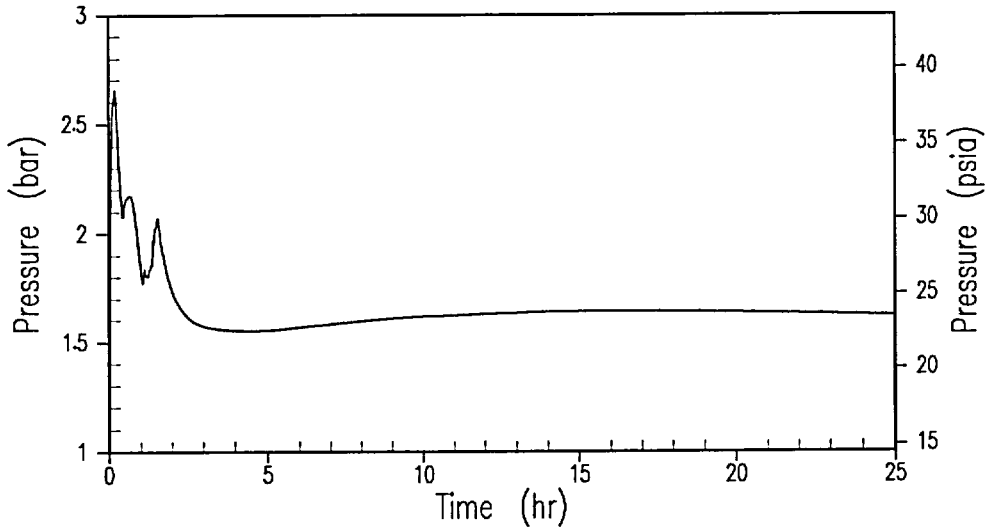
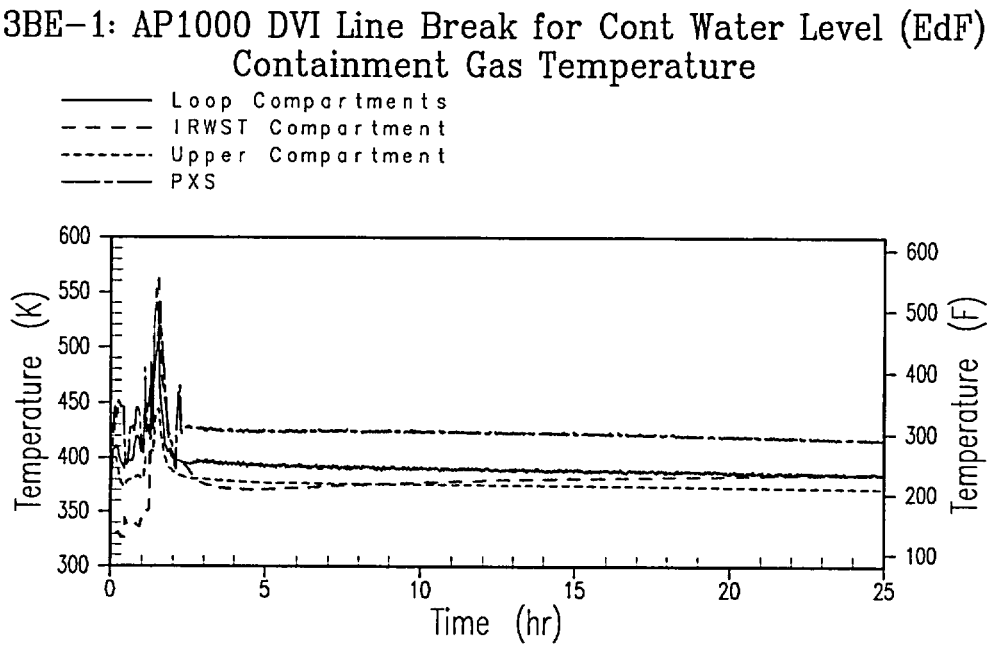
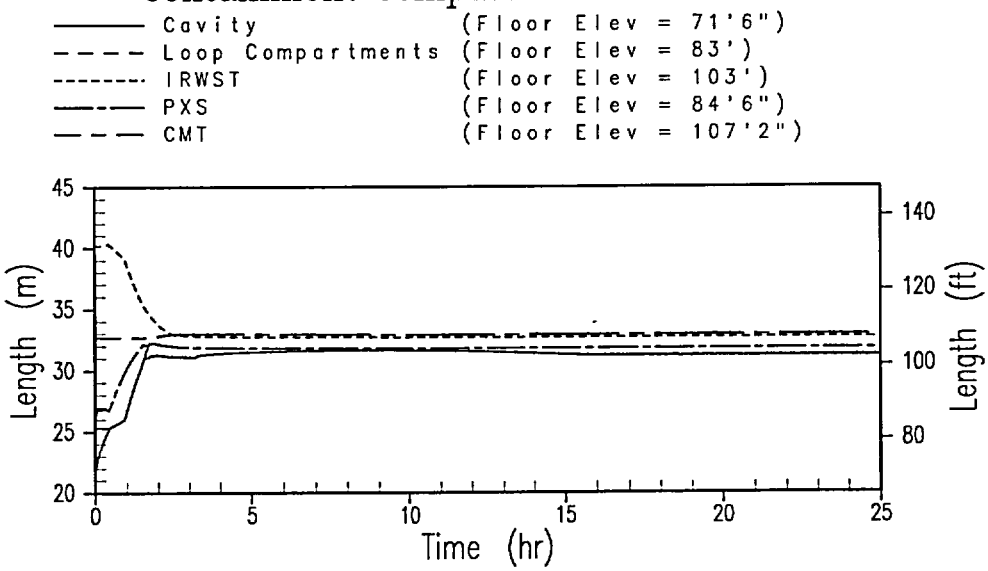
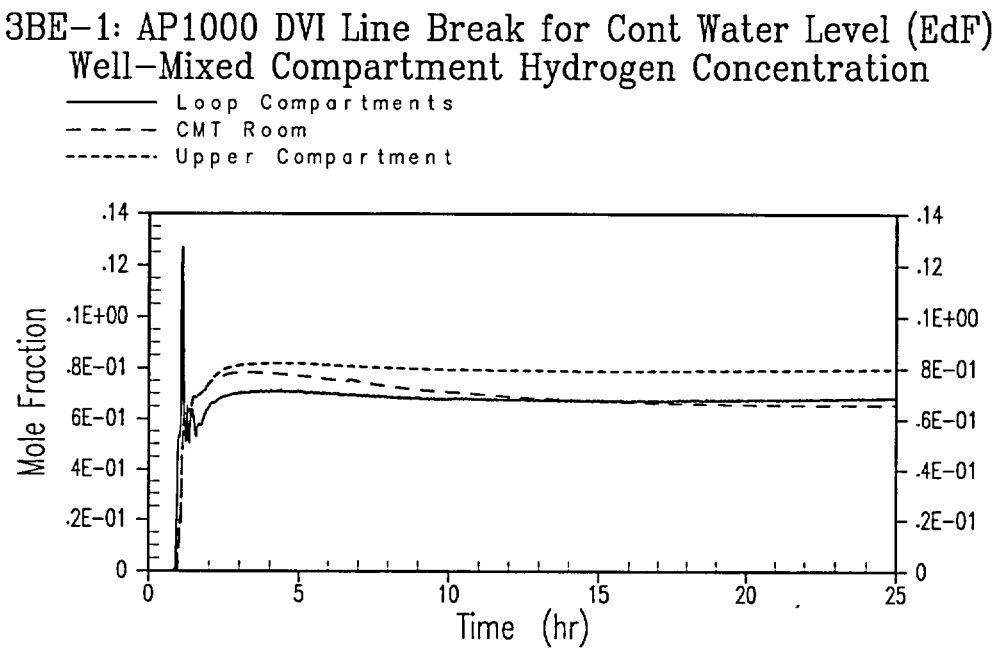
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Containment Pressure

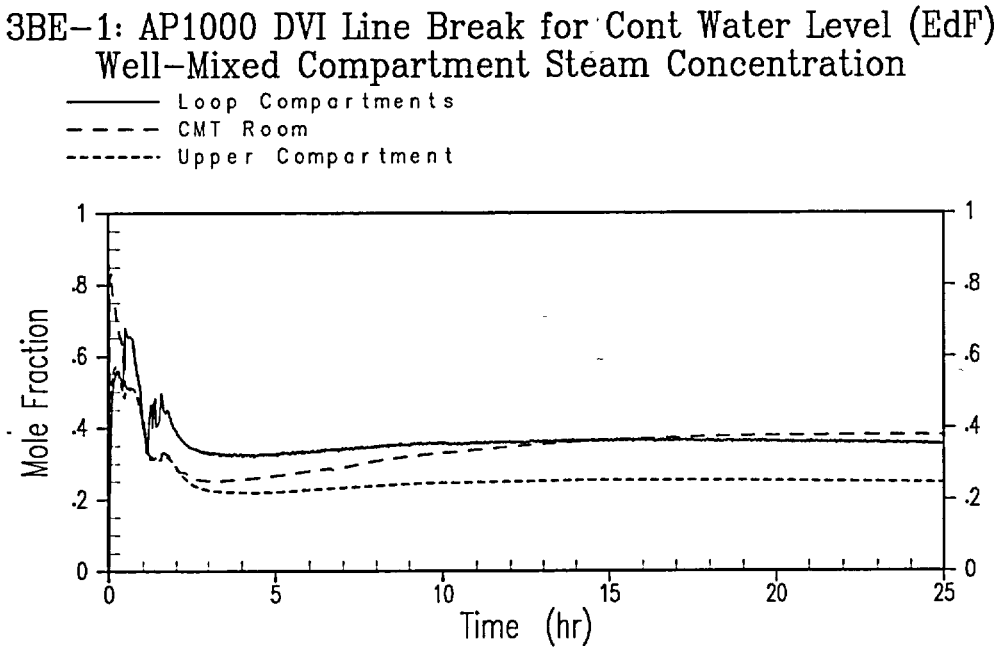



3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Containment Gas Temperature
Loop Compartments
IRWST Compartment
Upper Compartment
PXS
Temperature (K)
Temperature (F)
Time (hr)
600
550
500
450
400
350
300
600
500
400
300
200
100
0
5
10
15
20
25

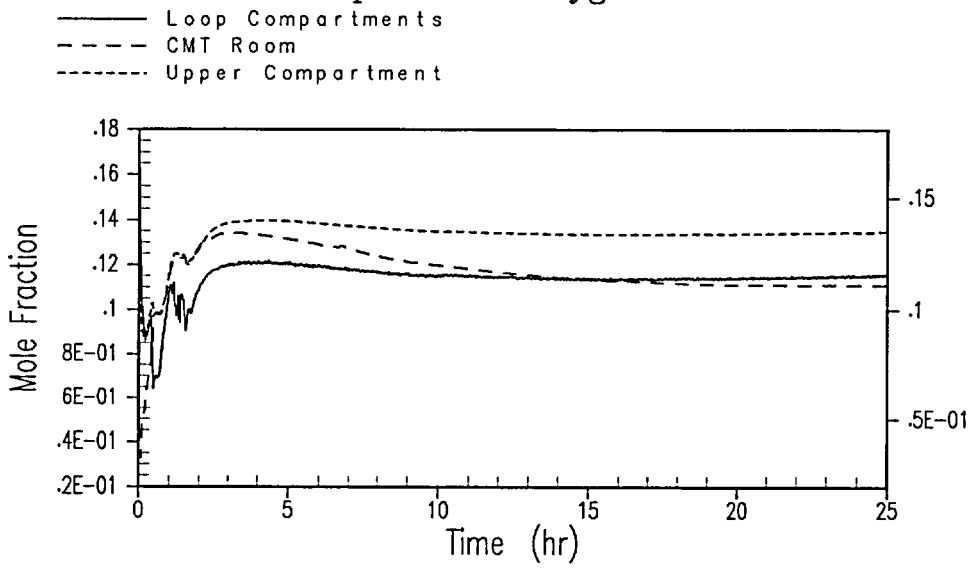
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Containment Compartments Water Level



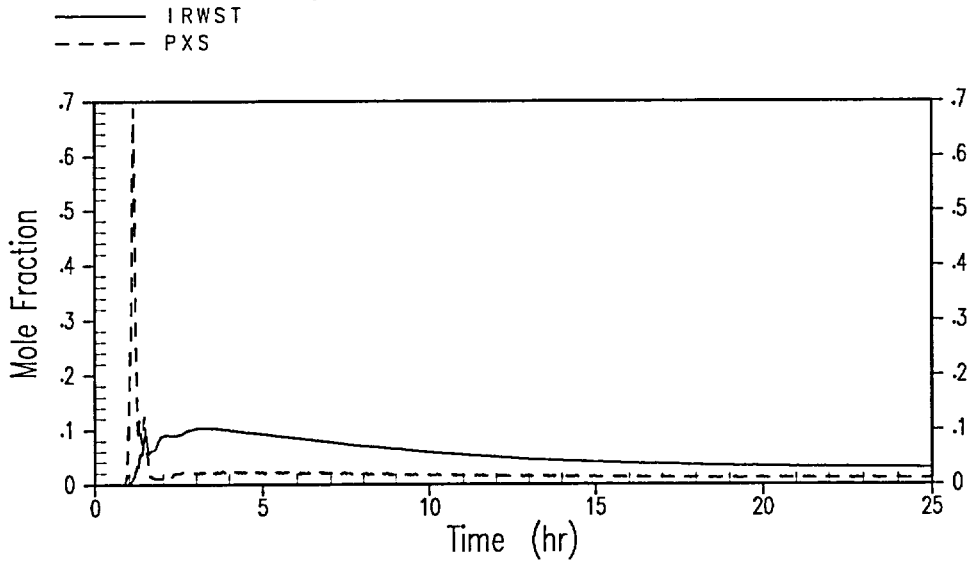

3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Well-Mixed Compartment Hydrogen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.14
.12
.1E+00
.8E-01
6E-01
4E-01
.2E-01
0
0
5
10
15
20
25
Time (hr)


3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Well-Mixed Compartment Steam Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
Time (hr)
0
.2
.4
.6
.8
1
0
5
10
15
20
25

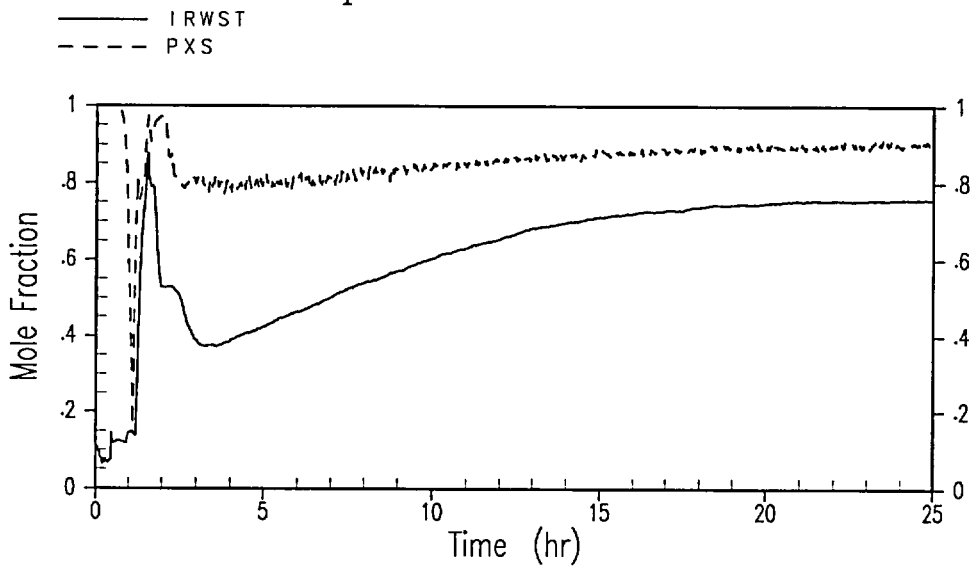
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Well-Mixed Compartment Oxygen Concentration



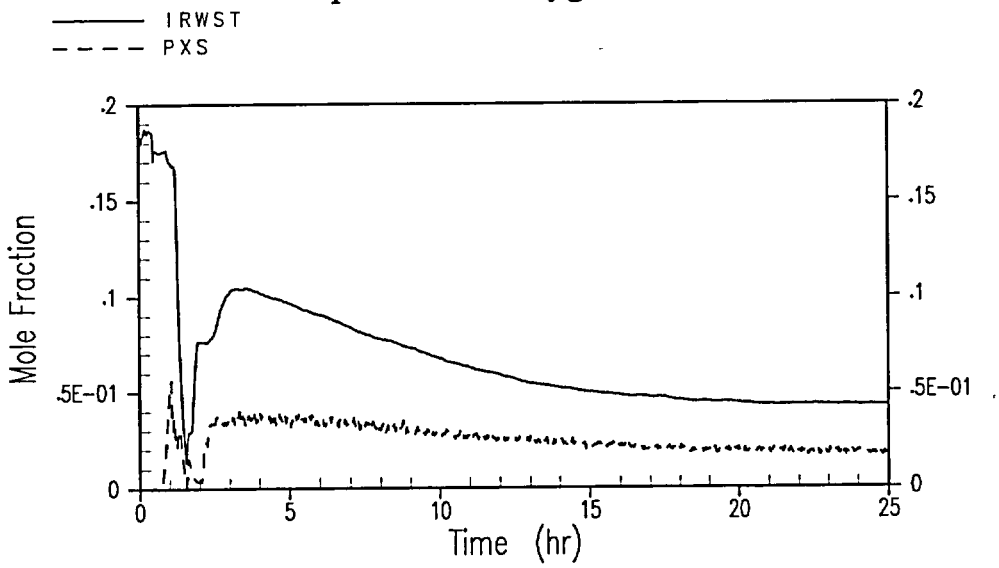
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Confined Compartment Hydrogen Concentration



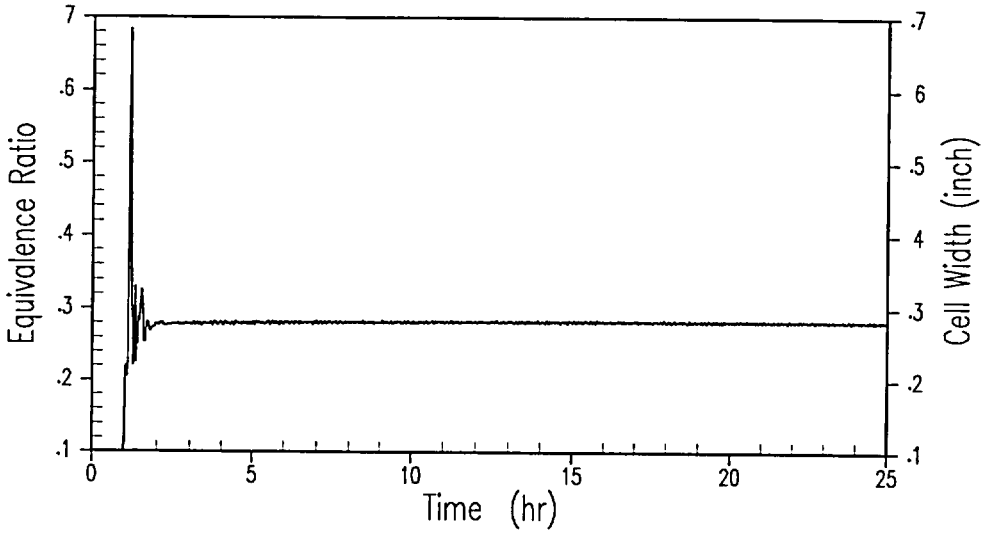
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Confined Compartment Steam Concentration



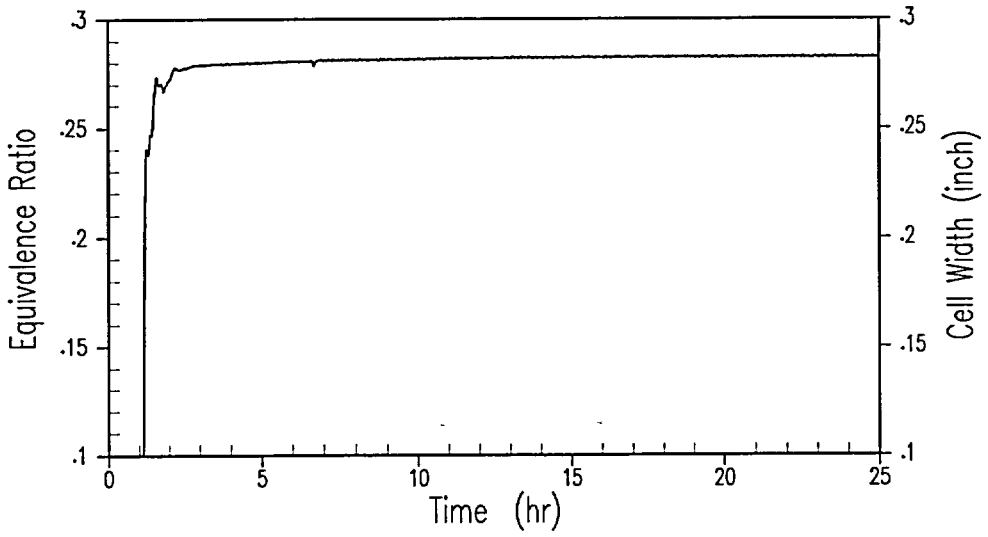
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Confined Compartment Oxygen Concentration



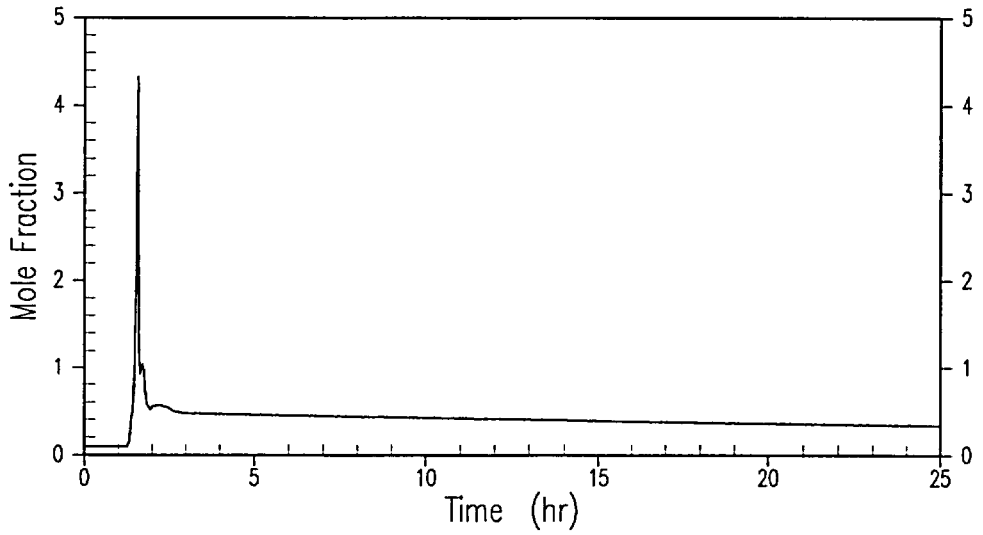
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Equivalence Ratio in SG Room



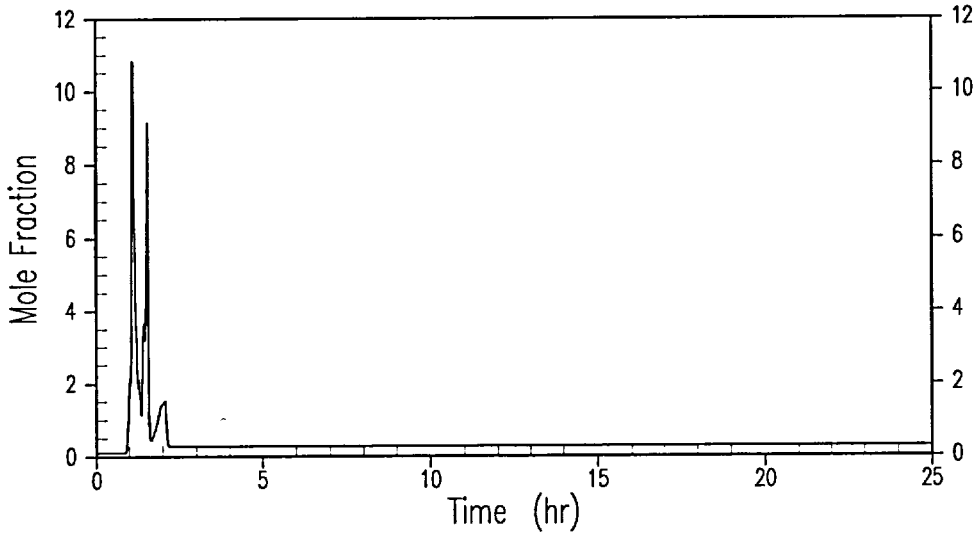
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Equivalence Ratio in CMT Room



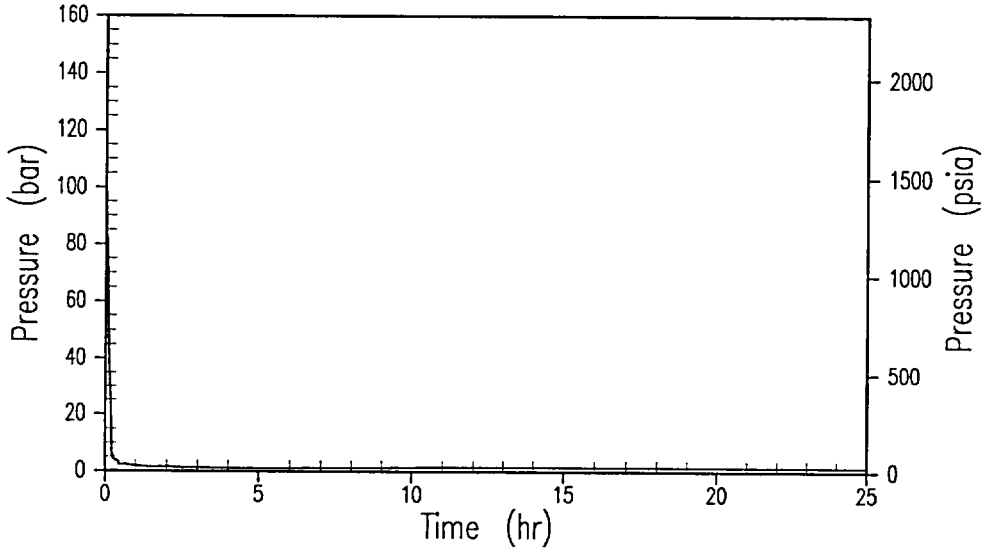
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Equivalence Ratio in IRWST



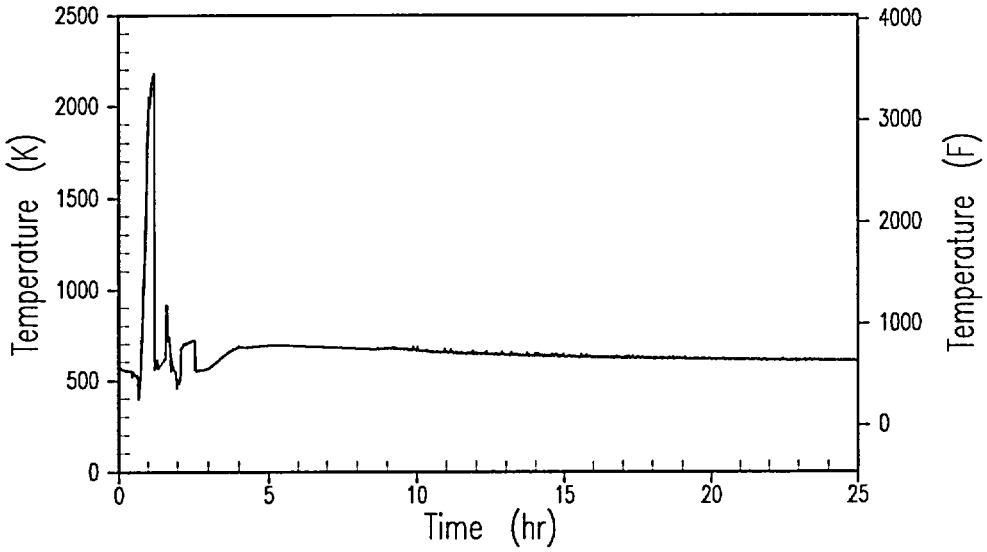
3BE-1: AP1000 DVI Line Break for Cont Water Level (EdF)
Equivalence Ratio in PXS



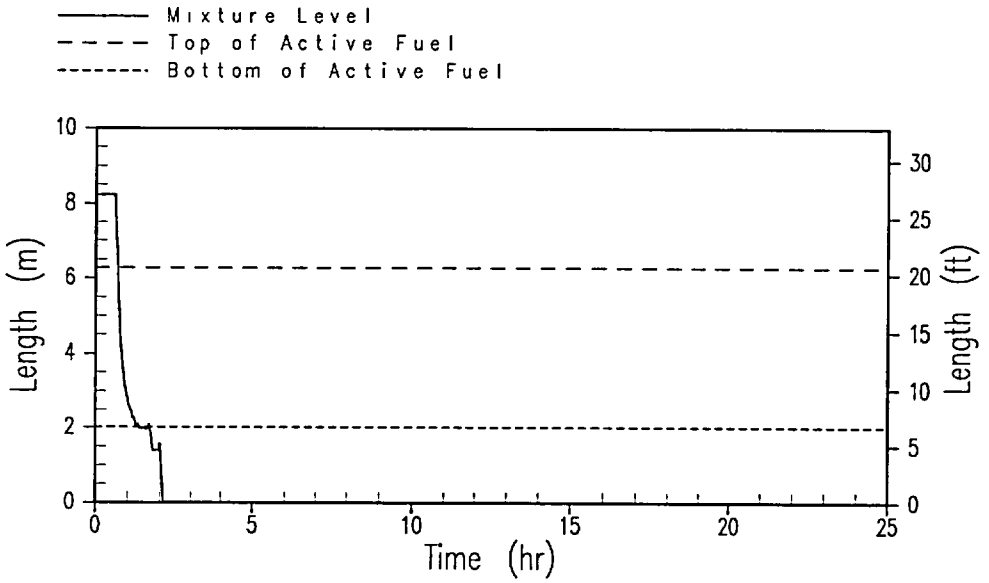
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Reactor Coolant System Pressure



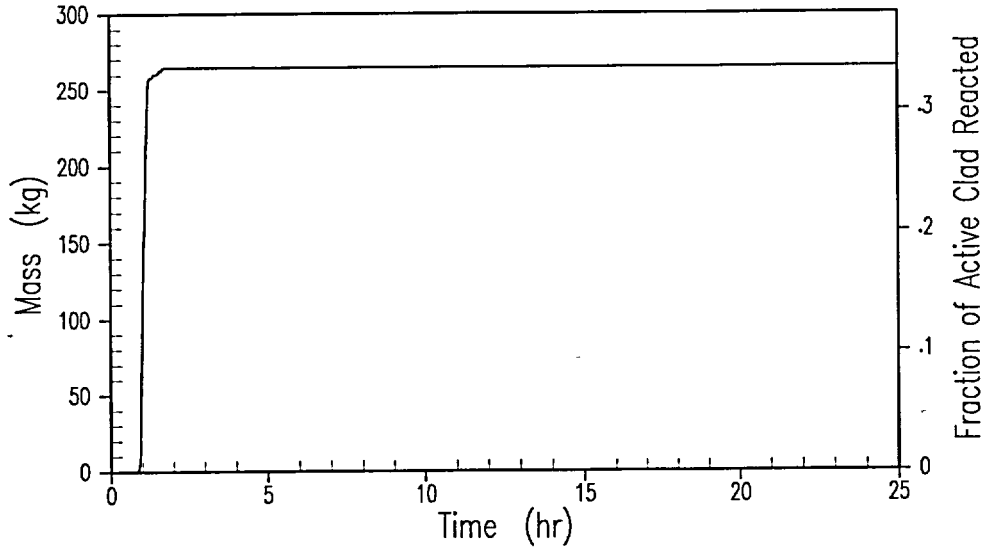
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Core-Exit Gas Temperature



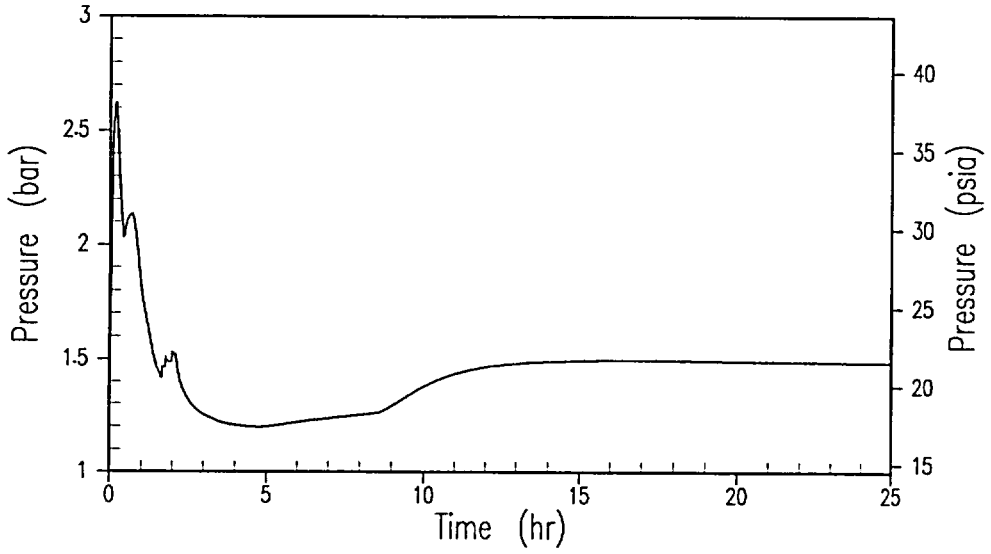
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Reactor Vessel Mixture Level



