



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555-0001

March 1, 1994

Docket No. 52-003

Mr. Nicholas J. Liparulo
Nuclear Safety and Regulatory Activities
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Dear Mr. Liparulo:

SUBJECT: REQUEST FOR MEETING TO SUPPORT CONFIRMATORY TESTING IN THE
ROSA/AP600 TEST FACILITY

The Nuclear Regulatory Commission (NRC) is conducting a series of confirmatory AP600 safety system tests in the ROSA/AP600 test facility. The NRC would like to perform counterpart tests among the SPES-2, OSU, and ROSA/AP600 test facilities because the results from three differently scaled facilities will provide greater insights into the AP600 design. Enclosure 1 is a list of those tests.

In order for these tests to be useful, it is critical to set up consistent test conditions between the counterpart test facilities. Therefore, the staff has developed requests for additional information (RAIs) on the Westinghouse test facilities to help define these conditions for the ROSA/AP600 facility. Enclosure 2 is a list of those RAIs (Q952.50-Q952.64), which, in conjunction with the February 24, 1994, RAI, will serve to define these test conditions. In order to resolve these questions expeditiously, we propose to meet with your staff during the week of March 7, 1994, using these questions as the basis for the agenda. During this meeting, we would like to discuss conditions for all future counterpart tests. However, in case some of these conditions have not been defined, we would like to develop a procedure to obtain future counterpart test information.

You have requested that portions of the information submitted in the June 1992, application for design certification be exempt from mandatory public disclosure. While the staff has not completed its review of your request in accordance with the requirements of 10 CFR 2.790, that portion of the submitted information is being withheld from public disclosure pending the staff's final determination. The staff concludes that this request for additional information does not contain those portions of the information for which exemption is sought. However, the staff will withhold this letter from public disclosure for 30 calendar days from the date of this letter to allow Westinghouse the opportunity to verify the staff's conclusions. If, after that time, you do not request that all or portions of the information in the enclosures be withheld from public disclosure in accordance with 10 CFR 2.790, this letter will be placed in the NRC's Public Document Room.

*The numbers in parentheses designate the tracking numbers assigned to the questions.

240092
9403280364 940501
PDR ADOCK 05200003
A PDR

NRC FILE CENTER COPY

JFOB
1/1

Mr. Nicholas J. Liparulo

- 2 -

March 1, 1994

This request for additional information affects nine or fewer respondents, and therefore, is not subject to review by the Office of Management and Budget under P.L. 96-511.

If you have any questions regarding this matter, you can contact me at (301) 504-1118.

Sincerely,

(Original signed by)

R. W. Borchardt, Director
Standardization Project Directorate
Associate Director for Advanced Reactors
and License Renewal
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
See next page

DISTRIBUTION:

Central File*	PDST R/F	RBorchardt	DCrutchfield
PDR*	MSiemien, 15B18	ALeviii, 8E23	GHsii, 8E23
TCollins, 8E23	GRhee, NLN353	WTravers	ACRS (11) (w/o encl)
RArchitzel	PShea	TKenyon	FHasselberg
CCarpenter, 13E4	JMoore, i5B18	WDean, 17G21	GSuh (2), 12E4

OFC	LA:PDST	PM:PDST	SC:PDST	D:PDST
NAME	PShea	TKenyon:tz	RArchitzel	RBorchardt
DATE	03/1/94	03/1/94	03/1/94	03/1/94

* HOLD CENTRAL FILE COPY FOR 30 DAYS

OFFICIAL RECORD COPY: ROSA.LTR

Mr. Nicholas J. Liparulo
Westinghouse Electric Corporation

Docket No. 52-003
AP600

cc: Mr. B. A. McIntyre
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. Raymond N. Ng, Manager
Technical Division
Nuclear Management and
Resources Council
1776 Eye Street, N.W.
Suite 300
Washington, D.C. 20006-3706

Mr. John C. Butler
Advanced Plant Safety & Licensing
Westinghouse Electric Corporation
Energy Systems Business Unit
Box 355
Pittsburgh, Pennsylvania 15230

