Superseded pgs pg2
Rev 3 dtd 6/28/82
To Response to NUREG
0737 50-280

VIRGINIA ELECTRIC AND POWER COMPANY

RESPONSE TO NUREG 0737

POST TMI - REQUIREMENTS

REVISION 0	DECEMBER 10, 1980
REVISION 1	MAY 31, 1981
REVISION 2	OCTOBER 31, 1981

CLARIFICATION ITEM	SHORTENED TITLE	EXCEPTIONS
I.A.1.1	Shift technical advisor	NONE
I.A.1.2	Shift supervisor responsibilities	NONE
I.A.1.3	Shift manning	NONE
I.A.2.1	Immediate upgrading of RO and SRO training and qualifications	NONE
I.A.2.3	Administration of training programs	NONE
I.A.3.1	Revise scope and criteria for licensing exams	NONE
I.C.1	Short-term accident and procedures review	NONE
I.C.2	Shift & relief turnover procedures	NONE
I.C.3	Shift-supervisor responsibility	NONE
I.C.4	Control-room access	NONE
I.C.5	Feedback of operating experience	NONE
I.C.6	Verify correct performance of operating activities	NONE

2

CLARIFICATION ITEM	SHORTENED TITLE	EXCEPTIONS	
I.D.1	Control-room design	1) Although, the NRC issued "interim requirements" (NUREG-0700) in September 1981, Vepco cannot commit resources to the project until the NRC integrates the schedule requirements of the control room review with other related issues, (i.e., upgrading emergency procedures, emergency response facilities, etc.).	2
I.D.2	Plant safety parameter display console	NONE	1
II.B.1	Reactor coolant system vents	1) Vepco requires a relaxation of the final documentation submittal date to January 1, 1982 rather than July 1, 1981 for complete listing of qualification, final procedures and final electrical drawings for all units.	
		*2) Vepco requires a relaxation of the required installation date to July 1, 1982 or first refueling after January 1, 1981, which ever is later, rather than installation by July 1, 1982.	
II.B.2	Plant shielding	1) Some systems included in the NRC clarifications were excluded from the review. Justifications are provided.	1
		2) Liners and seals in the recirculation spray valves at Surry Unit 2 will be replaced at next refueling currently scheduled for the last quarter, 1981.	2
		3) Radiation zone maps for personnel access will be revised after all designs are installed.	1
		*4) Delivery of some equipment will require that installation be beyond the required implementation date.	2

CLARIFICATION ITEM	SHORTENED TITLE	EXCEPTIONS	
II.B.3	Post-accident sampling	*1) North Anna Unit 1 Containment Atmospheric Sampling System uses a temporary sample return line until the permanent Hydrogen Analyzer return lines are installed by 7-1-82.	
		*2) The Containment Atmopsheric Sampling System permanent supply and return lines for North Anna Unit 2 and Surry Unit 1 will be installed at the respective first scheduled outages after 1-1-82.	2
		3) QA Category II control switches will be used until QA Category I switches are available.	
		*4) The delay on major equipment delivery will result in the system testing not being complete prior to the implementation date of 1-1-82. The system will be operable by 7-1-82.	
II.B.4	Training for mitigating core damage	NONE	
II.D.1	Relief & safety-valve test requirements	1) The EPRI program has not formally included the testing of block valves.	
II.D.3	Valve position indication	1) Equipment is undergoing seismic and environmental testing and is scheduled to be completed Fall, 1982.	
II.E.1.1	Auxiliary Feedwater system evaluation	1) Surry AFW Pump Auto Control (Loss of all AC) Modification will be complete by 1-1-82 with the exception of installing qualified pressure regulations. Non-qualified regulators will be used until the other are available.	2
II.E.1.2	Auxiliary feedwater system initiation	*1) Surry AFW Flow Transmitters will be upgraded per the I.E.B. 79-01B schedule.	
II.E.3.1	Emergency power for pressurizer heaters	NONE	

CLARIFICATION ITEM	SHORTENED TITLE	EXCEPTIONS	
II.E.4.1	Dedicated hydrogen penetrations	NONE	1
II.E.4.2	Containment isolation dependability	1) Justification is provided for the existing containment pressure isolation setpoint.	
		* 2) Category I containment radiation isolation signal is assumed not to be required for normally closed containment purge and vent valves.	
		3) Original plant design criteria as described in the FSAR took exceptions to General Design Criteria.	
II.F.1	Accident-monitoring		
	1. Noble gas effluents	1) Low range sensitivity of Main Steam Monitors is restricted by very high background radiation.	
		*2) The delay on major equipment delivery will result in installation beyond the implementation date of 1-1-82.	
	2. Sampling & analysis of effluents	*1) The delay on major equipment delivery will result in installation beyond the implementation date of 1-1-82.	2
	3. Containment radiation monitors	1) Detectors are installed. System not complete until control room panels are delivered, which may be after 1-1-82.	
	4. Containment pressure	1) Best equipment available will be used and upgraded under the I.E. Bulletin 79-01B program. Upgrade will not be complete by January 1, 1982.	
	5. Containment water level	1) Best equipment available will be used and upgraded under the I.E. Bulletin 79-01B program. Upgrade will not be complete by January 1, 1982.	
	6. Containment hydrogen	1) Hydrogen Analyzers installed by 1-1-82. Analyzers functional by 7/82.	2

CLARIFICATION ITEM	SHORTENED TITLE	EXCEPTIONS	
II.F.2	Instrumentation for detection of inadequate core cooling	* 1) Extension requested until July, 1982.	2
		2) Clarification item (7) is a new requirement. Comparison of the proposed Westinghouse design with the Appendix B requirements is not complete.	
		*3) The ability of any system to provide an unambiguous indication has not been demonstrated. Procurement has proceeded on the information available. The required installation date should be delayed until additional research is performed. If the implementation date is not delayed, the installed level system should not be required to be changed if future research provides a better system.	
II.G.1	Power supplies for pressurizer relief valves, block valves and level indicators	NONE	
II.K.1	IE Bulletins	NONE	
II.K.2	Orders on B&W plants		
	.13 Thermal Mechanical Supports	NONE	
	.17 Voiding in RCS	NONE	2
II.K.3	Final recommendations, B&O task force		
	.1 PORV isolation system	NONE	
	.2 PORV Failures	NONE	1
	.3 SV & RV Failures	NONE	