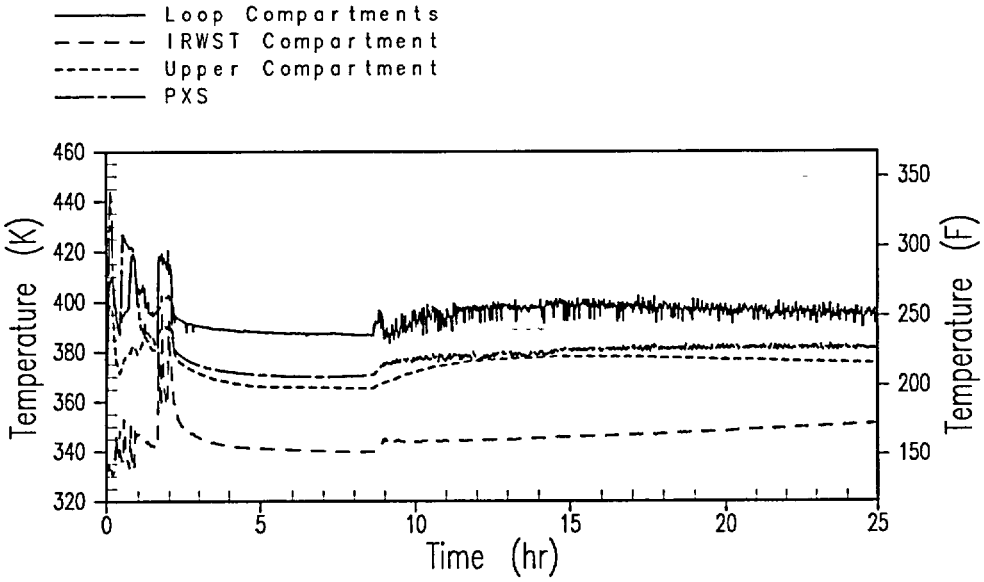
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Hydrogen Generated In-Vessel



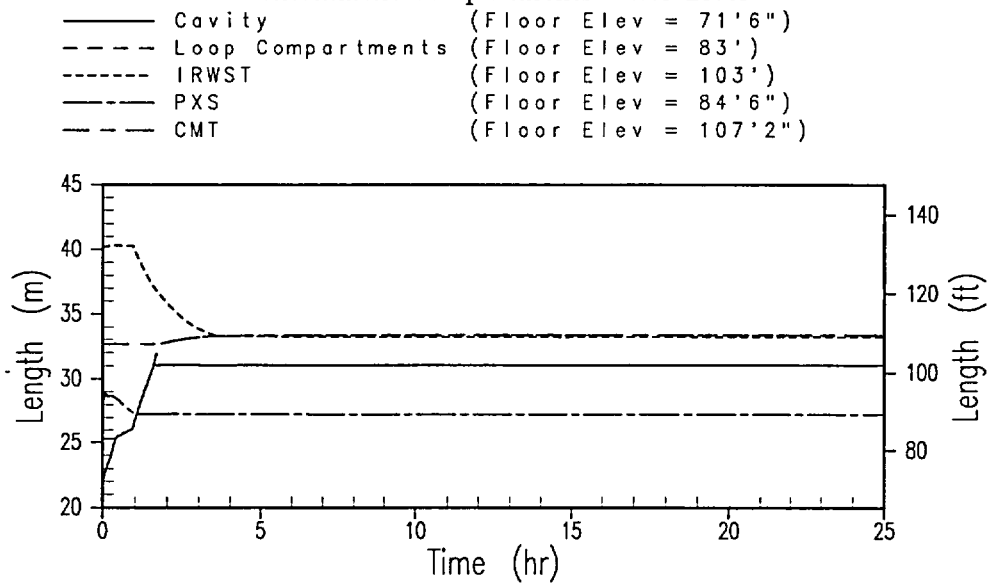
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Containment Pressure



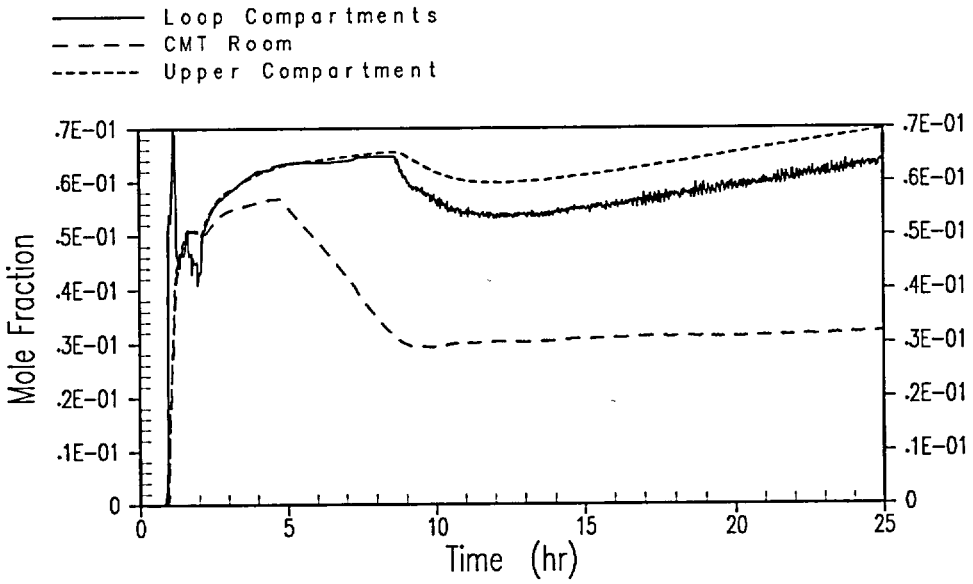
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Containment Gas Temperature



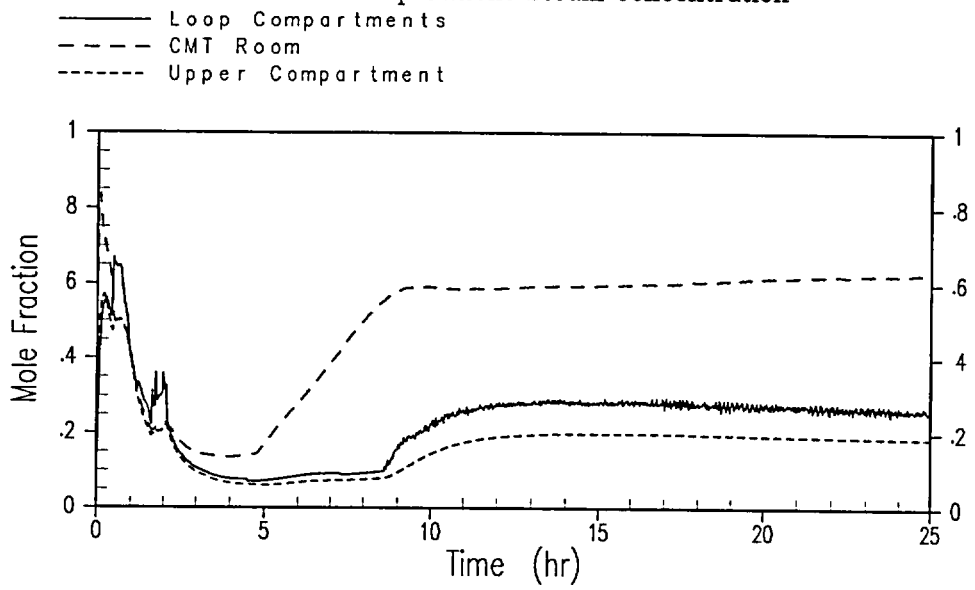
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Containment Compartments Water Level



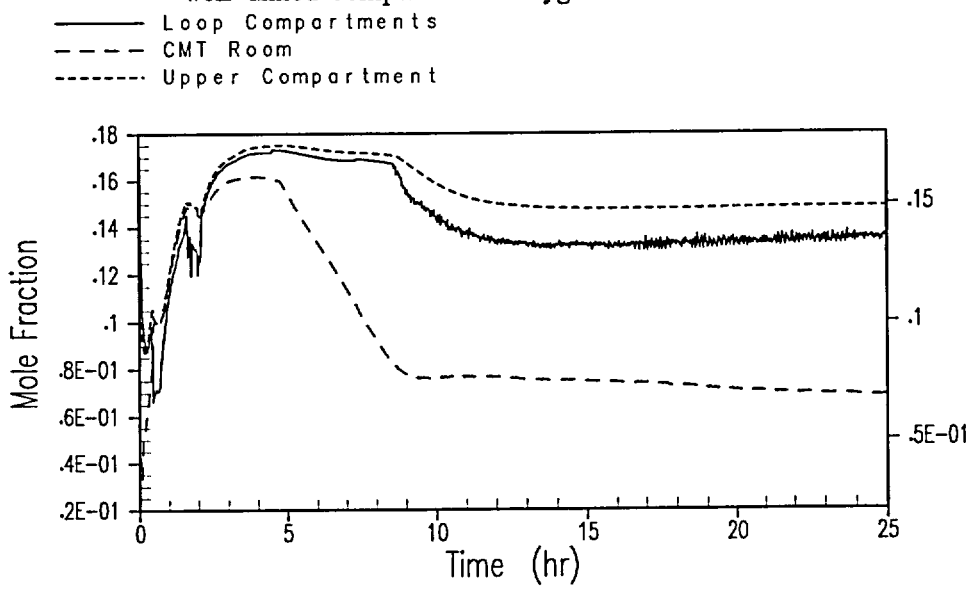
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Well-Mixed Compartment Hydrogen Concentration



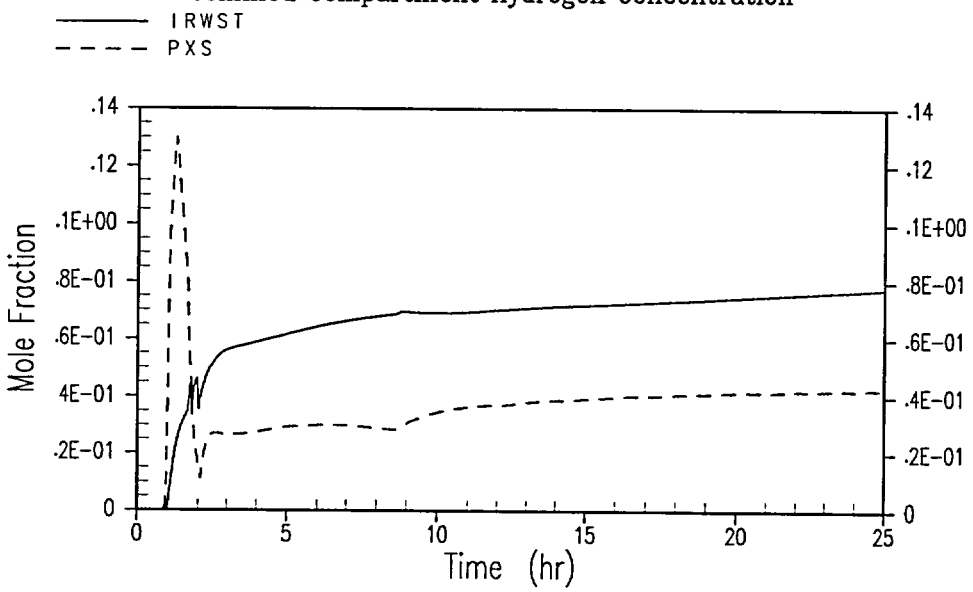
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Well-Mixed Compartment Steam Concentration



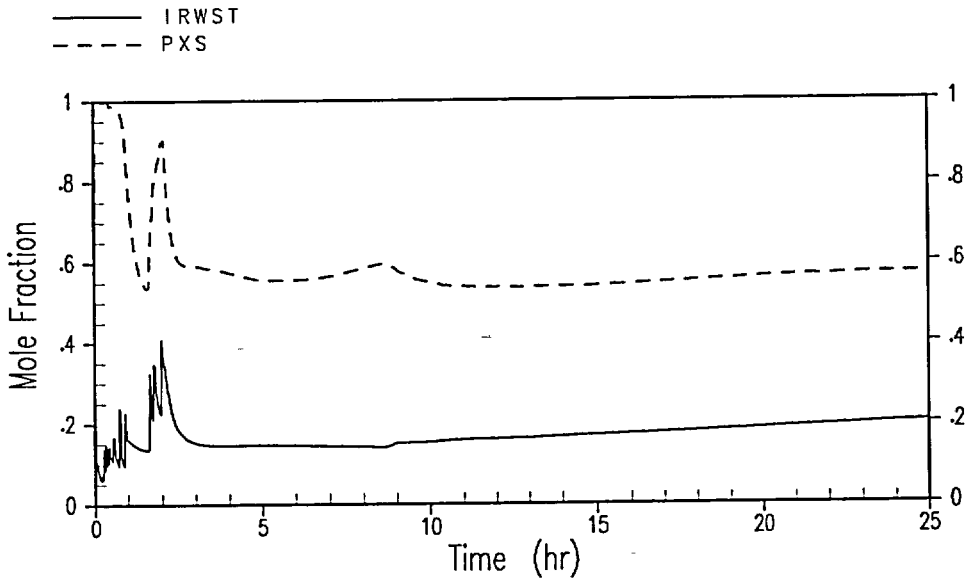
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Well-Mixed Compartment Oxygen Concentration



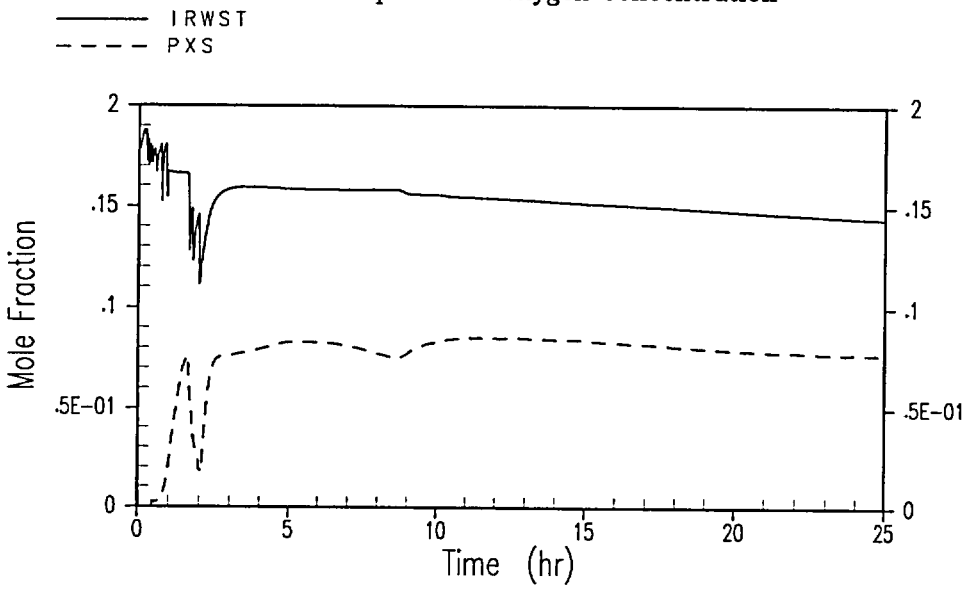
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Confined Compartment Hydrogen Concentration



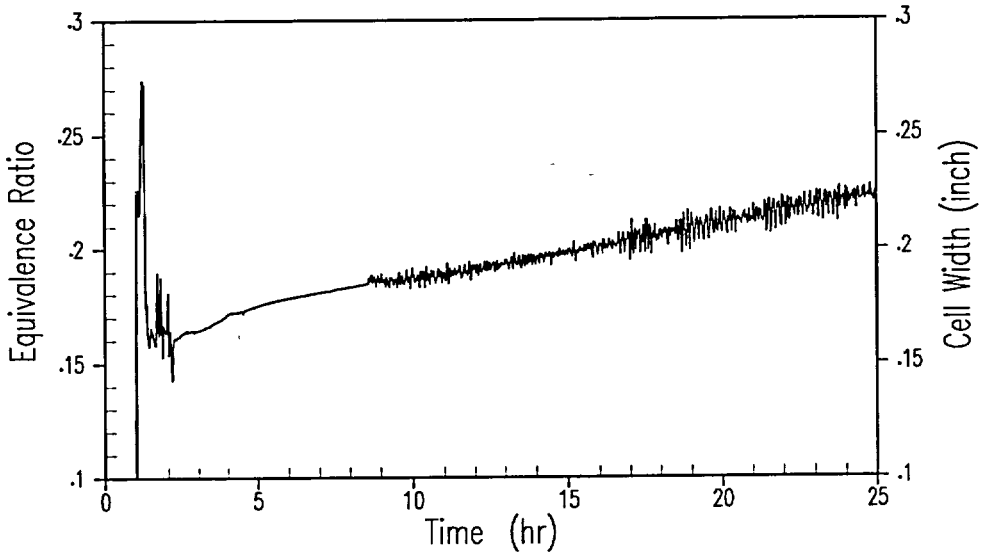
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Confined Compartment Steam Concentration



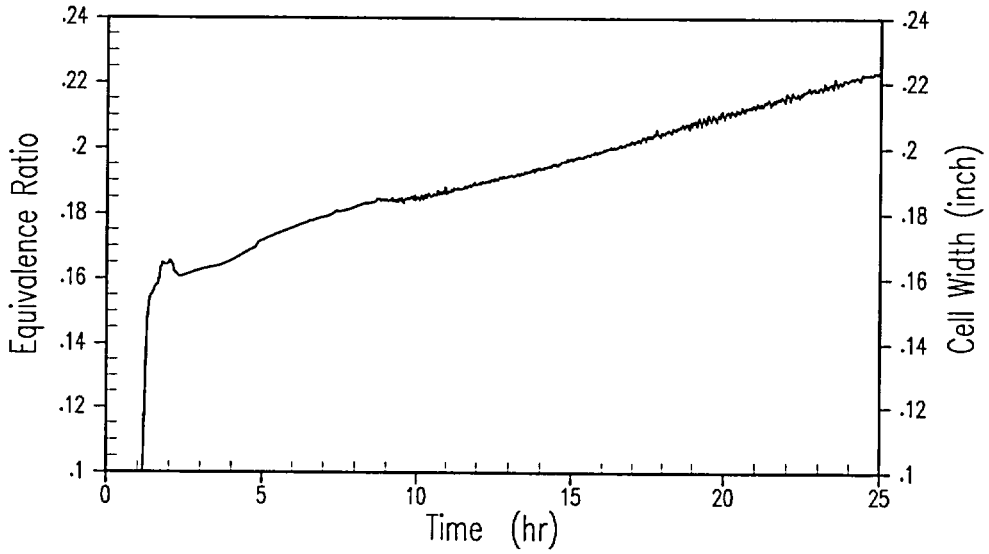
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Confined Compartment Oxygen Concentration



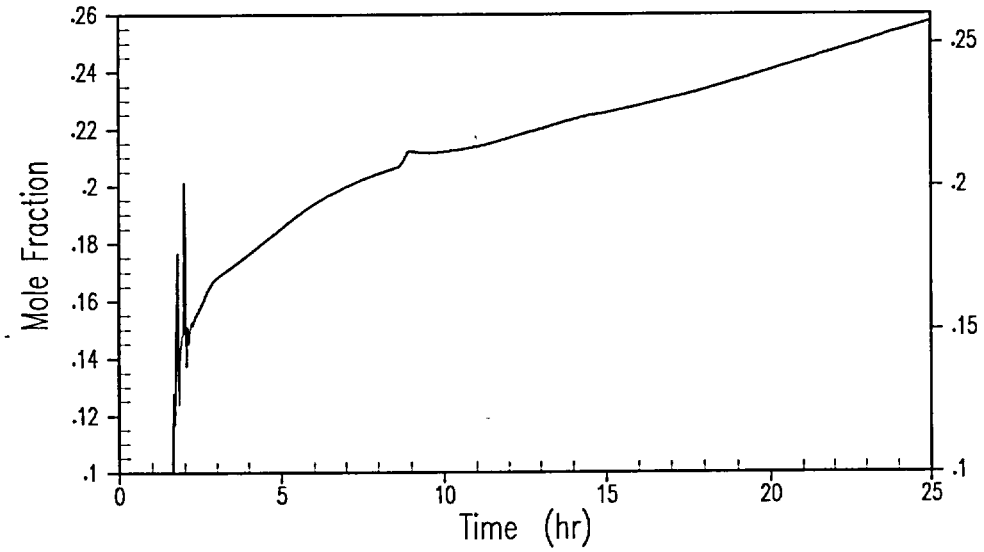
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Equivalence Ratio in SG Room



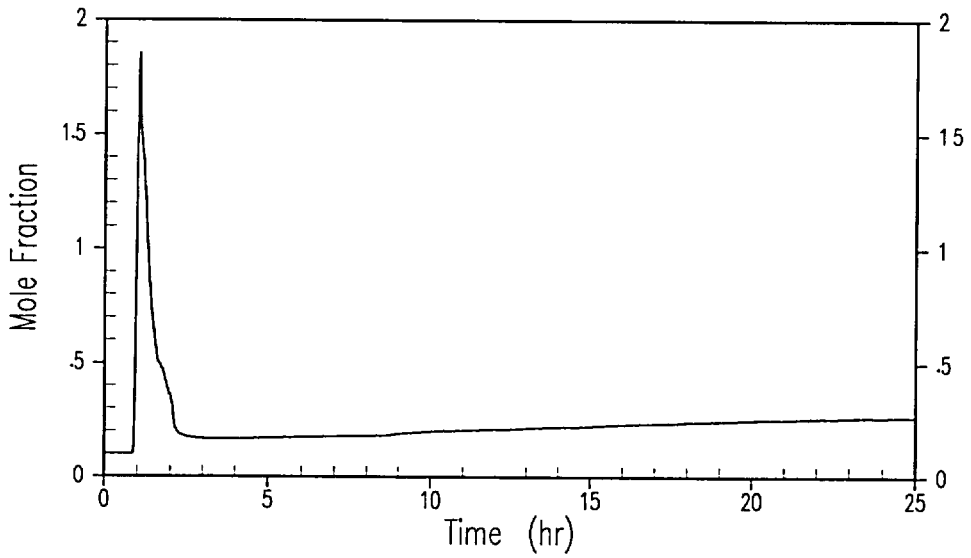
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Equivalence Ratio in CMT Room



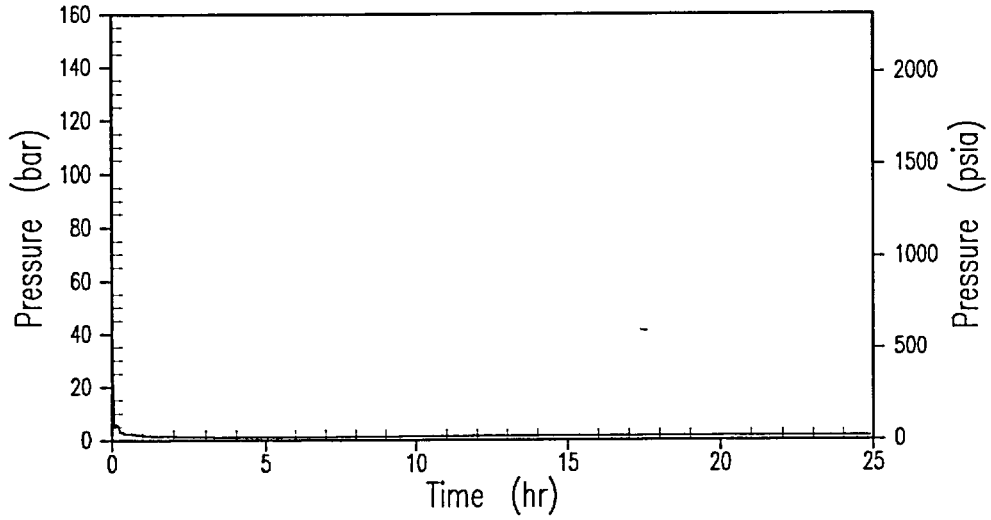
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Equivalence Ratio in IRWST



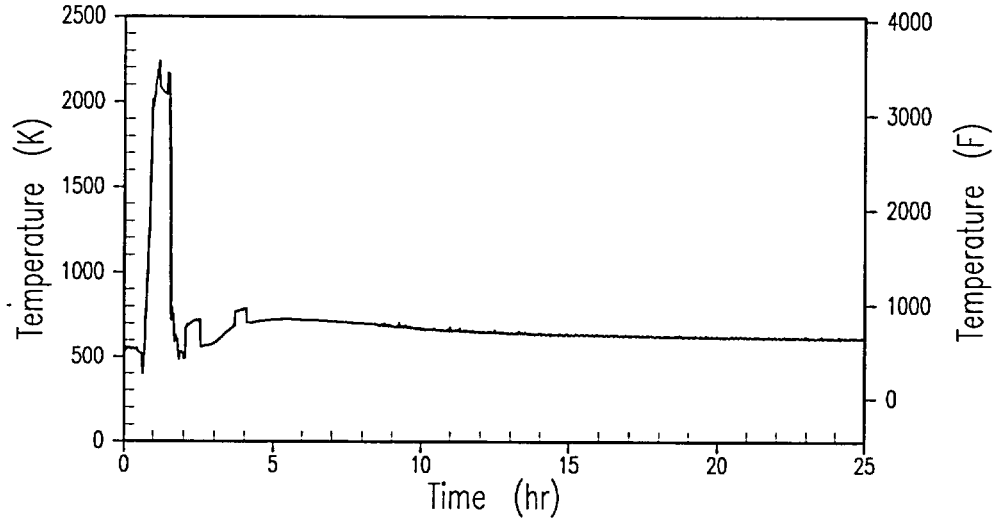
3BE-2: AP1000 DVI Line Break with Failed Grav Inj and No PXS Flooding (EdF)
Equivalence Ratio in PXS



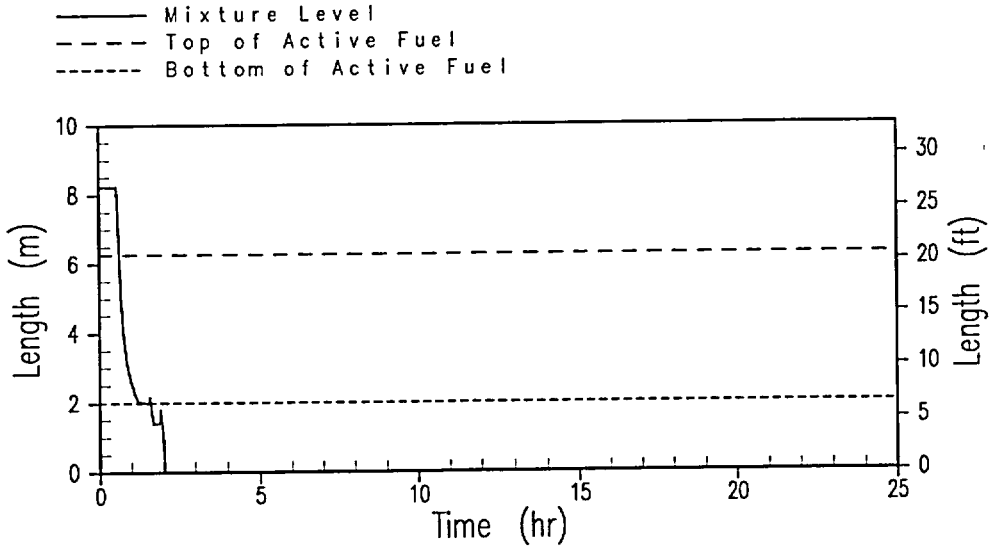
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Reactor Coolant System Pressure



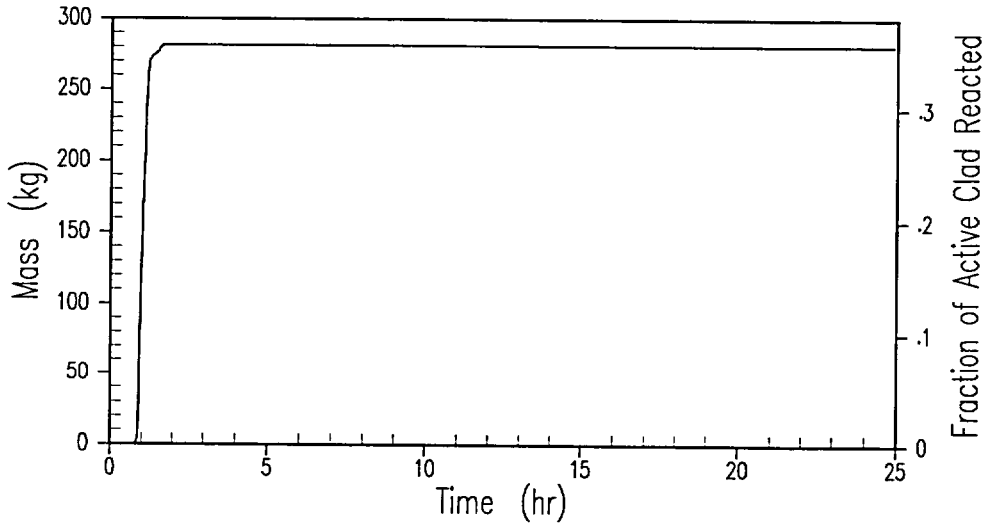
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Core-Exit Gas Temperature



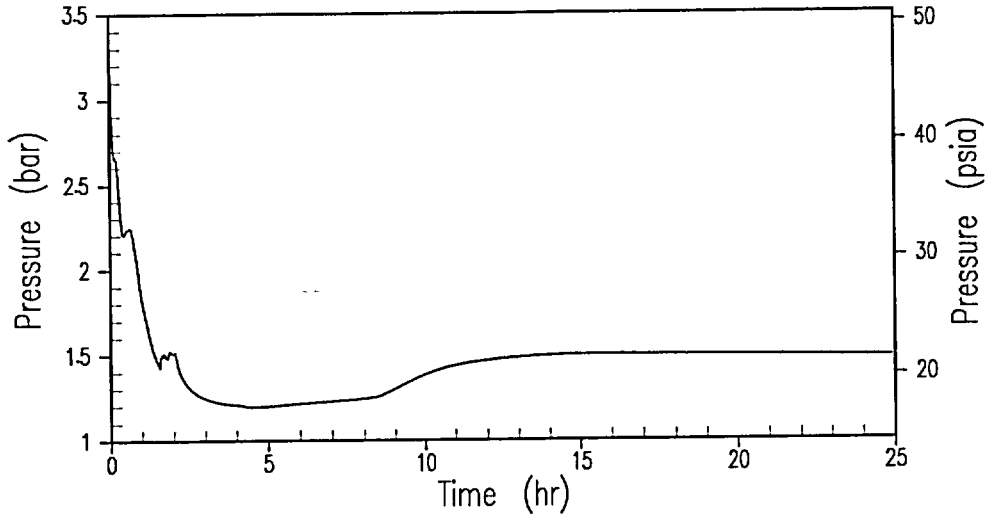
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Reactor Vessel Mixture Level



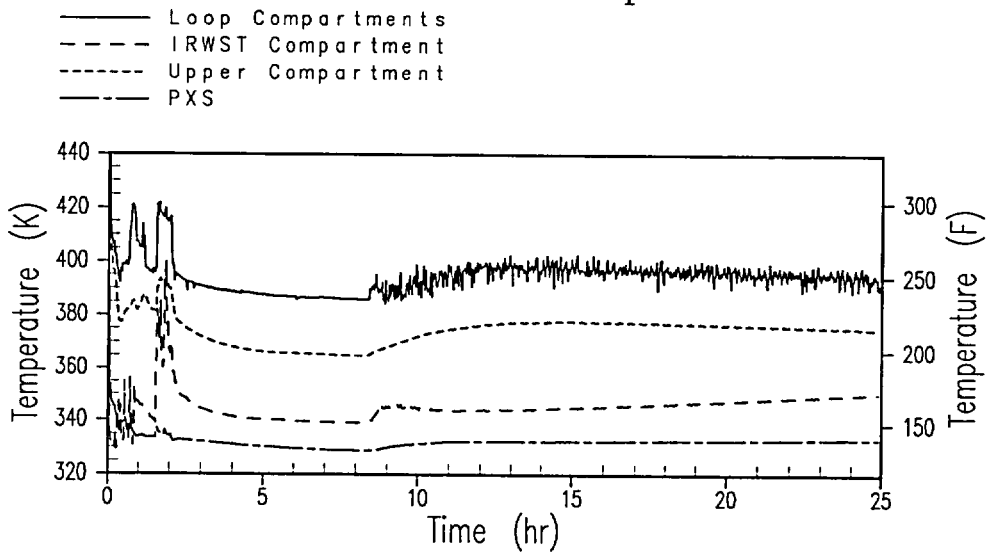
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Hydrogen Generated In-Vessel

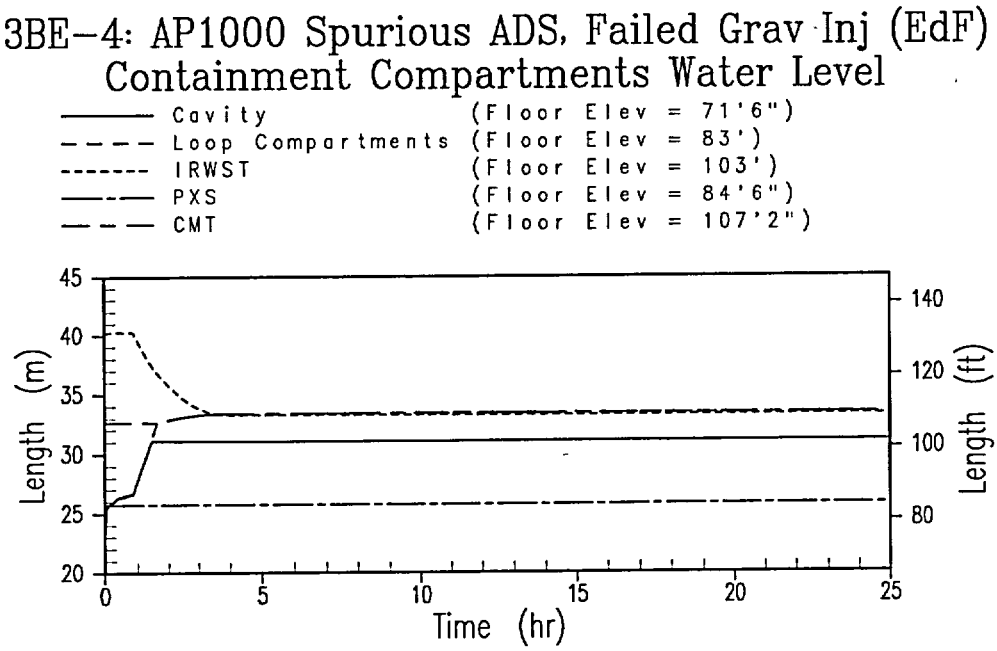


3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Containment Pressure

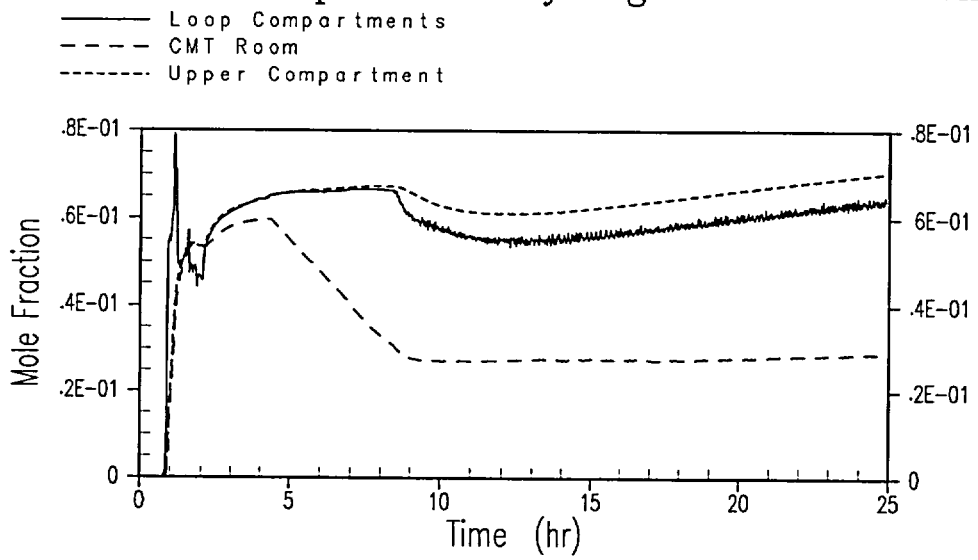


3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Containment Gas Temperature

