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

JAN 18 1982

Docket Nos. 50-295
and 50-304

LICENSEE: Commonwealth Edison Company

FACILITY: Zion Station, Unit Nos. 1 and 2

SUMMARY OF MEETING OF DECEMBER 10, 1981 CONCERNING THE ZION PROBABILISTIC SAFETY STUDY

A meeting was conducted on December 10, 1981 during which N. Rasmussen, S. Levine and I. Wall briefed the NRC staff concerning the results of their review of the Zion Probabilistic Safety Study. Messrs. Rasmussen, Levine and Wall reviewed the study in the capacity of consultants to Commonwealth Edison Company.

The consultants stated that their review indicated that the study represents a major step forward from WASH-1400 and warrants thorough consideration by the NRC and the nuclear power industry in developing positions regarding the use of probabilistic risk assessment (PRA) in the design, licensing and operation of commercial nuclear power facilities. They found that the core melt probabilities of the Zion study were comparable to those of other PRAs, but that the study is more representative of actual conditions than WASH-1400 and other PRAs because of the additional considerations that were included.

The Zion study was evaluated as making significant advances in the use of PRA to evaluate nuclear power plant safety because of the included considerations that go beyond the PRAs conducted to date for other nuclear power facilities. Because of the major advances that were made in the containment analysis, trajectory modeling, seismic modeling and fire modeling; the consultants recommend that the NRC staff review these areas in some detail. It was also recommended that close attention be paid to the statistical ranking of core melt and public safety probabilities, the source term treatment and the assignment of uncertainties in the study. The consultants noted that the probability estimates of the level of 10^{-9} appeared reasonable on the basis of what was taken into account. However, the consultants indicated that is was unlikely that anything that was left out would have a probability greater than 10^{-5}-10^{-6} for early fatalities. This judgement was based on their belief that a) core melt frequency is lower than 10^{-2}/Reactor Year, b) the probability of containment failure is approximately 10^{-2}/core melt, and c) the probability of early fatalities given a and b is in the 10^{-1}-10^{-2} range. The treatment of human factors considerations was evaluated as being essentially the same as that of WASH-1400.

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Sabotage was not treated as a factor in the Zion study. The licensee has taken the position the probabilistic methods cannot adequately address the sabotage issue and that it should be handled separately by different methods. The licensee also feels that the net effects of sabotage will lead to scenarios described in the study.

ORIGINAL SIGNED

Dennis A. Chaney, Project Manager
Operating Reactors Branch #1
Division of Licensing

Enclosure:
List of Attendees

cc w/enclosure:
See next page

OFFICE	ORB#1:DL	ORB#1:DL	AD/OR:DL				
SURNAME	DChaney:ds	SVarga	TNovak	S. Hanauer			
DATE	01/5/82	01/6/82	01/6/82				

MEETING SUMMARY
OPERATING REACTORS BRANCH NO. 1
DIVISION OF LICENSING

DISTRIBUTION

Docket File
NRC PDR
Local PDR
ORB No. 1 Rdg File
ORAB
J. Heltemes, AEOD
B. Grimes (Emergency Preparedness)
S. Varga
Project Manager
OELD
OI&E (3)
C. Parrish
ACRS (10)
NRC Participant
NSIC
TERA

cc: Licensee with short cc list

Mr. Louis O. DelGeorge
Commonwealth Edison Company

cc: Robert J. Vollen, Esquire
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U. S. Nuclear Regulatory Commission
Resident Inspectors Office
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MEETING ATTENDANCE

DECEMBER 10, 1981

NAME	ORGANIZATION
T. M. Novak	NRC/NRR
D. G. Eisenhut	NRC/NRR
S. H. Hanauer	NRC/NRR
D. A. Chaney	NRC/NRR
R. A. Bari	BNL
G. T. Klopp	Commonwealth Edison
S. Levine	NUS
N. Rasmussen	MIT
Ian B. Wall	E.P.R.I.
R. M. Bernero	NRC/RES
A. Thadani	NRC/NRR
D. C. Bley	Pickard, Lowe & Garrick
B. J. Garrick	Pickard, Lowe & Garrick
Roger Mattson	NRR
Jim Meyer	NRR
Themis Speis	NRR
J. A. Murphy	NRC/RES/DRA
Scott Newberry	NRR
John Hannon	NRR/DL
S. Varga	NRR/DL
M. Ernst	NRR/DST
J. P, Knight	NRR/DE
J. W. Hickman	Sandia Lab
J. M. Griesmeyer	ACRS/NRC
W. L. Baldewicz	NRC/ACRS
R. L. Robinson	NRC/RES/DRA
R. L. Denning	NRC/AEOD

MEETING ATTENDANCE (CONTINUED)

NAME	ORGANIZATION
H. B. Henderson	NRC/IE
D. W. Hayes	NRC/IE/RIII
Pedro J. Franceschi	Con. Ed. N.Y.
Deborah Rumple	Morgan Assoc.
Robert E. Henry	Fauske & Assoc., Inc.
S. S. Iyer	PASNY
N. J. Liparuzo	Westinghouse
J. N. Steinmetz	Westinghouse
F. G. Lentine	Commonwealth Edison