

Step 1: Identify Internal Events PRA Sequences to be Included (and those to be excluded) in the Fire PRA Model

INITIATING EVENTS IN THE PRA MODEL					
Initiator	Average Frequency (per yr)	Description	Accident Sequence or Event Tree Model	Address in Fire PRA Model? (Y or N)	Comments
%T1	7.23E-01	Reactor Trip	Transient Event Tree		
%T2	9.33E-02	Loss of Condenser Vacuum	Transient Event Tree		
%T3	4.13E-01	Turbine trip	Transient Event Tree		
%T4	3.73E-02	Loss of Main Feedwater	Transient Event Tree		
%T5P	4.25E-02	Loss of Offsite Power (Plant-Centered)	Transient Event Tree		
%T5C	1.02E-02	Loss of Off-Site Power (Grid-Related)	Transient Event Tree		
%T5D	6.26E-03	Loss of Off-Site Power (Weather-Induced)	Transient Event Tree		
%T6	7.35E-03	Steamline/Feed line Break Upstream of Main Steam Isolation valves	Main Steamline Break Event		

INITIATING EVENTS IN THE PRA MODEL

Initiator	Average Frequency (per yr)	Description	Accident Sequence or Event Tree Model	Address in Fire PRA Model? (Y or N)	Comments
		or Downstream of Feedwater Isolation Valves (Includes spurious-open atmospheric dump valves)	Tree		
%T7	5.44E-03	Steamline Break Downstream of Main Steam isolation valves (Includes spurious-open condenser dump valves)	Main Steamline Break Event		
%T8	2.94E-04	Loss of 4160 V Bus 1	Transient Event Tree		
%T9	2.94E-04	Loss of 4160 V Bus A	Transient Event Tree		
%T10	2.94E-04	Loss of 4160 V Bus B	Transient Event Tree		
%T11	2.94E-04	Loss of 4160 V Bus 2	Transient Event Tree		
%T12	3.00E-03	Loss of 125 VDC Bus A	Transient Event Tree		
%T13	3.00E-03	Loss of 125 VDC Bus B	Transient Event Tree		

INITIATING EVENTS IN THE PRA MODEL

Initiator	Average Frequency (per yr)	Description	Accident Sequence or Event Tree Model	Address in Fire PRA Model? (Y or N)	Comments
%T15	Fault Tree Model %T15-INIT	Loss of CCW System	Transient Event Tree		
%T16	Fault Tree Model %T16-INIT	Loss of Service Water System	Transient Event Tree		
%T17	Fault Tree Model %T17-INIT	Loss of Instrument Air	Transient Event Tree		
%T21	3.41E-02	Closure of MSIV (1 SG Loop)	Transient Event Tree		
%T22	1.24E-02	Closure of both MSIVs	Transient Event Tree		
%T23	1.78E-01	Partial Load Rejection	Transient Event Tree		
%T24	5.79E-02	Spurious Steam Gen. Isolation Signal	Transient Event Tree		
%T25	7.23E-02	Reactor Trip With PORV Opening/Demand	Transient Event Tree		
%T26	Fault Tree Model %T26-INIT	Loss of Power from 120 VAC Buses A & B	Transient Event Tree		

INITIATING EVENTS IN THE PRA MODEL

Initiator	Average Frequency (per yr)	Description	Accident Sequence or Event Tree Model	Address in Fire PRA Model? (Y or N)	Comments
%S	6.8E-03	Small LOCA (pipe breaks and RCP seal LOCA)	Small LOCA Event Tree		
%M	9.60E-06	Medium LOCA (pipe breaks)	Medium LOCA Event Tree		
%A	7.77E-05	Large LOCA (pipe breaks)	Large LOCA Event Tree		
%R	7.93E-03	Steam Generator Tube Rupture	SGTR Event Tree		
%I1	1.000E-07	Interfacing Systems LOCA at RCS/LPI Interface (1 MOV and 1 check valve in series)	ISLLPI Sequence (single event model)		
%I2	2.000E-07	Interfacing Systems LOCA at RCS/RHR Interface (2 MOVs in series)	ISLRHR Sequence (single event model)		
%I3	Fault Tree Model I3QINIT	Interfacing Systems LOCA at RCS/CCW interface (Reactor Coolant Pump Cooler rupture)	ISLCCW Sequence		
%VR	2.70E-07	Reactor Vessel Rupture	Single Event		

INITIATING EVENTS IN THE PRA MODEL

Initiator	Average Frequency (per yr)	Description	Accident Sequence or Event Tree Model	Address in Fire PRA Model? (Y or N)	Comments
			in Master Fault Tree		

ACCIDENT SEQUENCE OR EVENT TREE MODELS IN THE PRA

Accident Sequence or Event Tree Model	Description	Additional Details	Address in Fire PRA Model? (Y or N)	Comments
TRA	Transient	Includes transient-induced LOCAs such as stuck-open PORV and RCP seal LOCA		
SLOCA	Small LOCA	Pipe breaks & RCP seal LOCA		
MLOCA	Medium LOCA	Pipe breaks		
LLOCA	Large LOCA	Pipe breaks		
ATWS	Anticipated Transients Without Scram	Reactor Protection System fails safe on loss of power. Trip circuits are highly redundant and confirmed to be physically separated.		
SGTR	Steam Generator Tube Rupture			
MSLB	Main Steamline Break	Includes spurious opening of secondary relief valves.		
ISLCCW	Interfacing Systems LOCA at RCS/CCW interface	Rupture of Reactor Coolant Pump Cooler		
ISLRHR	Interfacing Systems LOCA at RCS/RHR Interface	Fire-induced opening of RHR suction valves		
ISLLPI	Interfacing Systems LOCA at RCS/LPI Interface	Fire-induced opening of LPI injection valve		
New	Spurious Safety Injection with HPI	Requires multiple spurious valve openings and possibly 2 nd pump start		

ACCIDENT SEQUENCE OR EVENT TREE MODELS IN THE PRA

Accident Sequence or Event Tree Model	Description	Additional Details	Address in Fire PRA Model? (Y or N)	Comments
New	Feedwater ramp-up or AFW spurious start	May require multiple spurious events (need to check)		
New	RWST drain down event	Requires combination of either or both MOV-5,6 with either or both MOV-3,4 spuriously opening.		