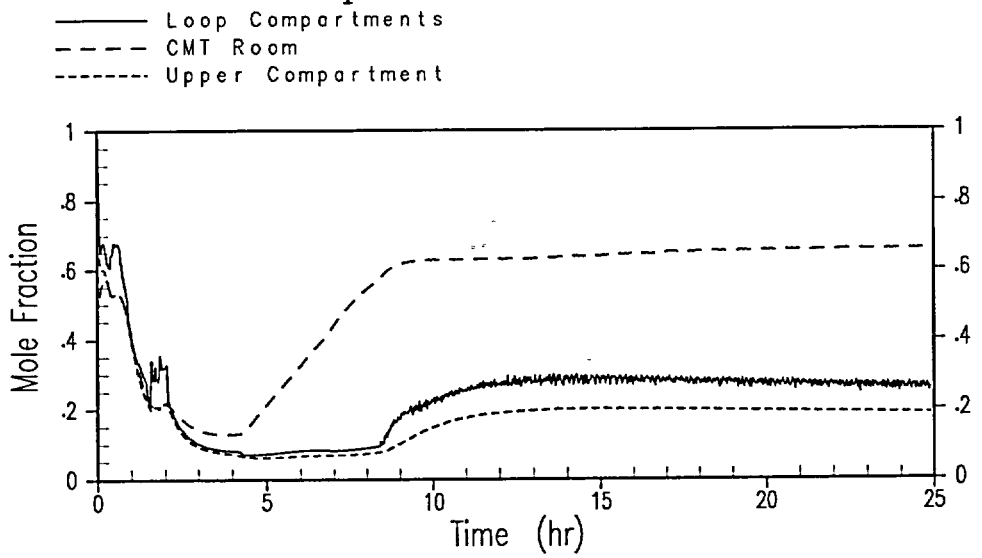


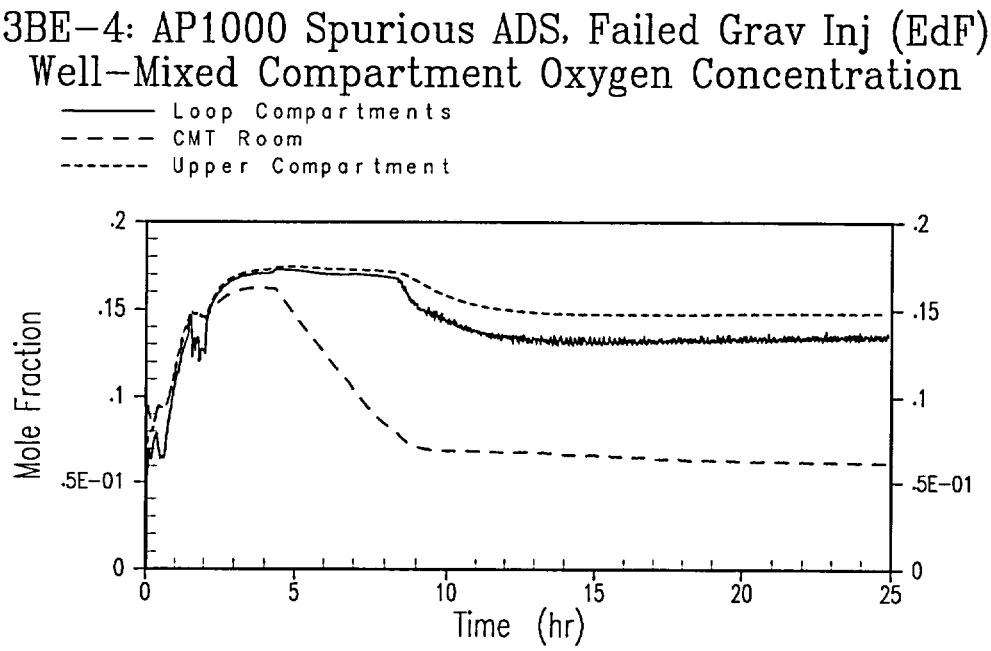

3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
PXS (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
Length (ft)
Time (hr)
45
40
35
30
25
20
140
120
100
80
0
5
10
15
20
25

3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Well-Mixed Compartment Hydrogen Concentration

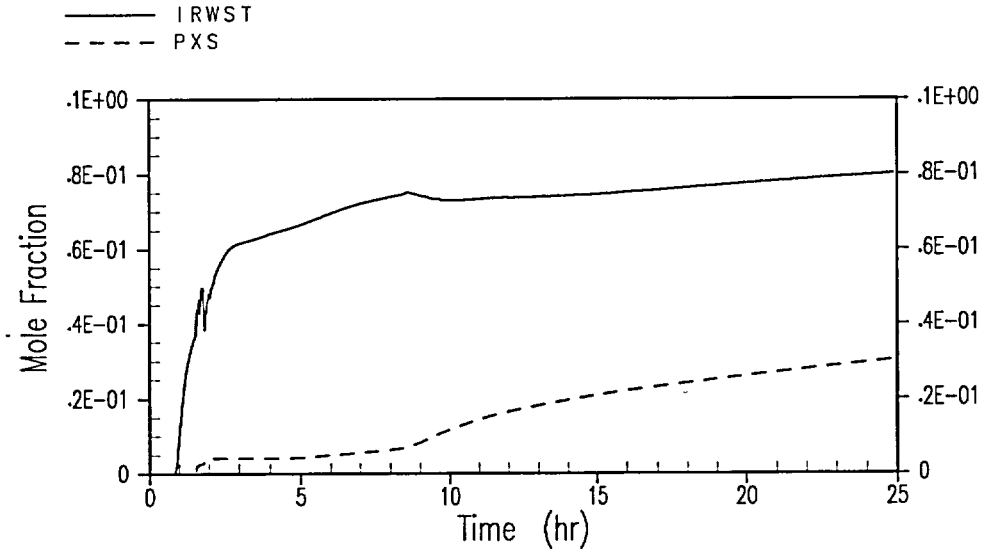


3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Well-Mixed Compartment Steam Concentration

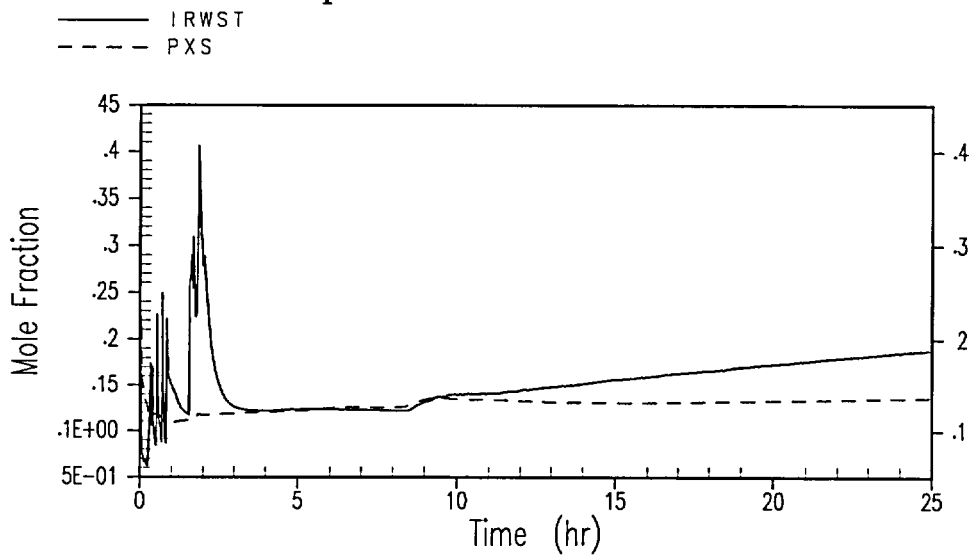



3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Well-Mixed Compartment Oxygen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.2
.15
.1
.5E-01
0
0
5
10
15
20
25
Time (hr)

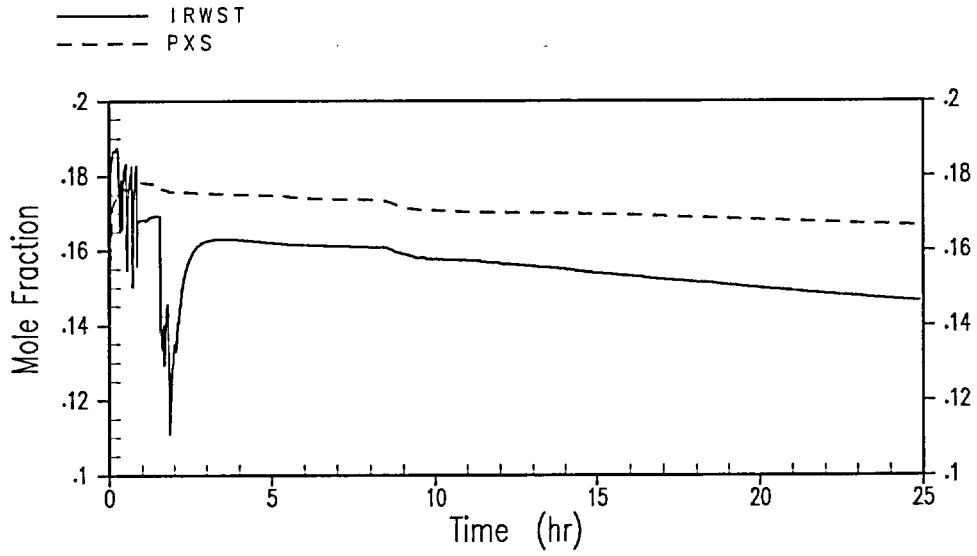
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Confined Compartment Hydrogen Concentration



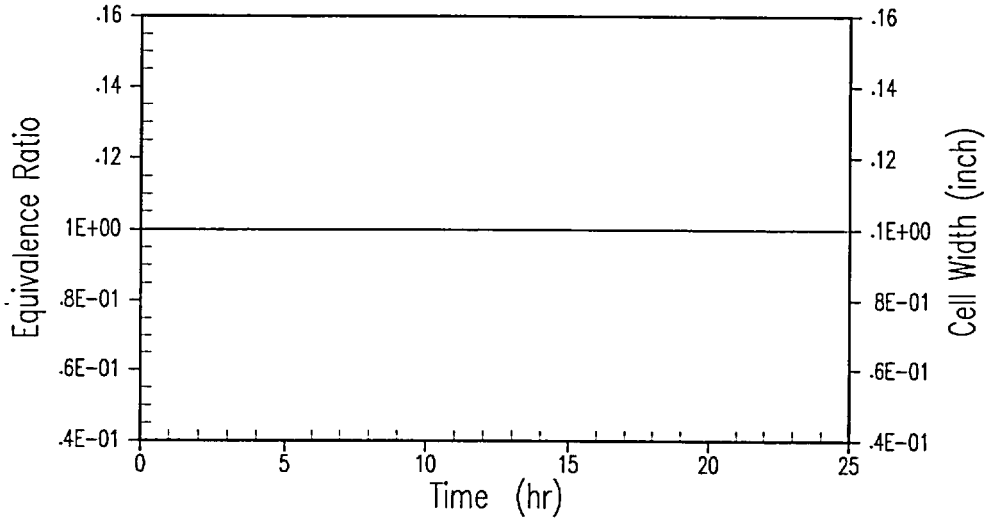
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Confined Compartment Steam Concentration



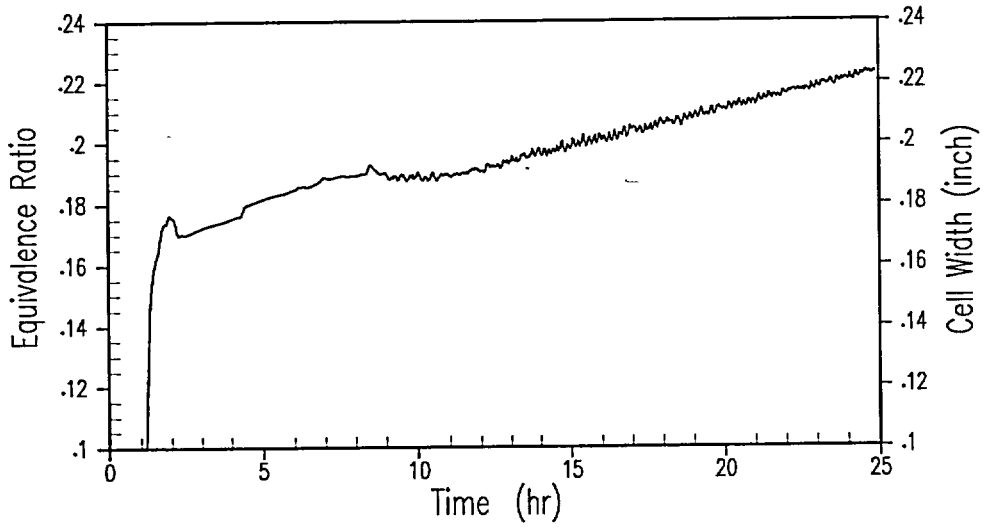
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Confined Compartment Oxygen Concentration



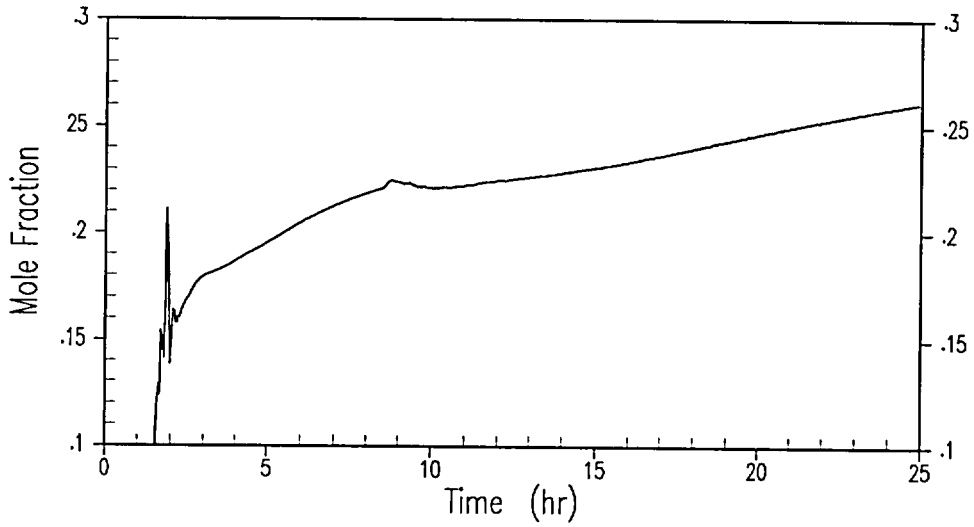
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Equivalence Ratio in SG Room



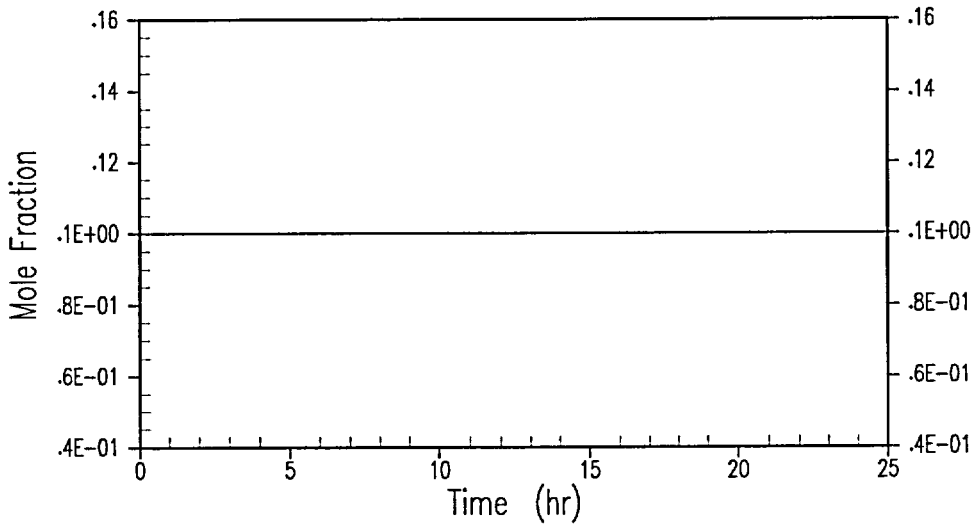
3BE-4: AP1000 Spurious ADS, Failed Grav. Inj (EdF)
Equivalence Ratio in CMT Room



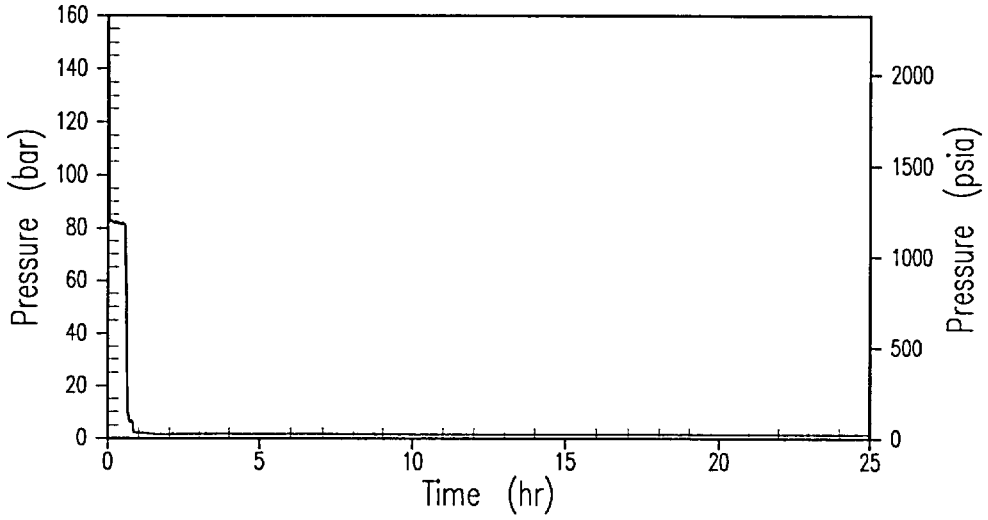
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Equivalence Ratio in IRWST



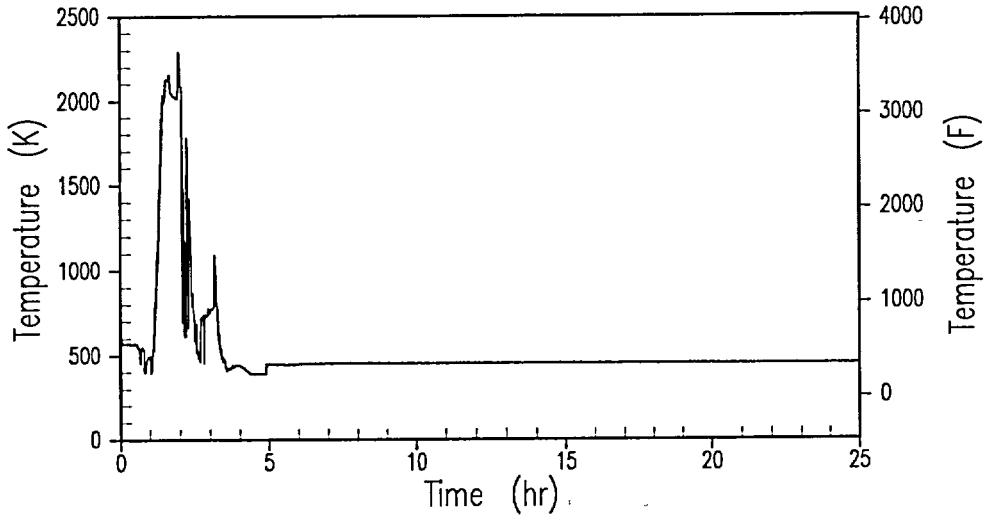
3BE-4: AP1000 Spurious ADS, Failed Grav Inj (EdF)
Equivalence Ratio in PXS

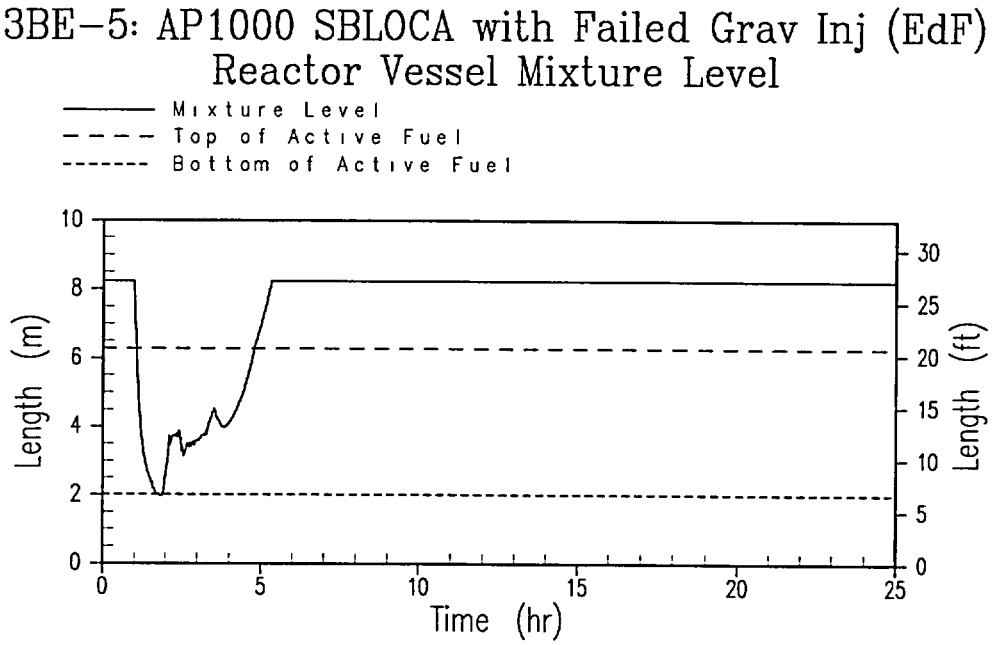


3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Reactor Coolant System Pressure

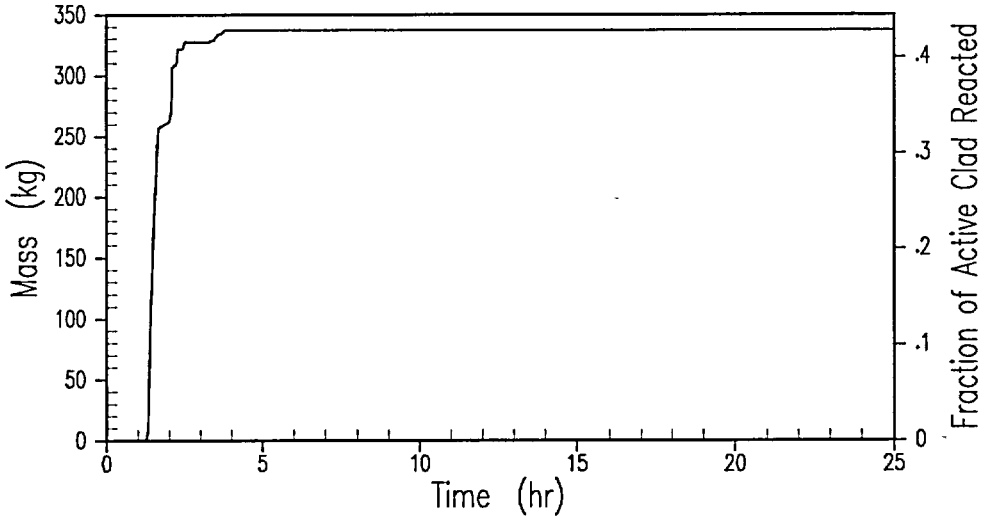


3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Core-Exit Gas Temperature

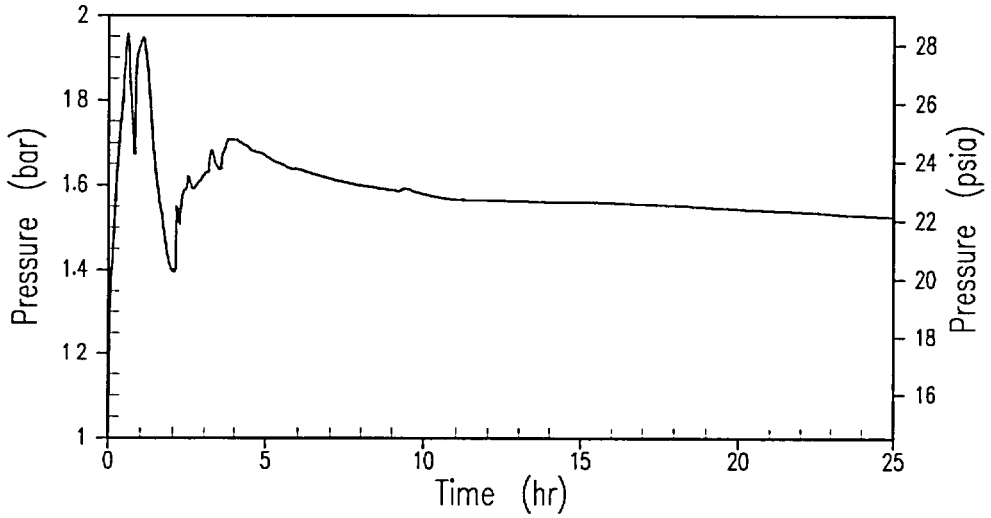


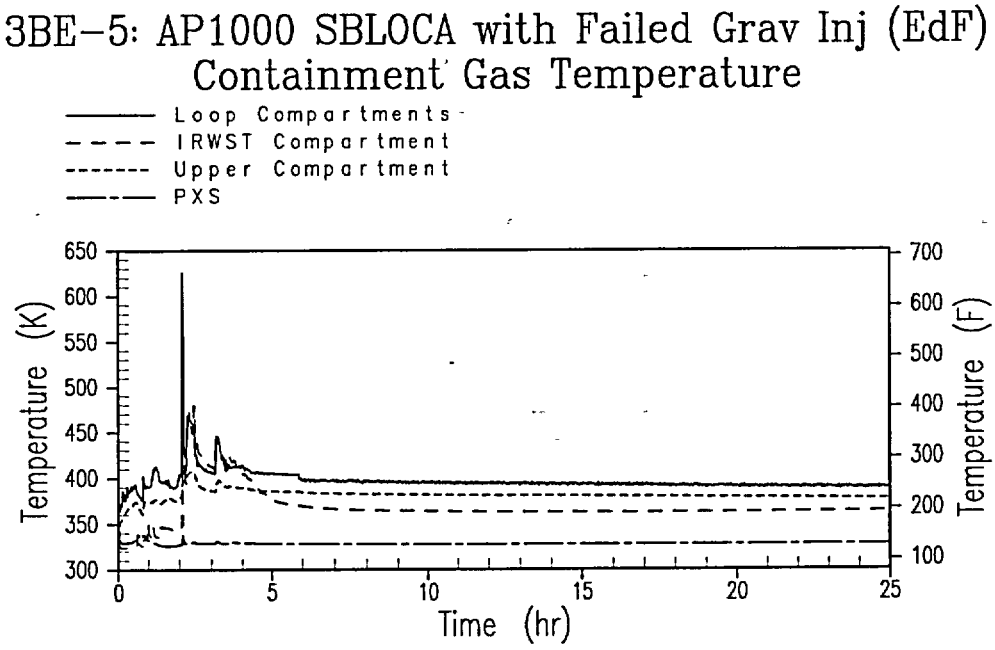

3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Reactor Vessel Mixture Level
Mixture Level
Top of Active Fuel
Bottom of Active Fuel
Length (m)
Length (ft)
Time (hr)
0
2
4
6
8
10
0
5
10
15
20
25
30
0
5
10
15
20
25

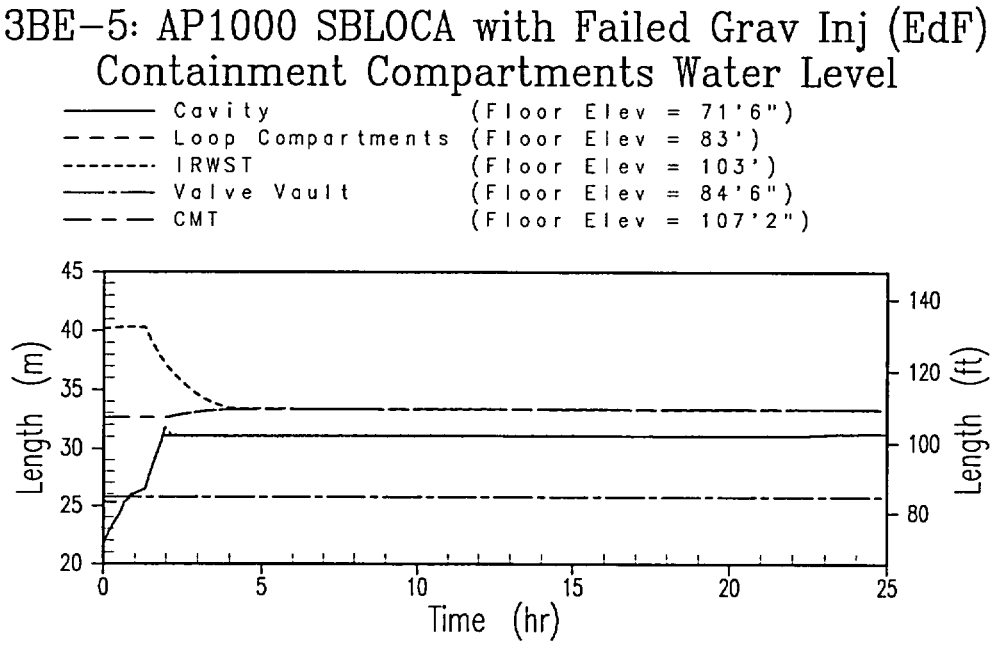
3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Hydrogen Generated In-Vessel

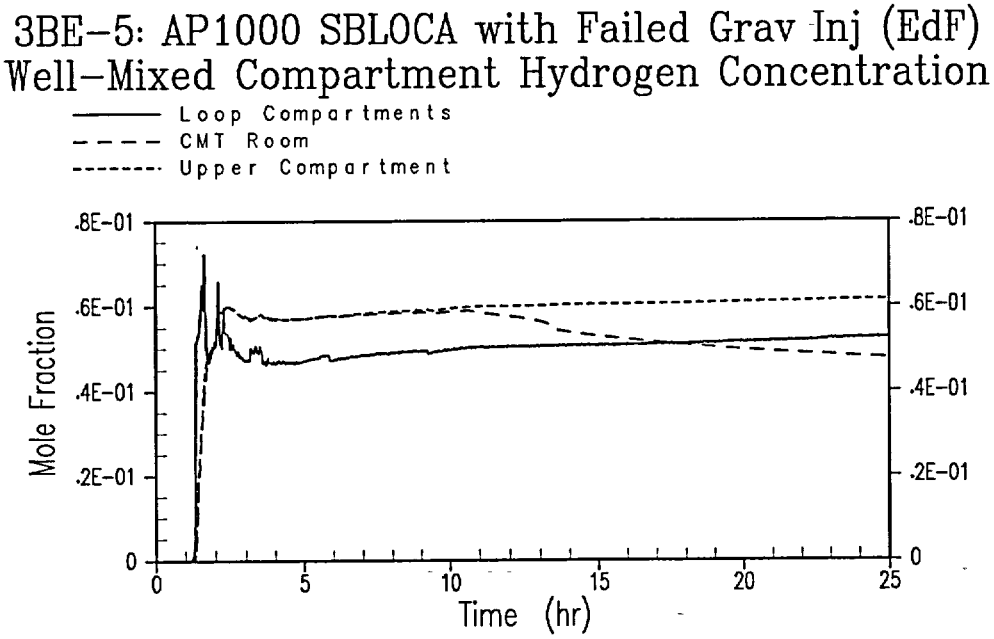


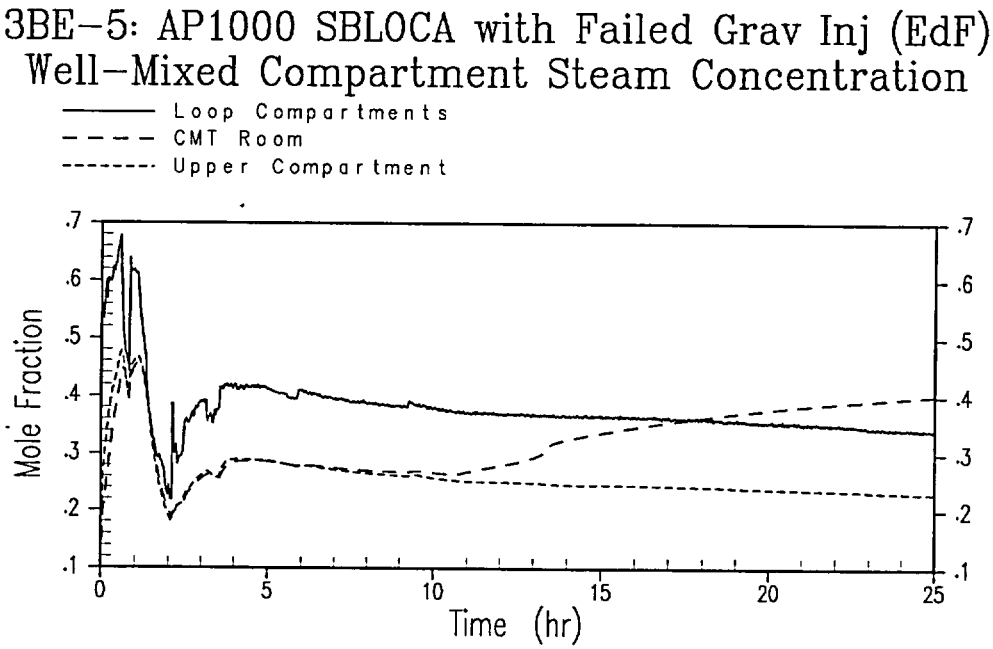
3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Containment Pressure

