



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555

July 14, 1992

Docket Nos. 50-266  
and 50-301

LICENSEE: Wisconsin Electric Power Company  
FACILITY: Point Beach Nuclear Plant Unit Nos. 1 and 2  
SUBJECT: SUMMARY OF MEETING WITH WISCONSIN ELECTRIC POWER COMPANY (WEPCO) ON  
MAY 7, 1992 REGARDING INDIVIDUAL PLANT EXAMINATION

A meeting was held with Wisconsin Electric Power Company (WEPCo) staff on May 7, 1992 to obtain an overview of WEPCo activities on the Individual Plant Examination (IPE) for the Point Beach Nuclear Plant. The meeting was prompted by a change in the contractor performing the Level 1 review for WEPCo. Prior to this change, the NRC staff had encouraged WEPCo to provide an informal interim report on this important activity. At the meeting WEPCo reviewed the history of their IPE efforts and described general methodology and status of work efforts.

WEPCo responded initially to Generic Letter 88-20, "Individual Plant Examination for Severe Accident Vulnerabilities," by letter dated October 27, 1989. That letter outlined a general approach and a schedule for performing the IPE. By letter dated September 20, 1990 WEPCo notified NRC that the contractor doing IPE work for them had filed for protection under Chapter 11 of federal bankruptcy laws and would not be completing the work. A schedule change at that time extended the total schedule four months beyond the three years requested in the generic letter.

In March of 1992, WEPCo terminated the second contract. They contracted with a third contractor at about the same time. At the meeting on May 7, WEPCo explained the impact this second change in the contractor would have on the performance of the IPE. Although WEPCo expected a higher standard of performance from the new contractor, completeness of the reports, and perhaps quality of the reviews, might be jeopardized by holding to the existing schedule.

The NRC staff expressed strong encouragement to WEPCo to strive for a quality IPE. NRC advised WEPCo to submit a letter setting forth a schedule which would accommodate preparation of a quality IPE and documenting why a schedule

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delay is necessary and beneficial. NRC also advised WEPCo of our willingness to meet again in six months (nearing finalization of the Level 1 and 2 Technical Reports but prior to their evaluation of results) if WEPCo desires such a meeting.

A set of the viewgraphs used by WEPCo in their formal presentation is enclosed as is a list of attendees.

Original signed by

Robert Samworth, Project Manager  
 Project Directorate III-3  
 Division of Reactor Projects III/IV/V  
 Office of Nuclear Reactor Regulation

Enclosures:  
 As stated

cc w/enclosures:  
 See next page

DISTRIBUTION:

- Docket File
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- PDIII-3 Reading File
- T. Murley/F. Miraglia, 12G18
- J. Partlow, 12G18
- B. Boger
- J. Zwolinski
- J. Hannon
- R. Samworth
- P. Kreutzer
- OGC, 15B18
- E. Jordan, MNBB3701
- NRC Participants
- ACRS (10), P315
- G. Grant, 17G21
- E. Greenman, RIII

OFC	{PDIII-3/LA	{PDIII-3/PM	{PDIII-3/D		
NAME	{PKreutzer	{RSamworth/lh	{JHannon		
DATE	{7/9/92	{7/9/92	{7/14/92		

Mr. Robert E. Link  
Wisconsin Electric Power Company

Point Beach Nuclear Plant  
Unit Nos. 1 and 2

cc:  
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ENCLOSURE 1  
WEPCO/NRC MEETING  
MAY 7, 1992

NAME

ORGANIZATION

Bob Samworth  
John Flack  
Ed Rodrick  
Ed Mercier  
Stan Guokas  
Harv Hanneman  
Keith Jury  
I. Jackiw  
John Schiffgens  
Duke Wheeler  
John Hannon  
Jocelyn Mitchell

NRR/PDIII-3  
RES/SAIB  
RES/SAIB  
WEPCo  
WEPCo  
WEPCo  
RGNIII/SRI  
RGNIII  
NRR/RAB  
RES/SAIB  
NRR/PDIII-3  
RES/SAIB

WISCONSIN ELECTRIC POWER COMPANY  
POINT BEACH NUCLEAR PLANT  
MEETING TO DISCUSS GENERIC LETTER 88-20 IPE/PRA  
MAY 7, 1992