CLARIFICATION ITEM	SHORTENED TITLE	EXCEPTIONS	
II.K.3 (Cont'd)	Final recommendations, B&O task force		
	.5 Auto trip RCP's	Vepco requires an extension of the July 1, 1981 date for submittal of proposed design information to three (3) months from NRC approval of the analysis model used. This request is consistent with the timetable provided in Item II.K.3.5.	1
	.9 PID Controller	NONE	
	.10 Proposed Anticipatory Trip	NONE	
	.11 Use of certain PORV's	NONE	
	.12 Anticipatory Trip on Turbine Trip	NONE	
	.17 ECC system outages	NONE	1
	.25 Power on Pump Seals	NONE	
	.30 SB LOCA Methods	NONE	
	.31 Compliance with 10 CFR 50.46	NONE	
III.A.1.1	Emergency preparedness, short-term	NONE	
III.A.1.2	Upgrade emergency support facilities	NONE	1
III.A.2	Emergency preparedness	* 1) Implementation of improved meteorological data capabilities must be conducted on the same schedule as portions of III.A.1.2.	
III.D.1.1	Primary coolant outside containment	NONE	
III.D.3.3	Inplant radiation monitoring	NONE	

CLARIFICATION ITEM	SHORTENED TITLE	EXCEPTIONS	
III.D.3.4	Control-room habitability	Supplemental review in progress for Unit 3 construction material affect on Unit 1 & 2 Control Room habitability.	2
Appendix B	Design Criteria	* 1) Equipment does not meet the seismic test results of R.G. 1.100.	
Appendix B	Design Criteria (continued)	2) No additional vendor documentation was required for "extended range" qualification.	
		* 3) Equipment does not meet the IEEE-323-1974 requirements of R.G. 1.89.	
		* 4) Existing plant systems meet original plant criteria for electrical separation but not R.G. 1.75.	
		5) The individual requirements of the referenced Reg. Guides in Item (5) were not addressed. The design was done in accordance with the requirements of 10CFR50, Appendix B and ANSI N45.2.	
		6) Existing plant instrumentation used for normal and post-accident conditions will be reviewed as part of the Control Room Design Review, Section I.D.1 for proper identification.	

STATUS LIST OF RESPONSES
TO NUREG 0737

POST-TMI REQUIREMENTS FOR OPERATION REACTORS

Clarification Item	Shortened Title	Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks
I.A.1.1	Shift technical advisor	1. On duty	1-1-80	No	Yes	Yes	1-1-80	Complete
		2. Tech specs	12-15-80	Yes	No	Yes	9-1-80	Complete
		3. Trained per LL Cat B	1-1-81	No	Yes	Yes	1-1-81	Complete
		4. Describe long-term program	1-1-81	No	No	No	1-1-81	Submitted 1
I.A.1.2	Shift supervisor responsibilities	Delegate non-safety duties	1-1-80	No	Yes	No	1-1-80	Complete
I.A.1.3	Shift manning	1. Limit overtime	11-1-80	No	Yes	No	11-1-80	Complete
		2. Min shift crew	7-1-82	No	Yes	Yes	11-1-80	Complete
I.A.2.1	Immediate upgrading of RO and SRO training and qualifications	1. SRO exper	5-1-80	No	Yes	No	None	Complete
		2. SRO's be RO's	12-1-80	No	Yes	No	None	Complete
		3. Three mo trng on shift	8-1-80	No	Yes	No	None	Complete
		4. Modify training	8-1-80	No	Yes	No	8-1-80	Complete
		5. Facility certification	5-1-80	No	Yes	No	None	Complete
I.A.2.3	Administration of training programs	Instructors complete SRO exam	8-1-80	No	Yes	No	None	Complete

Clarification Item	Shortened Title	Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks	
I.A.3.1	Revise scope and criteria for licensing exams	1. Increase scope	5-1-80	No	No	No	None	Complete	
		2. Increase passing grade	5-1-80	No	No	No	None	Complete	
		3. Simulator exams	6-1-80	No	No	No	None	Complete	
			10-1-81	No	No	No	None	Complete	
I.C.1	Short-term accident and procedures review	1. SB LOCA	6-1-80	No	Yes	No	None	Complete	
		2. Inadequate core cooling							
		a. Reanalyze and propose guidelines	1-1-81	Yes	No	No	1-1-81	Submitted	1
		b. Revise procedures	1st refueling outage after 1-1-82	Yes	No	No	TBD		
		3. Transients & accidents							
		a. Reanalyze and propose guidelines	1-1-81	Yes	No	No	1-1-81	Submitted	
		b. Revise procedures	1st refueling outage after 1-1-82	Yes	No	No	TBD		1
I.C.2	Shift & relief turnover procedures	Implement shift turnover checklist	1-1-81	No	Yes	No	1-1-80	Complete	
I.C.3	Shift-supervisor responsibility	Clearly define superv & oper responsibilities	1-1-80	No	Yes	No	1-1-80	Complete	
I.C.4	Control room access	Establish authority limit access	1-1-80	No	Yes	No	1-1-80	Complete	

Clarification Item	Shortened Title	Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks	
I.C.5	Feedback of operating experience	License to implement procedures	1-1-81	No	Yes	No	None	Complete	1
I.C.6	Verify correct performance of operating activities	Revise performance procedures	1-1-81 E	No	Yes	No	None	Complete	2
I.D.1	Control room design	Preliminary assessment	TBD				TBD E	Response after issue of NUREG 0700	1
I.D.2	Plant safety parameter display console	1. Description	6-1-81	No	Yes	No	6-1-81	Submitted	2
		2. Installed	10-1-82	No	Yes	No	10-1-82		
		3. Fully implemented	10-1-82	Yes	No	Yes	10-1-82		1
II.B.1	Reactor coolant system vents	1. Design vents	7-1-81	No	Yes	No	7-1-81	Submitted	
		2. Install vents (LL Cat B)	7-1-82 E	Yes	No	Yes	7-1-81 E		1
		3. Procedures	7-1-82	Yes	No	Yes	1-1-81 E		
II.B.2	Plant shielding	1. Review designs	1-1-80	No	Yes	No	1-1-80	Submitted	
		2. Plant modifications (LL Cat B)	1-1-82 E	No	Yes	No	1-1-81 submittal if deviation from position	Submitted	1
		3. Equipment qualification	6-30-82	No	Yes	No	1-1-82		

Clarification Item	Shortened Title	Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks	
II.B.3	Post-accident sampling	1. Interim system	1-1-80	No	Yes	No	1-1-80	Complete	
		2. Plant modifications	1-1-82 E	No	Yes	Yes	1-1-81 submittal if deviation from position	Submitted	2
II.B.4	Training for mitigating core damage	1. Develop training program	1-1-81	No	Yes	No	1-1-81	Complete	
		2. Implement program							
		a. Initial	4-1-81	No	Yes	No	None	Complete	1
		b. Complete	10-1-81	No	Yes	No	None		
II.D.1	Relief & safety-valve test requirements	1. Submit program	1-1-80	No	Yes	No	1-1-80	Complete	
		2. RV & SV testing (LL Cat B)							
		a. Complete testing	4-1-82	No	No	No	4-1-82		
		b. Plant-specific report	7-1-82	Yes	Yes	TBD	7-1-82		
		3. Block-valve testing	7-1-82	Yes	Yes	TBD	7-1-82		
II.D.3	Valve position indication	1. Install direct indications of valve position	1-1-80	No	Yes	Yes	1-1-80	Complete (qualifying equipment)	
		2. Tech Specs	12-15-80	Yes	No	Yes	9-1-80	Submitted	
II.E.1.1	Auxiliary Feedwater system evaluation	1. Short-term	7-1-81	Yes	Yes	Item Specific	Plant Specific	Submitted	
		2. Long-term	1-1-82	Yes	Yes	Item Specific	Plant Specific	Submitted	1

