

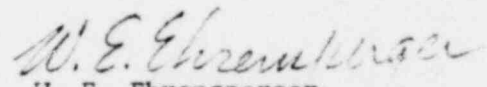
Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
October 5, 1979
Page Two

- (f) Transient and accident analyses of BWR's are conservatively bounded in most cases with respect to non-safety system performance.

In summary, this submittal is a reevaluation of the potential impact of non-safety systems on safety functions. The previously approved safety evaluations remain valid. Further dialogue or discussions in this area, if necessary, should be conducted after the Lessons Learned Task Force Recommendations and the Bulletin & Orders Analysis tasks are resolved. It is concluded that the information contained in this submittal justifies continued operation of the Hatch Nuclear Plant.

I certify that the information contained herein is true and correct to the best of my knowledge, information and belief.

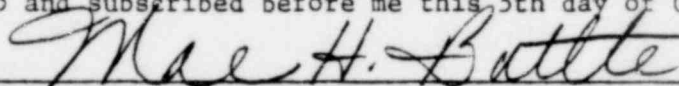
Very truly yours,


W. E. Ehrensperger

WEB/mb

xc: Mr. Ruble A. Thomas
George F. Trowbridge, Esquire

Sworn to and subscribed before me this 5th day of October, 1979.



Notary Public

Notary Public, Georgia, State at Large
My Commission Expires Sept. 20, 1983

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EDWIN I. HATCH NUCLEAR PLANT
DOCKET NOS. 50-321 AND 50-366
ENVIRONMENTAL INTERACTION REPORT

ENCLOSURES;

Table I	-	Non Safety Systems Not Involved in High Energy Pipe Break Analysis
Table II-1-		Unit 1 Environmental Interaction Table
Table II-2-		Unit 2 Environmental Interaction Table
Page A	-	Table Explanation
Page B	-	Explanation and Final Conclusion

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TABLE I

NON SAFETY SYSTEMS
NOT INVOLVED IN
HIGH ENERGY PIPE BREAK
ANALYSISSYSTEM

Rod Worth Minimizer System
Computer System
Area Radiation Monitors
Startup Recording System (Startrec)
Off Gas System
Radwaste Solidification System
Heat Tracing System
Fuel Handling Equipment
Fuel Pool Cooling System
Maintenance Monorails And Hoists
Seismic Measurement Equipment
Loose Parts Monitoring System
Turning Gear
Generator
Generator Hydrogen Seal Oil
Generator Cooling
Generator Buses
Generator Excitation
Demineralized Water System
Sampling Systems
Plant Heating System
Heating And Process Steam System
Turbine Building Chilled Water System
Security Systems
Communications Systems
Integrated Leak Rate Test System
Radwaste Building Vent System
Radwaste Building Fire Protection System
Cooling Towers Systems
Screen Wash System
Circulating Water Screens, And Trash Rakes
Hot Machine Shop Systems
Switchyard Systems
Tornado Roof Vents
Deep Well Pump System
Plant Lighting Systems

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TABLE II - 1

EDWIN I. HATCH NUCLEAR PLANT UNIT 1
ENVIRONMENTAL INTERACTION TABLE

SYSTEMS	LOCATION	MAIN STEAM			FEEDWATER			LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	REACTOR BLDG.	TURBINE BLDG.	INSIDE	REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE		
Pumps	DW	2	2	4	4	2	4	4	2	2	4	4
Valves & Oper.	DW	3	3	4	4	3	4	4	3	3	4	4
MG Set	RB	4	4	4	4	4	4	4	4	4	4	4
MCC	RB	4	4	3	4	4	3	4	4	4	3	3
Flow Control Sys.	CR/TB/RB	4	4	2	2	4	2	2	4	4	2	2
Control Inst. Trans.	RB	4	4	2	4	4	2	4	4	4	2	2
Switchgear	TB/RB	4	4	4	2	4	4	2	4	4	4	4
Flow Elements	TB	4	4	2	2	4	2	2	4	4	4	4
Level Controller	CR	4	4	4	4	4	4	4	4	4	4	4
Pumps	TB	4	4	4	2	4	4	2	4	4	4	4
Valves & Oper.	TB	4	4	4	2	4	4	2	4	4	4	4
MCC	TB	4	4	4	2	4	4	2	4	4	4	4
Flow Control Sys.	CR	4	4	4	4	4	4	4	4	4	4	4
Fdwtr. Heating	TB	4	4	4	2	4	4	2	4	4	4	4
Instrument Air	TB	4	4	4	2	4	4	2	4	4	4	4
Control Inst. Trans.	RB/TB	4	4	2	2	4	2	2	4	4	2	4
Switchgear	TB	4	4	4	2	4	4	2	4	4	4	4
By Pass Valves	TB	4	4	4	2	4	4	2	4	4	4	4
Pressure Sensors	TB	4	4	4	2	4	4	2	4	4	4	4
Control System	CR	4	4	4	4	4	4	4	4	4	4	4

Recirculation System

Feedwater Delivery System

Turbine
Press. Contr.