AGENDA

1. OVERVIEW - ~~E J LIPKE~~ R K HANNEMAN
2. HISTORICAL BACKGROUND - R K HANNEMAN
3. JANUARY 1992 IPE/PRA INTERIM REVIEW - S E GUOKAS
4. CONTRACT TERMINATION/RENEGOTIATION - R K HANNEMAN
5. LEVEL 1 IPE/PRA STATUS - S E GUOKAS
6. LEVEL 2 IPE/PRA STATUS - E J MERCIER
7. REVISED NRC SCHEDULE - R K HANNEMAN



## OVERVIEW

- \* Introduction
- \* Historical Overview
- \* Corporate Goals
- \* Staffing/Resources

## HISTORICAL BACKGROUND

- \* NUREG/CR-4458 and NSAC-113 A-45 Decay Heat Removal Studies
- \* Generic Letter 88-20 Issued (11/23/88)
- \* Original IPE/PRA contract with EI International (12/9/88)
- \* Contract termination with EI (3/26/90)
- \* Contract with Westinghouse (9/5/90)
- \* Submittal date revised to December 1992
- \* Schedule delays during 1991
- \* Independent Review during January 1992

## NRC SELECTED POINT BEACH FOR USI A-45 CASE STUDY

- Sandia National Laboratories Performed Limited-Scope PRA for Decay Heat Removal
- DHR Study Excluded Large-Break LOCA, ATWS, Reactor Vessel Rupture, and Interfacing System LOCA
- DHR Study Included "Special Emergencies" (Seismic, Fire, Internal Flooding, Etc.)
- DHR Core Melt Probability was  $\approx 3.1E-4/\text{year}$
- NUREG/CR-4458 Issued December 1986



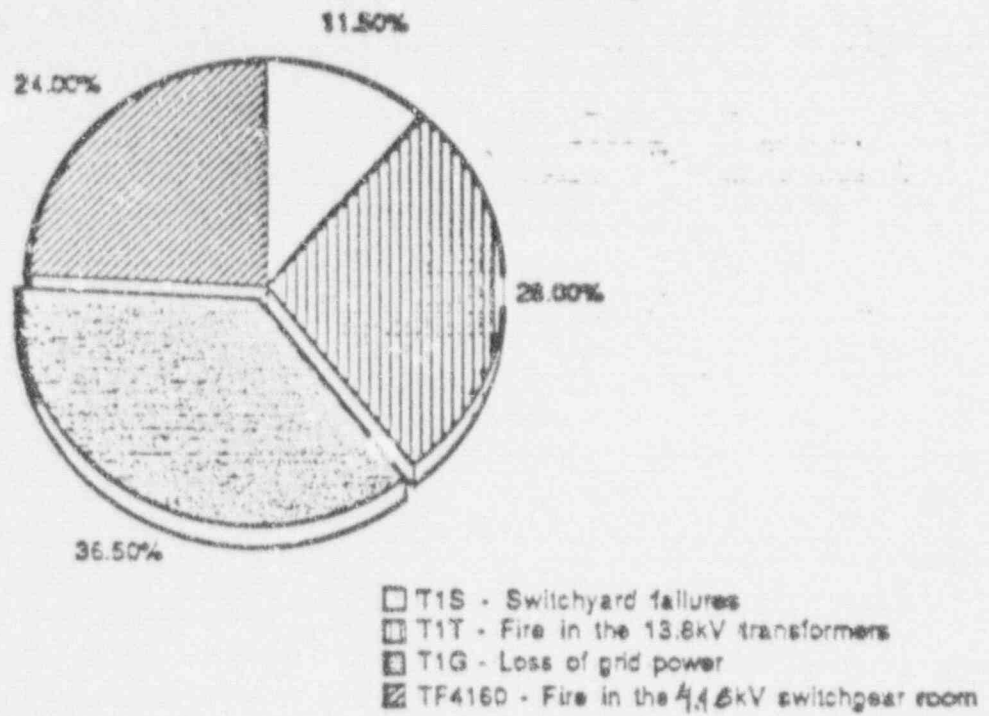
## EPRI/WOG REANALYZED DHR STUDY

- Used Recent Plant Mods (E.G. Additional Station Batteries)
- Used Best-Estimate Input
  - \* Initiator Frequencies (E.G. Transient-Induced LOCA)
  - \* Component Failure Rates
  - \* Operator Recovery Actions
- Reduced DHR Core Melt Probability  $\approx 30$  to  $1.0E-5$ /year
- Independent, Bunkered SDHR System Value-Impact Ratio  $\approx 2.0E-5$  ( $2.0E-3$  including On-Site Averted Cost)
- NSAC 113 Issued March 1988