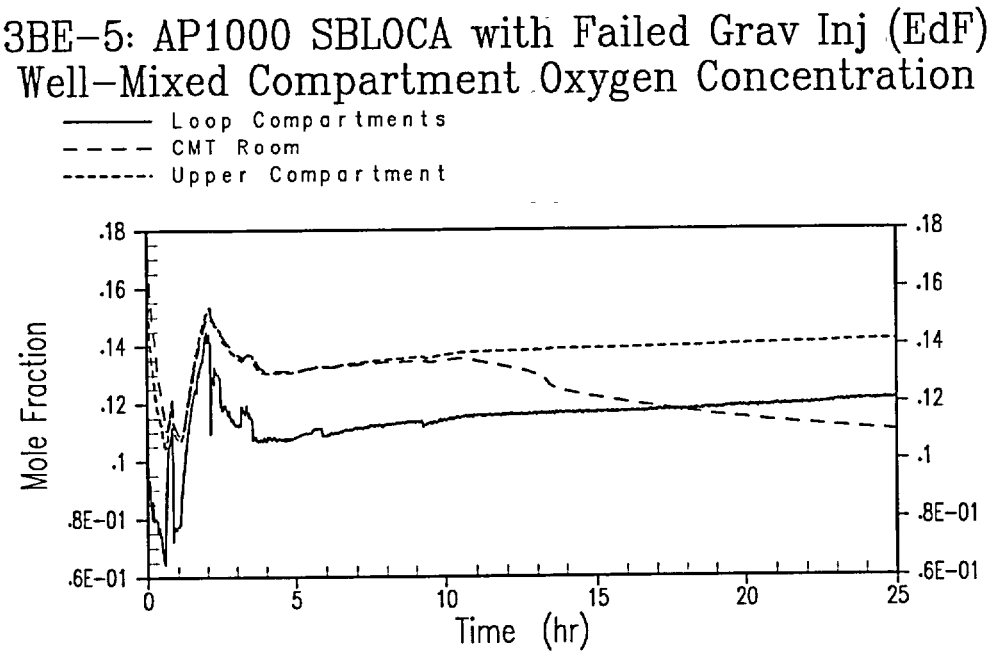


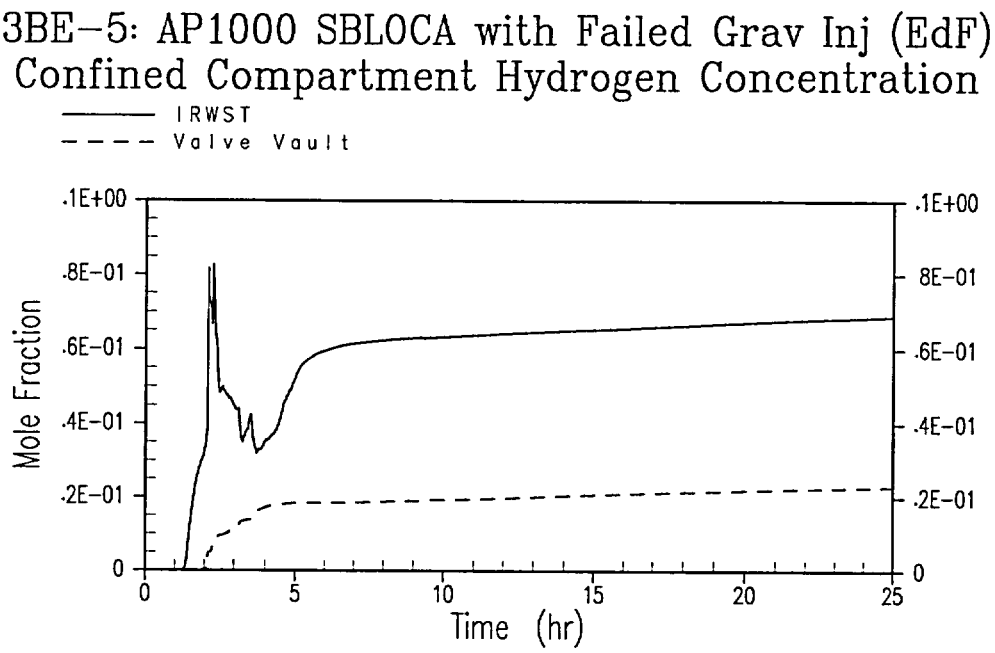

3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Containment Gas Temperature
Loop Compartments
IRWST Compartment
Upper Compartment
PXS
Temperature (K)
650
600
550
500
450
400
350
300
Temperature (F)
700
600
500
400
300
200
100
0
5
10
15
20
25
Time (hr)


3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
Valve Vault (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
Length (ft)
Time (hr)
45
40
35
30
25
20
140
120
100
80
0
5
10
15
20
25

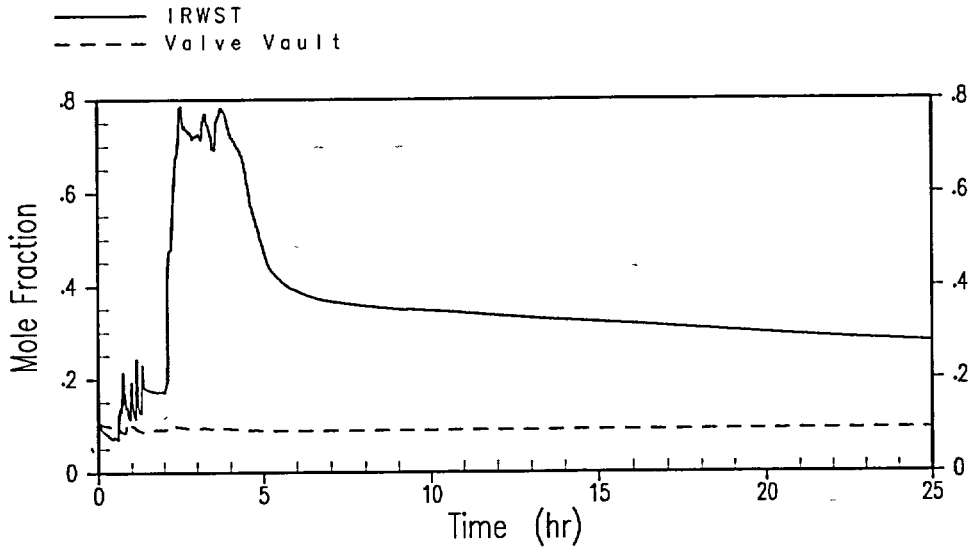

3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Well-Mixed Compartment Hydrogen Concentration
Loop Compartments
CMT Room
Upper Compartment
.8E-01
.6E-01
.4E-01
.2E-01
0
Mole Fraction
0
5
10
15
20
25
Time (hr)


3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Well-Mixed Compartment Steam Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.7
.6
.5
.4
.3
.2
.1
0
5
10
15
20
25
Time (hr)

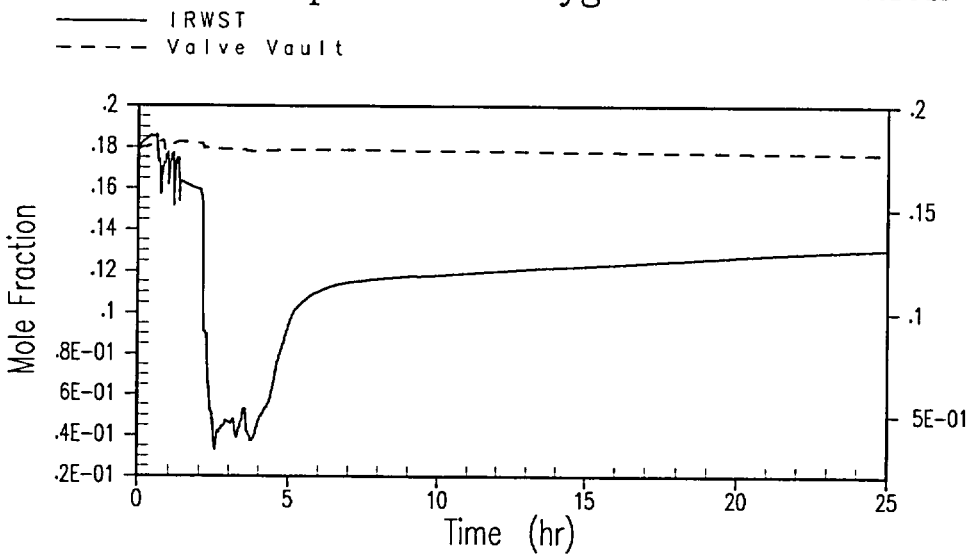

3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Well-Mixed Compartment Oxygen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.18
.16
.14
.12
.1
.8E-01
.6E-01
0
5
10
15
20
25
Time (hr)


3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Confined Compartment Hydrogen Concentration
IRWST
Valve Vault
Mole Fraction
.1E+00
.8E-01
.6E-01
.4E-01
.2E-01
0
0
5
10
15
20
25
Time (hr)

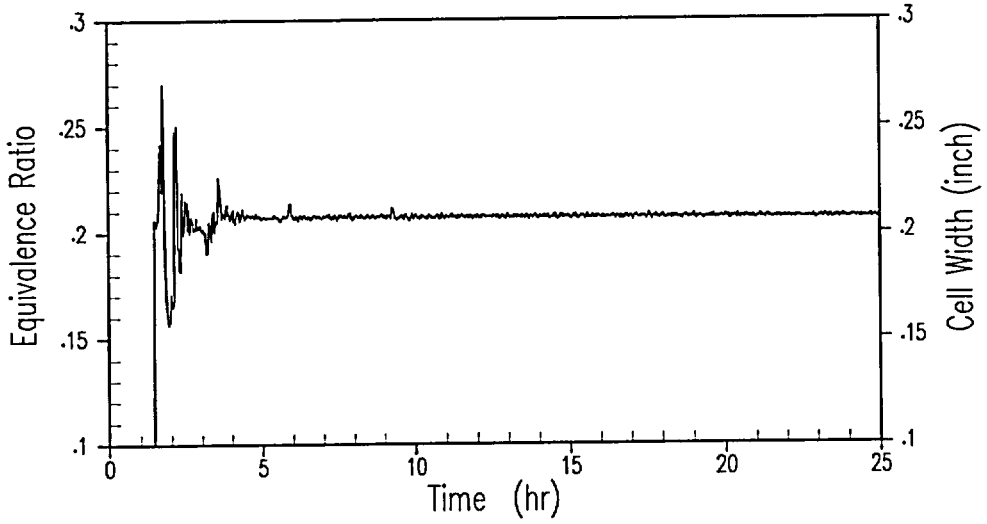
3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Confined Compartment Steam Concentration



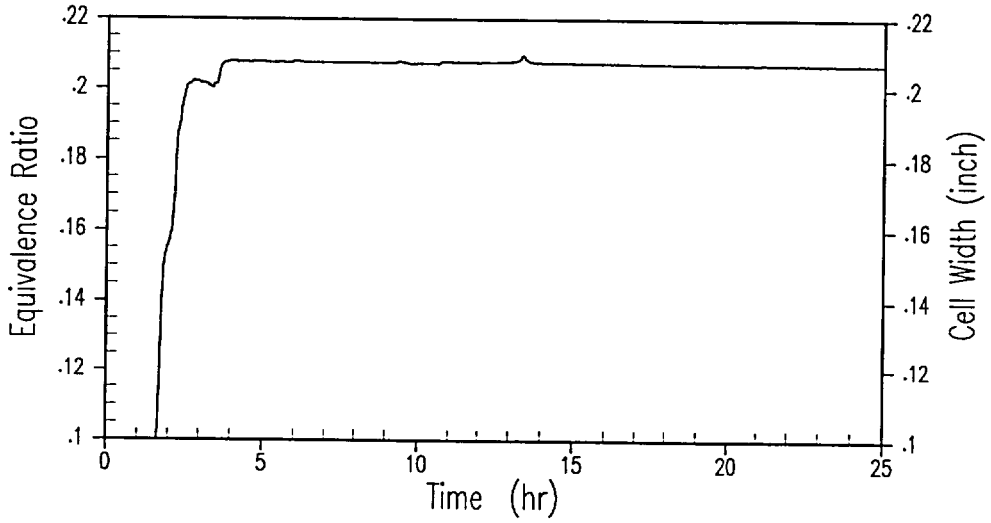
3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Confined Compartment Oxygen Concentration



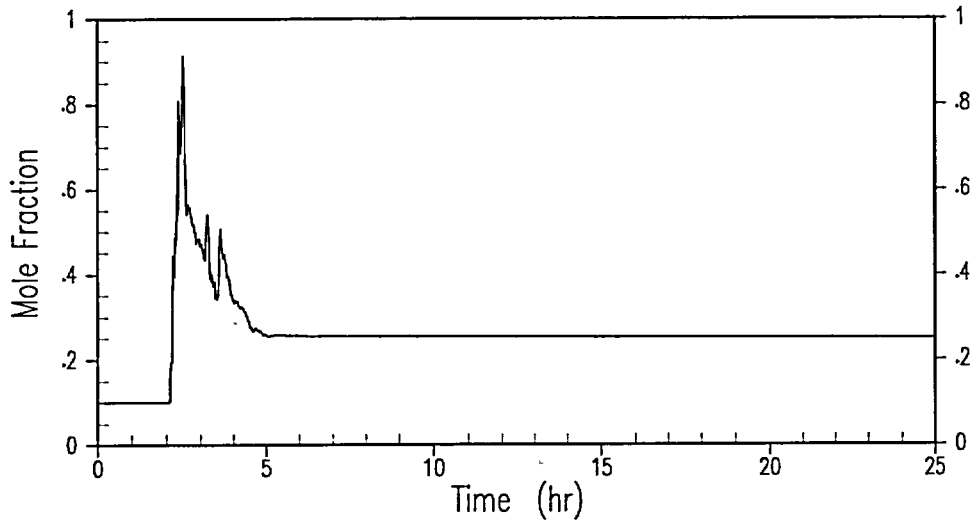
3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Equivalence Ratio in SG Room



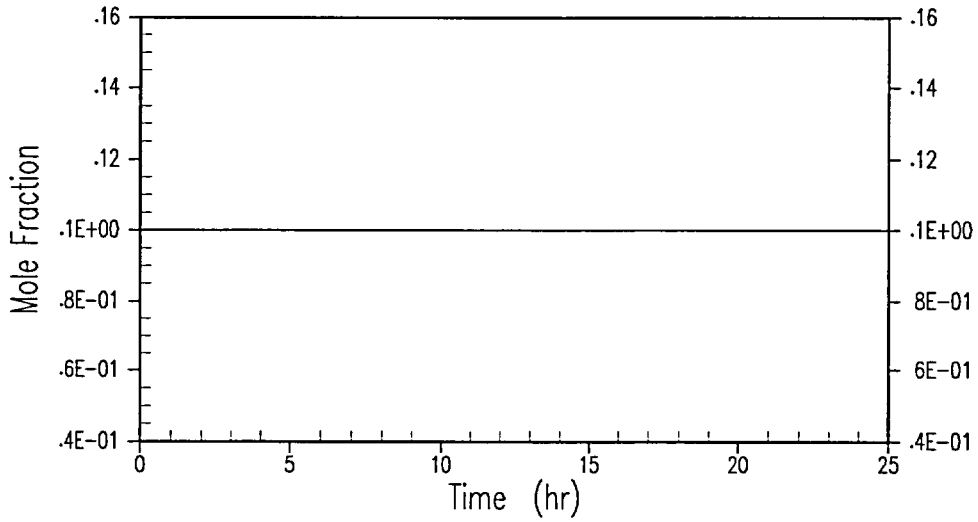
3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Equivalence Ratio in CMT Room



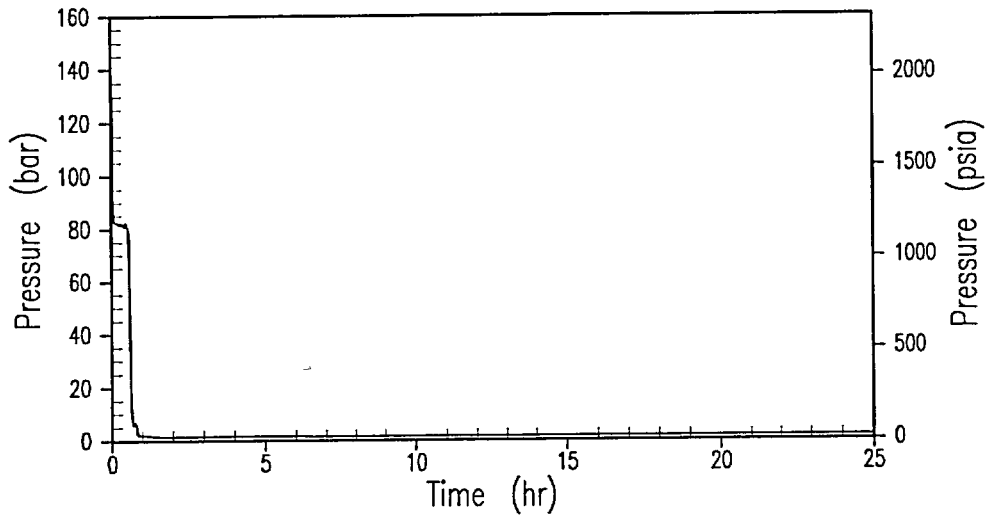
3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Equivalence Ratio in IRWST



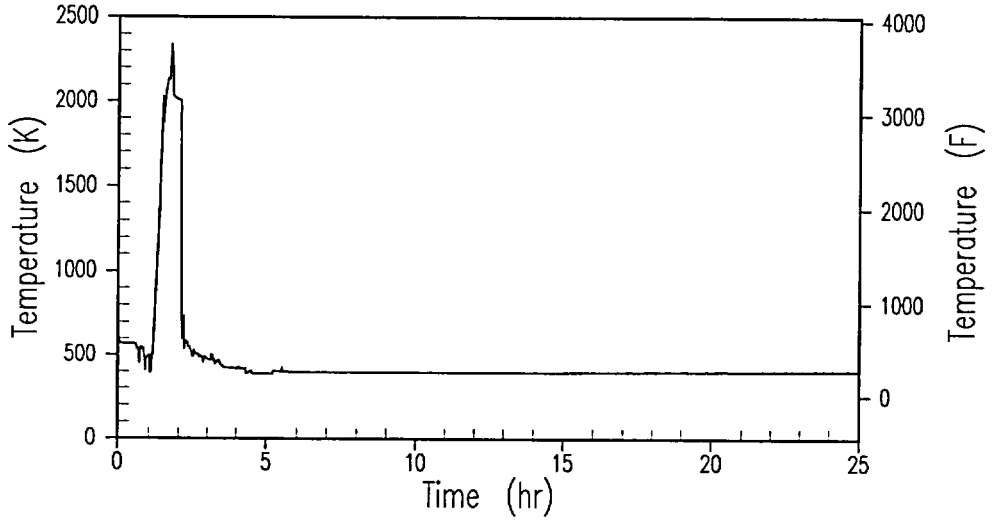
3BE-5: AP1000 SBLOCA with Failed Grav Inj (EdF)
Equivalence Ratio in PXS



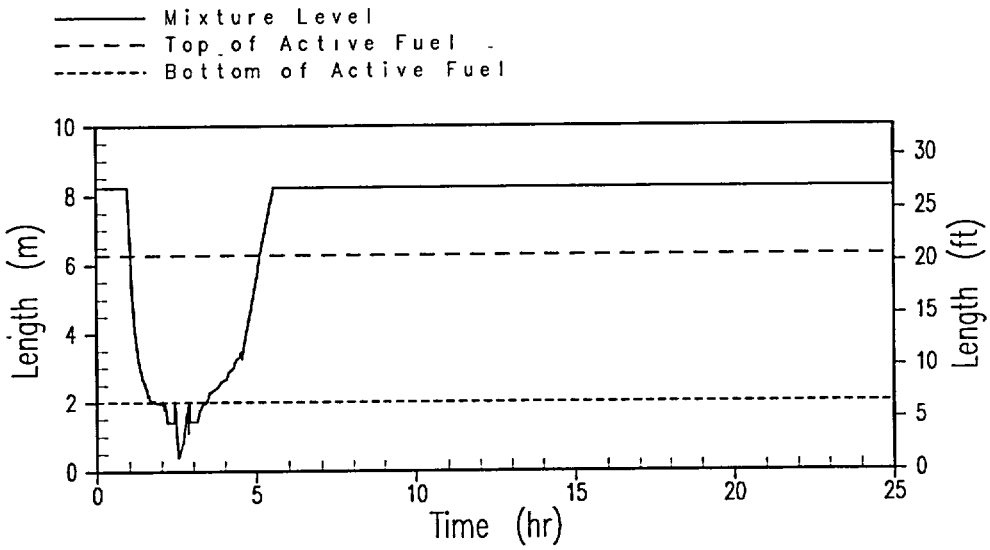
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Reactor Coolant System Pressure



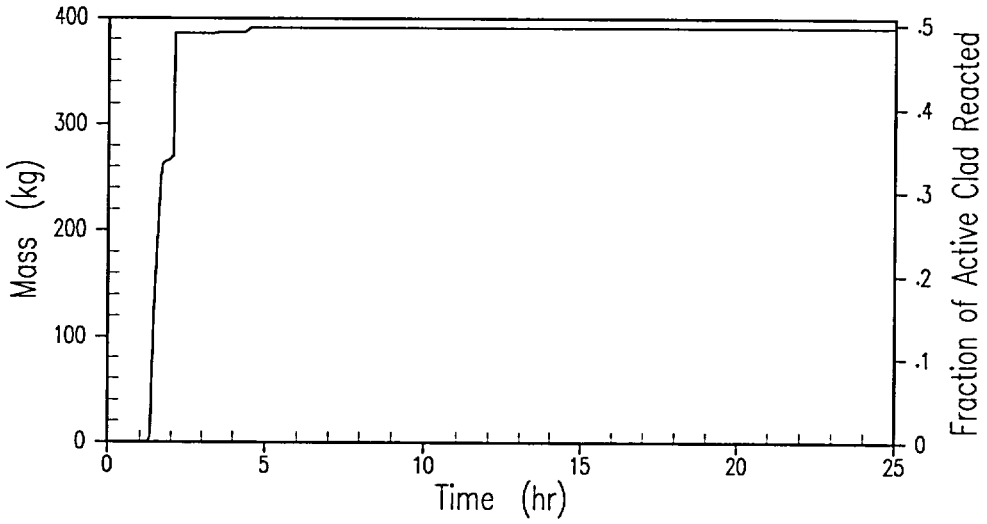
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Core-Exit Gas Temperature



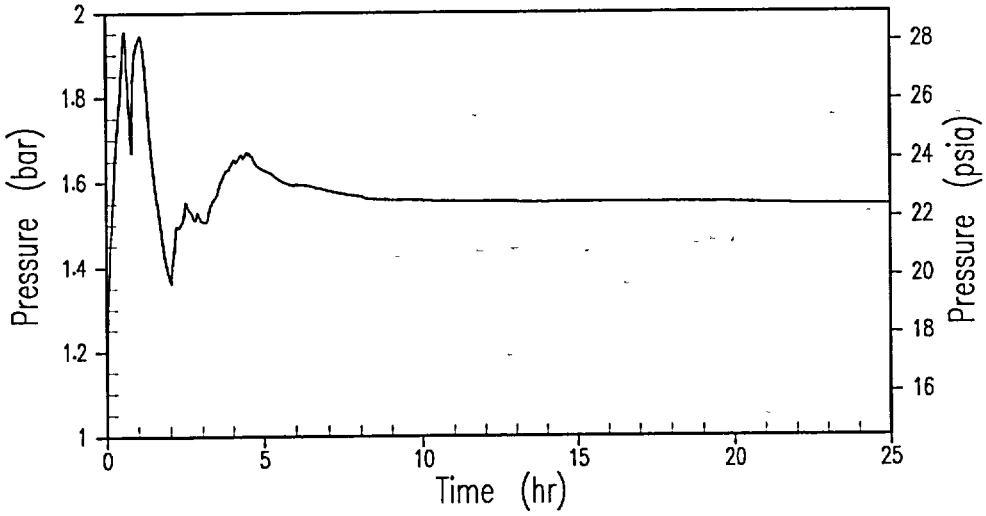
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Reactor Vessel Mixture Level



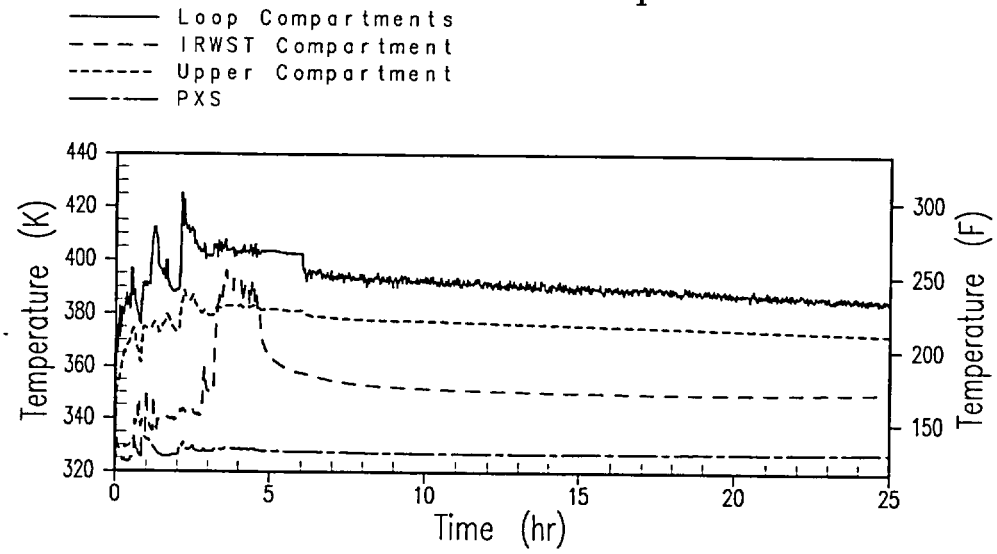
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Hydrogen Generated In-Vessel

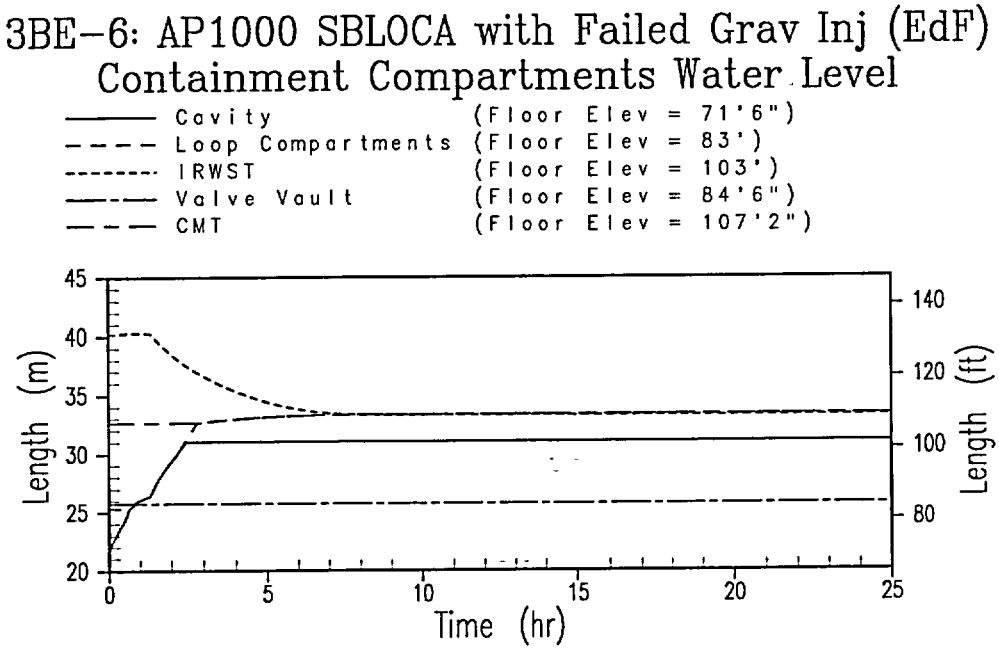


3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Containment Pressure

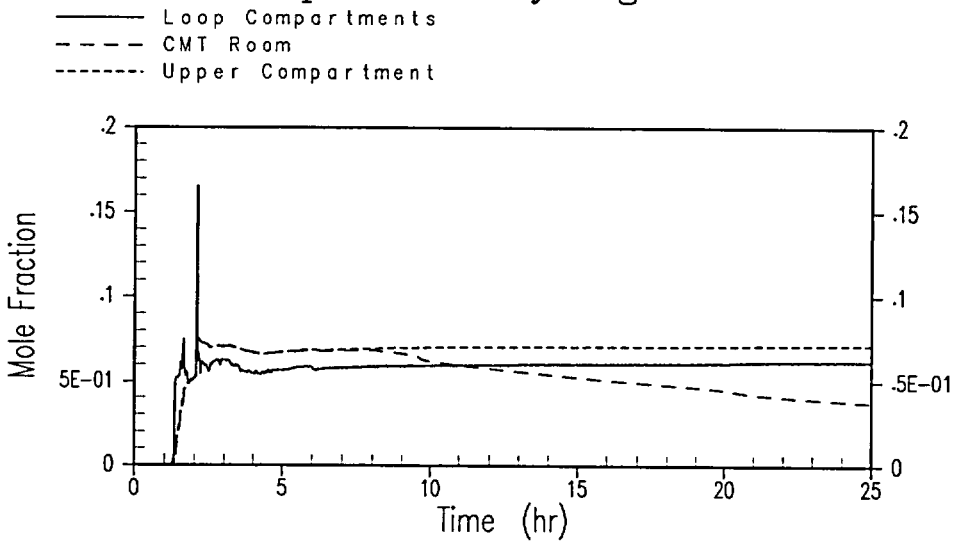


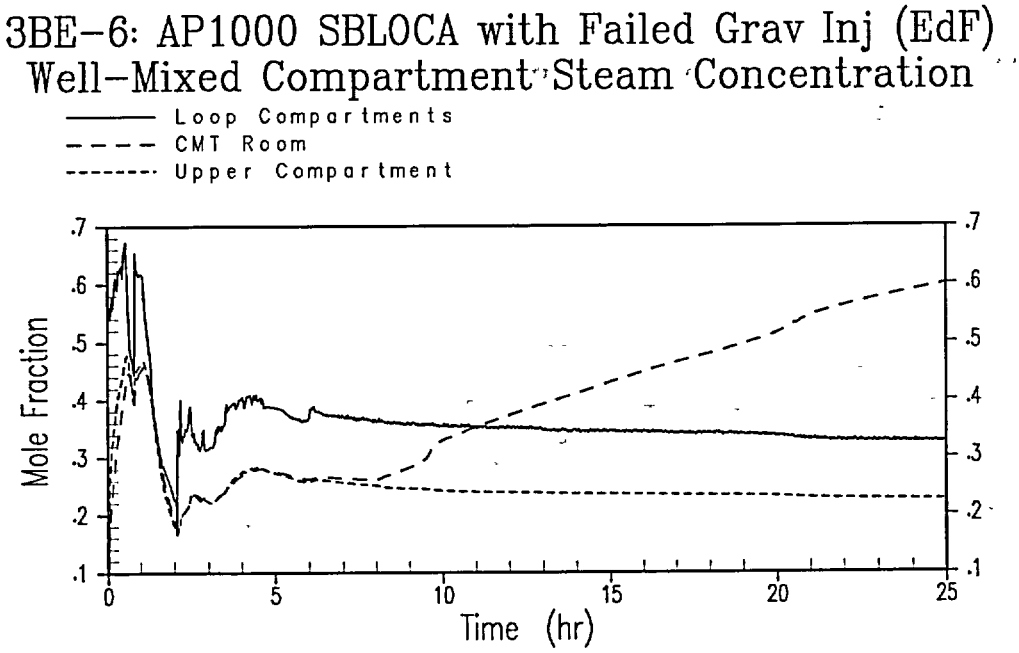
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Containment Gas Temperature



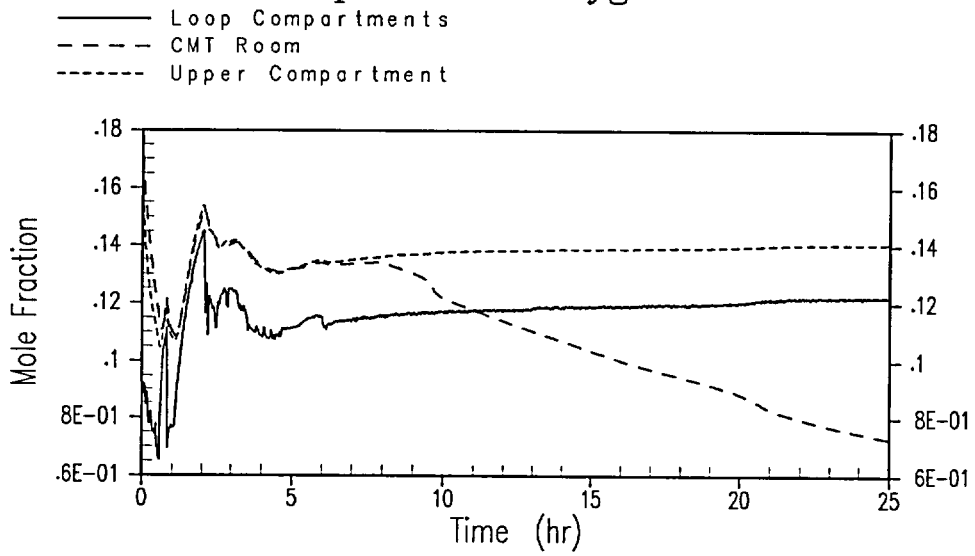

3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
Valve Vault (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
Length (ft)
Time (hr)
45
40
35
30
25
20
140
120
100
80
0
5
10
15
20
25

3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Well-Mixed Compartment Hydrogen Concentration