Clarification Item	Shortened Title	Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks
II.E.1.2	Auxiliary feedwater system initiation	1. Initiation						
		a. Control grade	6-1-80	Yes	No	Yes	1-1-80	Complete
		b. Safety grade	7-1-81	No	Yes	Yes	1-1-81	Complete
		2. Flow indication						
		a. Control grade	1-1-80	No	Yes	Yes	1-1-80	Complete
		b. LL A tech specs	12-15-80	Yes	No	Yes	9-1-80	Submitted
		c. Safety grade	7-1-80	No	Yes	Yes	1-1-81	Complete
II.E.3.1	Emergency power for pressurizer heaters	1. Upgrade power supply	1-1-80	No	Yes	Yes	1-1-81	Complete
		2. Tech specs	12-15-80	Yes	No	Yes	9-1-80	Submitted
II.E.4.1	Dedicated hydrogen penetrations	1. Design	1-1-80	Yes	No	No	1-1-80	Complete
		2. Install	7-1-81	No	Yes	No	7-1-81	Submitted
II.E.4.2	Containment isolation dependability	1-4 Imp. diverse isolation	1-1-80	No	Yes	Yes	1-1-80	Complete
		5. Cntmt pressure setpoint						
		a. Specify pressure	1-1-81	No	Yes	No	1-1-81	Complete
		b. Modifications	7-1-81	Yes	No	Yes	1-1-81	None identified
		6. Cntmt purge valves	1-1-81	No	Yes	Yes	1-1-81	Submitted
		7. Radiation signal on purge valves	7-1-81	No	Yes	Yes	7-1-81	Assume not applicable
		8. Tech specs	12-15-80	Yes	No	Yes	9-1-80	Submitted
II.F.1	Accident-monitoring	1. Noble gas monitor	1-1-82 E	No	Yes	Yes	1-1-81 Submittal if deviation from position	Submitted

2

Clarification Item	Shortened Title	Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks	
II.F.1	Accident-monitoring (continued)	2. Iodine/particulate sampling	1-1-82 E	No	Yes	Yes	1-1-81 submittal if deviation from position	Submitted	2
		3. Containment high-range monitor	1-1-82 E	No	Yes	Yes if deviation from position	7-1-81 submittal	Submitted	2
		4. Containment pressure	1-1-82	No	Yes	Yes	1-1-82	Submitted	
		5. Containment water level	1-1-82	No	Yes	Yes	1-1-82	Submitted	
		6. Containment hydrogen	1-1-82 E	No	Yes	Yes	1-1-82	Submitted	2
II.F.2	Instrumentation for detection of inadequate core cooling	1. Subcool meter	1-1-80	No	Yes	Yes	1-1-80	Complete	
		2. Tech spec (LL Cat A)	12-15-80	Yes	No	Yes	9-1-80	Submitted	
		3. Install level instruments (LL Cat B)	1-1-82 E	No	Yes	Yes	1-1-81 Submittal if deviation from position	Submitted	
II.G.1	Power supplies for pressurizer relief valves, block valves and level indicators	1. Upgrade to emerg sources	1-1-80	No	Yes	Yes	1-1-80	Complete	
		2. Tech specs	12-15-80	Yes	No	Yes	9-1-80	Submitted	
II.K.1	IE Bulletins	79-05, 06, 08	Bulletin specific	No	Yes	No	Bulletin specific	NRR has evaluated Vepco responses	

Clarification Item	Shortened Title		Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks	
II.K.2	Orders on B&W plants	13.	Thermal mechanical report	1-1-82	No	Yes	As required	1-1-82		
		17.	Voiding in RCS	b. 1-1-82	No	Yes	No	1-1-82		2
II.K.3	Final recommendations,	1.	Auto PORV isolation						Not required by II.K.3.2	1
	B&O task force	2.	Report on PORV failures	1-1-81	No	Yes	No	1-1-81	Submitted	
		3.	Reporting SV & RV failures & challenges	1-1-81	No	Yes	Yes	1-1-81	Initiate data beginning 4-1-80	
		5.	Auto trip of RCPs							
			a. Propose modifications	7-1-81 E	No	Yes	No	2-15-81	Submitted	1
			b. Modify	3-1-82	Yes	No	Yes	7-1-81 E	If required	
		9.	PID controller	1-1-81	No	Yes	No	12-1-80	Complete	
		10.	Proposed anticipatory trip modifications	Plant specifc	Yes	No	Yes	Plant specific	N.A.	
		11.	Justify use of certain PORV	Plant specific	No	Yes	No	Plant specific	N.A.	
		12.	Anticipatory trip on turbine trip							
			a. Confirmation or propose modifications	1-1-81	No	Yes	No	1-1-81	Complete	
			b. Modify	1st refuel 6 mo after staff approval	Yes	No tech spec	Yes amend request	1st refuel	N.A	
		17.	ECC system outages	1-1-81	No	Yes	As required	1-1-81	Submitted	1
		25.	Power on pump seals							
			a. Propose mods	1-1-82	No	Yes	No	1-1-82		
			b. Modifications	7-1-82	Yes	No	No	7-1-82		

Clarification Item	Shortened Title	Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks	
II.K.3	Final recommendations, B&O task force (continued)	30. SB LOCA methods							
		a. Schedule outline	11-15-80	No	Yes	No	11-15-80	Complete	
		b. Model	1-1-82	Yes	No	No	1-1-82		
		c. New analyses	1-1-83 or 1 yr after staff approval	Yes	No	No	1-1-83 or 1 yr after staff approval		
		31. Compliance with CFR 50.46	1-1-83 or 1 yr after staff approval	Yes	No	TBD	1-1-83		
III.A.1.1	Emergency preparedness, short-term	Short-term improvements	Complete	No	Yes	No	Complete	Complete	
III.A.1.2	Upgrade emergency support facilities	1. Interim TSC OSC & EOF	Complete	No	Yes	No	Complete	Complete	
		2. Design	6-1-81	Yes	No	No	6-1-81	Submitted	2
		3. Modifications	10-1-82	No	Yes	Yes	10-1-82		
III.A.2	Emergency preparedness	1. Upgrade emergency plans to App. E, 10 CFR 50	4-1-81	No	Yes	Yes	1-2-81	Submitted	1
		2. Meteorological data	6-1-83	No	Yes	Yes	1-2-81	Staged implementation (E)	
III.D.1.1	Primary coolant outside containment	1. Leak reduction	Complete	No	Yes	Yes	Complete	Complete	
		2. Tech specs	12-15-80	Yes	No	Yes	9-1-80	Submitted	
III.D.3.3	Inplant radiation monitoring	1. Provide means to determine presence of radioiodine	Complete	No	Yes	No	Complete	Complete	