## SUMMARY OF RESULTS

<u>ACCIDENT INITIATOR TYPE</u>	<u>EPRI/WOG STUDY RESULTS</u>	
	<u>CORE MELT FREQUENCY</u>	<u>PERCENTAGE OF RISK</u>
SEISMIC	7.4E-6/YR.	74%
STATION BLACKOUT	1.4E-6/YR.	14%
SMALL BREAK LOCA	6.8E-7/YR.	6.8%
OTHER INTERNAL EVENTS	4.5E-7/YR.	4.5%
FIRE	6.3E-8/YR.	0.6%
OTHER EXTERNAL EVENTS (INTERNAL & EXTERNAL FLOODING, WIND, LIGHTNING)	1.0E-8/YR.	0.1%
<hr/>		
TOTALS	1.0E-5	100%

### Initiator Contributions to Blackout Core Damage



### Initiator Contributions to Overall Core Damage

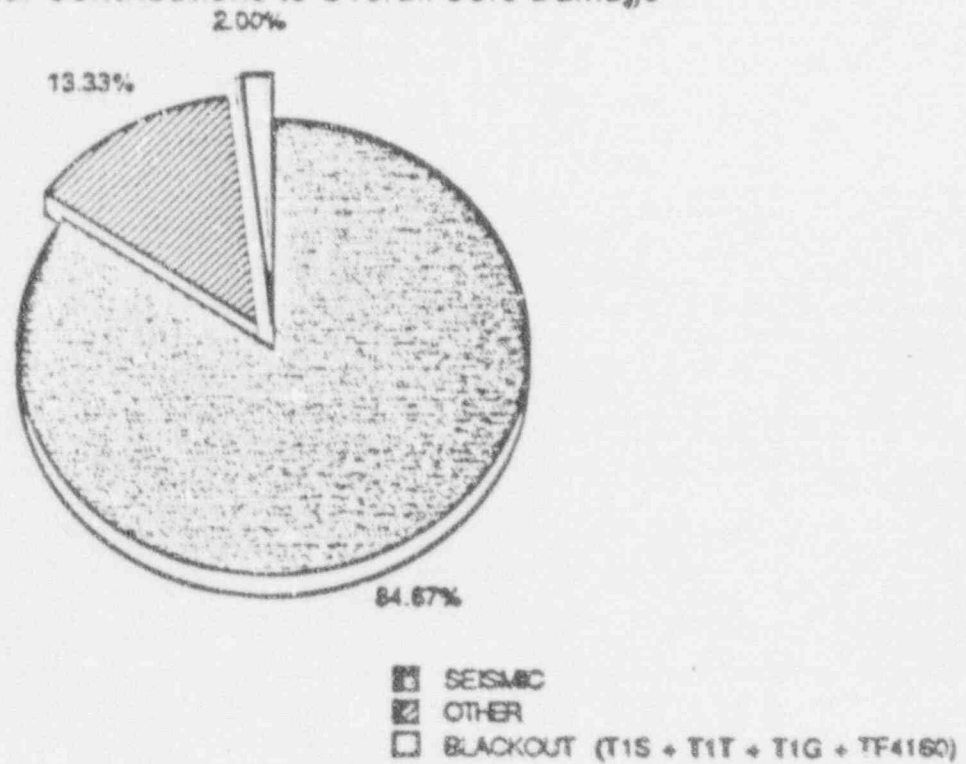


Figure 3-2

PROPOSED MODIFICATION 1 - INSTALL 400,000 MAKEUP WATER STORAGE  
TANK

BENEFITS: ADEQUATE WATER FOR PLANT STARTUP  
20% REDUCTION IN TOTAL CORE MELT  
FREQUENCY (SEISMIC UPGRADE ALONE)  
NO REDUCTION FROM TORNADO-MISSILE  
PROTECTION

