

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

AUG 23 1975

Docket Nos. 50-322, 50-352 & 50-353,
50-358, 50-367, 50-373 & 50-374,
50-387 & 50-388, 50-397, 50-410

APPLICANT: Long Island Lighting Company, Philadelphia Electric Company, Cincinnati Gas & Electric Company, Northern Indiana Public Service Company, Commonwealth Edison Company, Pennsylvania Power & Light Company, Washington Public Power Supply System, Niagra Mohawk Power Corporation

FACILITIES: Shoreham Nuclear Power Station, Unit 1; Limerick Generating Station, Units 1 & 2; Wm. H. Zimmer Nuclear Power Station, Unit 1; Bailly Generating Station, Nuclear 1; LaSalle County Station, Units 1 & 2; Susquehanna Steam Electric Station, Units 1 & 2; WPPSS Nuclear Project No. 2; Nine Mile Point Nuclear Station, Unit 2

SUMMARY OF MEETING HELD ON AUGUST 21, 1975 WITH MARK II OWNERS AND ARCHITECT-ENGINEERS

On August 21, 1975 representatives of certain of the above - named Mark II Owners, Sargent & Lundy, Bechtel, Stone & Webster, Burns & Roe, and the NRC staff met in Bethesda, Maryland. The primary purpose of the meeting was to discuss load factors and load combinations proposed by the Mark II Owners and their architect-engineers for assessing the capability of Mark II containment structures to accommodate safety/relief valve (SRV) loads (LOCA loads are still being evaluated by G. E. and were not to be discussed.) An attendance list and copies of some of the tables and figures used in presentations made at the meeting are enclosed.

Messrs. Crawford and Bergstrom of Sargent & Lundy made presentations. Some of the major points made were:

1. The SRV load is a major load which was not considered in the original design of Mark II containments.
2. The SRV load has been added to the load combinations, and load factors associated with other loads in the load combinations are being reassessed (and reduced where possible to allow inclusion of the SRV loads without design modifications.)

NEW



[Handwritten signature]

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3. Present plans are to combine the SRV loads with the small- and intermediate-break LOCA loads but not with the large-break LOCA loads. (GE is assessing the time sequences of the LOCA and SRV loads to see if the SRV and large-break LOCA loads should be combined.)
4. Current philosophy is to include conservatism in the load rather than in the load factor.

Representatives of the NRC staff asked a number of questions, many of which cannot be answered until after the Preliminary Forcing Function Report is completed and design assessments are made of individual containment designs.

The Mark II owners were advised not to allow the schedule for submittal of required information to the NRC staff to begin to slip. They were also advised that reductions in the margins presently included in the design of the containments or in the conservatism presently included in the load factors and load combinations presented in their PSAR's could be viewed as modifications to the principal architectural and engineering criteria for design included in their PSAR's and necessitate amendment of their construction permits.



J. M. Cutchin IV
Light Water Reactors Branch 1-2
Division of Reactor Licensing

Enclosures:
As stated

ENCLOSURE 1

Attendance List
Meeting with Mark II Owners & Architect-Engineer
Room 6507 Maryland National Bank
August 21, 1975

NRC

J. M. Cutchin IV
Isa Sihweil
L. C. Shao
S. Hou
F. P. Schauer
C. P. Tan
A. L. Gluckmann
R. J. Stuart
C. Grimes
M. D. Lynch

Sargent & Lundy

R. N. Bergstrom
Ray Crawford
Adolf Walser

Stone & Webster

L. C. Dawson
Donald J. Heesen
Fabian Kovensky

Commonwealth Edison

Brent Shelton

Pa. Power & Light

W. E. Barberich

Bechtel

J. R. Schmiedel
George Katanics

Long Island Lighting

Joseph P. Navarro

Phila. Electric Co.