Clarification Item	Shortened Title	Description	Implementation Schedule	NRC Pre-Implementation Approval	NRC Post-Implementation Review Required	Tech Spec. Revision Required	Submittal Req. By	Vepco Remarks	
III.D.3.3	Inplant radiation monitoring (continued)	2. Modifications to accurately measure I_2	1-1-81	No	Yes	Yes	1-1-81	Complete	
III.D.3.4	Control-room habitability	1. Review 2. Modification	1-1-81 1-1-83	No No	Yes Yes	No Yes	1-1-81 1-1-81	Submitted	2

Note

E - Indicates those implementation and/or submittal dates to which Vepco has taken an exception. 1

I.A.1.3 SHIFT MANNING

Technical Specifications, Section 6.2.2, for both North Anna Units 1 and 2 require a minimum shift crew and overtime restrictions in accordance with the requirements of I.A.1.3.

Administrative procedures have been revised at Surry Units 1 and 2 to limit overtime in accordance with these requirements. In addition, a request to change Technical Specifications was submitted on November 14, 1980, which would specify a minimum shift crew consistent with the requirements on page I.A.1.3-4.

I.A.2.1 IMMEDIATE UPGRADING OF REACTOR OPERATOR AND SENIOR REACTOR OPERATOR TRANING AND QUALIFICATIONS

The upgraded requirements for senior reactor operator license applicants have been implemented effective December 1, 1980. The experience of each applicant is checked by the station Supervisor - Nuclear Training against the criteria in this section.

The previous requirement that applicants for SRO licenses have 4 years of responsible power plant experience, of which at least 2 years shall be nuclear power plant experience (including 6 months at the specific plant) and no more than 2 years shall be academic or related technical training, has also been implemented.

Current applicants for licenses are certified to be competent by the Executive Vice President - Power.

The training program for SRO/RO candidates includes training in heat transfer, fluid flow, thermodynamics, and plant transients.

I.C.1 GUIDANCE FOR THE EVALUATION AND DEVELOPMENT OF PROCEDURES FOR TRANSIENTS AND ACCIDENTS

On December 15, 1980, the Westinghouse Owners Group submitted a detailed description of a program to comply with the requirements of I.C.1 for both Inadequate Core Cooling and Transients and Accidents (Ref: Letter No. OG-47). The submittal identified previous Owners Group submittals to the NRC, which are believed to comprise the bulk of the required information. Additional effort required to obtain full compliance with Item I.C.1 (with a proposed schedule for completion) was also identified. Additionally, on March 18, 1981, an update of the status of the Owners Group I.C.1 activities was submitted to the NRC (Ref: Letter No. OG-54). This approach was discussed during a November 12, 1980 meeting between Westinghouse Owners Group representatives at the NRC Staff, and is consistent with the alternate requirements on page I.C.1-4. 1

The NRC review of the Westinghouse Owners Group proposed program (OG-54) identified several staff concerns. These concerns were outlined in letters from Mr. Robert A. Clark (dated June 9, 1981 for North Anna) and Mr. Steven A. Varga (dated June 10, 1981 for Surry) to Mr. J. H. Ferguson of Vepco. In response, the Westinghouse Owners Group evaluated and revised its procedures development program and forwarded to the NRC a revised program on July 7, 1981 by letter from Mr. R. W. Jurgenson (AEP, Owners Group Chairman) to Mr. S. H. Hanauer of the NRC (Ref: Letter No. OG-61). This revised prgoram was received and considered acceptable by the NRC. NRC acceptance of the Owners Group revised program is documented in a letter from Mr. D. G. Eisenhut to Mr. R. W. Jurgenson dated September 18, 1981. 2

I.C.5 PROCEDURES FOR FEEDBACK OF OPERATING EXPERIENCE TO PLANT STAFF

The operating experience assessment function has been implemented through both a system-level Safety Engineering and Control group and Safety Engineering staffs at each station. Procedures for the operation of the system organization, the North Anna SES and the Surry SES were in effect prior to January 1, 1981. 1

I.D.1 CONTROL ROOM DESIGN REVIEWS

Vepco has reviewed and provided comments on the draft document NUREG/CR-1580, "Human Engineering Guide to Control Room Evaluation".

North Anna Units 1 & 2 control room has been reviewed and modified to reflect the human engineering recommendations of the NRC presented in the Essex Corporation Report. Surry Units 1 & 2 control room has been reviewed to establish short-term improvements. One of these improvement modifications will be made on Unit 2 during the Fall 1981 refueling outage and is scheduled for the Spring 1982 maintenance outage on Unit 1. Other modifications will be evaluated using mock-ups on the simulator prior to implementation in the Control Room. 2

I.D.1 CONTROL ROOM DESIGN REVIEWS - EXCEPTIONS

In September 1981, the NRC issued the "interim requirements" (NUREG 0700) for the control room design review. Vepco is concerned that the present "interim requirements" may be superseded by later final requirements that would adversely affect Vepco resource commitments. Until the NRC issues specific schedule requirements on the subject, Vepco will initiate only a minor effort at this time in response to NUREG 0700. 2

II.B.1 REACTOR COOLANT SYSTEM VENTS - EXCEPTIONS

At the present time, priority is being given to the development of the North Anna Unit 1 final design to support the implementation of the vent systems during the refueling outage scheduled to begin January 1, 1981. The electrical schematics providing qualified valve cable entry seals are not yet complete.

After the North Anna Unit's electrical schematics have been finalized, emphasis will be put on the electrical schematics for Surry Unit 1. As a consequence, we do not expect to have all the electrical schematics for all units by the required documentation date of July 1, 1981. However, the schematics will be similar and will be provided for the individual units as soon as they become available.

Vepco will not be able to support complete documentation of the test and operating procedures and supporting analysis as required by Position 2 and document item (3) by the required date of July 1, 1981. This information will be developed as the RCS vent and reactor vessel level system designs are developed and the systems are installed. The information should be available by January 1, 1982 to allow NRC review prior to implementation of the systems.

By July 1, 1982, Vepco intends to provide a list of vent system components (valves, cable, connections, etc.) and a description of the test programs that have been or will be performed to demonstrate compliance with NRC's order of May 27, 1980. The availability of this information cannot be assured at this time because the vent system components are under various stages of procurement.

