

March 19, 1987

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MEMORANDUM FOR: Thomas M. Novak, Acting Director  
Division of PWR Licensing-A  
Office of Nuclear Reactor Regulation

THRU: Steve Long, Project Manager  
PWR Project Directorate #5  
Division of PWR Licensing-A

FROM: Lenny Olshan, Project Manager  
PWR Project Directorate #3  
Division of PWR Licensing-A

SUBJECT: STATUS OF WESTINGHOUSE RESAR-SP/90 REVIEW

On March 10, 1987, you requested that I assess the status of the review for the Westinghouse RESAR-SP/90 design. To determine the status, I had extensive discussions with S. Long and C. Patel, the present and previous Project Managers; with Westinghouse, and with the NRC reviewers. In an attempt to locate any missing documentation, I searched the available files in Mr. Long's possession and obtained a printout of all the reviewers that charged time to SP/90 since October 2, 1983.

Due to higher priority projects there has been very little review accomplished in the last year. In many cases, all the required information has been submitted but the reviewers have not been able to complete their review and write an SER. In several instances, reviewers have completed their SER's but management has not yet concurred.

At this point, most of the technical material needed for the review has been submitted. It appears that much of the SP/90 review could be completed within several months if a priority is established to obtain the necessary project management and technical review resources within NRC.

Please let me know if any clarification is required or if any further effort to assess the review status is needed.

/s/

Lenny Olshan, Project Manager  
PWR Project Directorate #3  
Division of PWR Licensing-A

Enclosures

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S Long  
3/18/87

PAD#3:  
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3/19/87

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## MODULE 1 - PRIMARY SAFEGUARDS SYSTEMS

### Section 5.4.7 Residual Heat Removal

Reviewer: W. Lynn, PARS

Status: All responses received. SER Section not yet written.

### Section 6.1.1 ESF Materials

Reviewers: D. Smith, PAEB; S. Kirsliis, CEB

Status: Smith SER issued 7/15/85; Kirsliis SER on Post-Accident Cooling Water Chemistry issued 8/28/85.

### Section 6.1.2 Organic Materials

Reviewer: S. Kirsliis, CEB

Status: SER issued 8/28/85

### Section 6.3 Emergency Core Cooling System

Reviewer: W. Lyon, PARS

Status: All responses received. SER section not yet written.

### Section 6.5.2 Containment Spray System

Reviewer: J. Read, CEB

Status: SER issued 3/28/85

Comments: Module 10 needed to complete review.

### Section 15.6 LOCA Analysis

Reviewer: W. Lyon, PARS

Status: All responses received. SER section not yet written.

## MODULE 2 - REGULATORY CONFORMANCE

Reviewers: W. Minners, SPER; T. Dunning, ICSR

Status: Minners Draft SER sent to Westinghouse 10/4/84; Dunning SER issued 7/24/84 (not sent to Westinghouse)

Comments: Westinghouse will not respond to comments in Draft SER until later in the review process. NPC decided to address Severe Accident Policy issues during review of other modules, and not issue an SER for Module 2.

### MODULE 3 - INTRODUCTION & SITE

Reviewers: W. Lyon, PARS; G. Giese-Koch, GSB (now PAER)  
Status: Lyon draft SER dated 12/12/85 (no management concurrence);  
Giese-Koch memo of 8/12/85 identifies SBE/ORE problem.

### MODULE 4 - REACTOR COOLANT SYSTEM

#### Section 4.4.6 Loose Parts Monitor

Reviewers: H. Richings/G. Schwenk, CPB  
Status: SER issued 2/6/85.

#### Section 5.2.2, 5.2.3 Integrity of RCPB

Reviewers: W. Lyon, PARS; D. Smith, PAEB; G. Johnson, PAEB  
Status: Smith SER issued 4/12/85, Johnson SER issued 8/19/85  
Comments: Smith SER asks for additional information: extent of  
conformance to R.G. 1.34, 1.36, 1.71, 1.43 and 1.50.

#### Section 5.2.4 RCPB Inservice Inspection and Testing

Reviewer: G. Johnson, PAEB  
Status: SER issued 8/19/85.  
Comments: PSI program needed.

#### Section 5.2.5 RCPB Leakage Detection

Reviewer: R. Giardina, PAPS  
Status: Review not started.

#### Section 5.3 Reactor Vessel

Reviewer: G. Johnson, PAEB  
Status: SER issued 8/19/85.

#### Section 5.4 Component and System Design

Reviewers: G. Johnson, PAEB; D. Smith, PAEB  
Status: Johnson SER on 5.4.2.4, Steam Generator Materials, issued  
8/19/85; Smith identified additional information needed in 4/12/85  
draft SER.

#### Section 15 Accident Analysis

- Reviewer: W. Lyon, PARS (Sections 15.3.1, 15.3.2, 15.3.3, 15.3.4, 15.4.4,  
15.5.1, 15.5.2, 15.6.1 and part of 15.0)  
Status: All responses received.



## MODULE 5 - REACTOR SYSTEMS

### Section 3.9 Mechanical Systems and Components

Reviewer: S. Hou, PAEB; D. Sellers, PAEB

Status: Hou reviewed about 10% complete; Sellers not started.

### Section 4.2 Fuel System Design

Reviewer: S. L. Wu, CPR

Status: SER issued 5/20/85.