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ENVIRONMENTAL INTERACTION TABLE

SYSTEMS	LOCATION	MAIN STEAM			FEEDWATER		LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	REACTOR BLDG.	TURBINE BLDG.	INSIDE REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE		
Neutron Monit. Sys.	LPRM'S & Cables	DW/RB	2	2	4	2	2	2	2	2	2
	APRM'S & Cables	DW/RB	2	2	4	2	2	2	2	2	2
	RPIS/Rod Block Mon.	DW/RB	2	2	4	2	2	2	2	2	2
RPS Turbine Scram	TB	4	4	4	2	4	4	4	4	4	4
	RPS MG Set	CB	4	4	4	4	4	4	4	4	4
Reactor Manual Control	RB/CR	4	4	2	4	2	2	4	4	2	2
	SRV Sys. (Non ADS)	DW/RB	3	3	4	3	3	3	3	3	3
SRV Tail Pipe Mon. Sys.	CR/DW	2	2	4	4	2	4	2	2	4	4
	RBCCW	DW/RB/CB	2	2	4	2	2	2	2	2	2
RWCU	DW/RB	3	3	2	4	3	2	3	3	2	2
	Suppression Pool Temperature Monitor- ing	CR/RB	4	4	3	4	3	4	4	3	3
Suppression Pool Level Monitoring	CR/RB	4	4	3	4	4	3	4	4	3	3
	Circulating Wtr. Sys.	YARD TB	4	4	4	4	4	4	4	4	4
Building Systems are Listed Individually on Following Pages											
HVAC System	All	4	4	4	4	4	4	4	4	4	4
Non IE Battery Sys.	CB	4	4	4	4	4	4	4	4	4	4

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ENVIRONMENTAL INTERACTION TABLE

SYSTEMS	LOCATION	MAIN STEAM			FEEDWATER			LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	INSIDE REACTOR BLDG.	TURBINE BLDG.	INSIDE	REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE		
A. C. Auxiliary Electric	RB/TB	4	4	3	2	4	3	2	4	4	3	3
Condensate Transfer And Storage	RB/TB	4	4	2	2	4	2	2	4	4	2	2
Main Turbine & Con- trols & EHC	TB	4	4	4	2	4	4	2	4	4	4	4
Main Condenser And Control	TB	4	4	4	2	4	4	2	4	4	4	4
Interruptable Air Sys. Compressor & Control	CB	4	4	4	4	4	4	4	4	4	4	4
Fire Protection System	RB/TB	4	4	2	2	4	2	2	4	4	2	2
CRD Hydraulic System (Non-Scram)	RB	4	4	2	4	4	2	4	4	4	2	2
RPV Head Vent	DW	2	2	4	4	2	4	4	(1)	(1)	4	4
Standby Liq. Control	DW/RB	3	3	4	4	3	4	4	3	3	4	4
Nuclear Boiler Pro- cess Instrumentation	RB	4	4	2	4	4	2	4	4	4	3	3
RPV Lk. Det. Switch	DW	2	2	4	4	2	4	4	2	2	4	4
Steam Leak Detection Sys.	DW/RB/TB	4	4	3	4	4	3	4	4	4	4	4
RPV Temp. Monit. Sys.	DW/RB	2	2	2	4	2	2	4	2	2	2	2
Jet Pump Instr. Sys.	DW/RB	3	3	2	4	3	2	4	3	3	4	4
Start Up Range Drive Detector Control Sys.	DW/RB	2	2	2	4	2	2	4	2	2	2	2