Installation of the RCS vent system connection requires removal of the reactor vessel head. Vepco proposes to install this portion of the system during refueling outages. As shown in Section C, the next refueling outage for North Anna 2 and Surry 2 are currently scheduled for the first half of 1982. Those dates would support installation of the system by July 1, 1982. However, any unscheduled outages could extend the refueling beyond the required installation date. Therefore, Vepco requests a change to the required installation date for the RCS Vent System to be July 1, 1982 or the first refueling outage after January 1, 1981, which ever is later.

1. The majority of electrical equipment in these systems are not qualified to meet the integrated radiation dose to which they would be exposed in processing and concentrating the highly radioactive water or gas.

2. There is extensive piping for the recovery systems throughout the auxiliary building. The resulting dose rate from all these systems operating simultaneously would severely limit access for the required operation. Shielding for the recovery system piping and components would be very difficult and in some cases may be impossible to install due to the arrangement of the piping and equipment.

B. Modifications - Shielding or Equipment Changes for Reduction of Personnel Exposure

As a result of the plant radiation and shielding review, we have identified additional shielding and plant modifications to reduce the personnel exposure and equipment irradiation qualification required by NUREG 0578 which is more conservative than subsequent clarifications (NUREG 0737 allows the shielding to be based on a 30-day average base).

North Anna Only

1. The post-accident hydrogen recombiner vault requires shielding modifications to limit radiation exposure to the operators at the vault while realigning and operating the recombiner, and to reduce the levels in the continuous occupancy areas.

2. Manual valves, located in high radiation zones, which must be operated to line up and operate the post-accident hydrogen recombiner and hydrogen analyzer will be replaced with environmentally qualified remotely operated valves, such as direct-acting solenoid valve or air-operated valves. | 1

Surry Only

1. In order to automatically adjust cooling water temperature to charging pumps, automatic temperature control valves are being added to the service water lines in the charging pump cooling water subsystem.

2. Manual valves, located in high radiation zones, which must be operated to line up and operate the post-accident hydrogen analyzer will be replaced with environmentally qualified remotely operated valves, such as direct-acting solenoid valve or air-operated valves. | 1

North Anna and Surry

1. Shielding of portions of the lines added as part of the new post-accident sampling system may be required.

2. Shielding for the Post-Accident Sampling Facility is required.

3. Although no access is required in the lower level auxiliary building or safeguards building to mitigate an accident, the drain system for the auxiliary building sump and the safeguards building sump is being studied for modification so that these sumps can be pumped to the affected unit's containment instead of to the high or low level waste tanks. This would eliminate a significant potential source of activity in the basement of the auxiliary building. | 2

4. Sampling procedures have been modified and temporary shielding employed to limit dose rates at the present sample facility.

5. Additional shielding, area relocation, or procedural modifications are being evaluated to limit radiation dose rates in the technical support center, the operational support center, the counting lab, and the security control center.

6. System modifications to permit interfacing with external process systems to be designed and shielded after the accident are being made. The external process system design would be based on the extent of the accident and would utilize the most current technology available at the time of the accident. | 2

C. Modifications - Equipment Qualification

The evaluation of radiation environmental qualification of equipment is proceeding slowly because of the difficulty in obtaining vendor data on older plants. The mechanical equipment review for LOCA is complete for North Anna and Surry. Vepco has reported the results of the electrical equipment review in conjunction with the responses to I.E. Bulletin 79-01B. Any necessary modifications will be made as material becomes available.

In addition, Vepco has concluded its review of the radiation effects on mechanical equipment required to mitigate a high energy line break (HELB) for North Anna and Surry Power Stations. This review indicates that no equipment modifications are required to mitigate the HELB transient. | 1

Replacement of, or shielding for, material with insufficient radiation resistance in the following equipment has been identified to date and is in progress as noted. See Section C for proposed installation scheduled. These materials meet the requirements of the FSAR but not the extended requirements of NUREG 0578, NUREG 0660, NUREG 0737 and IE Bulletin 79-01B.

1. Replacement Safeguards area ventilation fan motors have been received. (North Anna)

2. Stainless steel bearings for component cooling water and service water insert check valves to replace teflon lug and plate bearings have been ordered. (North Anna and Surry)

3. Replacement service water radiation monitor pump motors have been delivered to North Anna. New pumps and motors are being purchased for Surry as part of IE Bulletin 79-01B Review, (see exception). | 2

4. Replacement mechanical seal bellows for the service water radiation monitor pumps have been ordered. (North Anna)

5. Additional shielding is being designed for the service water radiation monitors at North Anna. Relocation of the service water radiation monitors to a lower background radiation area is required at Surry.

6. Replacement O-rings in the high head safety injection pump seal cooler are being ordered. (Surry)

7. Valve seat replacements are on order for component cooling water valves to the reactor coolant pumps. (North Anna Unit 1)

8. Charging pump gaskets and mechanical seals for the charging pump cooling water pump are on order. (Surry)

9. Containment Isolation Valve Buna-N diaphragms will be replaced with qualified material during normal maintenance. (Surry)

10. Outside recirculation spray pump plug valve seats (teflon) will be replaced at Surry.

11. Electrical equipment as identified in response to I.E. Bulletin 79-01B and NUREG 0588. | 2

12. The low head safety injection and outside recirculation spray pumps will have Torlon to replace Teflon for support pads. (North Anna and Surry) | -1

D. Additional Information

The basis for systems excluded:

1. The design of the Reactor Coolant System (RCS) and supporting systems is such that the letdown portion of the Chemical and Volume Control System (CVCS) is not required to take the plant to a safe shutdown (hot standby) condition or mitigate the effects of a LOCA. The use of the CVCS letdown could create significant radiological problems. The letdown portion of the CSVS was not considered in this review for the following detailed reasons.

   At TMI-2, high airborne activity levels and high radiation levels outside the containment resulted from using systems which carry highly radioactive fluids from inside the containment to other buildings. One of the lessons learned from TMI-2 is to isolate from the containment all nonessential systems. This is also a requirement of NUREG 0737, Section II.E.4.2. The letdown and normal charging portions of the CVCS is automatically isolated by the phase A containment isolation signal. Use of the letdown portion of the CVCS presents the potential for increasing activity levels outside the containment. This portion of the CVCS is not required to mitigate an accident and this is kept isolated from the containment.

3. The Boron Recovery, Liquid Waste, Solid Waste, and Gaseous Waste systems were not considered in the shielding review for the following reasons:

   a. These systems were not designed or arranged to accommodate the activity levels that could be present after an accident, but rather to operate at the design conditions of one percent failed fuel as discussed in FSAR Section 11. The calculated activity concentration based on Regulatory Guide 1.4 and TID-14844 of the influent to the Liquid Waste or Boron Recovery system is approximately 2000 uci/cc, even after six months of radioactive decay.