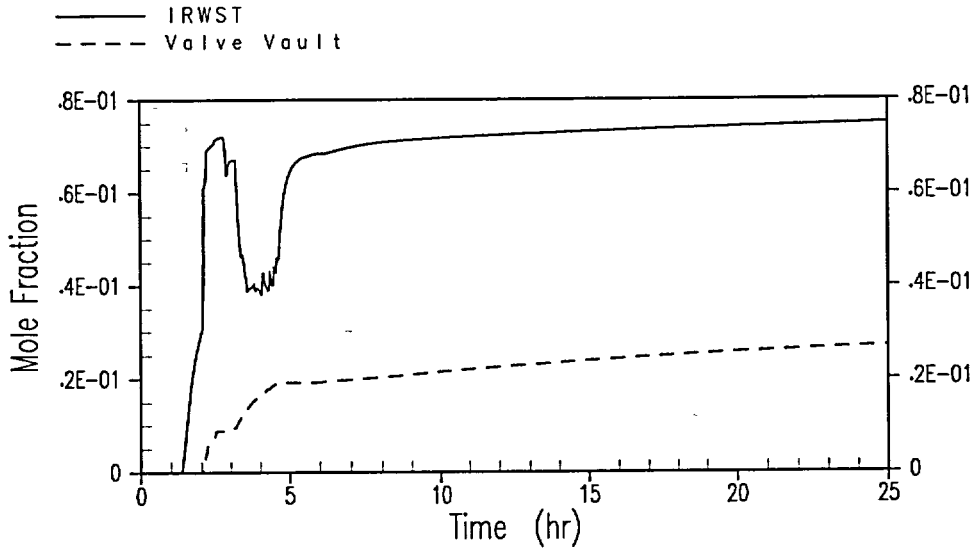


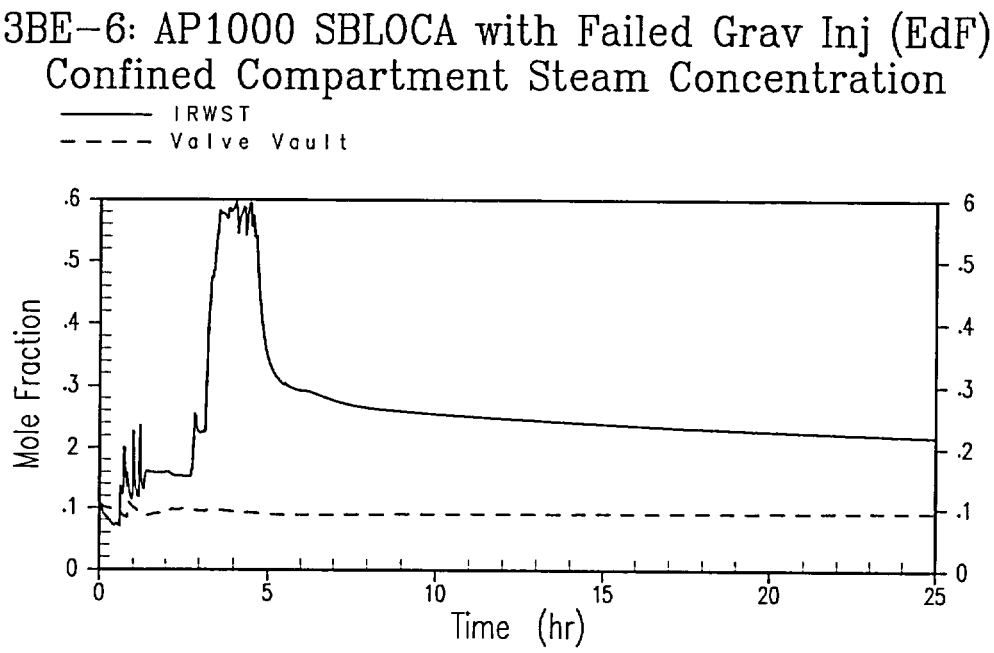

3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Well-Mixed Compartment Steam Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.7
.6
.5
.4
.3
.2
.1
0
5
10
15
20
25
Time (hr)

3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Well-Mixed Compartment Oxygen Concentration

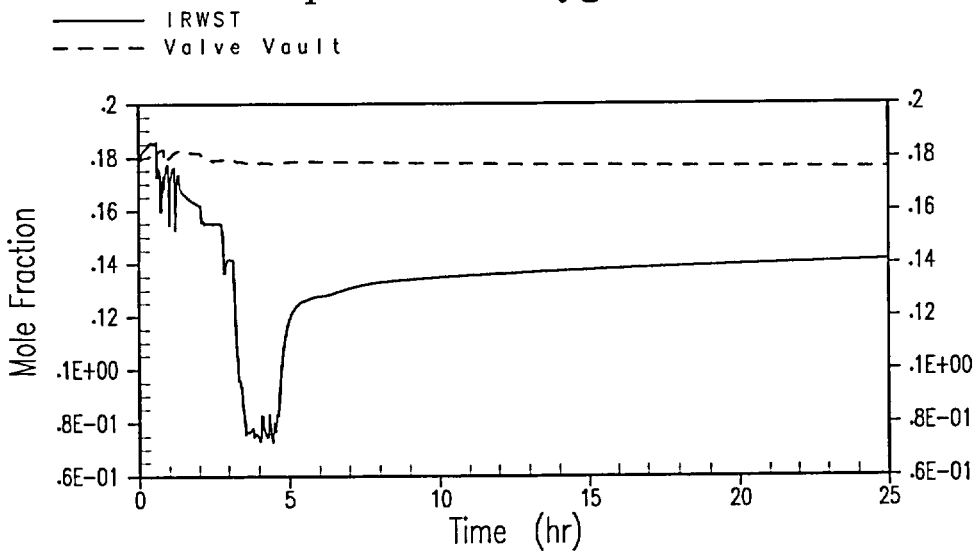


3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Confined Compartment Hydrogen Concentration

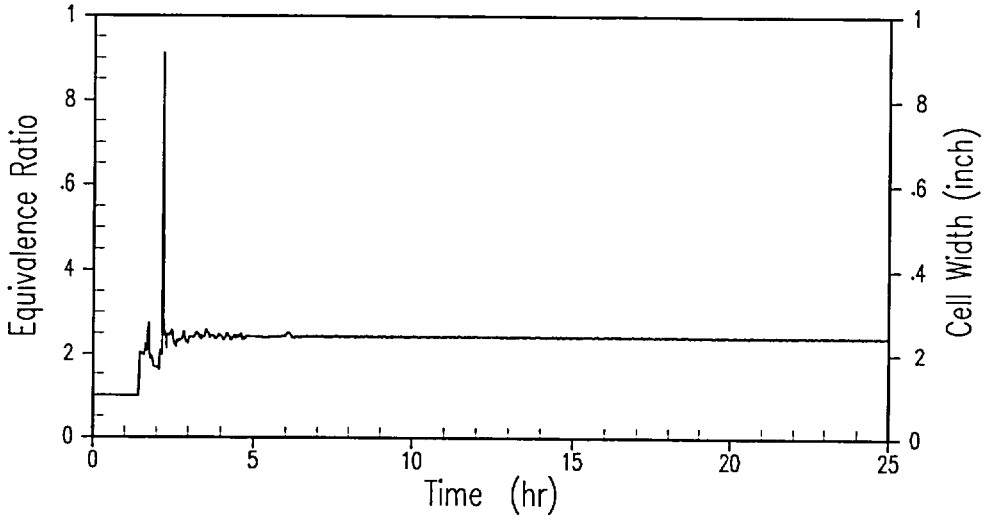



3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Confined Compartment Steam Concentration
IRWST
Valve Vault
Mole Fraction
.6
.5
.4
.3
2
.1
0
6
.5
.4
.3
.2
.1
0
0
5
10
15
20
25
Time (hr)

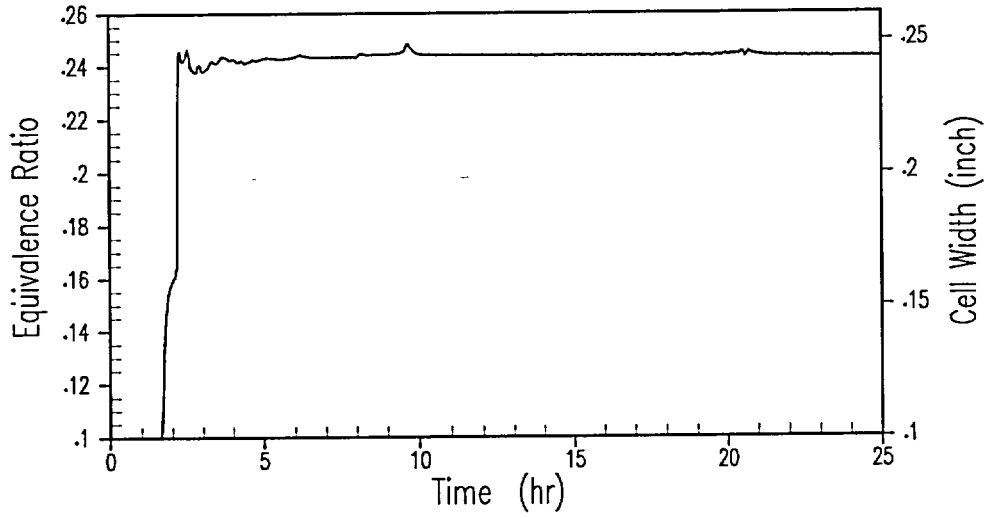
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Confined Compartment Oxygen Concentration



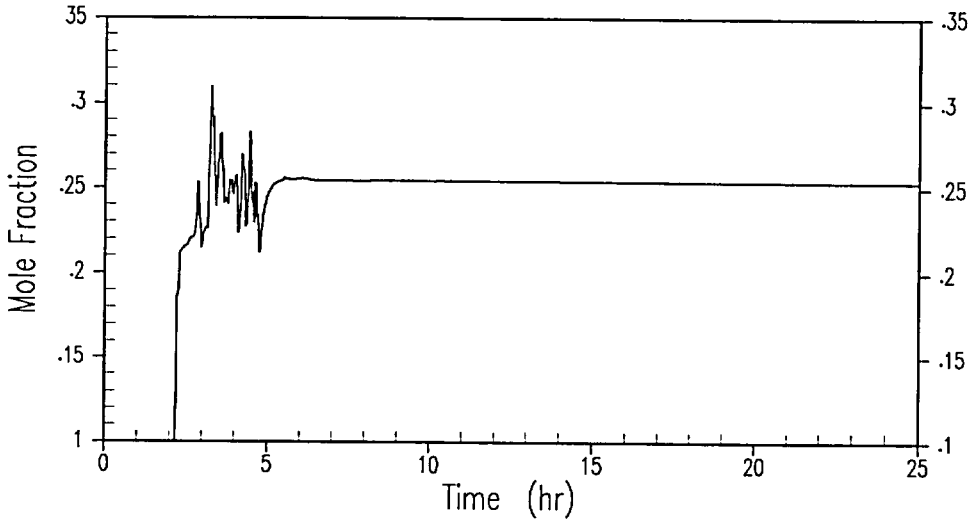
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Equivalence Ratio in SG Room



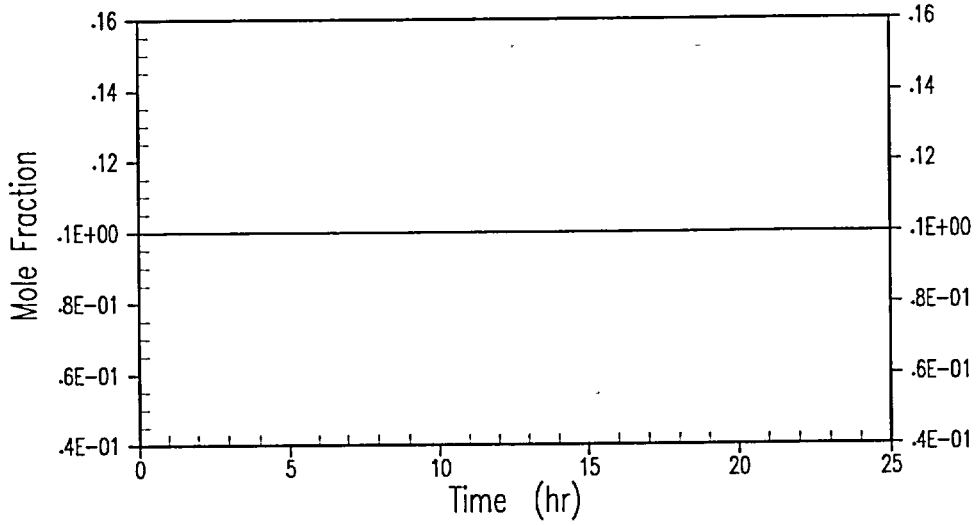
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Equivalence Ratio in CMT Room



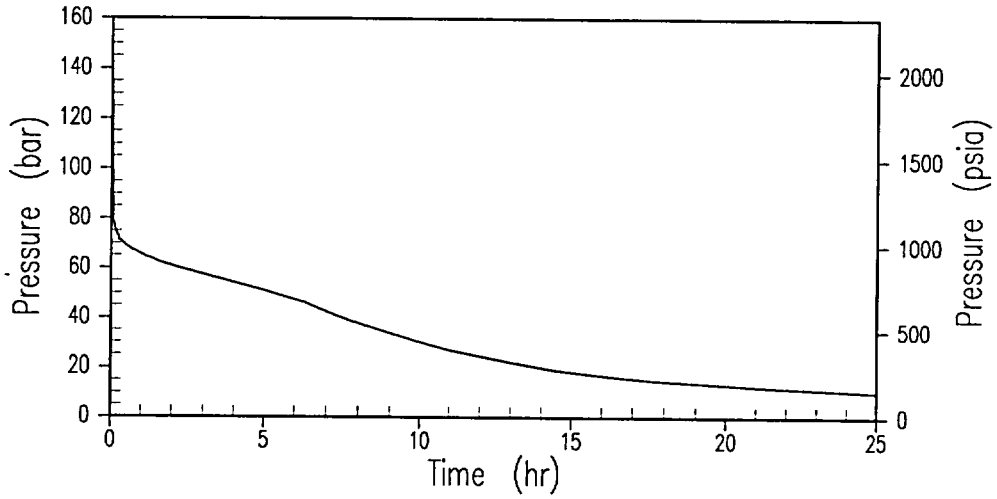
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Equivalence Ratio in IRWST

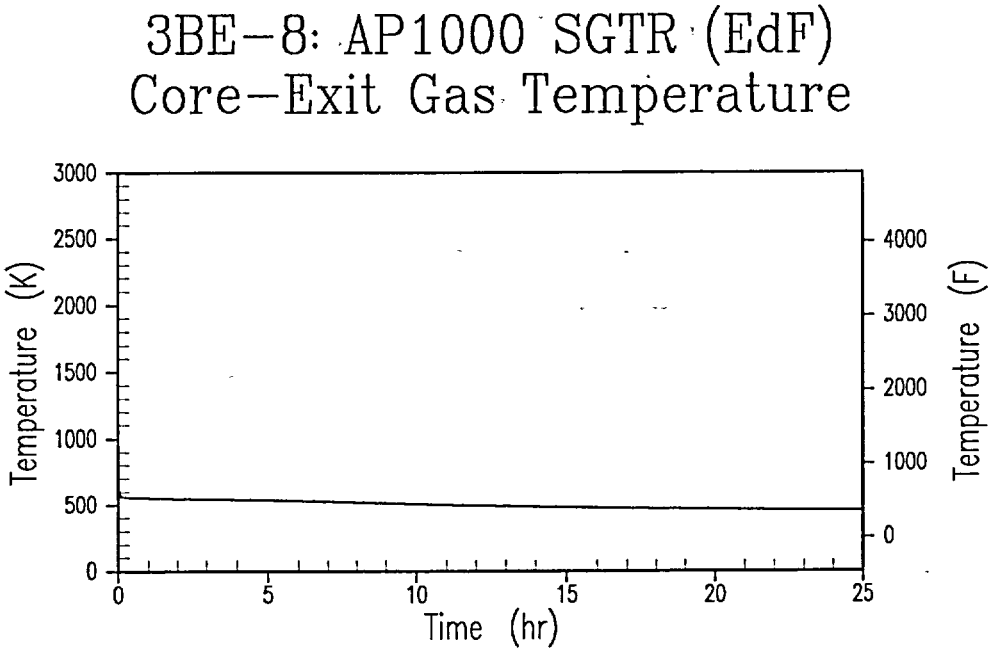


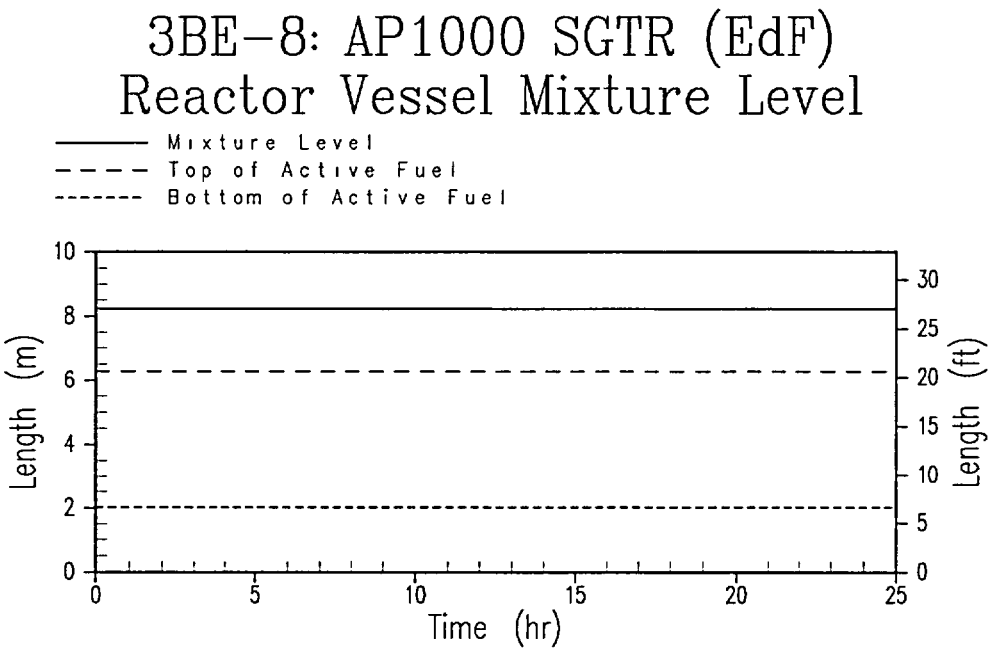
3BE-6: AP1000 SBLOCA with Failed Grav Inj (EdF)
Equivalence Ratio in PXS

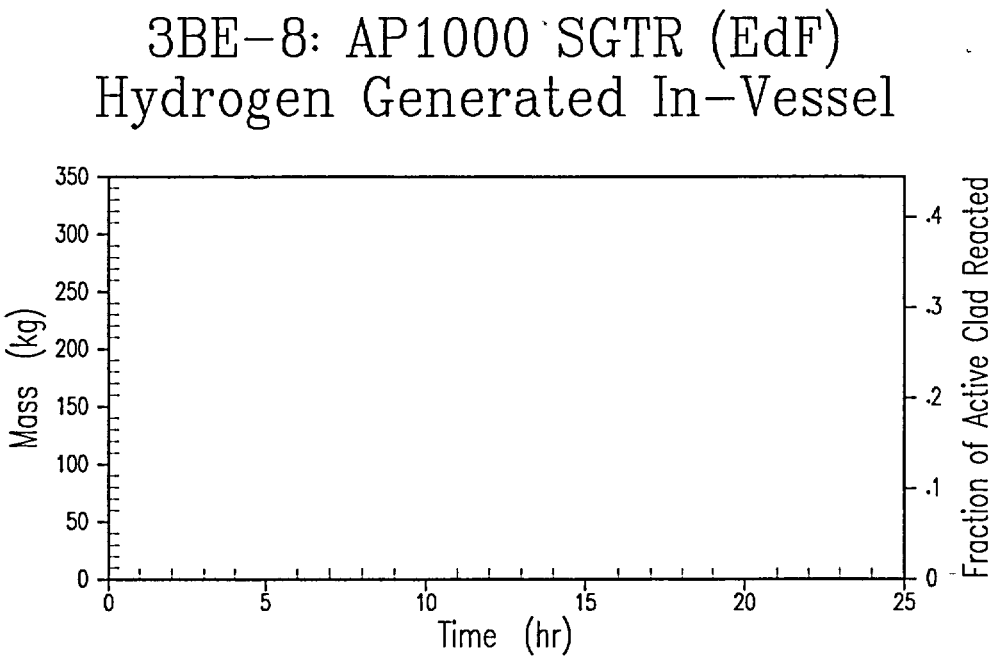


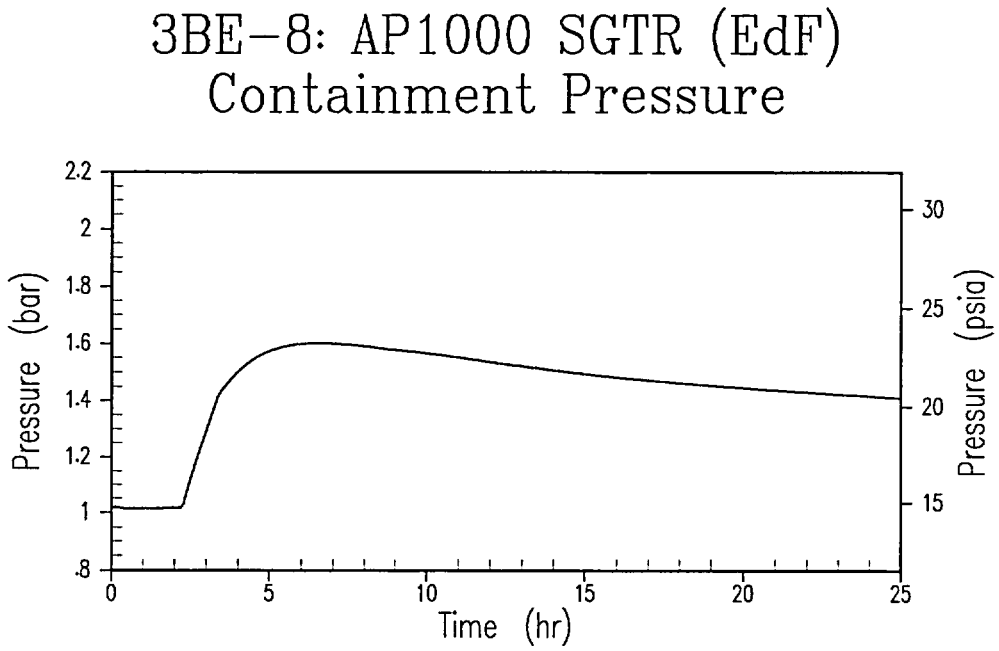
3BE-8: AP1000 SGTR (EdF)
Reactor Coolant System Pressure

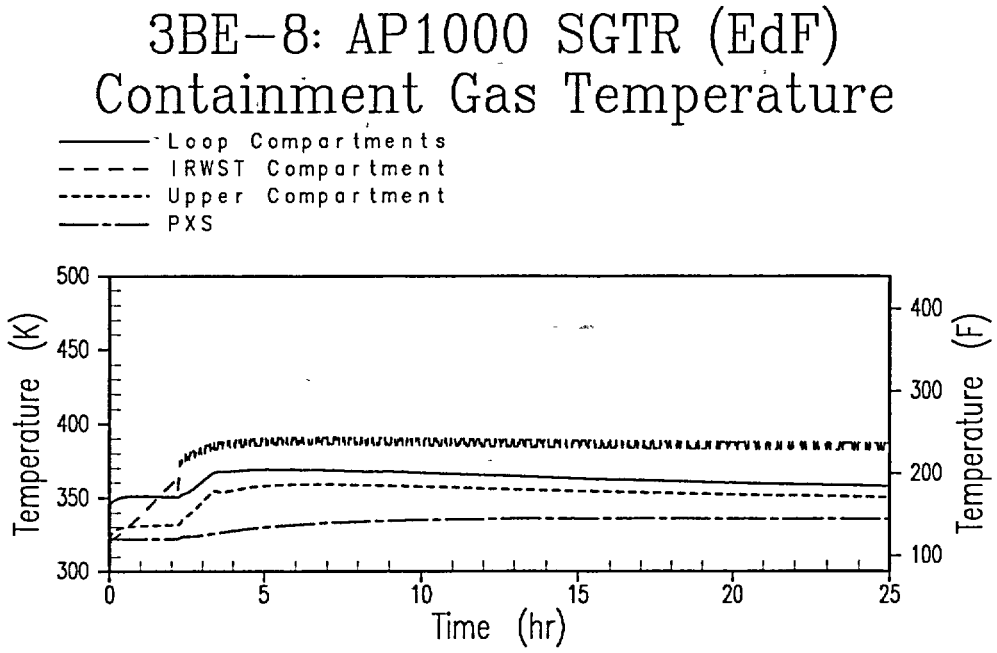


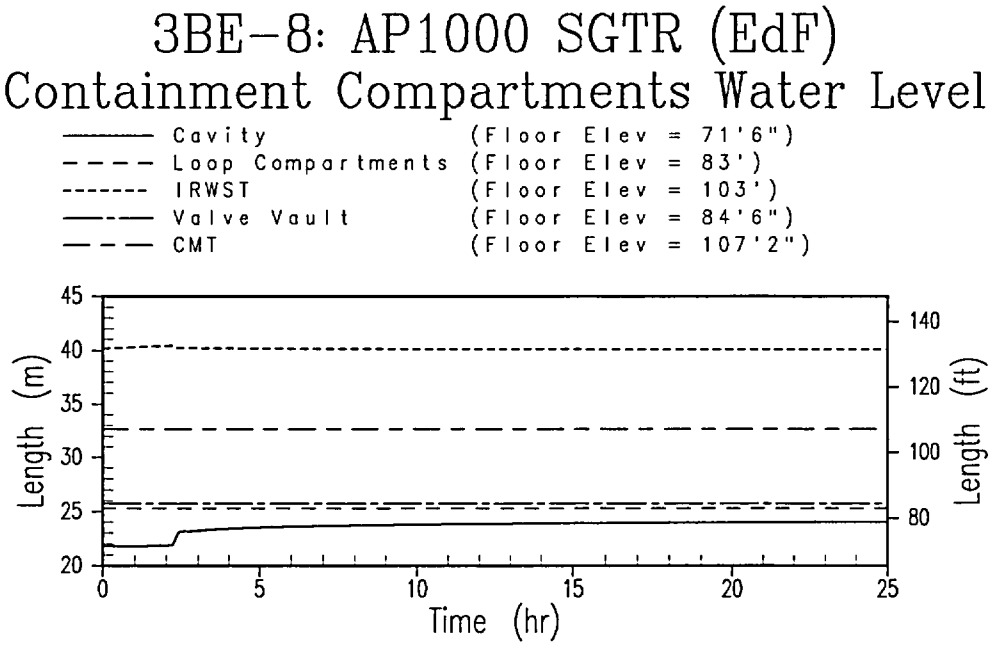

3BE-8: AP1000 SGTR (EdF)
Core-Exit Gas Temperature
Temperature (K)
3000
2500
2000
1500
1000
500
0
Temperature (F)
4000
3000
2000
1000
0
0
5
10
15
20
25
Time (hr)

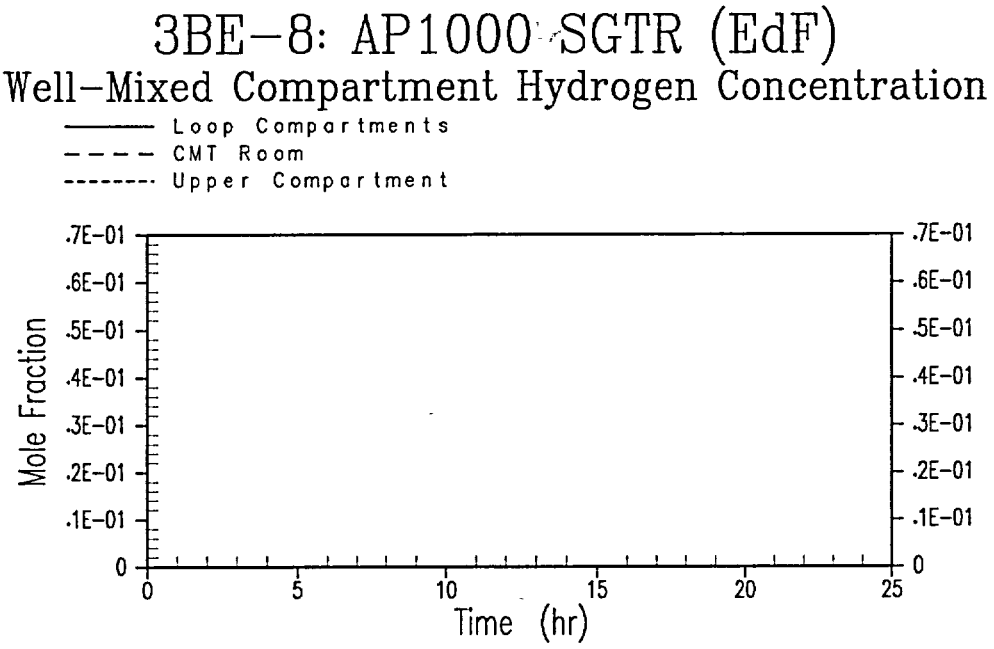

3BE-8: AP1000 SGTR (EdF)
Reactor Vessel Mixture Level
Mixture Level
Top of Active Fuel
Bottom of Active Fuel
Length (m)
Length (ft)
Time (hr)
0
2
4
6
8
10
0
5
10
15
20
25
30
0
5
10
15
20
25

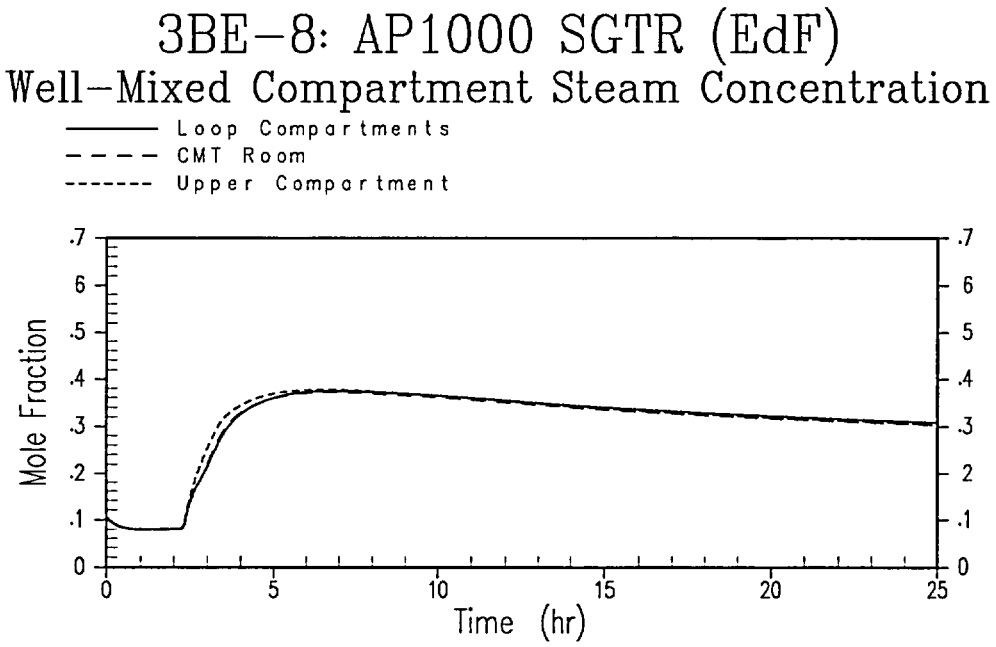

3BE-8: AP1000 SGTR (EdF)
Hydrogen Generated In-Vessel
Mass (kg)
350
300
250
200
150
100
50
0
Fraction of Active Clad Reacted
.4
.3
.2
.1
0
0
5
10
15
20
25
Time (hr)

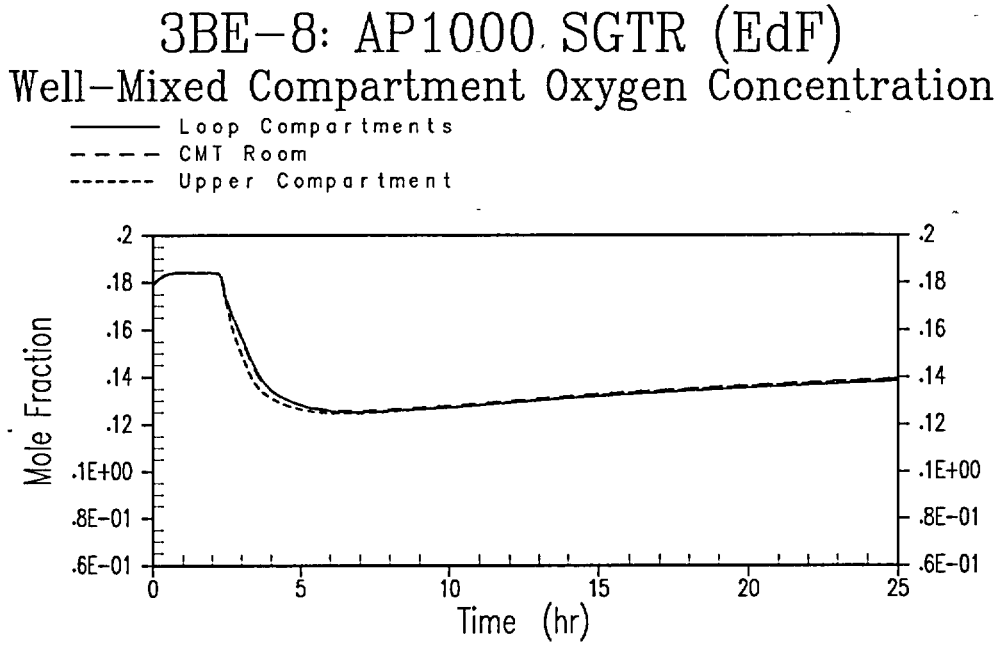

3BE-8: AP1000 SGTR (EdF)
Containment Pressure
Pressure (bar)
2.2
2
1.8
1.6
1.4
1.2
1
.8
Pressure (psia)
30
25
20
15
0
5
10
15
20
25
Time (hr)