COST: \$300,000 FOR SEISMIC CLASS 1 UPGRADE  
\$2,000,000 FOR TORNADO-MISSILE  
PROTECTION

DECISION: INSTALL TANK AS SEISMIC CLASS 1 ONLY  
WITH SEISMIC CLASS 1 CONNECTION TO  
AFW PUMP SUCTION LINES

## GENERIC LETTER 88-20

### - Purpose of IPE for each Utility

- \* Develop an appreciation of severe accident behavior;
- \* Understand the most likely severe accident sequences that could occur at its plant;
- \* Gain a more quantitative understanding of the overall probability of core damage and fission product releases; and
- \* Reduce the overall core damage probability, if necessary, by modifying hardware and procedures that could help prevent or mitigate severe accidents.

### - Each Utility Utilize its Staff to the Maximum Extent Possible

## JANUARY 1992 IPE/PRA INTERIM REVIEW

- \* Status of IPE/PRA at Time of Peer Review
- \* Contract with SAROS, Inc for January 1992 Peer Review
  - Review team included personnel from RG&E and WPS
- \* Review identified specific concerns
  - Systems models
  - Treatment of LOSP
  - Modelling of two unit interface
  - Human Reliability Analysis/Operator Recovery
  - Other concerns



## CONTRACT TERMINATION/RENEGOTIATION

- \* Decision to Terminate PRA Contract
- \* Agreement to Terminate Second PRA Contract (3/30/92)
- \* Level 2 PRA Contract with FAI Renegotiated (3/24/92)
- \* Revised Specification and RFP Prepared (2/24/92)
  - Proposals Received (3/6/92)
  - Amended Proposals Requested (3/19/92)
  - Amended Proposals Received (3/23/92)
  - Bid Evaluation and Vendor Selection (3/31/92)
- \* NUS Contracted to Assist with Completion of IPE/PRA

## LEVEL 1 IPE/PRA STATUS

- “ Status of Level 1 Activities
  - WE Directing the IPE/PRA Completion
  - NUS On-site Staff
  - NUS Home Office Assistance
  - WE Staff Resources
  - Use of NUS "PRA Workstation" Software
- \* Proposed Twenty-six Week Project Schedule
  - Initial Quantification of Sequences (7/10/92)
  - Final Level 1 Quantification (3/1/92)
  - Plant Damage States to FAI (8/1/92)