      Thus, concentrated effluent in the evaporators of these systems would be so highly radioactive that shielding, processing and handling of the waste by conventional methods would not be possible. The area radiation dose rate from the concentrated waste and storage tanks would severely limit access to parts of the Auxiliary Building. It is proposed to keep this waste inside containment until the recovery phase when cleanup operations begin.

   b. Modifications are being designed to add connections to these and other systems to permit interfacing with an external waste processing system specifically selected for post-accident clean-up, during the recovery phase, of radioactive fluids and gases resulting from the accident.

Inclusion of all essential sources in the review:

All essential system piping and equipment required to mitigate the effects of a LOCA which contain or could contain highly radioactive fluids were considered as sources in our shielding review. These systems include; the High Head Safety Injection (HHSI) portions of the CVCS and SI Systems, the Low Head Safety Injection (LHSI) System, Recirculation Spray System, Sample System, and Containment Atmosphere Cleanup (hydrogen recombiner) System. In addition, other systems which are not required to mitigate a LOCA and are not required by NUREG 0737, but which could contain significant radioactivity, were considered such as drain lines and standing water in sumps and waste tanks. All branch connections to and from these systems were considered as sources to the first isolation valve. Other sources such as the shine from the containment dome, shine through containment penetrations, and shine through the personnel hatch were considered. The location of field run pipe, which is part of the systems listed above, was considered in our analysis. As noted in the response to the North Anna FSAR Comment 12.3, the routing and location of radioactive piping is such that the piping is in shielded areas. The exact routing of our field run pipe is not critical in the production of the radiation zone maps. The highest activity level in each zone is calculated and that level is considered for the entire zone. For instance, the highest activity may be 12 inches from a pipe, regardless of its exact location within the zone.

Indirect radiation was not considered as a source. Buildup factors in shield walls are considered but scatter over walls or through labyrinth doorways was not considered. Airborne activity was not considered as a source in our shielding review.

Consideration of all vital areas:

Vital areas for personnel exposure are defined as those areas which require continuous or frequent occupancy in order to control, monitor, and evaluate the accident. These areas include the Control Room, Technical Support Center, the Counting Lab/Health Physics area, the Operational Support Center, and Security Control Center. In addition, any area which requires access to perform manual operation of equipment in systems which are used to mitigate the accident were considered. Vital areas for equipment qualification inlcude all areas in which mitigating equipment is located. Zone maps have been developed for many non-vital areas as well. These areas include the entire Auxiliary Building, Main Steam Valve House, Quench Spray Pump House, Safeguards Building, Service Building, and selected areas in the yard.

a. Post-Accident Sampling Modification

The interim modifications made to the sampling system and the proposed long term modifications are designed to minimize the exposure to personnel during sampling using time, distance and shielding.

Shielding for portions of the interim sampling system lines has been installed. Shielding for portions of the long term post-accident sampling system lines and the sampling facility is required.

b. Technical Support Center

Sufficient shielding will be designed into the technical support center to limit personnel exposure to acceptable levels.

c. Operations Support Center (North Anna)

The Operations Support Center at North Anna will be located in an area with acceptable radiation dose rates.

d. Counting Laboratory

Shielding for some instruments in the counting laboratory or relocation of the counting equipment is necessary due to background activities.

e. Hydrogen Recombiner Modifications (North Anna Only)

The hydrogen recombiner system at North Anna is external to the containment. Because of the potential for a large dose contribution after post-accident operation modifications are being made.

The vault will be modified to provide a monitored release path for leakage from the hydrogen recombiner system to the Auxiliary ventilation system.

The post-accident hydrogen recombiner vault requires shielding modifications to limit radiation exposure to the operators at the vault while realigning and operating the recombiner and to reduce the levels in some of the vital areas. Relocation of the recombiner control panel is also required.

f. Containment Atmosphere Cleanup System

Manual valves, located in high radiation zones, which must be operated to line up and operate the post-accident recombiner at North Anna, and hydrogen analyzer, will be replaced with environmentally qualified, remote operated valves. Also, for more reliable system operation, dedicated penetrations will be provided for both of the H_2 analyzers. 2

Section II.E.4.1 shows the proposed modifications in the valve arrangement for the containment atmosphere cleanup system. These modifications provide a double valve barrier between the accident unit's containment atmosphere which is being processed by either hydrogen recombiner, all other systems, and the unaffected containment. Remote operators will be provided for those valves where personnel access is restricted by post accident radiation levels.

In the case of the containment purge blowers, an additional manual isolation valve is being installed to isolate this system from the Containment Atmosphere Cleanup System. This valve will not be remotely operated. Since use of the purge blower system is not considered to be required in the mitigation phase of an accident, this system would be used as a back-up to the redundant H_2 recombiners only if the containment atmosphere were acceptable for release. 2

g. Security Control Center

The emergency procedures will be revised to incorporate instruction on relocation of the security boundary if radiation doses in the yard are not acceptable.

In addition, Vepco has committed to implementation of the following modifications at North Anna Units 1 & 2 and Surry Units 1 & 2. These modifications are not required to validate the results of the shielding review or satisfy the requirements of NUREG 0578 but would reduce personnel exposure during the Recovery Phase.

- Waste cleanup system tie-ins (Additional design information in Attachment E to July 7, 1980 letter)

- Auxiliary building and safeguards building sump drain modifications (Design information provided in April 1, 1980 letter)

II.B.2 DESIGN REVIEW OF PLANT SHIELDING AND EQUIPMENT QUALIFICATION - EXCEPTIONS

The shielding review is in compliance with or exceeds all the requirements of this Section except as noted below:

1. Not all systems listed in the clarification were assumed to contain the Accident Level Radiation Source Term as described in the "Basis for Systems Excluded" and "Inclusion of all Essential Sources in the Review".

2a. In accordance with the section titled Changes to Previous Requirements and Guidance, Vepco will install remotely operated valves for the Containment Atmosphere Cleanup System for North Anna Power Station during the first sufficient outage but no later than July 1, 1982. | 2

2b. Qualified Radiation Monitoring Pumps & Motors are ordered. Delivery is currently scheduled for the Summer, 1982. The replacement of the equipment will be done in accordance with the guidelines and schedule set forth in I.E. Bulletin 79-01B. The installation is scheduled for the first refueling after Summer 1982. (Surry only)

2c. Delivery for control valves required to automatically adjust service water to the charging pump lube oil cooler has been delayed due to a labor strike since July 19, 1981, at the vendors manufacturing plant. The vendor has promised valve delivery in November, 1981 and should the vendor deliver the valves in November, Vepco will be able to schedule to install the valves by no later than July 1, 1982. (Surry only) 2

2d. Due to material delivery problems, the modifications scheduled for the hydrogen Recombiner Vault and Service Water Radiation Monitor (shielding) will be delayed beyond January 1, 1982. Vepco will have these modifications completed by April 1, 1982. (North Anna only).