ENVIRONMENTAL INTERACTION TABLE

SYSTEMS	LOCATION	MAIN STEAM				FEEDWATER			LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	INSIDE REACTOR BLDG.	TURBINE BLDG.	INSIDE REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE				
Traversing Incore Probe Calibration System	RB	4	4	2	4	4	2	4	4	4	2	2	2
Remote Shutdown System	RB	4	4	2	4	4	2	4	4	4	2	2	2
Process Radiation Monitoring System	RB/TB	4	4	3	2	4	3	2	4	4	3	3	3
RHR Steam Condensing Mode	RB	4	4	3	4	4	3	4	4	4	3	3	3
RHR Shutdown Cooling	RB	4	4	3	4	4	3	4	4	4	3	3	3
Radwaste System	DW/RB/TB	2	2	2	2	2	2	2	2	2	4	2	2
Torus Water Cleanup	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Refueling Bellows Leak Detection	DW	2	2	4	4	2	4	4	2	2	4	4	4
Steam Seal System	TB	4	4	4	2	4	4	2	4	4	4	4	4
Gland Seal System	TB	4	4	4	2	4	4	2	4	4	4	4	4
Lube Oil System	TB	4	4	4	2	4	4	2	4	4	4	4	4
Turbine Building Service Wtr. Sys.	TB	4	4	4	2	4	4	2	4	4	4	4	4
Reactor Bldg. HVAC	RB	4	4	2	4	4	2	4	4	4	2	2	2
Drywell Cooling Water System	DW/RB	2	2	3	4	2	3	4	2	2	4	3	3
Drywell Pneumatic	RB	4	4	2	4	4	2	4	4	4	2	2	2

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 Sys.

ENVIRONMENTAL INTERACTION TABLE

SYSTEMS	LOCATION	MAIN STEAM				FEEDWATER			LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	REACTOR BLDG.	TURBINE BLDG.	INSIDE	REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE			
Floor Drain Coll. Leak Detection System Inst.	RB	4	4	2	4	4	2	4	4	4	4	2	2
Standby Gas Treat- ment	RB	4	4	2	4	4	2	4	4	4	4	2	2
Drywell Cooling	DW/RB	3	3	3	4	3	3	4	3	3	4	3	3
Containment Atmos- phere Dilution Sys- tem	RB	4	4	2	4	4	2	4	4	4	2	2	2
Nitrogen Inerting Sys.	RB	4	4	2	4	4	2	4	4	4	2	2	2
Drywell And Torus Differential Pres- sure	RB	2	4	2	4	2	2	4	4	4	2	2	2
Turbine Building Ventilation System	TB	4	4	4	2	4	4	2	4	4	4	4	4
Turbine Building Leak Detection Sys- tem	TB	4	4	3	2	4	3	2	4	4	4	4	4
Control Building Ventilation System	TB/CB	4	4	4	2	4	4	2	4	4	4	4	4

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SYSTEMS	LOCATION	MAIN STEAM				FEEDWATER			LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	REACTOR BLDG.	TURBINE BLDG.	INSIDE	REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE			
Pumps		2	2	4	4	2	4	4	2	2	4	4	4
Valves & Oper.	DW	3	3	4	4	3	4	4	3	3	4	4	4
MG Set	RB	4	4	4	4	4	4	4	4	4	4	4	4
MCC	RB	4	4	3	4	4	3	4	4	4	3	3	3
Flow Control Sys.	CR/TB/RB	4	4	2	2	4	2	2	4	4	2	2	2
Control Inst. Trans.	RB	4	4	2	4	4	2	4	4	4	2	2	2
Switchgear	TB/RB	4	4	4	2	4	4	2	4	4	4	4	4
Flow Elements	TB	4	4	2	2	4	2	2	4	4	4	4	4
Level Controller	CR	4	4	4	4	4	4	4	4	4	4	4	4
Pumps	TB	4	4	4	2	4	4	2	4	4	4	4	4
Valves & Oper.	TB	4	4	4	2	4	4	2	4	4	4	4	4
MCC	TB	4	4	4	2	4	4	2	4	4	4	4	4
Flow Control Sys.	CR	4	4	4	4	4	4	4	4	4	4	4	4
Fdwtr. Heating	TB	4	4	4	2	4	4	2	4	4	4	4	4
Instrument Air	TB	4	4	4	2	4	4	2	4	4	4	4	4
Control Inst. Trans.	RB/TB	4	4	2	2	4	2	2	4	4	2	4	4
Switchgear	TB	4	4	4	2	4	4	2	4	4	4	4	4
By Pass Valves	TB	4	4	4	2	4	4	2	4	4	4	4	4
Pressure Sensors	TB	4	4	4	2	4	4	2	4	4	4	4	4
Control System	CR	4	4	4	4	4	4	4	4	4	4	4	4

Recirculation System

Feedwater Delivery System

Turbine
Press. Cont.