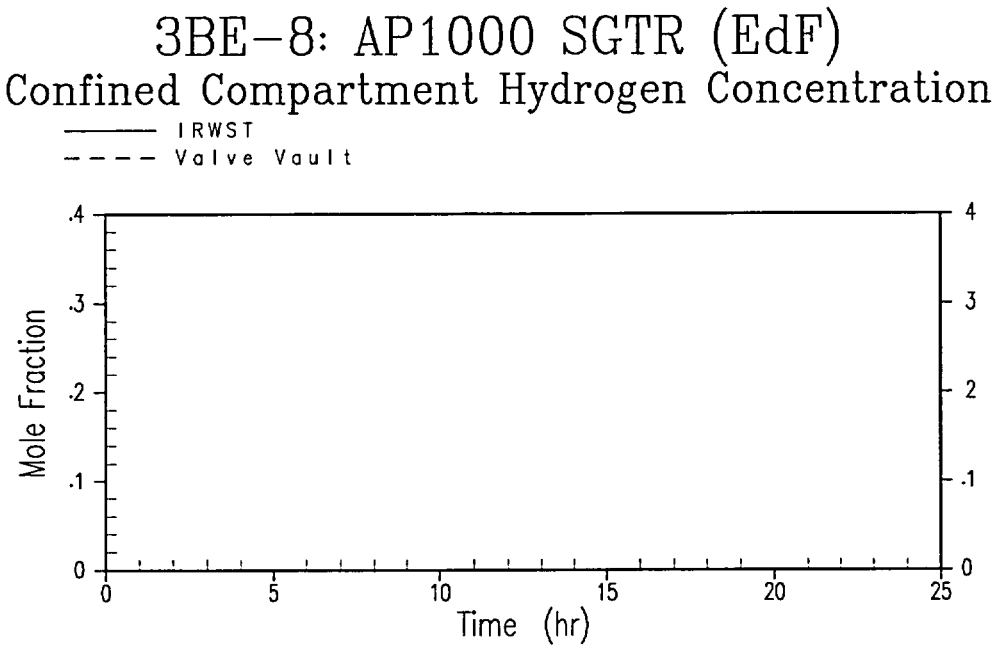

3BE-8: AP1000 SGTR (EdF)
Containment Gas Temperature
Loop Compartments
IRWST Compartment
Upper Compartment
PXS
Temperature (K)
500
450
400
350
300
Temperature (F)
400
300
200
100
0
5
10
15
20
25
Time (hr)

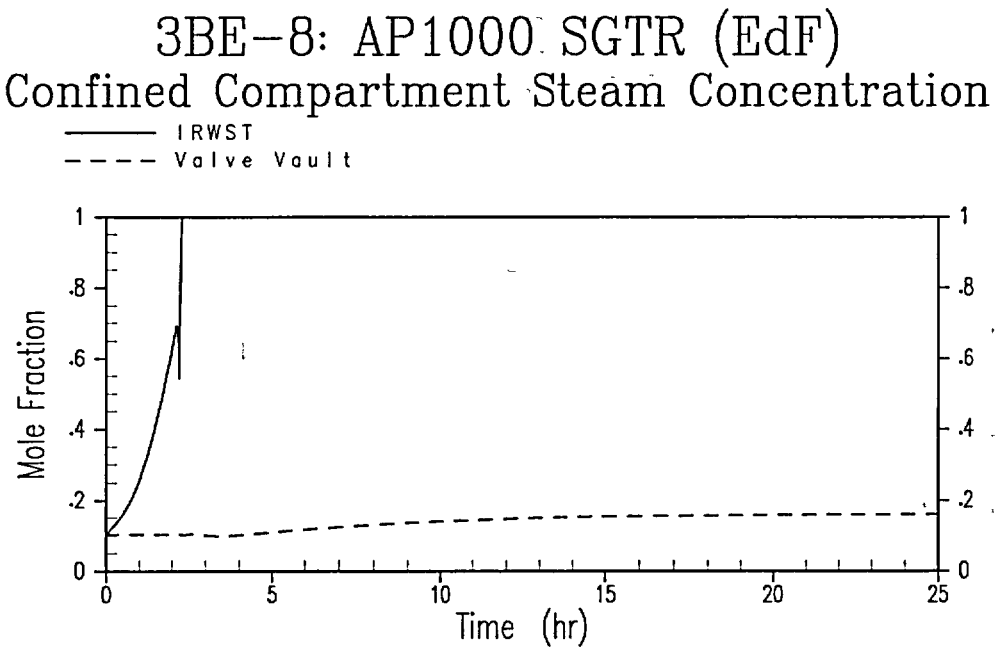

3BE-8: AP1000 SGTR (EdF)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
Valve Vault (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
45
40
35
30
25
20
Length (ft)
140
120
100
80
0
5
10
15
20
25
Time (hr)

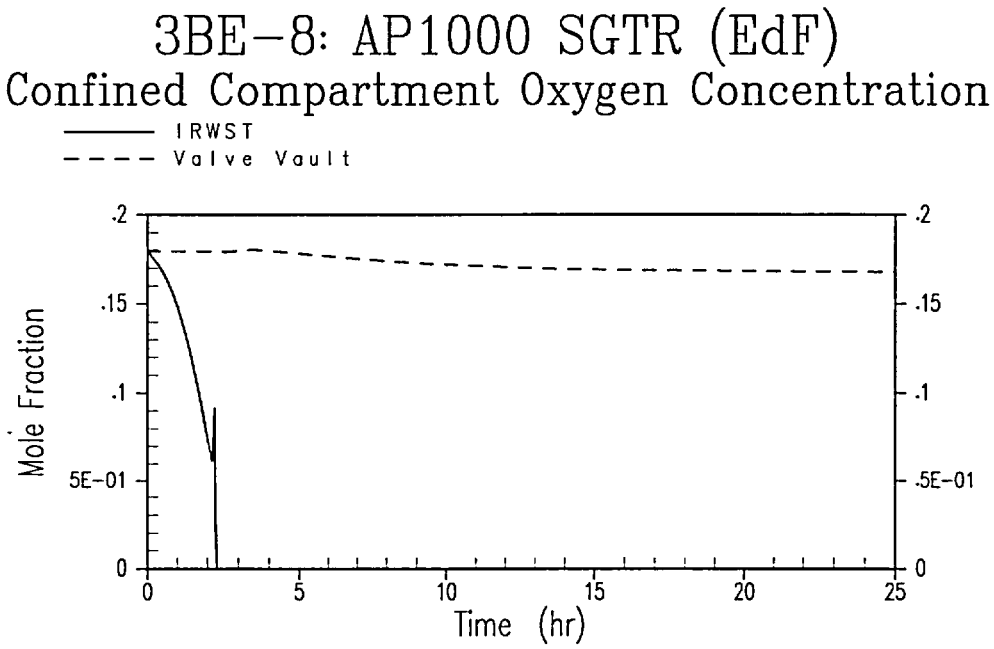

3BE-8: AP1000 SGTR (EdF)
Well-Mixed Compartment Hydrogen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.7E-01
.6E-01
.5E-01
.4E-01
.3E-01
.2E-01
.1E-01
0
0
5
10
15
20
25
Time (hr)

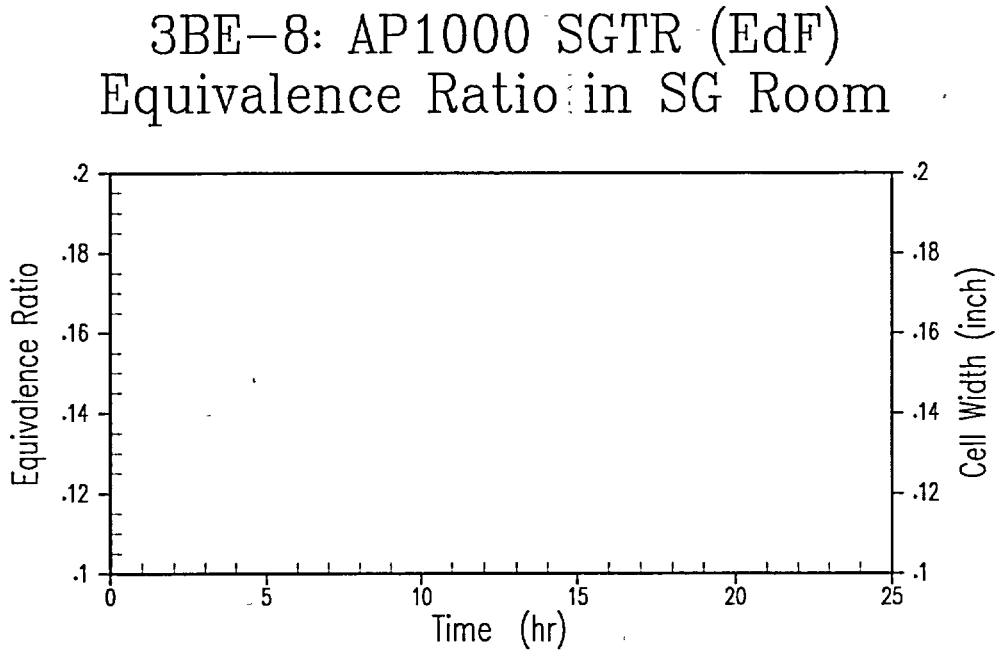

3BE-8: AP1000 SGTR (EdF)
Well-Mixed Compartment Steam Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.7
6
.5
.4
.3
.2
.1
0
5
2
Time (hr)
0
5
10
15
20
25


3BE-8: AP1000 SGTR (EdF)
Well-Mixed Compartment Oxygen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.2
.18
.16
.14
.12
.1E+00
.8E-01
.6E-01
0
5
10
15
20
25
Time (hr)

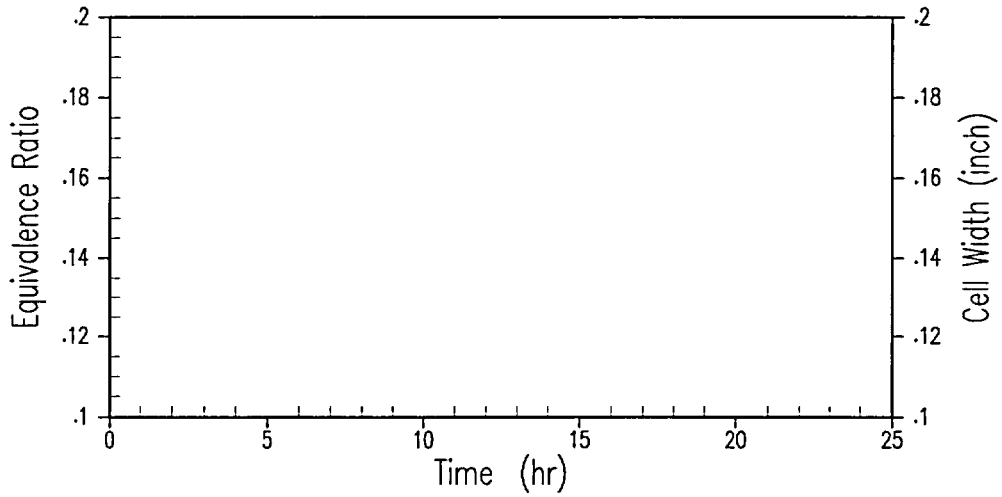

3BE-8: AP1000 SGTR (EdF)
Confined Compartment Hydrogen Concentration
IRWST
Valve Vault
Mole Fraction
.4
.3
.2
.1
0
4
3
2
.1
0
0
5
10
15
20
25
Time (hr)

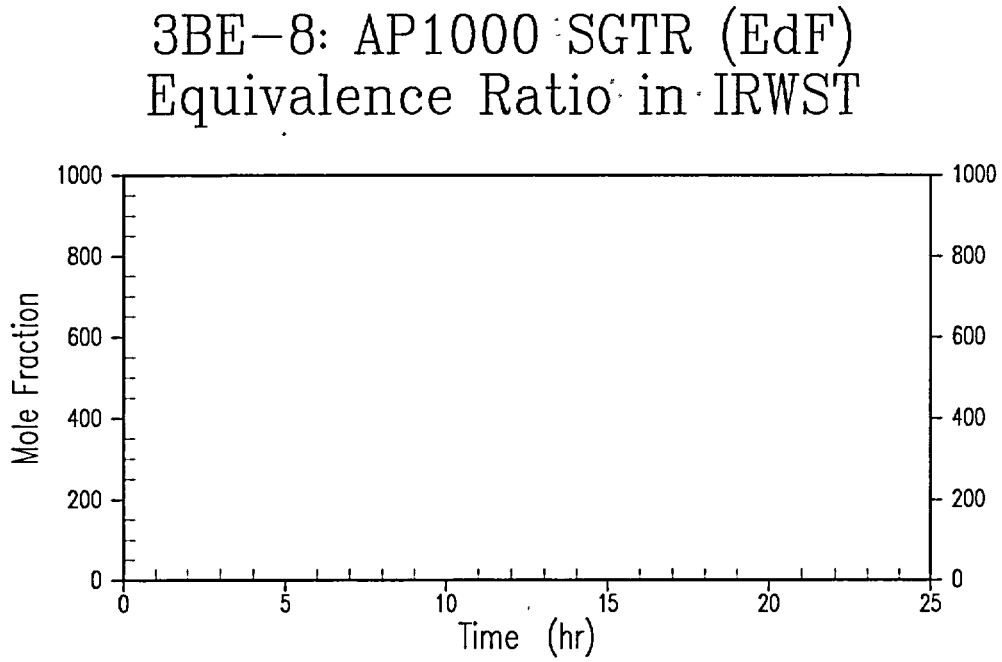

3BE-8: AP1000 SGTR (EdF)
Confined Compartment Steam Concentration
IRWST
Valve Vault
Mole Fraction
Time (hr)
0
.2
.4
.6
.8
1
0
5
10
15
20
25


3BE-8: AP1000 SGTR (EdF)
Confined Compartment Oxygen Concentration
IRWST
Valve Vault
Mole Fraction
.2
.15
.1
5E-01
0
.5E-01
0
5
10
15
20
25
Time (hr)

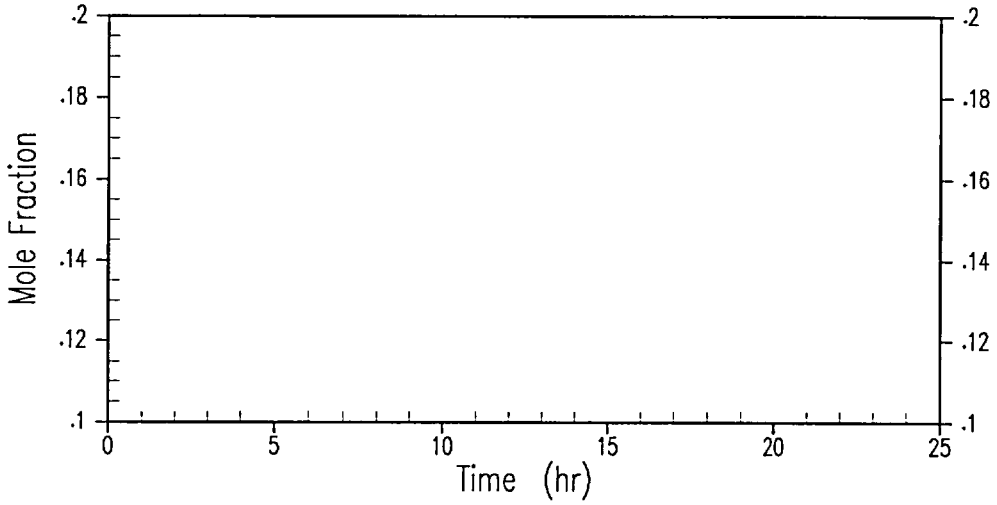

3BE-8: AP1000 SGTR (EdF)
Equivalence Ratio in SG Room
Equivalence Ratio
Cell Width (inch)
Time (hr)
.2
.18
.16
.14
.12
.1
0
5
10
15
20
25

3BE-8: AP1000 SGTR (EdF) Equivalence Ratio in CMT Room

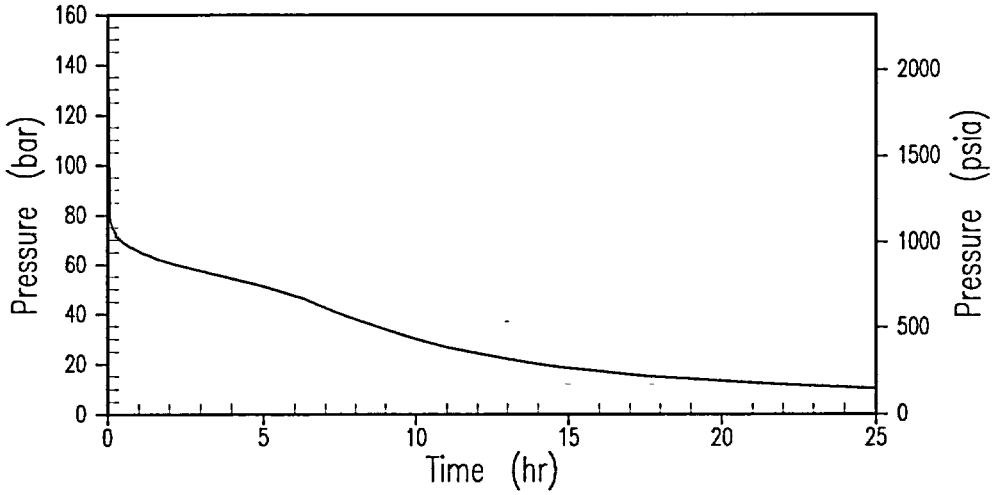


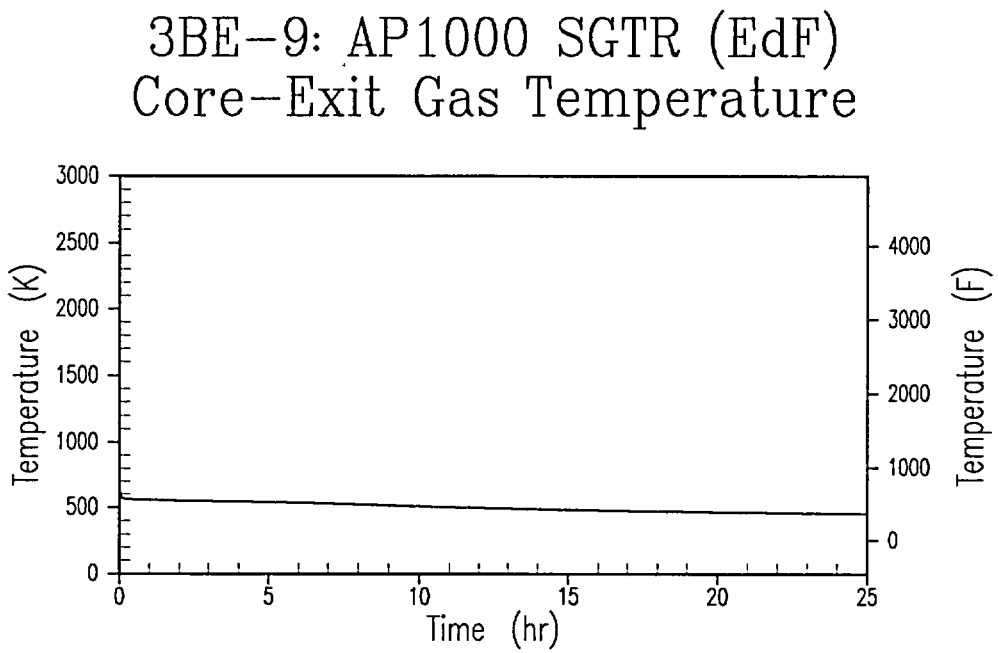

3BE-8: AP1000 SGTR (EdF)
Equivalence Ratio in IRWST
Mole Fraction
1000
800
600
400
200
0
0
5
10
15
20
25
Time (hr)

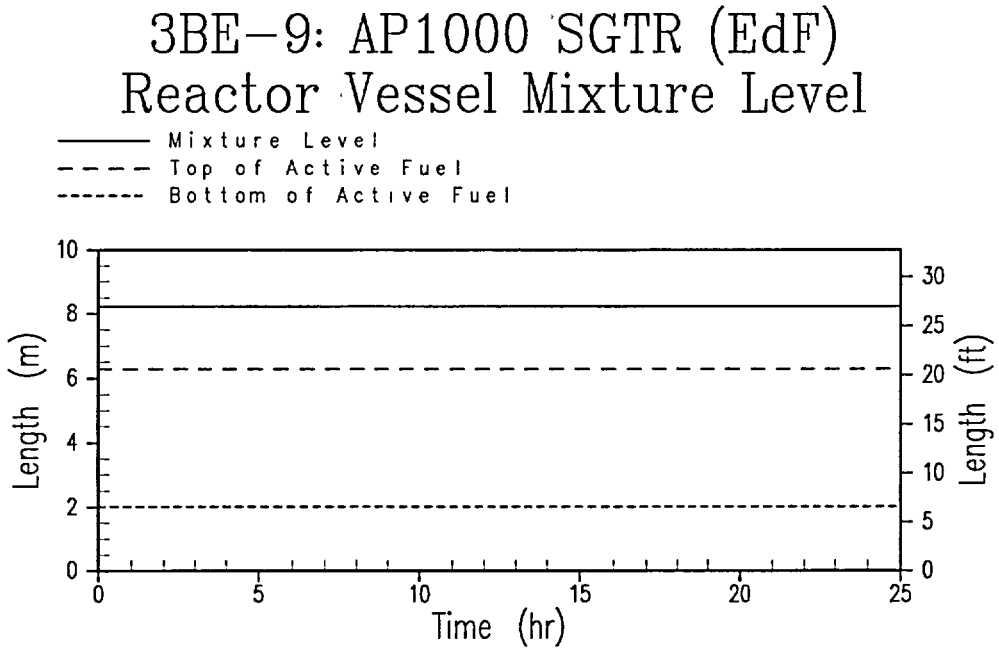
3BE-8: AP1000 SGTR (EdF) Equivalence Ratio in PXS



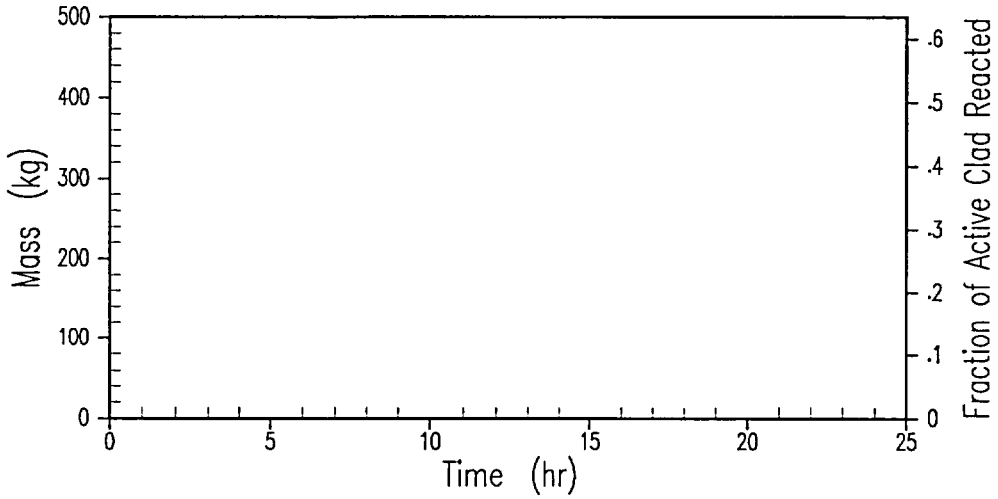
3BE-9: AP1000 SGTR (EdF) Reactor Coolant System Pressure

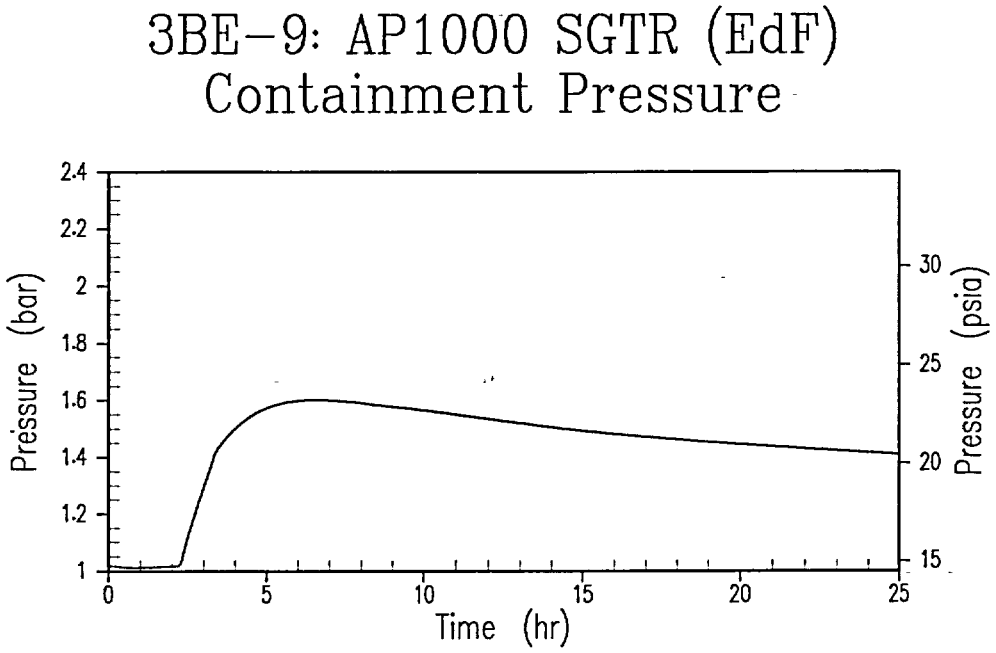


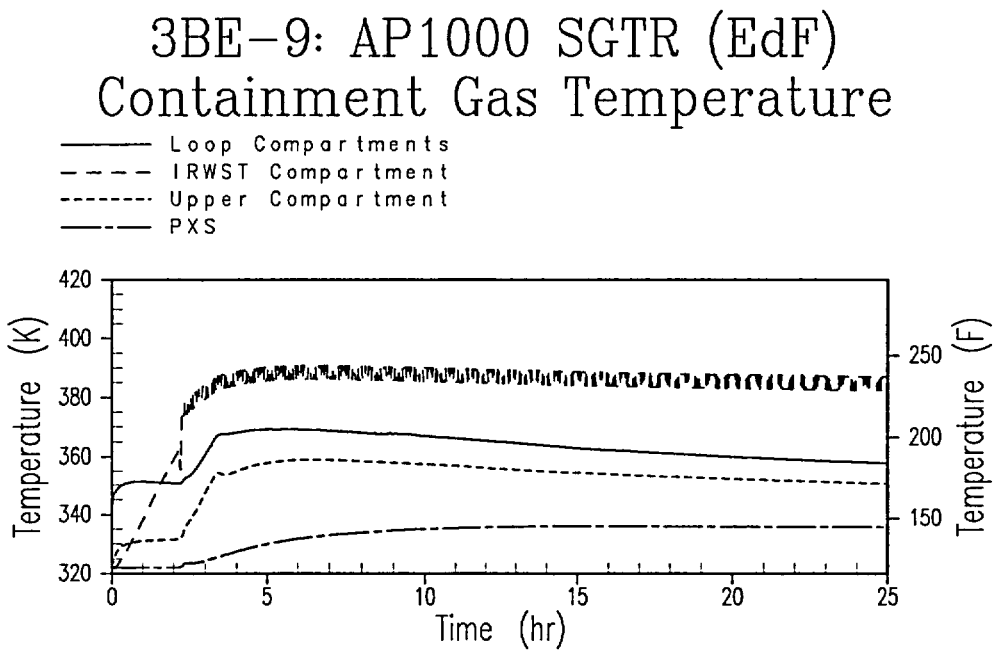

3BE-9: AP1000 SGTR (EdF)
Core-Exit Gas Temperature
Temperature (K)
3000
2500
2000
1500
1000
500
0
Temperature (F)
4000
3000
2000
1000
0
0
5
10
15
20
25
Time (hr)

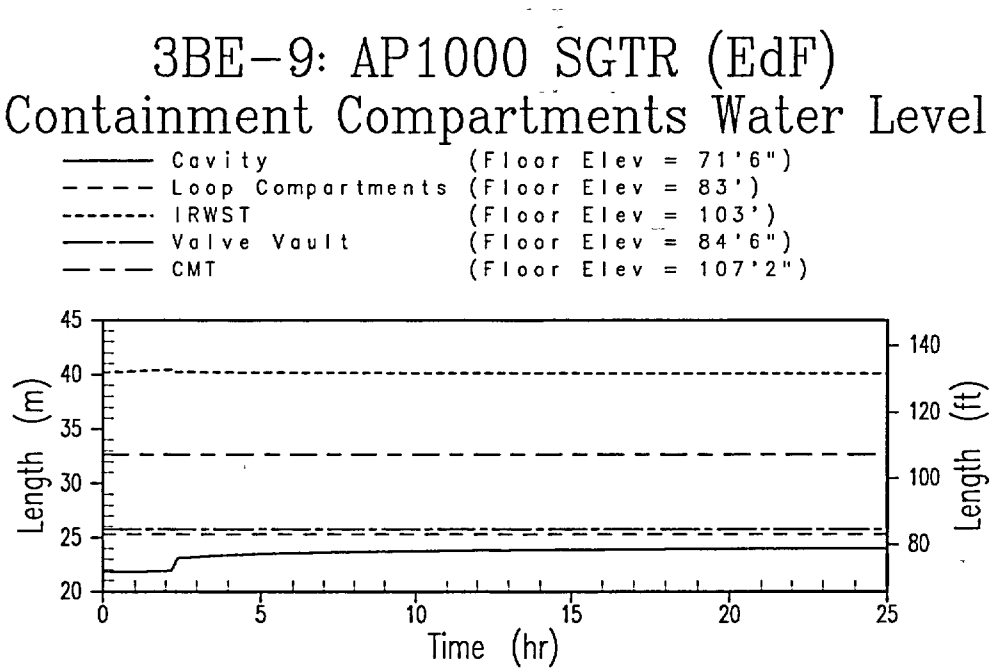

3BE-9: AP1000 SGTR (EdF)
Reactor Vessel Mixture Level
Mixture Level
Top of Active Fuel
Bottom of Active Fuel
Length (m)
Length (ft)
Time (hr)
0
2
4
6
8
10
0
5
10
15
20
25
30

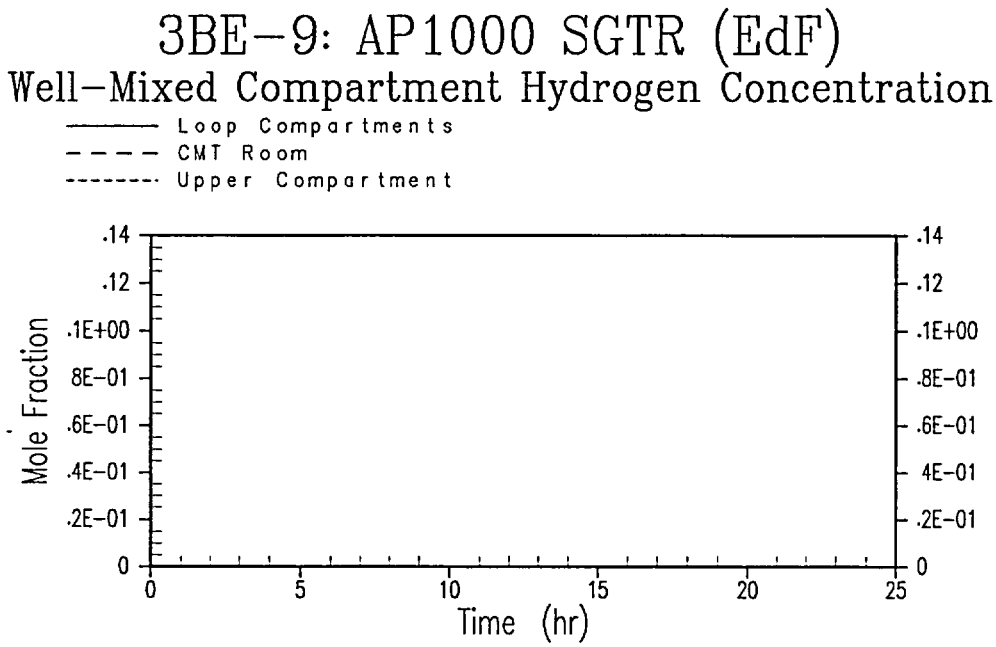
3BE-9: AP1000 SGTR (EdF) Hydrogen Generated In-Vessel

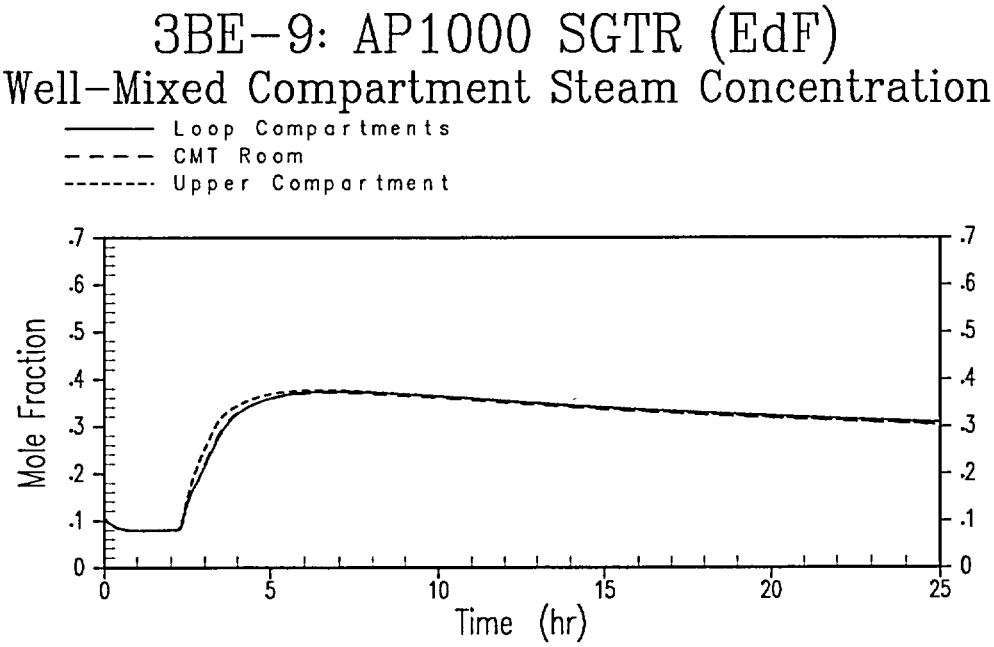


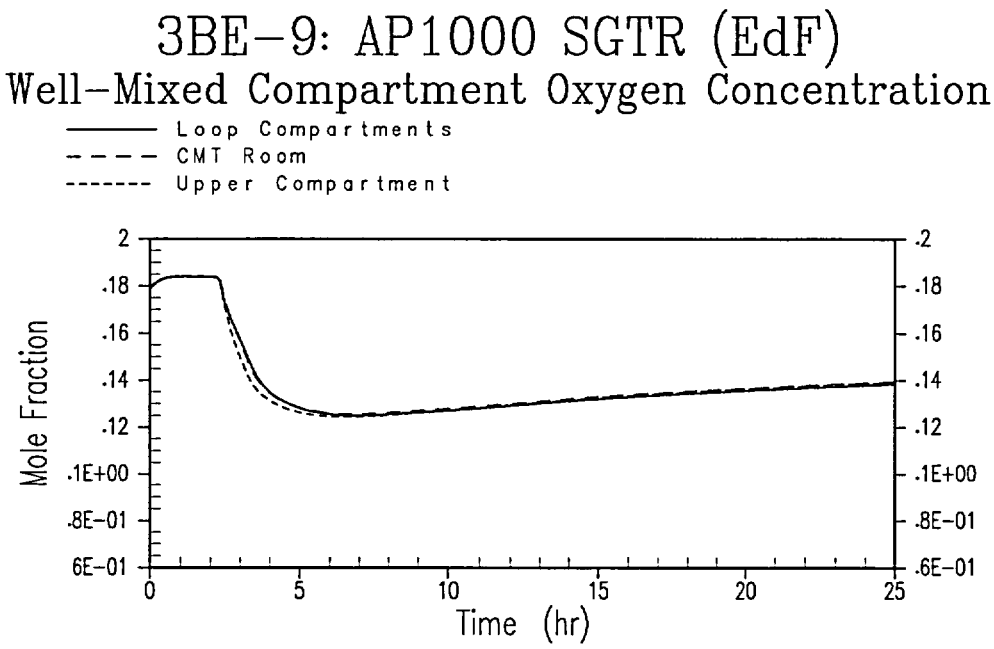

3BE-9: AP1000 SGTR (EdF)
Containment Pressure
Pressure (bar)
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Pressure (psia)
30
25
20
15
0
5
10
15
20
25
Time (hr)