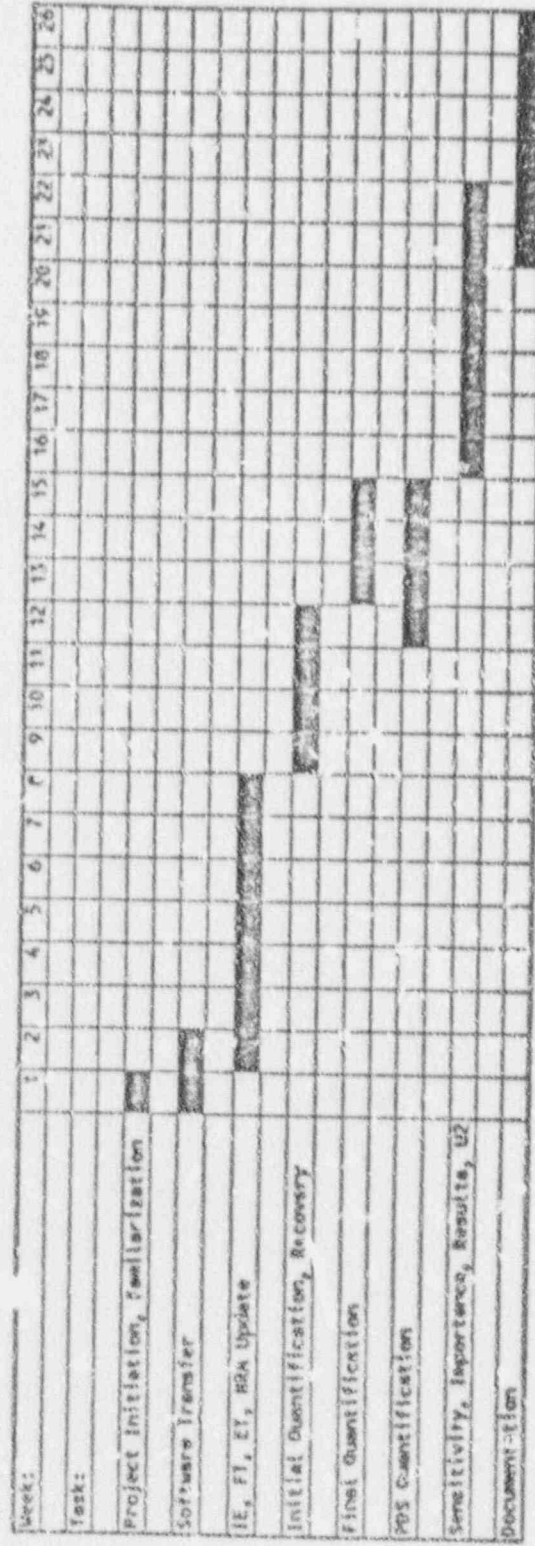


Figure 8-1: Project Schedule

## LEVEL 2 IPE/PRA STATUS

- \* Status of Level 2 Activities
- \* Status of MAAP Development
- \* Proposed Level 2 Schedule

## PRA Level II Status

- \* Containment photographic walkdown performed, draft notebook under review at FAI
- \* Position papers for Molten Core Concrete Interaction, Steam Explosion, Hydrogen Burn, and Vessel Thrust Force prepared by FAI. MCCI paper reviewed and returned by WEPCO with remainder under review.
- \* FAI transmitted preliminary draft of Containment Event Tree
- \* FAI has reviewed BECHTEL containment design calculations and will be using them to prepare position paper regarding ultimate containment strength.
- \* We have been in close communication with Wisconsin Public Service and are reviewing their independent review comments regarding their Level II analysis for applicability to the Point Beach project.

## MAAP - Modular Accident Analysis Program Activities

- \* Developed Point Beach parameter deck for MAAP PWR Rev 17.0
- \* Developed parameter deck comparison between Ginna, Kewaunee and Point Beach.
- \* Participated in MAAP Users Group since 1989
- \* Presented a description of our parameter deck validation efforts at the most recent MAAP Users group meeting.
- \* Received MAAP Rev 18.0 Monday 5/3/1992. We plan to update the parameter deck and use this revision for IPE work.
- \* Working with M. Corridini at UW-Milwaukee and EPRI on a MAAP-MELCOR comparison project.



PBNP PARAMETER  
DECK W/O COMMENTS  
2/30/92

KEWAUNEE PARAMETER  
DECK W/O COMMENTS  
11/13/91

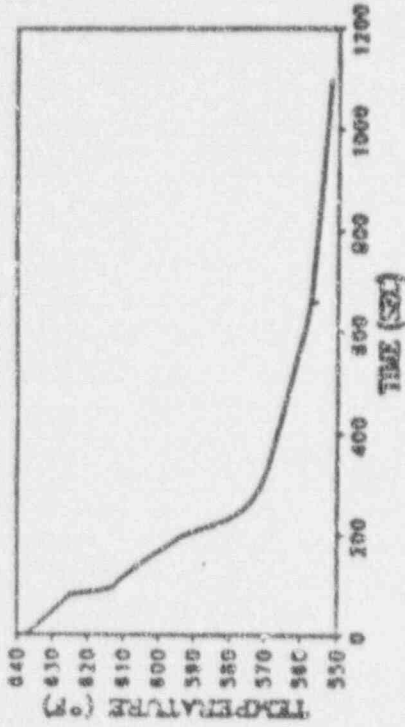
GINNA PARAMETER  
DECK W/O COMMENTS  
10/25/91