John M. Madara

WPPSS

G. L. Gelhaus

Burns & Roe

J. Forman
B. Bedrosian
K. Ronis

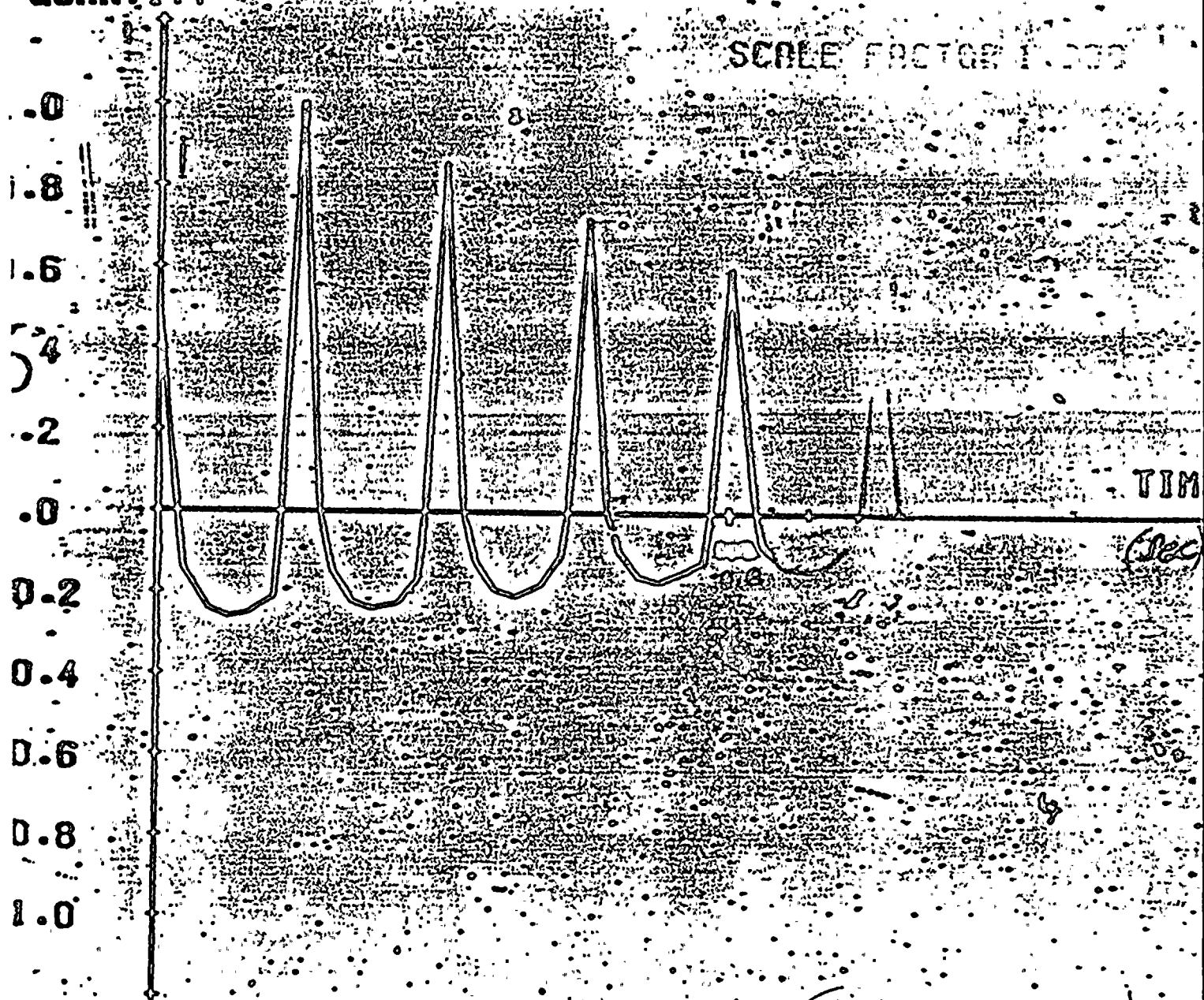
G. E.