2e. Due to manufacturing problems at the vendor, the modifications to replace the teflon material on the Low Head Safety Injection & Recirculation Spray Pump Restraints will be delayed beyond January 1, 1982. However, Vepco will make the material replacement by April 1, 1982. (North Anna only)

3. The radiation zone maps for personnel access will be revised after all the post-TMI modifications are complete to ensure the impact of all changes are incorporated. This revision will take a few months and will replace the radiation zone maps prepared by January 1, 1980 that identified the required modifications for personnel access. | 2

II.B.3 POST-ACCIDENT SAMPLING SYSTEM - EXCEPTIONS

A. The exceptions for the containment atmospheric sample system are as follows:

1. North Anna Unit 1 shall have a temporary sample return line to the existing Hydrogen Analyzer lines. The temporary return line will be used until the permanent Hydrogen Analyzer returns are installed by 7-1-82. The Containment Atmospheric Sampling System supply lines for North Anna Unit 1 and Surry Unit 2 will be heat traced after 1-1-82.

2. North Anna Unit 2 and Surry Unit 1 will utilize the Short-Term Post-Accident Sampling System connected to existing Hydrogen Analyzer tubing. The temporarily installed Short-Term Containment Atmospheric Sampling System supply tubing will not be heat traced. The permanent supply and return lines to the Containment Atmospheric Sampling Panel will be installed at the respective first scheduled unit outages after 1-1-82.

3. QA Category I control switches for the containment isolation valves for Containment Atmospheric Sampling System are not available prior to 1-1-82. QA Category II control switches will temporarily be installed until the QA Category I control switches are available. 2

B. The Exceptions for the Reactor Coolant Sampling System:

The Sentry Equipment Company Chemical Analysis Panels (CAP) and Chemical Analysis Monitor Panels (CAMP) were originally scheduled for delivery in December, 1980.

Vendor delays have resulted in delivery in late October, 1981 to North Anna and Surry Power Stations. Because of this late delivery, the installation of mechanical and electrical tie-ins, as well as system testing, must be accomplished in an extremely short time frame. However, Reactor Coolant Sampling System installation will be completed by 1-1-82 except system testing which will be expedited. Vepco will have the Reactor Coolant Sampling System fully operable by 7-1-82. During that period, the Short-Term Sampling System will be utilized.

2

II.B.4 TRAINING FOR MITIGATING CORE DAMAGE

1. A training program to teach the use of installed equipment and systems to control or mitigate accidents in which the core is severely damaged has been developed for use at both North Anna and Surry. The program is currently being revised to incorporate newly acquired data.

2. The program has already been implemented and taught at both stations. Attendance was required for all licensed operator, licensed senior operators and non-licensed operators. Personnel identified by the Emergency Plan qualified to become Emergency Directors are required to attend, as are all Shift Technical Advisors and Nuclear Training Coordinators. The training program has been incorporated into the operator training and retraining programs.

3. The program for managers and technicians in the Instrumentation and Control (I&C), health physics and chemistry departments has been implemented in conjunction with the Station Emergency Plan training on EPIP's specific to each technical area and will be complete prior to October 1, 1981 at both the Surry and North Anna Power Stations. 1

II.D.1 PERFORMANCE TESTING OF POWER RELIEF VALVE AND SAFETY VALVES

As a sponsor of the EPRI PWR Safety and Relief Valve Test Program, Vepco intends to comply with the requirements of NUREG 0578, Item 2.1.2. By letter dated December 15, 1980, R. C. Youngdahl of Consumers Power Company has provided the current PWR Utilities' positions of NUREG 0737, Item II.D.1 clarifications. Briefly, those positions are:

A. Safety and Relief Valves and Piping - the EPRI "Program Plan for Performance Testing of PWR Safety and Relief Valves", Revision 1, dated July 1, 1980, does provide a program that satisifes the NRC requirements. Discussion with the NRC staff and their consultants are resolving specific detailed issues.

B. Block Valves - The EPRI Program has not formally included the testing of block valves. However, a small number of block valves have been tested at the Marshall Steam Station Test Facility. By letter dated July 24, 1981, Mr. R. C. Youndahl of Consumers Power Company has provided the current PWR utilities position on Block Valve testing. 2

C. ATWS Testing - PWR Utilities will not support additional efforts for ATWS valve testing until regulatory issues are resolved. The major safety and relief valve test facility (CE) is nearing completion and some measures were taken to provide additional test capability beyond the current program requirements. The NRC should recognize that results from the current program are likely to provide most of the information necessary to address ATWS events (i.e., relief capability at high pressure).

II.F.1. ATTACHMENT 1, NOBLE GAS EFFLUENT MONITOR - EXCEPTIONS

1. Final design details for the process vent and ventilation vent (noble gas) are available.

2. In order to comply with 1-1-82 implementation date, an order was placed with Kaman Sciences Corporation on 11-14-80 which requires delivery date of 7-20-81. The delivery date for the monitor units was scheduled for 8-21-81 for isokinetic nozzles and hardware with the monitor skids scheduled for the week of 9-30-81.

   Rework of the microprocessor units by the vendor resulted in schedule slip to October 15, 1981. When undergoing final system test, a circuit board failure resulted in further shipping delays to October 13, 1981. The Kaman Sciences Increased Range Radiation Monitors Skids were shipped on October 28 and 29, 1981, respectively, for North Anna and Surry Stations. This delay on the delivery of the Kaman system will severely impact on current construction schedules and will result in installation beyond 1-1-82 implementation date. Vepco will complete the installation of the Increased Range Radiation Monitors skids by July 1, 1982 for North Anna and April 1, 1982 for Surry. In the interim, the Short-Term Increased Range Radiation Monitors will be utilized. 2

II.F.1. ATTACHMENT 2, SAMPLING AND ANALYSIS OF PLANT EFFLUENTS - EXCEPTIONS

1. Final design details for the sampling and analysis of plant effluent (radioactive iodines and particulates) are available.

2. In order to comply with 1-1-82 implementation date, an order was placed with Kaman Sciences Corporation on 11-14-80 which requires delivery date of 7-20-81. The delivery date for the monitor units was scheduled for 8-21-81 for isokimetic nozzles and hardware with the monitor skids scheduled for the week of 9-30-81. 2

   The rework of the microprocessor units resulted in schedule slip to 10-15-81. When undergoing final system test, a circuit board failure resulted in further shipping delays from 10-5-81 to 10-9-81 then 10-13-81.