2/21/92

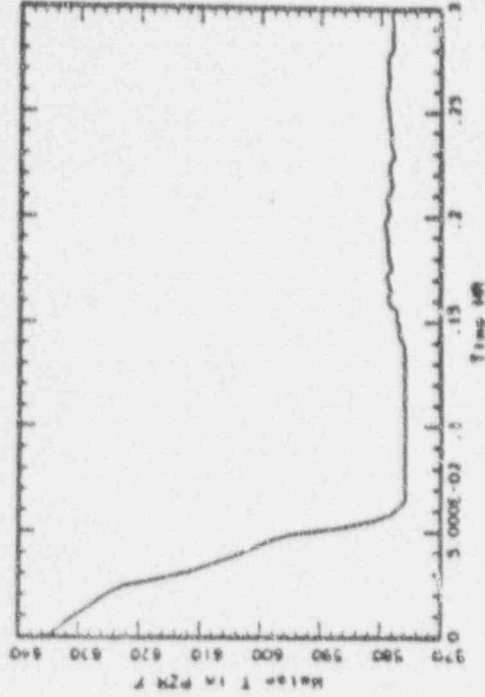
*CONCRETE AND CONTAINMEN			*CONCRETE AND CONTAINMEN			*CONCRETE AND CONTAINMENT		
01	903.	CPCNO	01	903.0	CPCNO, AV	1	860	CPCNO
02	1500.	TCNMP	02	1500.	TCNMP, ME	2	1500	TCNMP
03	1.1597D6	LHDEC	03	1.1597D6	LHDEC, EN	3	1000000	LHDEC
04	0.56D6	LHCN	04	5.6D5	LHCN, LAT	4	800000	LHCN
05	35.8E-2	MFCN(1)	05	0.1872	MFCN(1),	5	0.358	MFCN(1)
06	31.3E-2	MFCN(2)	06	0.27689	MFCN(2),	6	0.313	MFCN(2)
07	3.6E-2	MFCN(3)	07	0.0268	MFCN(3),	7	0.036	MFCN(3)
08	1.22E-2	MFCN(4)	08	0.00525	MFCN(4),	8	0.0122	MFCN(4)
09	0.08E-2	MFCN(5)	09	0.00318	MFCN(5),	9	0.00082	MFCN(5)
10	0.69E-2	MFCN(6)	10	0.1347	MFCN(6),	10	0.0069	MFCN(6)
11	1.44E-2	MFCN(7)	11	0.0194	MFCN(7),	11	0.0144	MFCN(7)
12	0.00E-2	MFCN(8)	12	0.0	MFCN(8),	12	0.036	MFCN(8)
13	0.01E-2	MFCN(9)	13	0.00008	MFCN(9),	13	0.00014	MFCN(9)
14	4.70E-2	MFCN(10)	14	0.0736	MFCN(10),	14	0.047	MFCN(10)
15	21.15E-2	MFCN(11)	15	0.2729	MFCN(11),	15	0.21154	MFCN(11)
			16	0.0	MFCN(12),	16	0	MFCN(12)
17	600.	DCSRCN	17	600.	DCSRCN, P	17	600	DCSRCN
						18	3E+11	PETEN
						19	1.99E+11	PEREB
						20	3.97E+09	PEPTEN
						21	1.4E+09	PEPREB
						22	1.03E+09	PSSPH
						23	0	PSSPZ
						24	1.53E+09	PSSYHT
						25	4.14E+08	PSSYHR
						26	1.65E+09	PSSFHT
						27	6.2E+08	PSSFHR
						28	1.99E+11	PEL
						29	1.4E+09	PEPL
						30	4.14E+08	PSSYHL
						31	6.2E+08	PSSFHL
*PRIMARY SYSTEM (PARAME			*PRIMARY SYSTEM (PARAME			*PRIMARY SYSTEM GROUP		
01	2	NCL	01	2	NCL, NUMB	1	2	NCL
02	.7366	XDHL	02	.737D0	XDHL, INN	2	0.73762	XDHL
03	1.684	XRRV	03	1.676	XRRV, INS	3	1.6764	XRRV
04	4.25	VLOWCR	04	4.4	VLOWCR, V	4	5.7444	VLOWCR
05	4.23	ACR	05	3.69	ACR, FLOW	5	2.8784	ACR
06	1.499	VCL1	06	1.62	VCL1, VOL	6	1.52	VCL1
07	.01905	XRVPO	07	.019	XRVPO, RA	7	0.02225	XRVPO
08	4.0D6	QCPO	08	3.555D6	QCPO, ENE	8	4000400	QCPO
09	0.	WWMUO	09	0.0	WWMUO, TO	9	0	WWMUO
10	326.	TWMU	10	527.	TWMU, TEM	10	299.82	TWMU
11	.6985	XDCL	11	.7	XDCL, INN	11	0.69799	XDCL

