LIMITING STEAMLINE BREAK STATEPOINT DOUBLE ENDED RUPTURE INSIDE CONTAINMENT WITH OFFSITE POWER AVAILABLE

Time (sec)	Pressure Psia	HeatFlux Fraction	Inlet Temp		Flow Frac	Boron PPM	Reactivity Percent	Density GM/CC
			Cold °F	Hot °F				
118.4	600.77	0.173	334.1	448.9	1.0	1.19	0.030	0.856

TIME SEQUENCE OF EVENTS

Accident	Event	Time (sec)
Rupture of a Steamline		
1. Inside Containment With Offsite Power available	Steam line ruptures	0.0
	Low steamline pressure setpoint reached	0.26
	Feedwater Isolation (All loops)	8.26
	Steamline Isolation (Loops 2, 3 and 4)	11.26
	Pressurizer empties	13.8
	SI flow starts	27.26
	Criticality attained	22.6
	Boron from SI reaches core	38.4
	Peak heat flux attained	118.4
	Core becomes subcritical	121.0
2. Inside Containment Without Offsite Power available	Steam line ruptures	0.0
	Low steamline pressure setpoint reached	0.26
	Feedwater Isolation (All loops)	8.26
	Steam Isolation	11.26
	Pressurizer empties	15.4
	Criticality attained	27.4
	SI flow starts	37.26
	Boron from SI reaches core	52.0
	Peak heat flux attained	299.7
	Core becomes subcritical	~ 309

Parameters Used in the Analysis of the Rod Cluster Control Assembly Ejection Accident

Accident Parameters	Time in Cycle			
	HZP Beginning	HFP Beginning	HZP End	HFP End
Power Level (%)	0	102	0	102
Ejected Rod Worth (%Δk)	0.75	0.15	0.89	0.19
Delayed Neutron Fraction (%)	0.50	0.50	0.40	0.40
Feedback Reactivity Weighting	2.071	1.30	3.621	1.30
Trip Reactivity (%Δk)	2.	4.	2.	4.
F_Q before Rod Ejection	2.50	2.50	2.36	2.50
F_Q after Rod Ejection	12.	7.0	25.0	7.3
Number of Operational Pumps	2.	4.	2.	4.
Results				
Maximum Fuel Pellet Average Temperature (°F)	3439	4268	3630	4159
Maximum Fuel Center Temperature (°F)	3922	4983	4009	4910
Maximum Fuel Stored Enthalpy (cal/gm)	145.6	188.6	155.3	182.8
Fuel Melt in Hot Pellet, %	0	<10	0	<10

TIME SEQUENCE OF EVENTS

Accident	Event	Time (sec)
Main Feedwater Line Rupture (With Power)		
	Main feedwater line rupture occurs	10.0
	Low-low steam generator water level trip signal initiated	16.0
	Rods begin to fall into core	18.0
	SIS low pressurizer pressure setpoint reached	78.0
	Feedwater isolation (Loops 2, 3, 4)	86.0
	SIS flow starts	106.0
	SIS low steamline pressure setpoint reached in two loops	239.8
	Steamline isolation (All loops)	250.8
	Auxiliary feedwater starts to deliver to intact steam generators	610.0
	Steam generator safety valve setpoint reached in intact steam generators	910.0
	Core decay heat plus RCP heat decreases to auxiliary feedwater heat removal capacity	~1500.0
	Pressurizer safety valve setpoint reached	Never reached
Main Feedwater Line Rupture (Without Power)		
	Main feedwater line rupture occurs	10.0
	Low-low steam generator water level trip signal initiated	16.0
	Rods begin to fall into core	18.0
	RCS pumps begin to coastdown	20.0
	SIS low steamline pressure setpoint reached in two loops	150.6
	Feedwater isolation (Loops 2,3,4)	158.6
	Steamline isolation (All loops)	161.6
	SIS flow starts	189.0

TIME SEQUENCE OF EVENTS

Accident	Event	Time (sec)
	Auxiliary feedwater started to deliver to intact steam generators	610.0
	Steam generator safety valve setpoint reached in intact steam generators	668.0
	Core decay heat decreases to auxiliary feedwater heat removal capacity	~1200.0
	Pressurizer safety valve setpoint reached	Never reached