MIDDLE SOUTH UTILITIES, INC/BOX 61005/NEW ORLEANS, LA 70161/(504) 529-5262

FLOYD W. LEWIS
CHAIRMAN/PRESIDENT

December 2, 1980

The Honorable John F. Ahearne
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Chairman Ahearne:

The paper on "Realistic Estimates of the Consequences of Nuclear Accidents" by M. Levenson and F. Rahn, a copy of which I understand has been furnished to you and each of the Commissioners, strikes me as potentially being the most important product of the studies which have followed the accident at TMI. If, as the authors conclude, natural processes act effectively to reduce the consequences of nuclear accidents by orders of magnitude below those predicted by current models, the consequences on the acceptability and viability of nuclear power are profound. I understand further that the Commission has been briefed by scientists from ORNL, BNL, and LASL who have in general supported those portions of the EPRI paper which deal with iodine. If the remainder of the topics treated can be similarly confirmed through further study by independent peer groups, we should have the benefit of that knowledge just as soon as possible.

I believe this matter to be so important that it should enjoy top priority within the NRC and industry and that proposed rulemakings which would be affected by its outcome should have that factored into their schedules. If the essential features of the Levenson and Rahn paper are correct, degraded core considerations, for instance, may be of academic interest only and the resources that would have been expended on them might be more appropriately allocated elsewhere. But of far greater importance is the fact that the future use of nuclear power in this country could be significantly affected.

We would be interested in your thoughts on this subject and your plans for resolution of this issue, and would be glad to work with you. Our planning would benefit by your early response.

Sincerely,

FW Lewis

Floyd W. Lewis
Chairman
Electric Power Research Institute
Board of Directors

FWL:ek

Chairman Ahearne

COMPLETION DATE: 1-5-81 | CONTROL NO: 9934

ACKNOWLEDGMENT | DATE OF DOCUMENT: 12-2-80

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DESCRIPTION: ☒ LETTER ☐ MEMO ☐ REPORT ☐ OTHER

Req. comments on report "Realistic Estimates of the Consequences of Nuclear Accidents" by K. Levenson & R. Rahn

SPECIAL INSTRUCTIONS OR REMARKS

PRIORITY

REF: EDO 9604

Coordinate with NRR.

CLASSIFIED DATA

DOCUMENT COPY NO | CLASSIFICATION

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SECY 80-2146

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Incoming: Re Floyd Lewis, Chm
From: Middle South Utilities

To: Ahearne Date 12/2/80
Subject: req comments on "Realistic Estimates of the Consequences of Nuc Accidents" by M. Levenson & R E Rann

☒ Prepare reply for signature of:
- ☐ Chairman — Date due Comm: Jan 5
- ☐ Commissioner ____
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- ☐ For appropriate action
- ☐ For information

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For the Commission: billie

*Send three (3) copies of reply to Secy Correspondence and Records Branch

NRC-82

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Time. 11:00

ACTION SLIP

September 2, 1980

EPRI

The Honorable Joseph M. Hendrie
Commissioner
Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Joe:

As you are undoubtedly aware, prior to the Three Mile Island accident, the probability of a public catastrophe resulting from such an event was considered to be negligible, although it always has been a continuing subject of professional study. Since TMI, there has been a fresh flood of wide-ranging reassessments of the public risk. The enclosed draft study is an attempt to step back and take a realistic look at the basic scientific processes which are the fundamental determiners of what these public risks might really be.

The main thrust of this study is that the natural laws of physics and chemistry substantially limit the distribution of radioactive effluents from any nuclear accident, no matter how severe. This study makes the point that the empirical information that can be garnered from a variety of large-scale accidents that have already occurred, when combined with known physical and chemical laws, tends to confirm that the theoretical "source term" traditionally used in nuclear risk evaluations is one to two orders of magnitude greater than the realistic magnitude which might actually result from the ultimate accidents.

Because of the relevance of this issue to the current flurry of federal and state emergency planning and evacuation criteria, I am forwarding this draft to you prior to publication for both your consideration and your comment. The study will be presented as a paper at the ANS International meeting in Washington, D.C., November 17-21.

Sincerely,

Chauncey

Chauncey Starr
Vice Chairman

CS:ml

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