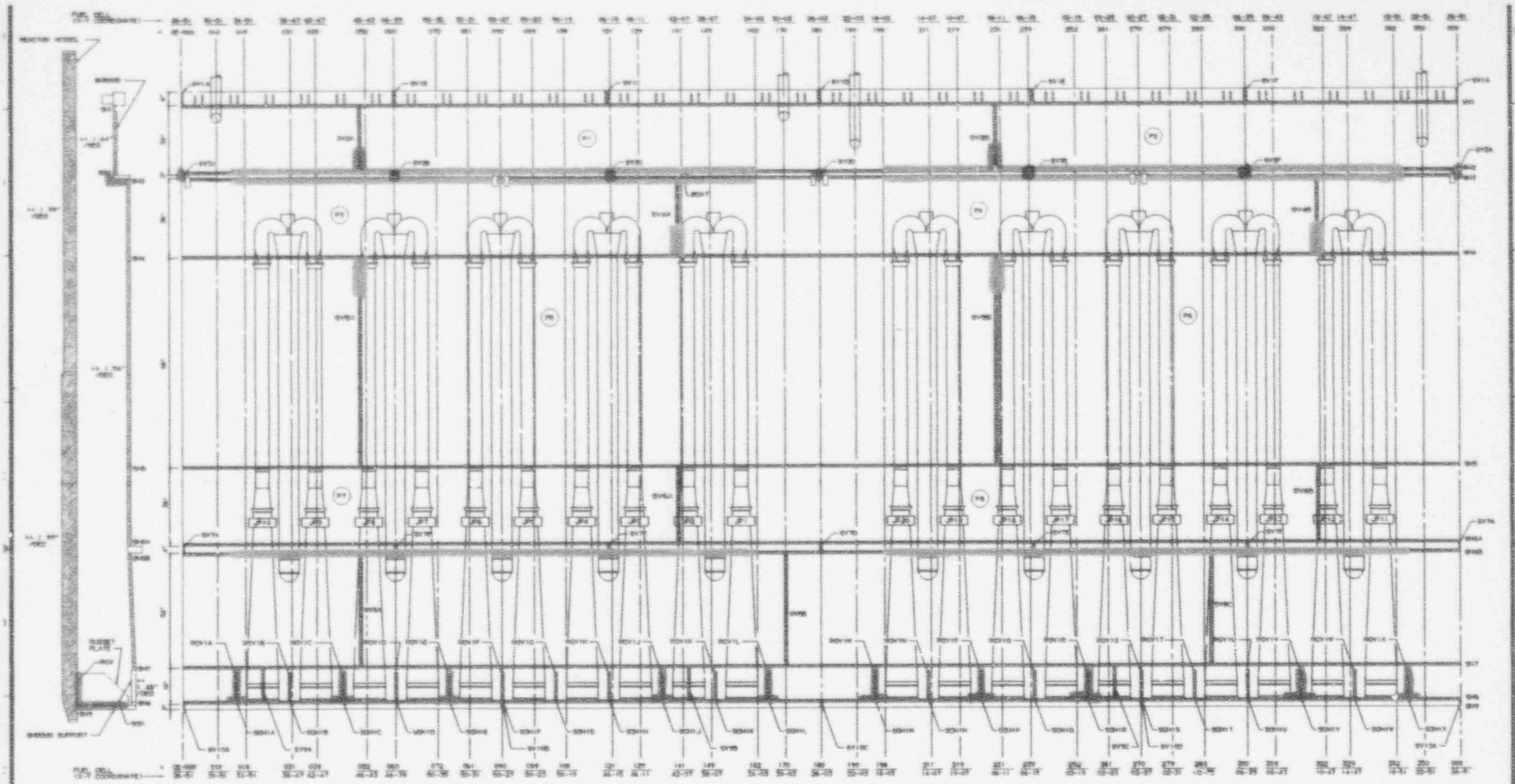
- **Criteria Utilized**
  - BWR VIP Inspection Criteria
  - BWR VIP Assessment Criteria
  - BWR VIP Repair Criteria

- FitzPatrick Assessed All Welds Associated With the Shroud and We Meet or Exceed All BWR VIP Criteria.

Planned Inspections

- **Inspection Prior to Repair**
  - Enhanced VT-1 of Repair Gusset 10 Gusset Plate Welds.
  - Enhanced VT-1 of Top Side of H9, 2" Each Side of Repair Gussets.
  - Enhanced VT-1 ON 100% Accessible of the Top Guide Support Ring - 6 Radial Welds
  - Enhanced VT-1 on Vertical Welds SV2A and SV2B Minimum 6 Inches Above H2 Weld.
  - 100% Accessible UT, Including Creeping Wave on Welds, H2, H3, H6B with G.E. OD Tracker.
  - UT, Including Creeping Wave on 4 Vertical Welds, 2 Above and 2 Below H4 with G.E. Suction Cup Scanner.