Mr. M. D. Beaumont
Nuclear and Advanced Technology Division
Westinghouse Electric Corporation
One Montrose Metro
11921 Rockville Pike
Suite 350
Rockville, Maryland 20852

Mr. Sterling Franks
U.S. Department of Energy
NE-42
Washington, D.C. 20585

Mr. S. M. Modro
EG&G Idaho Inc.
Post Office Box 1625
Idaho Falls, Idaho 83415

Mr. Steve Goldberg
Budget Examiner
725 17th Street, N.W.
Room 8002
Washington, D.C. 20503

Mr. Frank A. Ross
U.S. Department of Energy, NE-42
Office of LWR Safety and Technology
19901 Germantown Road
Germantown, Maryland 20874

Mr. Victor G. Snell, Director
Safety and Licensing
AECL Technologies
9210 Corporate Boulevard
Suite 410
Rockville, Maryland 20859

COUNTERPART TESTS

Tests Common to All Three (ROSA/AP600, SPES-2, OSU)

- 1-Inch Cold Leg Break
- DEGB Direct Vessel Injection Line
- 2-Inch Cold Leg Pressure Balance Line Break

Tests Common to ROSA/AP600 and OSU

- No Break, Inadvertent ADS Stage 1 Valve Opening

Tests Common to ROSA/AP600 and SPES-2

- 2-Inch Cold Leg Break; CVCS, NRHR, SFW on
- Single SGTR
- Main Steam Line Break

REQUESTS FOR ADDITIONAL INFORMATION
ON AP600 TEST FACILITIES

QUESTIONS CONCERNING THE FIRST SPES-2 EXPERIMENT

- 952.50 What basis was used for determining the quality of fuel rod stored heat used to program the SPES-2 heater rods? Provide the quantity and distribution of AP600 fuel rod stored heat that was simulated.
- 952.51 How much mass was simulated in the SPES-2 secondary?
- 952.52 Define the basis for determining the pressurizer water level.
- 952.53 How were the secondary conditions determined for the first SPES-2 test?
- 952.54 Provide the scaling rationales for designing the experiment and the SPES-2 facility so that a similar scaling rationale can be used to define the ROSA/AP600 experiments.
- 952.55 How is heating by delayed neutrons simulated in the SPES-2 power decay?
- 952.56 What is the basis for the heat loss compensation programmed into the SPES-2 heater rods? What is the relationship between the heat loss compensation assigned to the SPES-2 heater rods and the heat loss compensation from the trace heaters?
- 952.57 What are the closing setpoints for the secondary safety relief valves (SRVs) and pilot-operated relief valves (PORVs)?
- 952.58 How is the pump speed ramped to zero rpm?
- 952.59 Are the pressurizer heater rods used to compensate for heat loss from the SPES-2 pressurizer?

QUESTIONS CONCERNING THE AUTOMATIC DEPRESSURIZATION SYSTEM (ADS)

- 952.60 Provide the nominal control valve inlet conditions [Pressure (P), temperature (T), and flow quality (x_i)] for ADS Stages 1 through 4.
- 952.61 Provide the nominal control valve area (A_{Nominal}) for ADS Stages 1 through 4.
- 952.62 Provide the nominal control valve mass flow rate or nominal control valve discharge coefficient ($C_{D, \text{Nominal}}$) for ADS Stages 1 through 4 that accounts for vena contracta and downstream expansion effects.

The nominal control valve discharge coefficient would be used to determine nominal control valve mass flow rate from the calculation:

$$\dot{m}_{\text{Nominal}} = C_{D, \text{Nominal}} A_{\text{Nominal}} G_{\text{Critical}};$$

where G_{Critical} = critical mass flux = $f(P, T, x_f)$

- 952.63 Provide the valve train piping dimensions (nominal pipe sizes and schedule numbers and piping lengths) for ADS Stage 4.
- 952.64 Provide the valve train piping geometry (location and dimensions of bends, elbows, tees, etc.) for ADS Stage 4.