B. Roger
A. R. Smith

NORMALIZED
QUANTITY

SYMMETRIC 5.4 HZ.

SCALE FACTOR 1.000



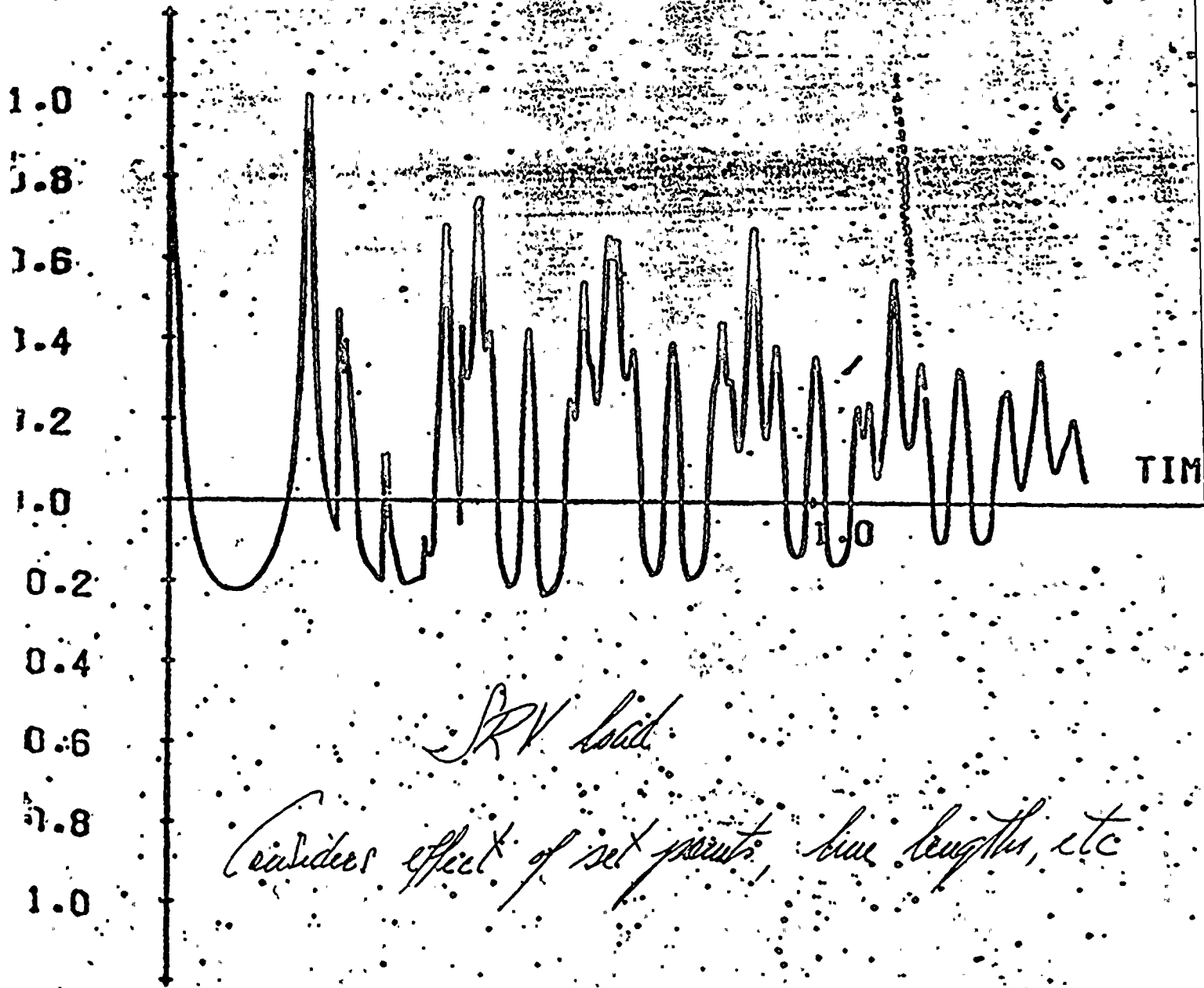
SRV. load (typical for value)
load on internal structures & components in
suppression pool