   The Kaman Sciences Increased Range Radiation Monitors Skids were shipped on October 28 and 29, 1981, respectively, for North Anna and Surry Stations. This delay on the delivery of the Kaman system will severely impact on current construction schedules and will result in installation beyond 1-1-82 implementation date. Vepco will complete the installation of the Increased Range Radiation Monitors skids by July 1, 1982 for North Anna and April 1, 1982 for Surry. In the interim, the Short-Term Increased Range Radiation Monitors will be utilized.

II.F.1, ATTACHMENT 3, CONTAINMENT HIGH RANGE RADIATION MONITOR EXCEPTIONS

2

Clarification of items 5 and 7 of Appendix B to NUREG-0737 are presented under items 1a and 1b.

The vendor (Victoreen) supplied control room panels which house the recorders, and internal wiring for the high range radiation system which failed the seismic test to the extent that the panels required complete redesign. The system will be completed on an expedited basis after arrival of the panels. The panels are now scheduled to be shipped by mid-December, 1981. The system will be made operational after installation of the panels but no later than July 1, 1982. All in-containment terminations will be made by January 1, 1982 using a temporary termination procedure. Qualified terminations will be made in accordance with the schedule of IE Bulletin 79-01B and NUREG-0588.

2

II.F.1, ATTACHMENT 6, CONTAINMENT HYDROGEN MONITOR - EXCEPTIONS

Surry Units 1 & 2

The hydrogen analyzers for Units 1 & 2 will be operational by January 1, 1982. However, the extent of heat tracing and insulation and associated seismic design of the sample line system has not been resolved. Resolution of this problem and the modifications required to the sample input line are being worked on an expedited basis; however, final heat tracing of the sample input lines will not be completed by January 1, 1982. The existing redundant hydrogen analyzers will remain operational in the interim. Installation of Category I heat tracing is dependent on material delivery. Heat tracing will be complete by 8-1-82. 2

North Anna 1 & 2

The hydrogen analyzers will be installed and operational by January 1, 1982. However, the new sample and return lines to the containment will not be complete by January 1, 1982. The sample and return line installation will be complete by startup from the Spring 1982 refueling outages for Units 1 and 2. Installation of Category I heat tracing is dependent on material delivery. Heat tracing will be complete by 8-1-82. The existing redundant (nonqualified) hydrogen analyzers will remain operational in the interim. 2

II.F.2 INSTRUMENTATION FOR DETECTION OF INADEQUATE CORE COOLING - EXCEPTIONS

NUREG 0737 requires the implementation of the reactor vessel level systems by January 1, 1982 and the documentation associated with these systems by January 1, 1981.

Design information and supporting analyses of the reactor vessel level system has been submitted.

Vepco requests a change to the required installation date of January 1, 1982 for the Reactor Vessel Level System as follows:

Surry Unit 1 and 2

All in containment work with the exception of filling and venting the system will be complete by January 1, 1982. Unit 1 will be operational after the system is filled and vented during the next refueling scheduled for 11-19-82. Unit 2 is now scheduled to be operational after the system is filled and vented during the Spring maintenance outage. The system will be fully operational when the reactor vessel vent system is operational July 1982. 2

North Anna Unit 1 and 2

System will be completed during the spring refuelings currently scheduled to be as follows:

Unit 1 - 5-21-82
Unit 2 - 3-5-82

System will be functional by July 1982 when the reactor vessel vent system is functional.

II.K.2.13 THERMAL MECHANICAL REPORT--EFFECT OF HIGH-PRESSURE INJECTION ON VESSEL INTEGRITY FOR SMALL-BREAK LOSS-OF COOLANT ACCIDENT WITH NO AUXILIARY FEEDWATER

To completely address the NRC requirements of detailed analysis of the thermal-mechanical conditions in the reactor vessel during recovery from small breaks, with an extended loss of all feedwater, a program will be completed and documented to the NRC by January 1, 1982. This program will consider generic Westinghouse PWR groupings. Plant specific analyses, if required, will be provided on a schedule to be determined following additional discussions with the NRC.

II.K.2.17 POTENTIAL FOR VOIDING IN THE REACTOR COOLANT SYSTEM DURING TRANSIENTS

The Westinghouse Owners Group is currently addressing the potential for void formation in the Reactor Coolant System (RCS) during natural circulation cooldown conditions, as described in Westinghouse letter NS-THA-2298 (T. M. Anderson, W to P.S. Check, NRC).

We believe the results of this effort will fully address the NRC requirement for analysis to determine the potential for voiding in the RCS during anticipated transients. A report describing the results of this effort will be provided to the NRC before January 1, 1982.

II.K.2.19 SEQUENTIAL AUXILIARY FEEDWATER FLOW ANALYSIS

The transient analysis code, LOFTRAN, and the present small break evaluations analysis code, WFLASH, have both undergone benchmarking against plant information or experimental test facilities. These codes under appropriate conditions have also been compared with each other. The Westinghouse Owners Group will provide, on a schedule consistent with the January 1, 1982 requirement, a report adddressing the benchmarking of these codes.

II.K.3.5 AUTOMATIC TRIP OF REACTOR COOLANT PUMPS DURING LOSS-OF-COOLANT ACCIDENT

The Westinghouse Owners Group has submitted LOFT test predictions in accordance with the schedule provided by II.K.3.5. Currently, additional information, in response to NRC questions on the LOFT predictions, is being prepared and will be submitted in June, 1981. NRC approval of Westinghouse models for the RCP trip evaluations has not yet been received. Therefore, Vepco's response regarding the need for automatic RCP trips during a LOCA will be provided within three (3) months of approval of the Westinghouse models. This is consistent with the timetable of Item II.K.3.5 but not the July 1, 1981 submittal date for design information of an automatic RCP trip system. 1

II.K.3.25 EFFECT OF LOSS OF ALTERNATING-CURRENT POWER ON PUMP SEALS

An evaluation of the potential for the failure of Reactor Coolant Pump seals will be conducted, and the results submitted for review by January 1, 1982. If the evaluation identifies the need for design or procedure changes, the details of such actions will also be provided.

II.K.3.30 REVISED SMALL-BREAK LOSS-OF-COOLANT-ACCIDENT METHODS TO SHOW COMPLIANCE WITH 10CFR PART 50, APPENDIX K

Westinghouse Electric Corporation has supplied a letter to the NRC dated September 26, 1980, detailing the schedule to comply with this item. Westinghouse has indicated that there should be no difficulty in submitting the Topical Report on their small break LOCA codes by the January 1, 1982 deadline.

III.A.1.2 UPGRADE EMERGENCY SUPPORT FACILITIES

The requirements of the Emergency Response Facilities (ERF's) have been detailed in the final version of NUREG 0696. The schedule for ERF implementation given in Item III.A.1.2 (and NUREG 0696) will be met. Preliminary design information (based on the draft of NUREG 0696) regarding the proposed Vepco ERF's was submitted to the NRC on December 18, 1980. An update of this information was provided on June 1, 1981. Further updates will be made when information becomes available.