ENVIRONMENTAL INTERACTION TABLE

SYSTEMS	LOCATION	MAIN STEAM				FEEDWATER		LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	REACTOR BLDG.	TURBINE BLDG.	INSIDE	REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE		
Neutro. Monit. Sys.	LPRM'S & Cables	DW/RB	2	2	4	2	2	4	2	2	2	2
	APRM'S & Cables	DW/RB	2	2	4	2	2	4	2	2	2	2
	RPIS/Rod Block Mon.	DW/RB	2	2	4	2	2	4	2	2	2	2
RPS MG Set	RPS Turbine Scram	TB	4	4	2	4	4	2	4	4	4	4
	RPS MG Set	CB	4	4	4	4	4	4	4	4	4	4
Reactor Manual Control	Reactor Manual Control	RB/CR	4	4	4	4	2	4	4	4	2	2
	SRV Sys. (Non ADS)	DW/RB	3	3	4	3	4	4	3	4	3	3
SRV Tail Pipe Mon. Sys.	SRV Tail Pipe Mon. Sys.	CR/DW	2	2	4	2	4	4	2	4	4	4
	RBCCW	DW/RB/CR	2	2	4	2	2	4	2	2	2	2
Suppression Pool Temperature Monitor- ing	Suppression Pool Temperature Monitoring	DW/RB	3	3	4	3	2	4	3	3	2	2
	Suppression Pool Level Monitoring	RB/CR	4	4	3	4	3	4	4	4	3	3
Circulating Wtr. Sys.	Circulating Wtr. Sys.	YARD / TB	4	4	4	4	4	4	4	4	4	4
	HVAC System	All	4	4	4	4	4	4	4	4	4	4
Non IE Battery Sys.	Non IE Battery Sys.	CB	4	4	4	4	4	4	4	4	4	4
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Building Systems are Listed Individually on Following Pages

EDWIN I. HATCH NUCLEAR PLANT UNIT 2
ENVIRONMENTAL INTERACTION TABLE

PAGE 2-3

SYSTEMS	LOCATION	MAIN STEAM				FEEDWATER			LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	REACTOR BLDG.	TURBINE BLDG.	INSIDE	REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE			
A. C. Auxiliary Electric	RB/TB	4	4	3	2	4	3	2	4	4	3	3	3
Condensate Transfer And Storage	RB/TB	4	4	2	2	4	2	2	4	4	4	2	2
Main Turbine & Con- trols & EHC	TB	4	4	4	2	4	4	2	4	4	4	4	4
Main Condenser And Control	TB	4	4	4	2	4	4	2	4	4	4	4	4
Interruptable Air Sys. Compressor & Control	CB	4	4	4	4	4	4	4	4	4	4	4	4
Fire Protection System	RB/TB	4	4	2	2	4	2	2	4	4	4	2	2
CRD Hydraulic System (Non-Scram)	RB	4	4	2	4	4	2	4	4	4	4	2	2
RPV Head Vent	DW	2	2	4	4	2	4	4	1	1	4	4	4
Standby Liq. Control	DW/RB	3	3	4	4	3	4	4	3	3	4	4	4
Nuclear Boiler Pro- cess Instrumentation	RB	4	4	3	4	4	3	4	4	4	3	3	3
RPV Lk. Det. Switch	DW	2	2	4	4	2	4	4	2	2	4	4	4
Steam Leak Detection Sys.	DW/RB/TB	4	4	3	4	4	3	4	4	4	4	4	4
RPV Temp. Monit. Sys.	DW/RB	2	2	2	4	2	2	4	2	2	2	2	2
Jet Pump Instr. Sys.	DW/RB	3	3	2	4	3	2	4	3	3	2	4	4
Start Up Range Drive Detector Control Sys.	DW/RB	2	2	2	4	2	2	4	2	2	2	2	2