①

NSL

SEQUENCED SYMMETRIC 7/24/75

NORMALIZED
QUANTITY



RV load

considers effect of set points, line lengths, etc

(P)

PRELIM

SRV LOAD

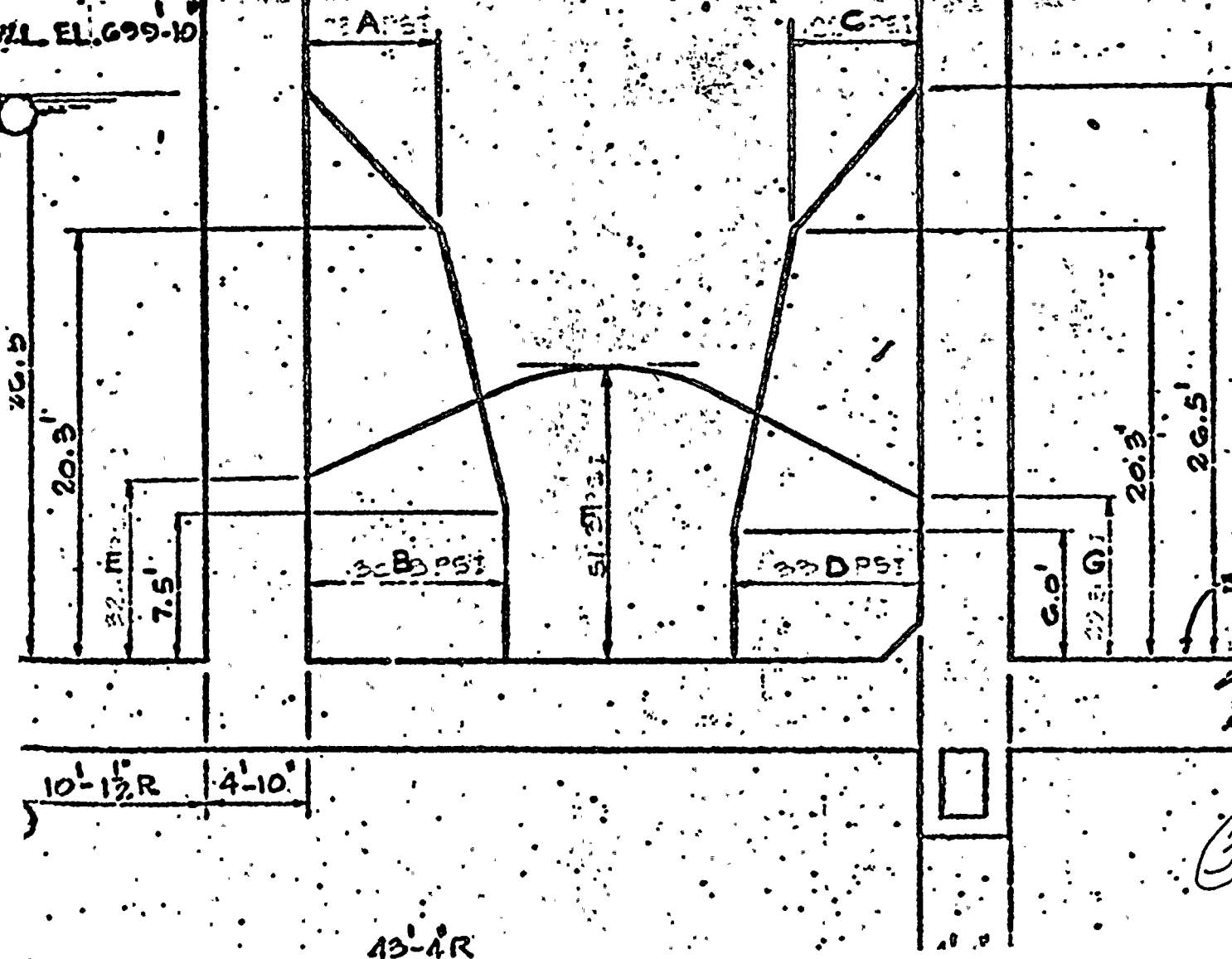
Pressure Distribution

Source:

