

AUG 26 1986

The Honorable Richard T. Schulze
Member, United States
House of Representatives
2 East Lancaster Avenue
Paoli, Pennsylvania 19301

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Dear Congressman Schulze:

By your letter to Mr. Harold Denton dated August 5, 1986 you requested comments on concerns expressed by some of your constituents regarding nuclear reactor containment systems designed by the General Electric Co. These concerns derived from a newspaper article that dealt with the Mark I containment design (The Philadelphia Electric Co. Peach Bottom Units 2 and 3 are two of 24 licensed units in the United States that have this particular design). The Limerick facility near Pottstown has a Mark II containment design, which is a different configuration from the Mark I but is similar in the sense that it employs a pressure suppression principle that forces steam, that would be released from the largest possible pipe break in the primary reactor coolant system, to be condensed in a large pool of water inside containment. This limits the internal pressure that the containment would experience during such a postulated serious accident and establishes the minimum acceptable design basis pressure specification. All of the General Electric containment designs have substantial safety margin over and above this design pressure before actual structural failure would be expected to occur, and meet the Commission's requirements for assurance of containment integrity.

Nevertheless the Commission has long recognized the possibility of even more serious but very low probability accidents that can result from a multiplicity of failures in a nuclear power plant and lead to total and extended loss of cooling water to the reactor and substantial or total melting of the reactor core. The Commission currently refers to such events as severe accidents to distinguish them from postulated design basis accidents. Some of these events have the potential for leading to stresses which could cause containment failure, particularly if operating personnel do not take actions that may be available to them.

The NRC staff is currently in the process of implementing activities called for by the Commission in its "Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants" that was published in the Federal Register on August 8, 1985 (copy enclosed). A reading of the relevant portions of this statement will provide informative background on both NRC and nuclear industry activities on this issue, as well as the general nature of policy implementation specific to operating plants. It is in this context that the NRC staff has recently taken initiatives to identify specific objectives and potential modifications of BWR containments to improve the safety margins to mitigate severe accidents.

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It should be of particular interest to you, however, that the Limerick plant is one that has had a detailed severe accident risk assessment study performed. This study was requested by the staff in May 1980 due to a combination of factors which included the high population densities in the vicinity of the Limerick facility. The study was submitted in two complementary parts by the Philadelphia Electric Company, titled a Probabilistic Risk Assessment and a Severe Accident Risk Assessment. The study was evaluated during the operating license review of the Limerick Unit 1 facility and the results were published in the staff's Final Environmental Statement (NUREG-0974, April 1984) with respect to the potential environmental impacts of accidents and in the staff report "Review Insights on the Probabilistic Risk Assessments for the Limerick Generating Station" (NUREG 1068, August 1984) (copy enclosed). Both of these documents may be found in the Local Public Document Room in the Pottstown Public Library. As pointed out in the NUREG-1968 report, this study prompted the plant owner to make some changes that improved the margin of safety, but also affirms that the risk to the public from the operation of the plant is quite low.

The Commission recognizes that it is not possible to achieve absolute zero risk but is dedicated to taking appropriate steps to achieve reasonable assurance that the likelihood of occurrence of severe core melt accidents is very low and that containments have substantial capability to mitigate their consequences if one should occur. The complexity of the phenomena of severe accidents requires careful and extensive analysis to identify potential severe accident vulnerabilities, and care to assure that conceptual improvements do not in themselves create new safety problems before they are implemented.

With respect to the matter of the property insurance question raised by your constituents, as I am sure you are aware, third party liability insurance coverage has been provided under the terms of Price-Anderson legislation which is currently before the Congress for renewal.

Sincerely,

(Signed) T. A. Rehm

for Victor Stello, Jr.
Executive Director
for Operations

Enclosures:

1. Federal Register, dated 8/8/85
2. NUREG-1068, dated 8/84

SEE ATTACHED PAGE FOR PREVIOUS CONCURRENCES.

OFC	:	DDIR/BWR	:	DIR/BWR	:	DDIR/NRR	:	DIR/NRR	:	EDO	:	OCA	:
NAME	:	RWHouston: no	:	RBernero	:	RVollmer	:	HRDenton	:	VStello	:		:
DATE	:	8/ 19 /86	:	8/ 20 /86	:	8/ 21 /86	:	8/ 21 /86	:	8/ 25 /86	:	8/ /86	:

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Victor Stello, Jr.
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OFC	: DDIR/BWR	: DIR/BWR	: DDIR/NRR	: DIR/NRR	: EDO	: OCA	:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ACTION

EDO PRINCIPAL CORRESPONDENCE CONTROL

FROM:

DUE: 08/22/86

EDO CONTROL: 002023

DOC DT: 08/05/86

FINAL REPLY:

REP. DICK SCHULZE

TO:

DENTON

FOR SIGNATURE OF:

** GREEN **

SECY NO:

EXECUTIVE DIRECTOR

DESC:

ROUTING:

ENCLOSES LETTER FROM WELLS, WELLS, LOEBEN,
HOFFMAN & HOLLOWAY RE ARTICLE IN WALL STREET
JOURNAL REGARDING THE GE MARK I CONTAINMENT
SYSTEM

TAYLOR
MURLEY
GCUNNINGHAM
OCA
SECY

DATE: 08/08/86

ASSIGNED TO: NRR

CONTACT: DENTON

SPECIAL INSTRUCTIONS OR REMARKS:

REPLY TO PAOLI, PENNSYLVANIA OFFICE.

NRR RECEIVED: AUGUST 8, 1986

ACTION: DBL: BERNERO *2 Houston*

NRR ROUTING: DENTON/VOLLMER
PPAS
MOSSBURG