

JAN 27 1988

Docket No. 50-601
Project No. 676

Mr. W. J. Johnson
Nuclear Safety Department
Westinghouse Electric Corporation
Water Reactor Division
Box 355
Pittsburgh, Pennsylvania 15230

Dear Mr. Johnson:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING DESIGN GOALS
ADDRESSING SEVERE ACCIDENT RELEASES

As a result of our review of your ALWR application, we have determined the need to request additional information regarding your design goals that address large radioactive releases resulting from a severe accident. Attached are our questions.

Please respond to this request for additional information within 30 days of the date of this letter. If you have any questions concerning this matter contact the project manager for your application.

Sincerely,

LS
Lester S. Rubenstein, Director
Standardization and Non-Power
Reactor Project Directorate
Division of Reactor Projects III, IV,
V and Special Projects
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page

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

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Sincerely,

A handwritten signature in cursive script that reads "L S Rubenstein".

Lester S. Rubenstein, Director
Standardization and Non-Power
Reactor Project Directorate
Division of Reactor Projects III, IV,
V and Special Projects
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page

Docket No. STN 50-601
RESAR-SP/90

cc:

Trevor Pratt
Brookhaven National Laboratory
Building 130
Upton, New York 11973

Mr. William Schivley
Westinghouse Electric Corporation
ECE-410
Mail Stop 4-08
Box 355
Pittsburgh, Pennsylvania 15230

REQUEST FOR ADDITIONAL
INFORMATION

In Chapter 1 of the EPRI ALWR Requirements Document, EPRI proposes the following requirement:

In the event of a severe accident, the dose beyond a half-mile radius from the reactor shall not exceed 25 rem. The expected frequency of occurrence for high off-site doses shall be less than once per million reactor years, considering both internal and external events.

CE has indicated they intend to comply with this criteria.

GE has defined their compliance with this position in its Licensing Review Bases.

W has not committed to this position for its RESAR SP/90 application. Rather, it has committed to showing a core melt frequency of approximately 1×10^{-6} . It is our understanding, however, that the W AP-600 will comply with the EPRI requirements.

1. a) Provide a precise statement of your design goals that address large radioactive releases resulting from a severe accident. This statement should be defined in terms of probabilities as well as large releases.

Items to define include the number of sequences to be considered, the use of internal and/or external events, consideration of sabotage (insider/outsider threat), etc. This statement should clearly indicate whether the values used are median/upper bound/lower bound/average/etc. values.

- b) Provide your definition of core damage (clad temperature/percentage of cladding failure/complete meltdown), containment failure (leakage rate/total release), and large release (threshold value) (as appropriate). Specify your assumptions regarding meteorology (plume size/wind direction/wind speed/wind shift probability/adverse or expected weather), population distribution (probability of individual seeing plume/location of individual(s) during release), and time of exposure (as appropriate).

2. How do you propose to show the NRC that you meet this objective?