Date : April 11, 1978

A-G DENOTE LOAD MAGNITUDES

W.L. EL. 699'-10"



LOAD COMBINATIONS

EQN.	LOAD COND.	D	L	F	P _O	T _O	R _O	E _O	E _{SS}	P _B	T _A	R _A	SRV
1	Normal w/oTemp	1.4	1.7	1.0	1.0	-	-	-	-	-	-	-	1.5
2	Normal w/Temp	1.0	1.3	1.0	1.0	1.0	1.0	-	-	-	-	-	1.3
3	Normal Sev.Env.	1.0	1.0	1.0	1.0	1.0	1.0	1.25	-	-	-	-	1.25
4	Abnormal	1.0	1.0	1.0	-	-	-	-	-	1.25	1.0	1.0	1.25
5	Abnormal Sev.Env.	1.0	1.0	1.0	-	-	-	1.1	-	1.1	1.0	1.0	1.1
6	Normal Ext.Env.	1.0	1.0	1.0	1.0	1.0	1.0	-	1.0	-	-	-	1.0
7	Abnormal Ext.Env.	1.0	1.0	1.0	-	-	-	-	1.0	1.0	1.0	1.0	1.0

LOAD DESCRIPTION

D = Dead Loads

L = Live Loads

F = Prestressing Loads

T_O = Operating Temperature Loads

R_O = Operating Pipe Reactions

P_O = Operating Pressure Loads

SRV = Srv. Load

E_O = Operating Basis Earthquake

E_{SS} = Safe Shutdown Earthquake

P_B = Pipe Break Pressure Load

T_A = Accident Temperature Load

R_A = Reaction Loads including
anchorage loads

For small
& intermediate
breaks only

(A)

AUGUST 21, 1975

CONTAINMENT LINER CRITERIA

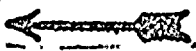
ACCEPTANCE CRITERIA FOR MECHANICAL LOADS
IN ACCORDANCE WITH ASME BOILER PRESSURE VESSEL CODE
SECTION III, DIVISION 1, SUBSECTION NE

ACCEPTANCE CRITERIA FOR SELFLIMITING LOADS
IN ACCORDANCE WITH ASME BOILER PRESSURE VESSEL CODE
SECTION III, DIVISION 2, SUBSECTION CC

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(Meeting Summary)

Distribution

Docket File 
NRC PDR
Local PDR
NRR Reading
V. A. Moore
R. C. DeYoung
D. Skovholt
D. Muller
R. Denise
W. Butler
J. Stolz
R. Clark
T. Speis
D. Vassallo
K. Kniel
K. Goller
A. Schwencer
P. Collins
R. Purple
D. Ziemann
G. Knighton
G. Dicker
B. Youngblood
W. Regan
S. Varga
R. W. Klecker
R. Heineman
H. Denton
R. Tedesco
R. Maccary
V. Stello
B. Grimes
M. Spangler
R. Ballard
Jacob Kastner

R. S. Boyd
W. Gammill
V. Benaroya
R. Vollmer
J. Collins
G. Lainas
J. Knight
S. Pawlicki
L. Shao
T. Ippolito
R. Houston
T. Novak
D. Ross
EP Project Manager
Attorney, OELD.
IE (3)
M. Rushbrook
R. Fraley (16)
O. Parr
G. Lear
LWR 1-2 File
P. Reihm
I. Pelter
I. Villalva
R. Powell
W. Kane
J. Snell
J. M. Cutchin IV
Isa Sihweil
L. C. Shao
S. Hon
F. P. Schauer
C. P. Tan
A. L. Gluckmann
R. J. Stuart