### Section 4.3 Nuclear Design

Reviewer: H. Richings/G. Schwenk, CPB

Status: SER issued 2/6/85.

Comments: SER incomplete with respect to N16 and four segment excore neutron detector surveillance and protection systems.

### Section 4.4 Thermal-Hydraulic Design

Reviewer: H. Richings/G. Schwenk, CPB

Status: SER issued 2/6/85.

Comments: Staff must complete review of CHF test data which models fuel assembly and use of 1.17 DNBR safety limit.

### Section 4.5 Reactor Materials

Reviewer: D. Smith, PAEB

Status: Draft SER issued 4/12/85 on 4.5.1.

Comments: Question on 4.5.1 concerning aging and tempering temperatures used in control rod drive mechanism; not enough on 4.5.2 to review.

### Section 4.6 Reactivity Control System

Reviewer: R. Giardina, PAPS

Status: SER issued 4/4/86.

### Section 15 Accident Analysis

Reviewer: H. Richings/G. Schwenk, CPB

Status: SER issued 2/6/85 on 15.4.1, 15.4.2, 15.4.3, 15.4.7 and 15.4.8.

MODULE 6 AND 8 - SECONDARY SIDE SAFEGUARDS  
SYSTEMS/STEAM AND POWER CONVERSION SYSTEM

Section 6.0 Engineered Safety Features

Reviewers: W. Lyon, PARS; Sellers, PAEB  
Status: Review not started.

Section 10.3 Main Steam Supply System

Reviewers: R. Giardina, PAPS; S. Kirsliis, CEB  
Status: Responses to Giardina's questions received 11/86, not yet reviewed; Kirsliis SER on 10.3.5 issued 8/28/85.

Section 10.4 Other Features

Reviewers: R. Giardina, PAPS; J. Lee, METR; S. Kirsliis, CEB  
Status: Responses to Giardina's questions received 11/86, not yet reviewed; Lee SER on 10.4.2 and 10.4.3 issued 2/18/85; Kirsliis SER on 10.4.6 and 10.4.8 issued 8/28/85.

Section 15 Accident Analyses

Reviewer: W. Lyon, PARS (Sections 15.1, 15.2, and 15.6)  
Status: Review not started.

## MODULE 7 - STRUCTURAL/EQUIPMENT DESIGN

### Section 3.0, 3.1, 3.2 Design and Classification of Structures, Components, Equipment and Systems

Reviewers: R. Kirkwood, MEB; S. Chan, PAEB

Status: Responses to Kirkwood's questions received 5/85, Chan has not completed review of responses (about 10% complete).

### Section 3.3 Wind and Tornado Loadings

Reviewer: S. Chan, PAEB

Status: Review not started.

### Section 3.4 Water Level (Flood) Design and 3.5 Missile Protection

Reviewer: R. Giardina, PAPS

Status: Review not started.

### Section 3.6 Protection Against Effects of Pipe Breaks

Reviewer: S. Chan, PAEB

Status: Review not started.

### Section 3.7 Seismic Design

Reviewers: S. Chan, PAEB; G. Giese-Koch, PAEB

Status: Giese-Koch memo of 8/25/85 identifies SSE/OBE problem.

### Section 3.8 Design of Category I Structures and 3.9 Mechanical Systems and Components

Reviewer: S. Chan, PAEB

Status: Review not started.

### Section 3.10 Seismic and Dynamic Qualification

Reviewer: J. Jackson, EQB

Status: SER issued 8/23/85.

### Section 3.11 Environmental Design of Mechanical/Electrical Equipment

Reviewer: Not identified, PAPS

Status: Review not started.



MODULE 9 - I & C AND ELECTRIC POWER

Section 7.0 Instrumentation and Controls

Reviewer: F. Burrows, PAEI

Status: All responses received, SER about 70% complete.

Section 8.0 Electric Power

Reviewer: P. Gill, PAEI

Status: All responses received 7/86, not yet reviewed.

MODULE 10 - CONTAINMENT SYSTEMS

Status: Module 10 "in the mail" 3/87. No review started (PAEB)

## MODULE 11 - RADIATION PROTECTION

### Section 12.0 Radiation Protection

Reviewer: F. Skopec, PAPS

Status: SER completed by Skopec, no management concurrence.

## MODULE 12 - WASTE MANAGEMENT

### Section 11.0 Waste Management

Reviewer: R. Fell, PAPS

Status: Review not started.

## MODULE 13 - AUXILIARY SYSTEMS

Status: Module 13 submitted 11/86. No review started (PAPS).



## MODULE 15 - CONTROL ROOM HUMAN FACTORS ENGINEERING

### Section 7.8 Control Room

Reviewer: F. Burrows, PAEI

Status: Module 15 submitted 10/86, review not started.

### Section 7.9 Plant Computers

Reviewer: Not identified, PAEI

Status: Module 15 submitted 10/86, review not started.

### Section 18.0 Human Factors Engineering

Reviewer: S. Saba, PAEI

Status: Module is submitted 10/86, review not started.

## MODULE 16 - PROBABILISTIC RISK ANALYSIS

Reviewer: B. Hardin, RRAB and Brookhaven National Laboratory (BNL)

Status: Work suspended at BNL since NRC had not provided FY-87 funds or extended availability of remaining FY-86 funds. Effort should begin again as soon as funding process (now in progress) is completed by NRC.