- **Inspection Following Repair**
  - Augmented inspection of the shroud and repair during subsequent outage to be developed



OUTSIDE OF SHROUD (ROLLED OUT)

LEGEND

- A — AZIMUTH PROJECTED FROM "A-A" OF CELL (REF DE-1)
- ** — DUE TO DIMENSIONAL CHANGES IN SHROUD AND REACTOR VESSEL HORIZONTAL SCALE OF PENETRATIONS CHANGES SLIGHTLY AS INDICATED (SCALE BASED ON MEAN AVERAGE DIAMETERS)
- SHROUD WELDS
- REACTOR VESSEL BELT LINE WELDS
- (H1) SHROUD PIECE NUMBER
- H1 HORIZONTAL WELD IN SHROUD
- V1 VERTICAL WELD IN SHROUD
- RH HORIZONTAL WELD IN REACTOR VESSEL
- RV VERTICAL WELD IN REACTOR VESSEL
- RSV VERTICAL WELD BETWEEN REACTOR VESSEL AND GUSSET PLATE
- RSH HORIZONTAL WELD BETWEEN SHROUD SUPPORT AND GUSSET PLATE
- ULTRASONIC WELD INSPECTION
- VISUAL WELD INSPECTION

NOTE: ENHANCED VT-1 INSPECTIONS MAY BE SUBSTITUTED FOR ULTRASONIC EXAMINATIONS

DETAIL OF LUGS
(TYP 36 PLACES)

SECTION "A-A"

NOTES

1. FOR GENERAL NOTES, LEGEND AND REFERENCE DRAWINGS SEE FV-2A1

KEY PLAN

REVISIONS

NO.	DATE	REVISED PER NRC PRESENTATION	BY	CHKD	APPD
0	3/1/94	ISSUED			

JAMES A. FITZPATRICK
NUCLEAR POWER PLANT

CORE SHROUD LAYOUT
BASIC INSPECTION PLAN FOR
1994 REFUEL OUTAGE

New York Power Authority

DWG NO SV-1

REV 0

COMPONENT/ WELD	VIP REQUIREMENT	FITZPATRICK PLAN	CONCLUSION
H1 - H7	UT if no repair planned. Designer to specify if repair planned.	Repair is planned which assumes all welds could be cracked through-wall and 360 degrees. UT examination of 100% accessible H2, H3, H6b welds.	In agreement with VIP requirement. Examination exceeds VIP requirements.
H8	No inspection required at this time.	Repair is planned which assumes all welds could be cracked through-wall and 360 degrees.	Repair exceeds VIP requirements.
H9	No inspection required at this time.	Enhanced VT-1 of two inches both sides of gussets used for repair.	Examination exceeds VIP requirements.
Shroud Cylinder Vertical Seams	No inspection required unless credit is taken in repair for these welds.	Enhanced VT-1 from OD for 6 inches on vertical welds SV2A and SV2B. UT from OD for a minimum of 6" for each vertical seam intersecting with H4.	Vertical seam weld failure is considered highly unlikely. Vertical seam weld failure is considered highly unlikely. In agreement with VIP requirements.
Shroud Head Flange Ring Segment Welds	No inspection required unless credit is taken in repair for these welds.	All segments captured by shroud head bolts. No inspection planned.	In agreement with VIP requirement.
Top Guide Support Ring Segment Welds	No inspection required unless credit is taken in repair for these welds.	Enhanced VT-1 of six radial welds on Top Guide Support Ring. 6 of 6 segments captured by repair.	In agreement with VIP requirement.
Core Plate Support Ring Segment Welds	No inspection required unless credit is taken in repair for these welds.	All segments captured by core plate bolting. No inspection planned.	In agreement with VIP requirement.
Gusset Plate Attachment Welds	No inspection required unless credit is taken in repair for these welds.	Enhanced VT-1 of 10 gusset plate welds being used for repair.	In agreement with VIP requirement.
Core Spray Piping and Associated Support Welds	Per IEB 80-13	Per IEB 80-13	In agreement with VIP requirement.
Misc. Attachment Welds	No inspection required unless credit is taken in repair for these welds.	Each weld has been individually evaluated and it was determined that none were required to support the repair design. No inspections planned.	In agreement with VIP requirement.

Conclusion

FitzPatrick Inspections Exceed VIP Requirements

Inspections Prior to Repair and In Subsequent Cycles Provide Assurance that the Repair Remains Effective and Structural Margins are Maintained.