ENVIRONMENTAL INTERACTION TABLE

SYSTEMS	LOCATION	MAIN STEAM				FEEDWATER			LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	REACTOR BLDG.	TURBINE BLDG.	INSIDE	REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE			
Traversing Incore Probe Calibration System	RB	4	4	2	4	4	2	4	4	4	2	2	2
Remote Shutdown System	RB	4	4	2	4	4	2	4	4	4	2	2	2
Process Radiation Monitoring System	RB/TB	4	4	3	2	4	3	2	4	4	3	3	3
RHR Steam Condensing Mode	RB	4	4	3	4	4	3	4	4	4	3	3	3
RHR Shutdown Cooling	RB	4	4	3	4	4	3	4	4	4	3	3	3
Radiaste System	DW/RB/TB	2	2	2	2	2	2	2	2	2	4	2	2
Torus Water Cleanup	RB	4	4	3	4	4	3	4	4	4	4	3	3
Refueling Bellows Leak Detection	DW	2	2	4	4	2	4	4	2	2	4	4	4
Steam Seal System	TB	4	4	4	2	4	4	2	4	4	4	4	4
Gland Seal System	TB	4	4	4	2	4	4	2	4	4	4	4	4
Lube Oil System	TB	4	4	4	2	4	4	2	4	4	4	4	4
Turbine Building Service Wtr. Sys.	TB	4	4	4	2	4	4	2	4	4	4	4	4
Reactor Bldg. HVAC	FB	4	4	2	4	4	2	4	4	4	2	2	2
Reactor Building, DW Chilled Water System	DW/RB	2	2	3	4	2	3	4	2	2	4	3	3
Drywell Pneumatic Sys.	RB	4	4	2	4	4	2	4	4	4	2	2	2

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ENVIRONMENTAL INTERACTION TABLE

SYSTEMS	LOCATION	MAIN STEAM				FEEDWATER			LOCA		RWCU REACTOR BUILDING	RCIC REACTOR BUILDING	HPCI REACTOR BUILDING
		INSIDE SMALL	INSIDE LARGE	REACTOR BLDG.	TURBINE BLDG.	INSIDE	REACTOR BLDG.	TURBINE BLDG.	SMALL	LARGE			
Floor Drain Coll. Leak Detection System Inst.	RB	4	4	2	4	4	2	4	4	4	4	2	2
Standby Gas Treatment	RB	4	4	2	4	4	2	4	4	4	4	2	2
Drywell Cooling	DW/RB	3	3	3	4	3	3	4	3	3	4	3	3
Containment Atmosphere Dilution System	RB	4	4	2	4	4	2	4	4	4	2	2	2
Nitrogen Inerting Sys.	RB	4	4	2	4	4	2	4	4	4	2	2	2
Drywell And Torus Differential Pressure	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Turbine Building Ventilation System	TB	4	4	4	2	4	4	2	4	4	4	4	4
Turbine Building Leak Detection System	TB	4	4	3	2	4	3	2	4	4	4	4	4
Control Building Ventilation System	TB/CB	4	4	4	2	4	4	2	4	4	4	4	4

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TABLE II-1 AND II-2

LEGEND

- 1- Environmental Induced Malfunction May Provide Adverse Response. ⁽¹⁾
- 2- Environmental Induced Malfunction Will Not Provide Adverse Response.
- 3- System Is Qualified For Adverse Environment
- 4- System Will Not Experience Adverse Environment

ABBREVIATIONS

M.G.	- Motor Generator
MCC	- Motor Control Center
SYS	- System
INST	- Instrumentation
TRANS	- Transmitter
MONIT	- Monitoring
RPS	- Reactor Protection System
RBCCW	- Reactor Building Closed Cooling Water System
RWCU	- Reactor Water Clean Up System
ISOL	- Isolation
RPV	- Reactor Pressure Vessel
LIQ	- Liquid
CRD	- Control Rod Drive
RHR	- Residual Heat Removal System
DW	- Drywell
RB	- Reactor Building
TB	- Turbine Building
CB	- Control Building
CR	- Control Room
N/A	- Not Applicable

NOTES

- (1) An adverse response was considered to be an increase in previously reported peaks in;
 - a) Drywell Pressure
 - b) Wet Well Pressure
 - c) Suppression Pool Temperature
 - d) Fuel Clad Temperature
 - e) Radiological Release

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EXPLANATION OF CODE 1 RESPONSE

RPV Head Vent Opening Upon A LOCA

The reactor head vent line is a small (1") line with two valves ($\frac{1}{2}$ ") which are air operated. The valves in the original FSAR analysis for LOCA were assumed to remain closed during the accident. This assumption and the conclusion that the valves were not required after the accident, precipitated the purchase of pilot solenoids for the air operated valves, which are not specifically qualified for a post LOCA (steam) environment.

This event has now been analyzed by General Electric Company for a 2" head vent line with the following result:

To bound the worst case they have assumed a LOCA combined with a simultaneous opening of this vent line. Depending on the size of the LOCA, there could be a $+10^0$ F impact on peak clad temperature. A later opening of the head vent line would reduce the maximum effect stated above, and since the Hatch Plants have smaller lines than those which were analyzed, the impact on peak cladding temperature is less and considered insignificant.

Final Conclusion

This assessment has not identified any impact on safety actions or analysis conclusions which would increase the consequences of any SAR events.

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