December 5, 1996

By:

DFOJ

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MEMORANDUM	TO:	David B. Matthews, Chief Generic Issues and Environmental Projects Branch Division of Reactor Program Management Office of Nuclear Reactor Regulation		
FROM:		Joseph L. Birmingham, Project Manager Generic Issues and Environmental Projects Branch Division of Reactor Program Management	Original	Signed

Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF NOVEMBER 26, 1996, PUBLIC MEETING WITH SIEMENS POWER CORPORATION SENIOR MANAGEMENT TO DISCUSS LARGE-BREAK LOCA CODE ISSUES

On November 26, 1996, members of Siemens Power Corporation (Siemens) senior management met with Nuclear Regulatory Commission staff and management to discuss large-break loss-of-coolant accident code issues. The primary concern is the potential for excessive peak clad temperatures to occur as a result of nonconservative estimates of post-LOCA reflood heat transfer rates. Siemens senior management presented an overview of the history and current status of the issue and also the preliminary findings of a Siemens Augmented Assessment Team formed to evaluate the issue. Siemens senior management discussed the preliminary Augmented Assessment Team recommendations and the proposed schedule for implementation of the recommendations. Siemens also discussed planned initiatives to improve communications with the NRC and licensees by developing and implementing written guidance.

The NRC staff asked questions on the scope of the Augmented Assessment Team, the methods used by the assessment team, and the preliminary findings. NRC management indicated that staff resources would be dedicated to inspect and evaluate the resolution of this issue and also the generic implications.

> RD-8-ZEX XOSM-6 meeting

Meeting attendees are listed in Attachment 1 and the slides presented by Siemens are in Attachment 2.

Attachments: As stated

cc w/atts: See next page Distribution: See attached page

DOCUMENT NAME: G:\JLB\SIEMENS.MTG

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UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Distribution: Mtg. Summary w/Siemens dated November 26, 1996 Central File (w/atts 1&2) PUBLIC PGEB r/f OGC ACRS EWang OI/Dan Murphy E-Mail (w/att 1) A Thadani F. Miraglia R. Zimmerman T. Martin B. Sheron D. Matthews R. Jones A. Levin

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cc:

SIEMENS SENIOR MANAGEMENT MEETING ATTENDEES NOVEMBER 26, 1996

NAME

ORGANIZATION

DAN MURPHY ASHOK THADANI ROBERT JONES FRANK ORR LARRY PHILLIPS GEORGE THOMAS ED GOODWIN JOSEPH BIRMINGHAM JOE STAUDENMEIER ALAN LEVIN STEVE KOENICK TOMMY LE ALBERT L GARROU MIKE SCHOPPMAN DANIEL POTERALSKI DAN FADEL DAVID MCALEES CHRIS M POWERS JIM NORDAHL ROGER REYNOLDS DON CURET

NRC\OI NRC\NRR NRC\NRR\DSSA\SPSB NRC\NRR\DSSA\SRXB NRC\NRR\DSSA\SRXB NRC\NRR\DSSA\SRXB NRC\NRR\DRPM\PECB NRC\NRR\DRPM\PGEB NRC\NRR\DSSA\SASG NRC\NRR\DSSA\SRXB NRC\NRR\DSSA\PECB NRC\NRR\DRPE\PDII-1 CP&L\H.B.ROBINSON FLORIDA POWER & LIGHT CAROLINA POWER & LIGHT CONSUMERS POWER PALISADES SIEMENS POWER CORPORATION SIEMENS POWER CORPORATION SIEMENS POWER CORPORATION SIEMENS POWER CORPORATION SIEMENS POWER CORPORATION

ATTACHMENT 1

SIEMENS

NRC Management Meeting

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November 26, 1996



Siemens Power Corporation - Nuclear Division



Siemens Power Corporation - Nuclear Division





Siemens

Approach:

Establish cross-functional team comprised of personnel from Quality, Methods & Codes and Nuclear Engineering. Augment this core team with independent consultant support with specialized LOCA methodology and licensing skills. If possible, team with SPC customer technical resources provided through the Siemens Fuels Users Group.

Core team members:

Doug Adkisson (Leader)	Sales & Projects
Dick Collingham	Methods & Codes
Jerry L Holm	Quality
Larry Nielsen	PWR Neutronics
Don Curet	Reload Licensing
Marvin Thurgood	Consultant, LOCA Methodology/Licensing Expertise

The team will conduct interviews, perform reference searches, review calculation notebooks, seek customer feedback and NRC reviewer input, as appropriate. The team will also enlist additional resources as necessary to complete this assessment in an expeditious manner.

Schedule:		Completion Det	
	Form Team	11/01/96	
	Conclude Assessment	11/30/96	
	Issue Draft Conclusions	12/06/96	
	Finalize Conclusions	12/13/96	
	Management Review	12/20/96	
	Communicate Results	12/30/96	

- I. Objectives:
 - Evaluate SPC's PWR LBLOCA methodology development process
 - Confirm compliance with relevant SERs including an assessment of the licensing basis
 - Evaluate the interface between "Development" and "Application"
- II. Approach:
 - Cross functional team from Quality, M&C, Nuc. Eng. and Reload Licensing
 - Augmented w/outside consultant
 - Perform Events and Causal Factors analysis
 - Conduct interviews, reference searches, calculation notebook reviews

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- Identify corrective actions for identified generic issues
- III. Schedule:

•	Team Formation	11/01/96
•	Complete Assessment	11/30/96
•	Finalize Conclusions	12/13/96
•	Management Review	12/20/96
•	Communicate Results	12/30/96

Evolution of the LBLOCA Model Concern - TOODEE2 Updates

Four Distinct Phases:

•	Phase 1		FCTF Testing and Correlation Development	pre-1987
•	Phase 2		Early Application Experience; Non-Physical Behavior Concern Defined	1987-1991
•	Phase 3	ų,	Resolution to Non-Physical Trend Developed to Improve Sensitivity Analysis Capability	1991-1995
•	Phase 4	1	Resolution Approach Deemed Inappropriate	6/95-Present

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Preliminary Assessment Findings Regarding TOODEE2 Updates

- Phase 1: Less Than Adequate Test Planning and Design Less Than Adequate Correlation Verification and Validation
- Phase 2: Less Than Adequate Problem Tracking and Closure
 Less Than Adequate Technical Review
- Phase 3: Less Than Adequate Code Change Control
 Less Than Adequate Licensing Compliance Review
- Phase 4: Less Than Adequate Licensing Submittals
 Less Than Adequate Management Interface w/NRC

Preliminary Assessment Team Recommendations

- New provisions for error identification, resolution, and closure are well-founded; application to Engineering/Methods & Codes should proceed judiciously
- Our current code revision control process should be reviewed and revised, as appropriate, in light of identified weaknesses in previous work
- Create Engineering Quality Teams (EQTs) to improve licensing application and analytical work
- Create an Engineering Assessment Program to improve performance

SPC Communication Initiatives

Objective:

Improved recognition of NRC issues and requests.

SPC Communication Initiatives

- Implement written guidance to define requirements for evaluation and reporting to licensees for submittal of code and model changes.
- Implement written guidance for effective communication with the NRC and licensees.
- Initiate benchmarking with utility customers to learn effective NRC submittal and reporting processes.