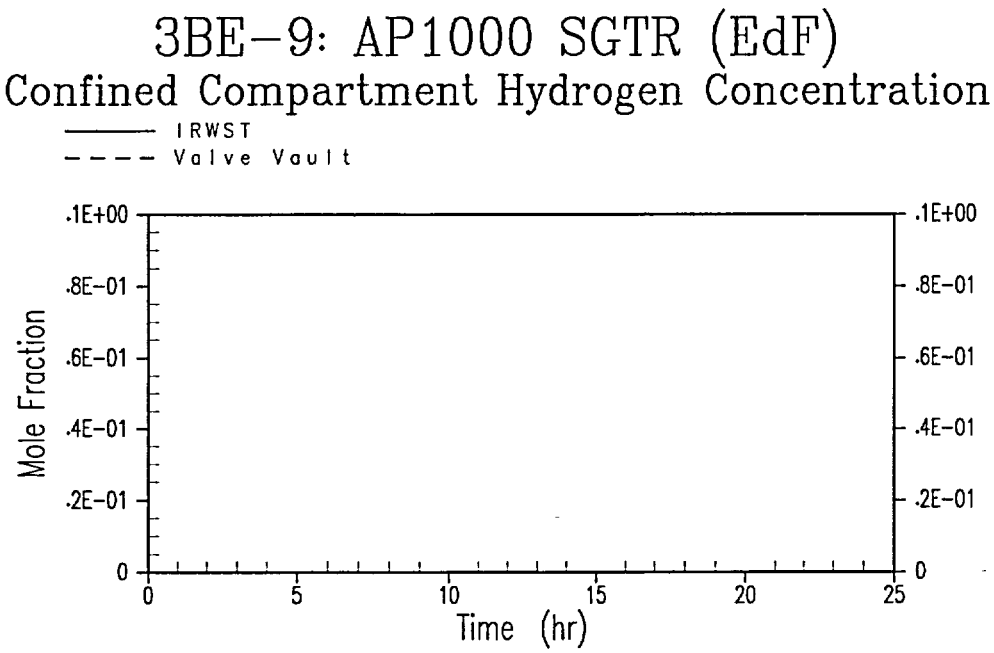

3BE-9: AP1000 SGTR (EdF)
Containment Gas Temperature
Loop Compartments
IRWST Compartment
Upper Compartment
PXS
Temperature (K)
420
400
380
360
340
320
Temperature (F)
250
200
150
0
5
10
15
20
25
Time (hr)

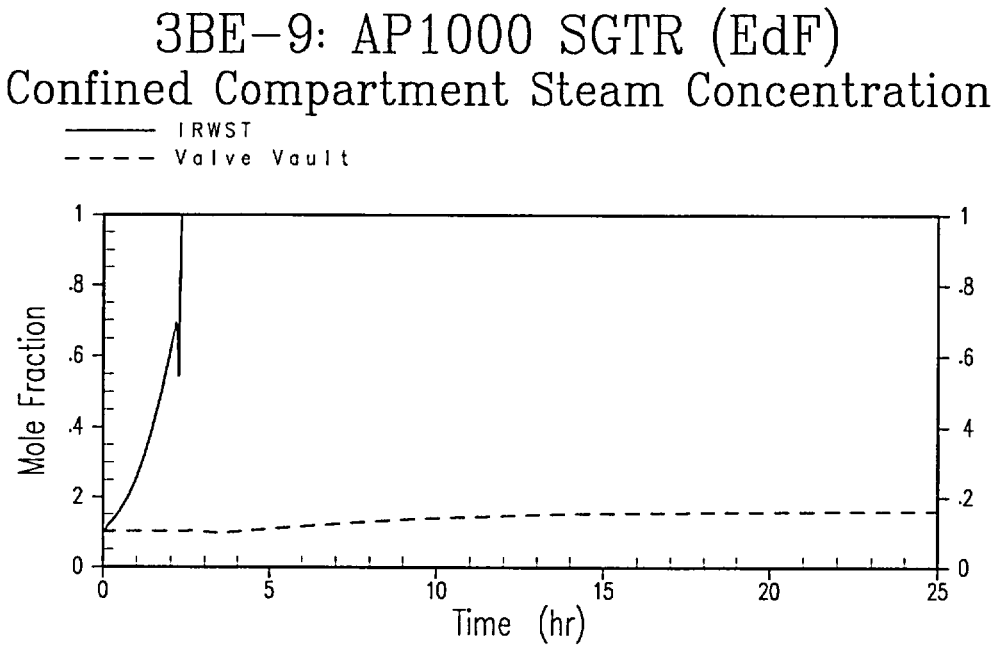

3BE-9: AP1000 SGTR (EdF)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
Valve Vault (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
Length (ft)
Time (hr)
45
40
35
30
25
20
140
120
100
80
0
5
10
15
20
25

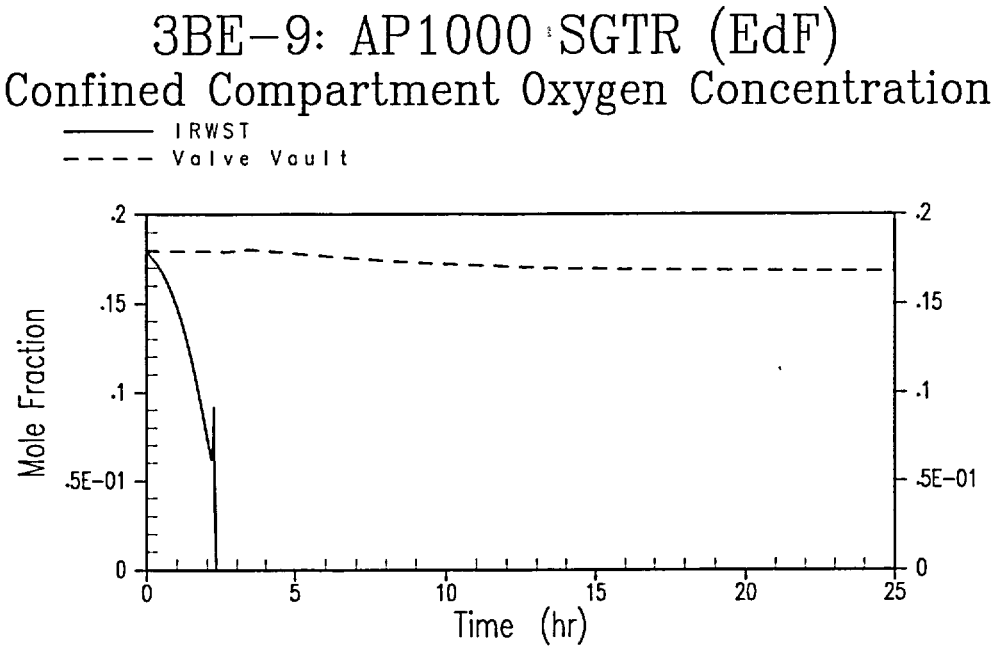

3BE-9: AP1000 SGTR (EdF)
Well-Mixed Compartment Hydrogen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.14
.12
.1E+00
8E-01
.6E-01
.4E-01
.2E-01
0
0
5
10
15
20
25
Time (hr)


3BE-9: AP1000 SGTR (EdF)
Well-Mixed Compartment Steam Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.7
.6
.5
.4
.3
.2
.1
0
0
5
10
15
20
25
Time (hr)

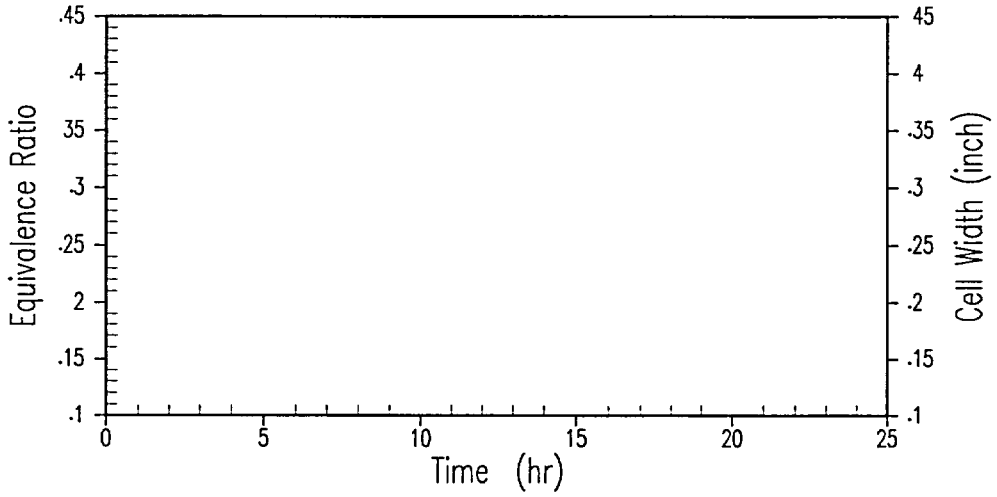

3BE-9: AP1000 SGTR (EdF)
Well-Mixed Compartment Oxygen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
2
.18
.16
.14
.12
.1E+00
.8E-01
6E-01
0
5
10
15
20
25
Time (hr)


3BE-9: AP1000 SGTR (EdF)
Confined Compartment Hydrogen Concentration
IRWST
Valve Vault
Mole Fraction
.1E+00
.8E-01
.6E-01
.4E-01
.2E-01
0
0
5
10
15
20
25
Time (hr)

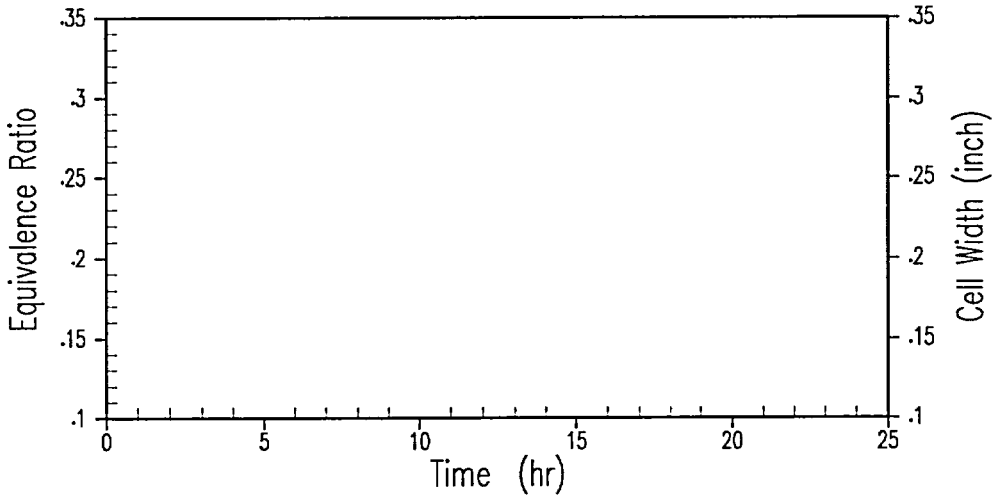

3BE-9: AP1000 SGTR (EdF)
Confined Compartment Steam Concentration
IRWST
Valve Vault
Mole Fraction
Time (hr)
0
5
10
15
20
25
1
.8
.6
.4
2
0
1
.8
.6
4
.2
0


3BE-9: AP1000 SGTR (EdF)
Confined Compartment Oxygen Concentration
IRWST
Valve Vault
Mole Fraction
.2
.15
.1
.5E-01
0
0
5
10
15
20
25
Time (hr)

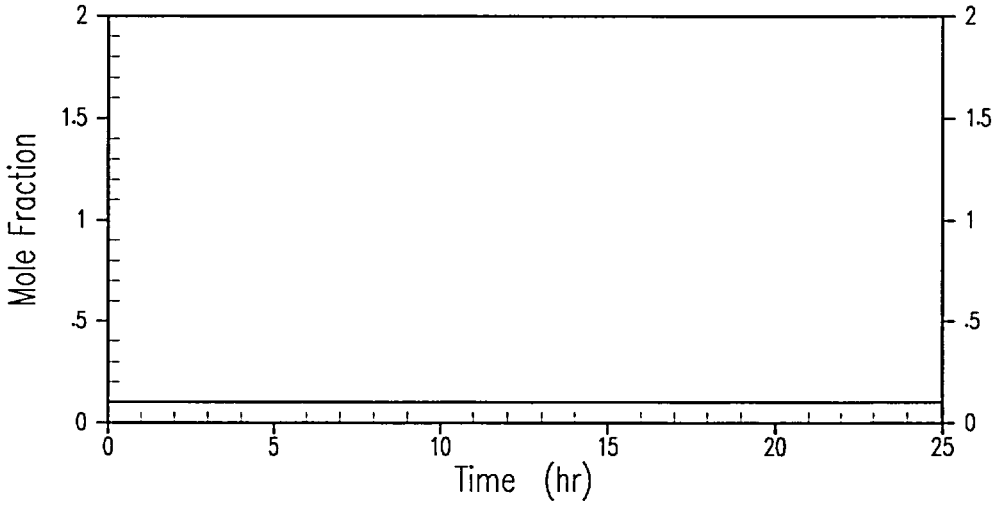
3BE-9: AP1000 SGTR (EdF) Equivalence Ratio in SG Room



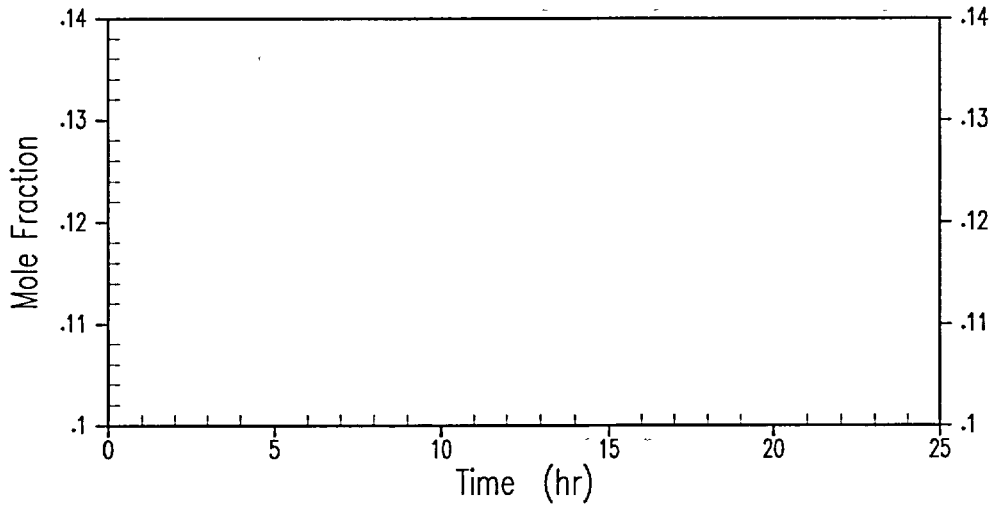
3BE-9: AP1000 SGTR (EdF) Equivalence Ratio in CMT Room



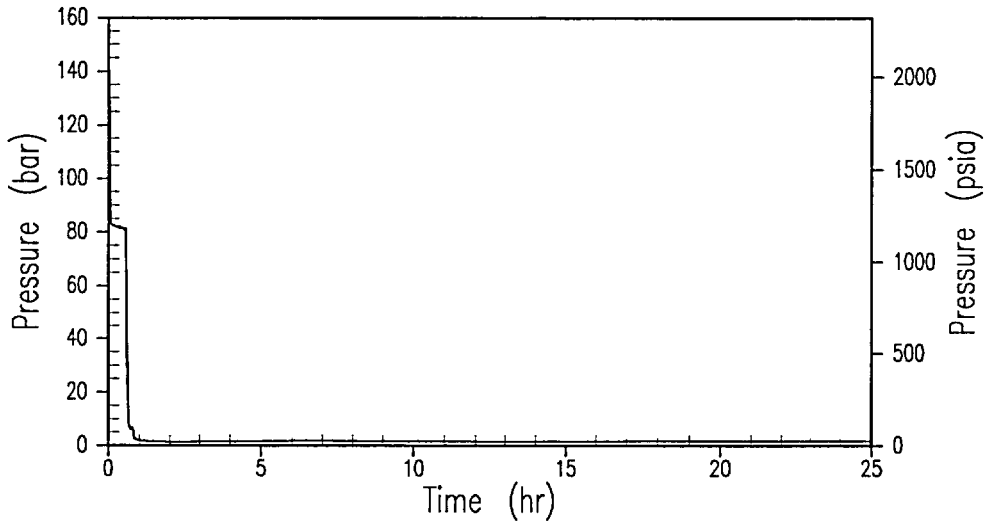
3BE-9: AP1000 SGTR (EdF) Equivalence Ratio in IRWST



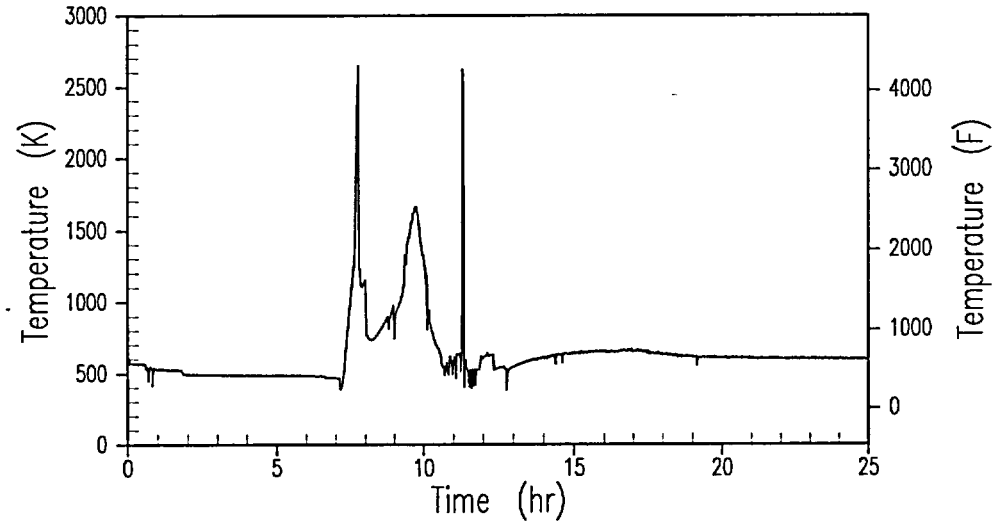
3BE-9: AP1000 SGTR (EdF) Equivalence Ratio in PXS



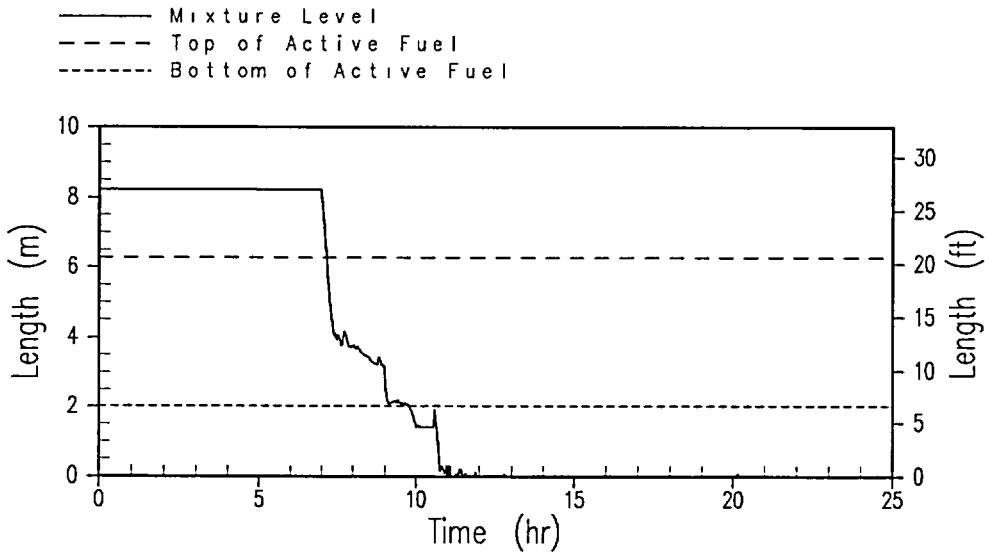
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Reactor Coolant System Pressure



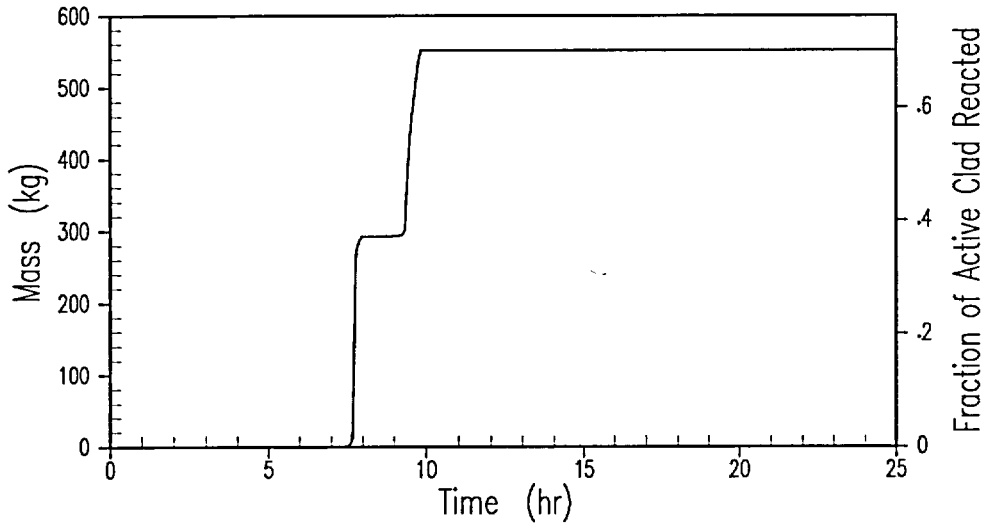
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Core-Exit Gas Temperature



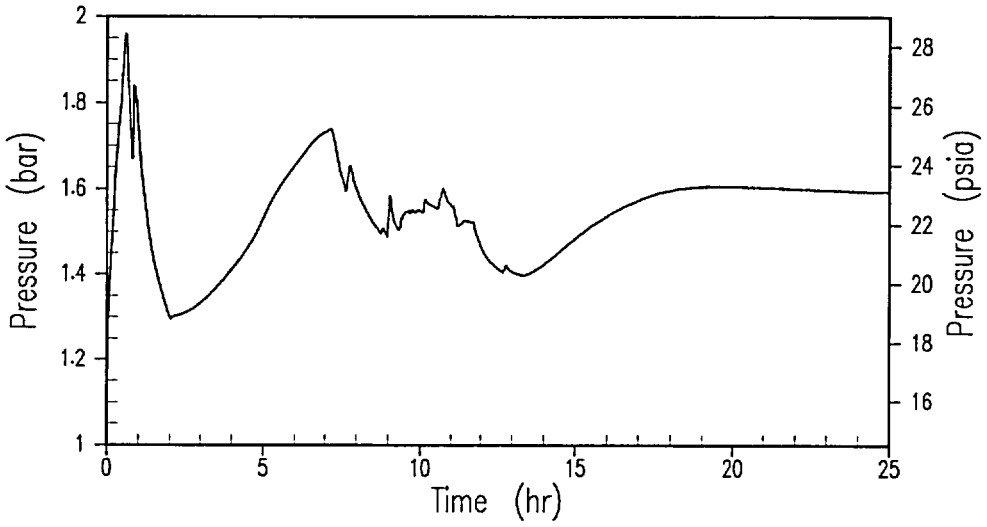
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Reactor Vessel Mixture Level

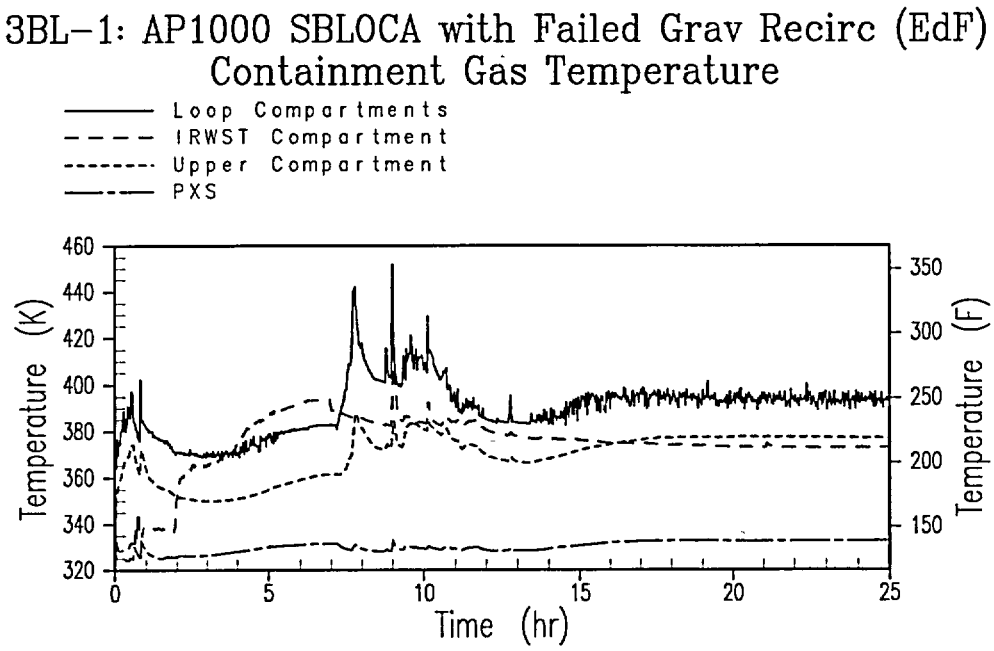


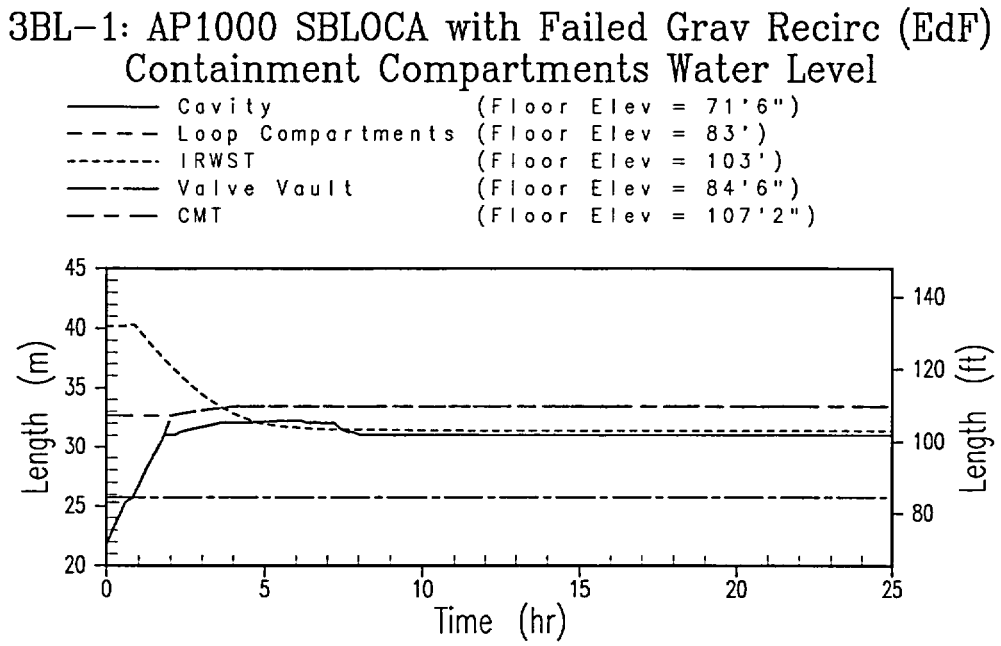
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Hydrogen Generated In-Vessel



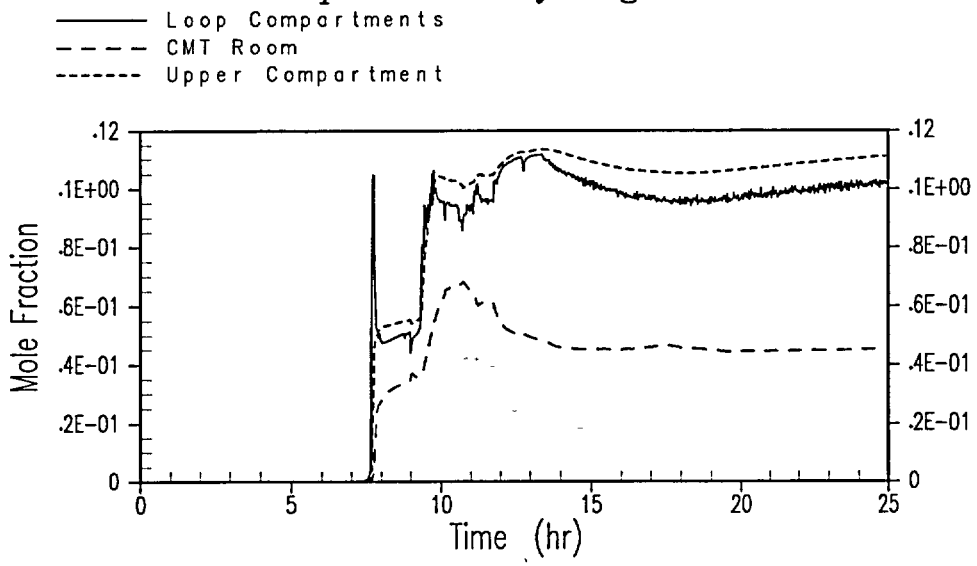
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Containment Pressure



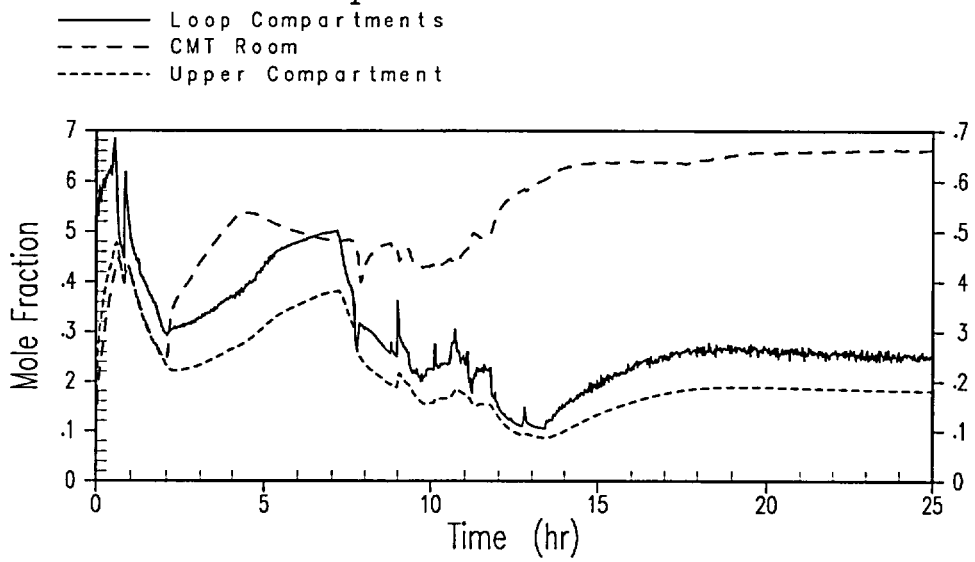

3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Containment Gas Temperature
Loop Compartments
IRWST Compartment
Upper Compartment
PXS
Temperature (K)
460
440
420
400
380
360
340
320
Temperature (F)
350
300
250
200
150
0
5
10
15
20
25
Time (hr)

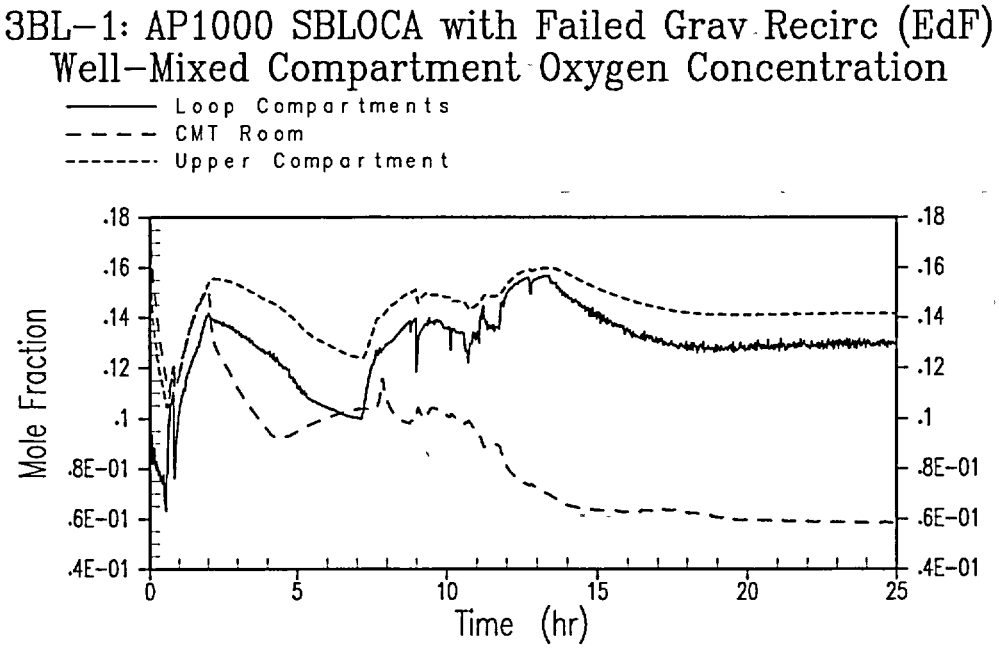

3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
Valve Vault (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
Length (ft)
Time (hr)
45
40
35
30
25
20
140
120
100
80
0
5
10
15
20
25