# PZR Liquid Temp

SR021203B3

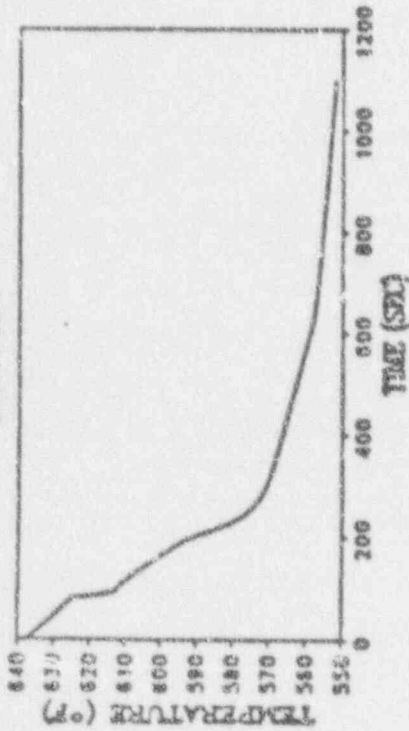


006 FT#7 LDC# 1# HL. M#51. 400 GPM A  
F. ablesat. 031 LINE

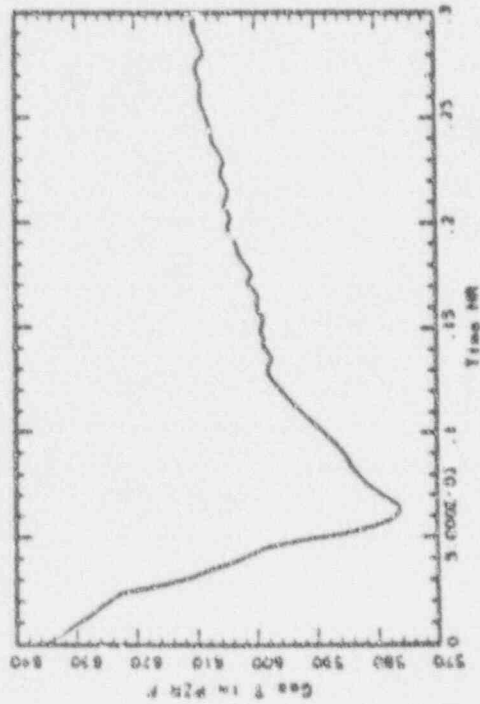


# PZR Vapor Temp

SR021203B3



006 FT#7 LDC# 1# HL. M#51. 400 GPM A  
F. ablesat. 031 LINE



# PRA Level II Schedule Point Beach Nuclear Plant

<u>TASK</u>	<u>PCT</u> <u>ACHV</u>	1992															
		<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>				
Containment Systems Analysis	80%	X	X	X	X	X	X	X	X	X	X	X	X	X			
Containment Failure Characterization	30%	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Containment Analysis - CET	10%						X	X	X	X	X	X	X	X			
Containment Anal Mag Timing	0%							X	X								
Containment Analysis End States	0%											X	X	X			
Source Term Analysis	0%													X	X	X	X
Sensitivity Analysis	0%															X	X
Documentation	0%													X	X	X	X

▲ - Level I Quantification

## REVISED IPE SUBMITTAL SCHEDULE

- \* Completion of Level 1 and 2 Technical Reports December 1992
- \* Scope of IPE Submittal (NUREG-1335)
  - Summary of Front-End and Back-End Analysis Results
  - Utility Participation
  - Independent Review and Resolution of Comments
  - Unique Safety Features, Vulnerabilities, Proposed "Fixes" with Schedule
  - Conclusions including Resolution of other USIs/GSIs
- \* Plant Improvements
  - Cost-Effective Hardware Fixes
  - Procedure Changes/Training
  - Severe Accident Management Program
- \* Four Month Delay to April 1993
  - Evaluation of Results
  - Preparation of IPE Report
  - Evaluation/Scheduling of Plant Improvements