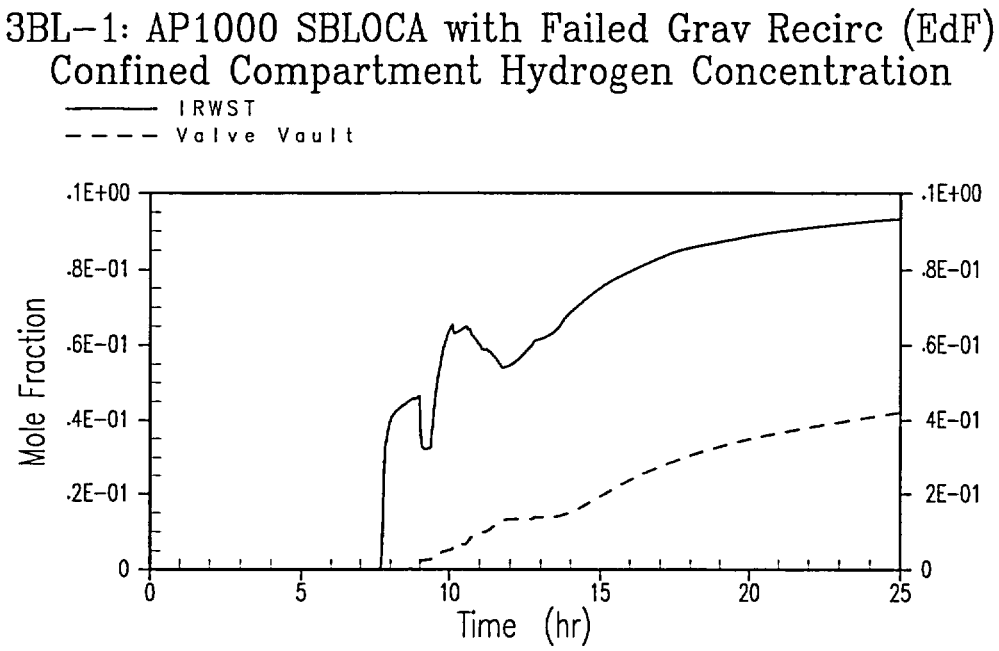
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Well-Mixed Compartment Hydrogen Concentration

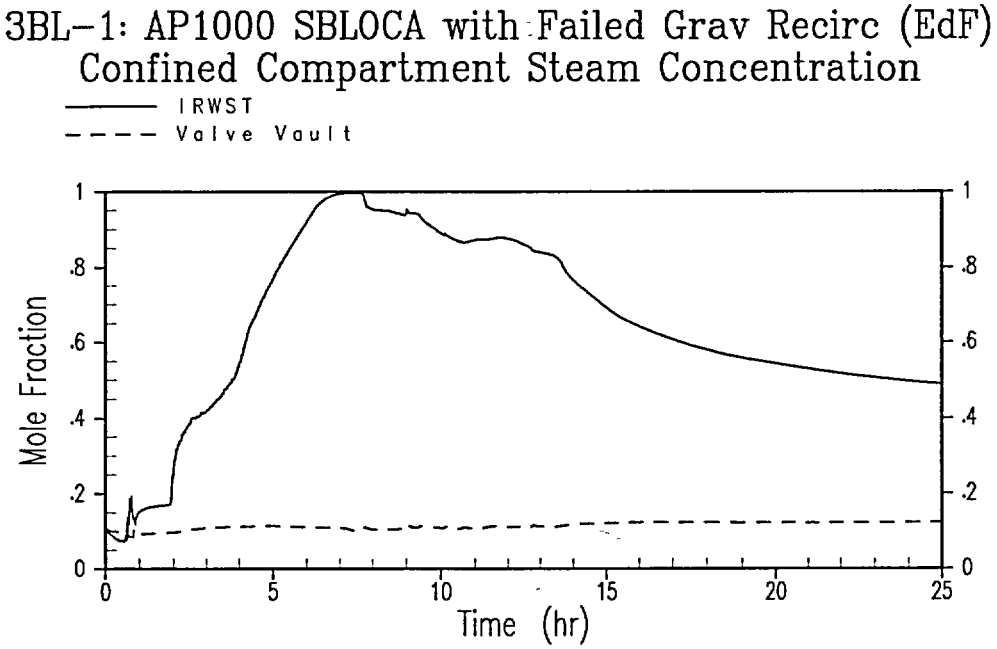


3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Well-Mixed Compartment Steam Concentration

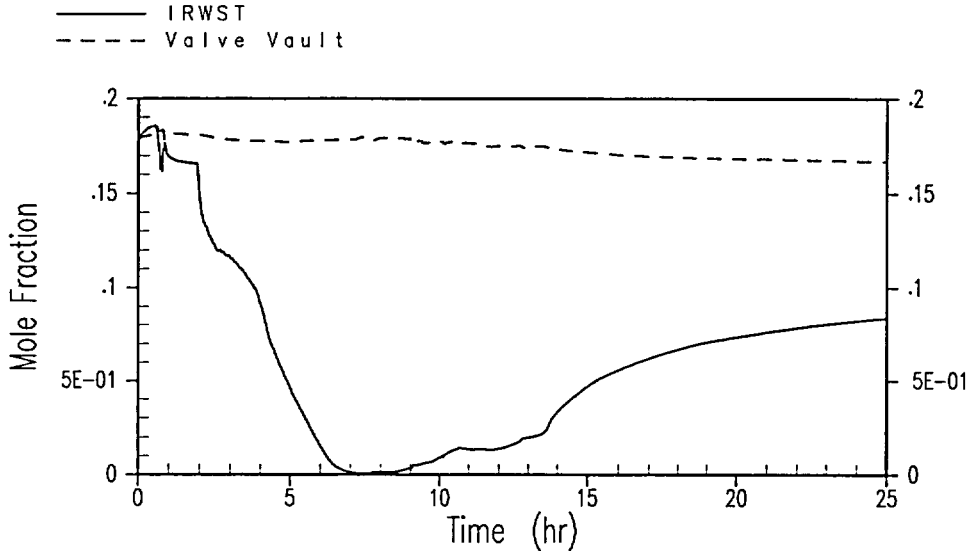



3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Well-Mixed Compartment Oxygen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.18
.16
.14
.12
.1
.8E-01
.6E-01
.4E-01
0
5
10
15
20
25
Time (hr)

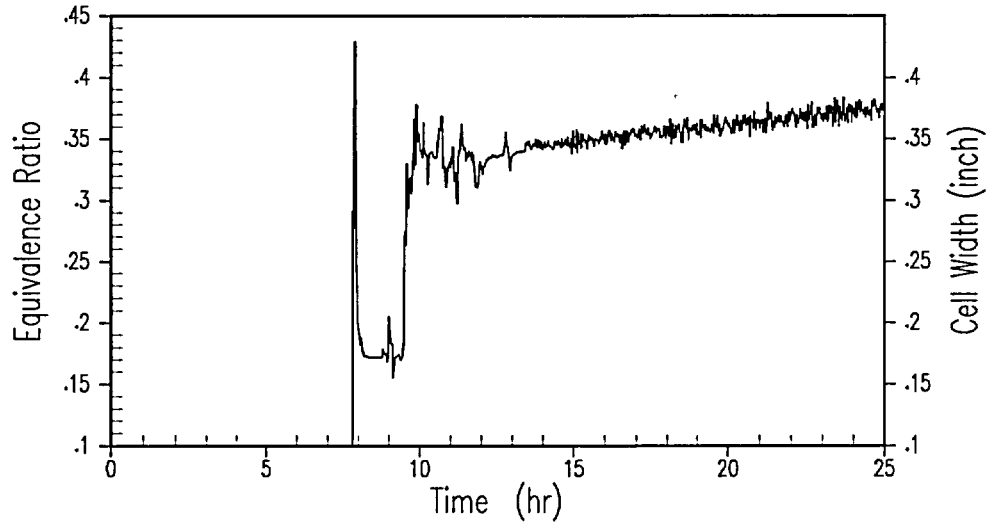

3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Confined Compartment Hydrogen Concentration
IRWST
Valve Vault
Mole Fraction
.1E+00
.8E-01
.6E-01
.4E-01
.2E-01
0
4E-01
2E-01
0
5
10
15
20
25
Time (hr)


3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Confined Compartment Steam Concentration
IRWST
Valve Vault
Mole Fraction
Time (hr)
0
.2
.4
.6
.8
1
0
5
10
15
20
25

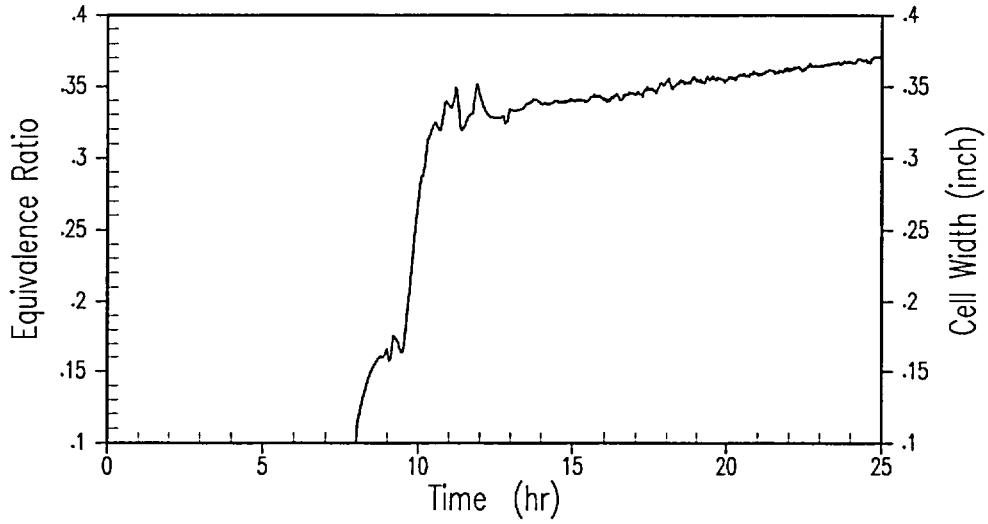
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Confined Compartment Oxygen Concentration



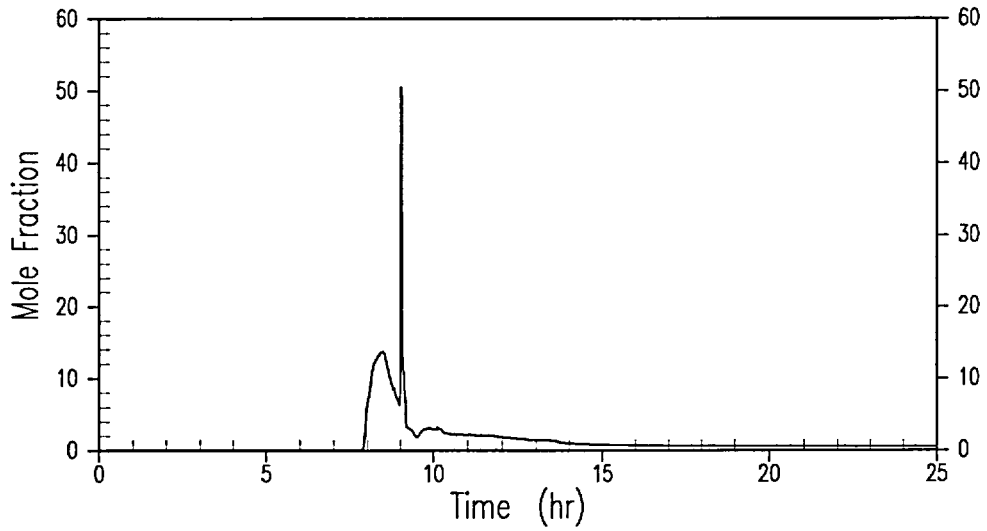
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Equivalence Ratio in SG Room



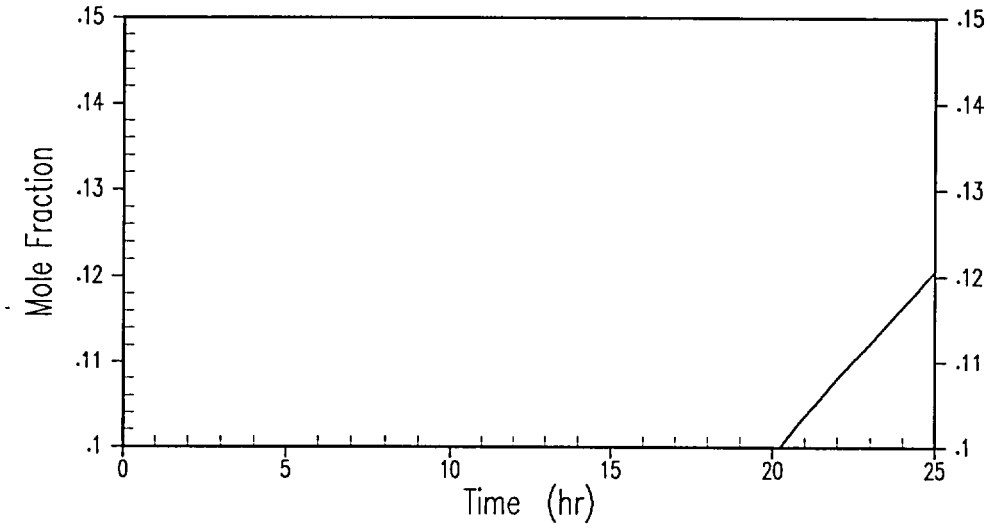
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Equivalence Ratio in CMT Room



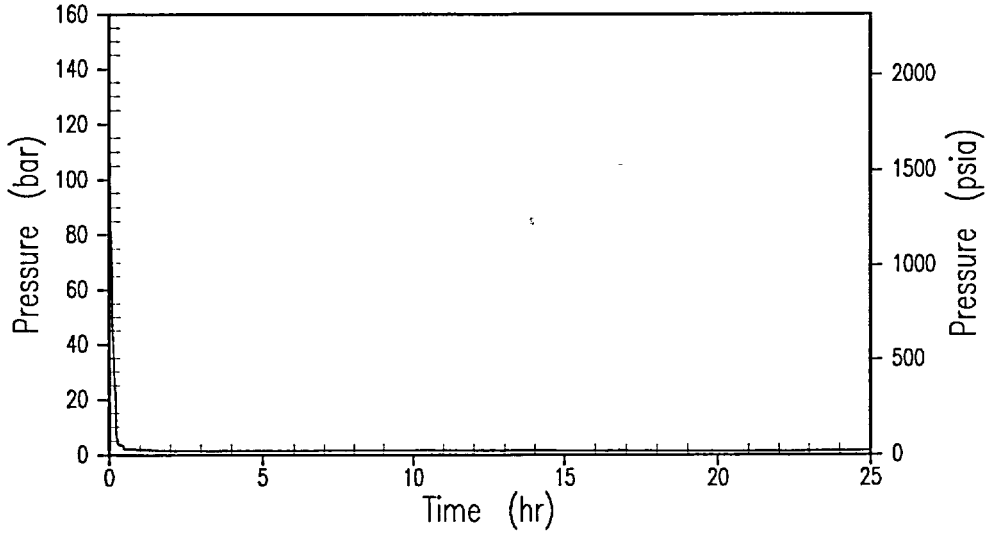
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Equivalence Ratio in IRWST



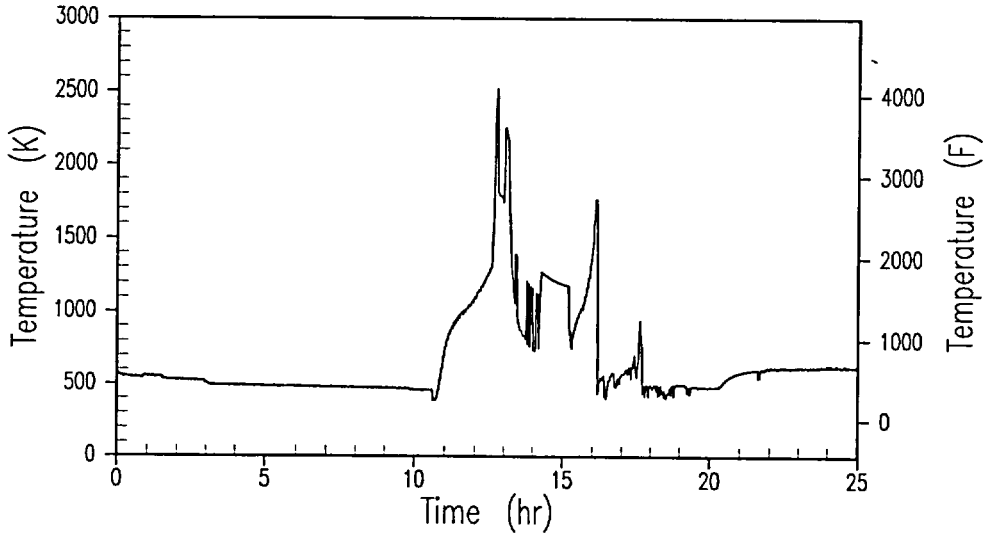
3BL-1: AP1000 SBLOCA with Failed Grav Recirc (EdF)
Equivalence Ratio in PXS



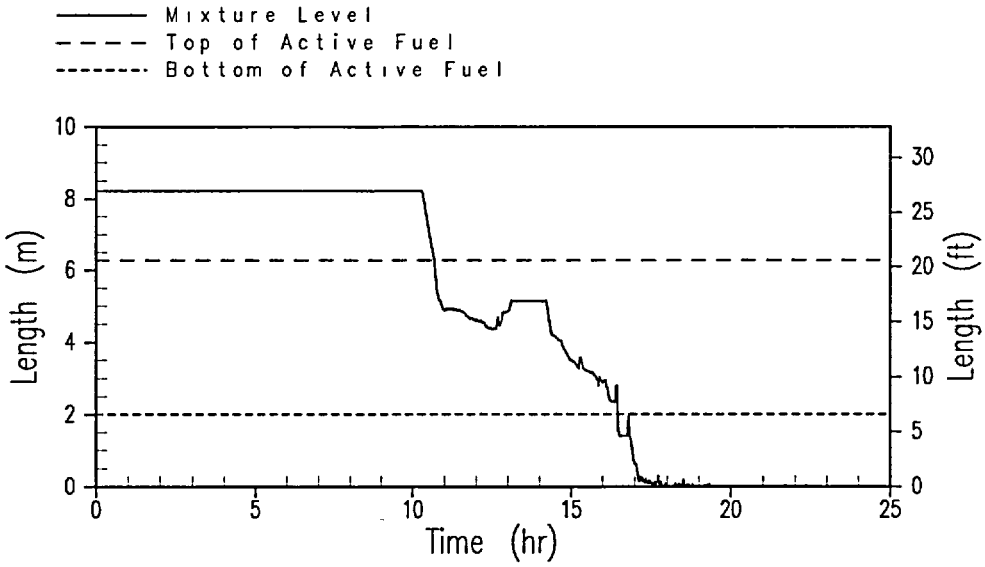
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Reactor Coolant System Pressure



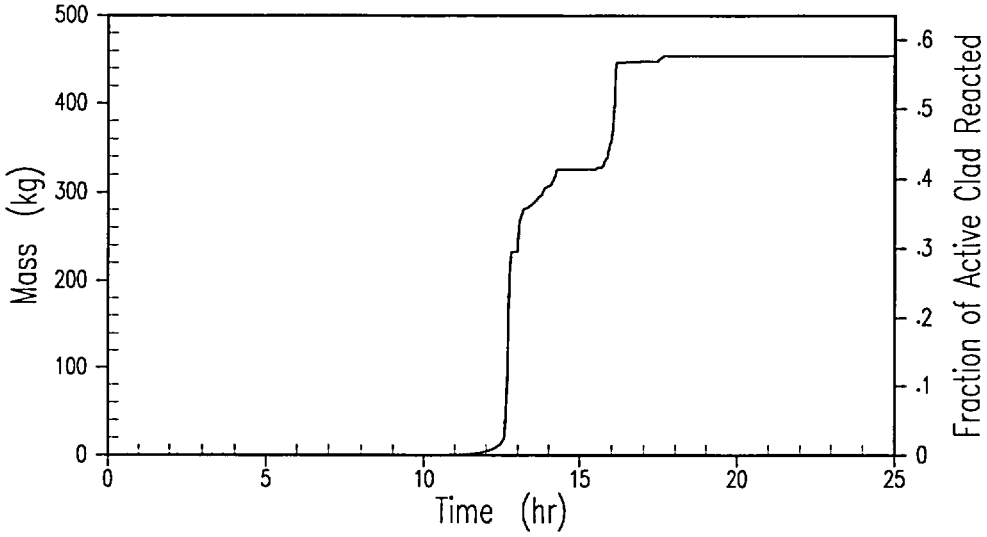
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Core-Exit Gas Temperature



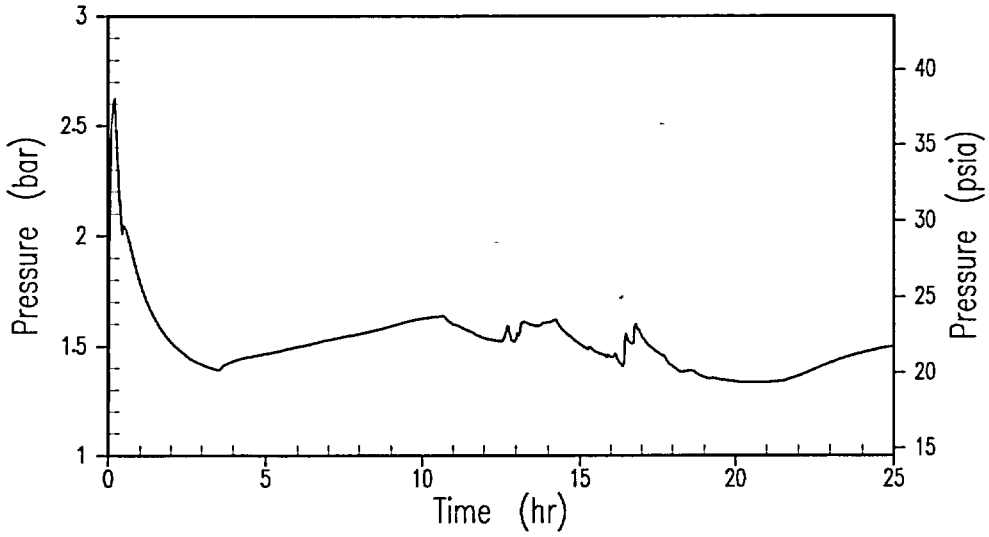
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Reactor Vessel Mixture Level

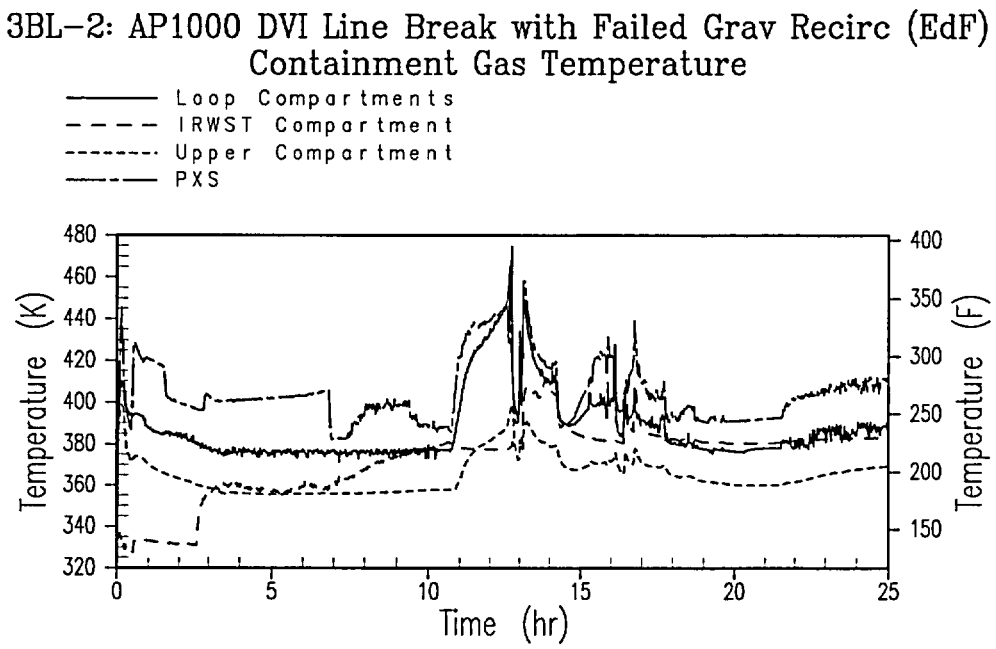


3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Hydrogen Generated In-Vessel

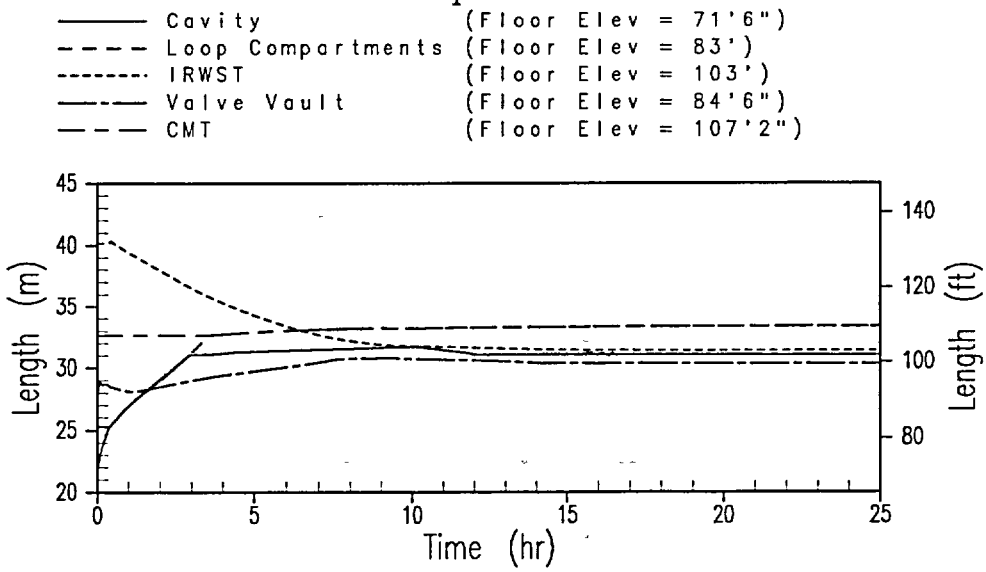


3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Containment Pressure

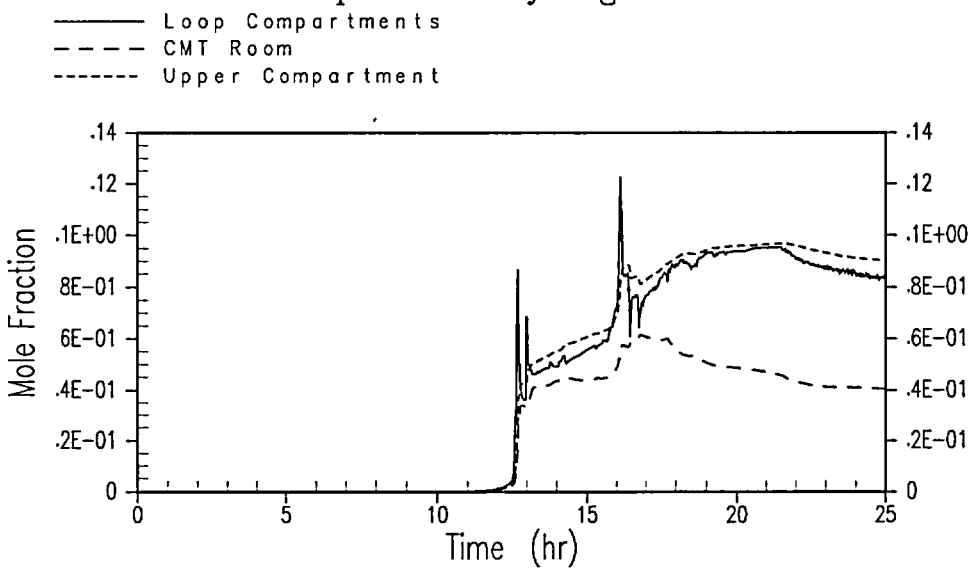



3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Containment Gas Temperature
Loop Compartments
IRWST Compartment
Upper Compartment
PXS
Temperature (K)
Temperature (F)
Time (hr)
480
460
440
420
400
380
360
340
320
400
350
300
250
200
150
0
5
10
15
20
25

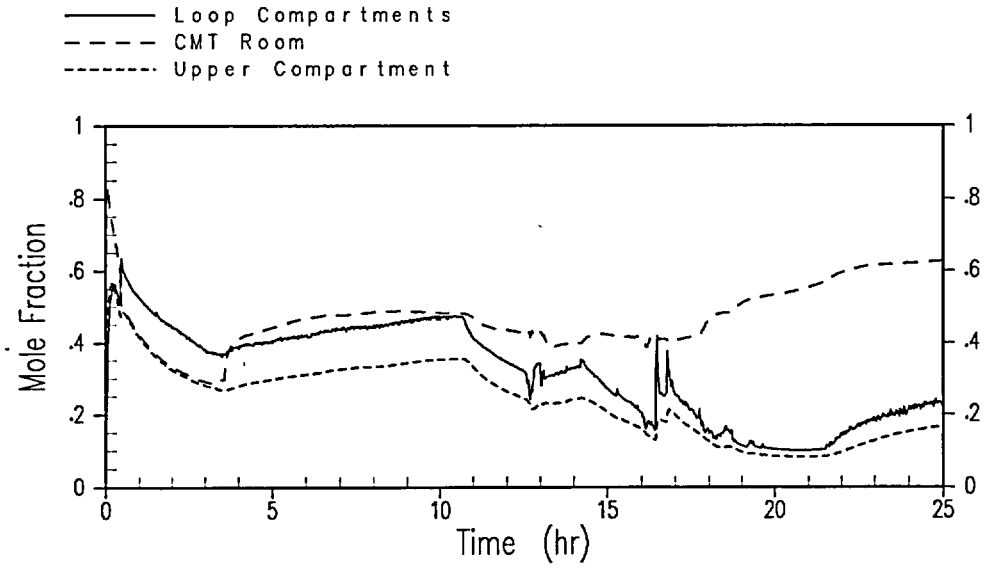
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Containment Compartments Water Level



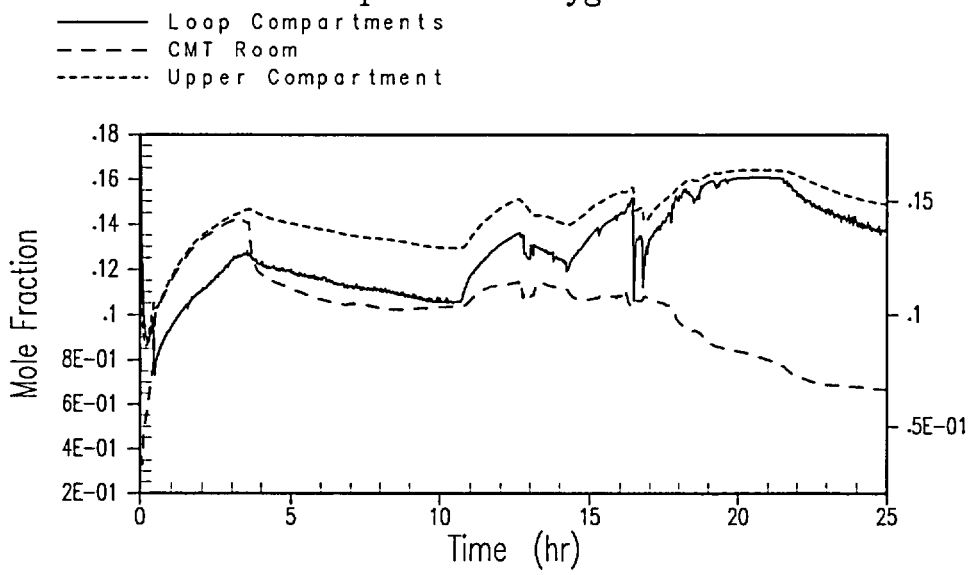
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Well-Mixed Compartment Hydrogen Concentration



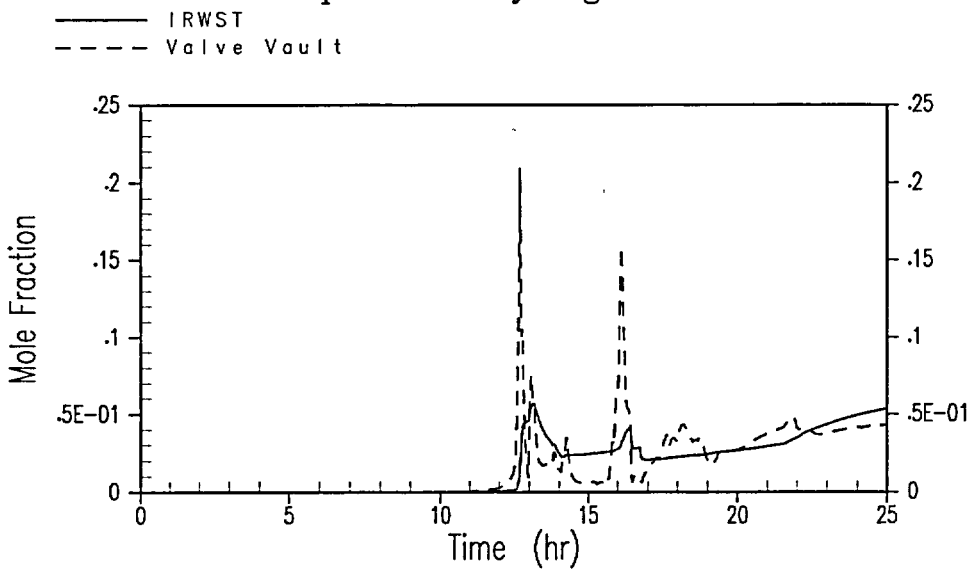
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Well-Mixed Compartment Steam Concentration



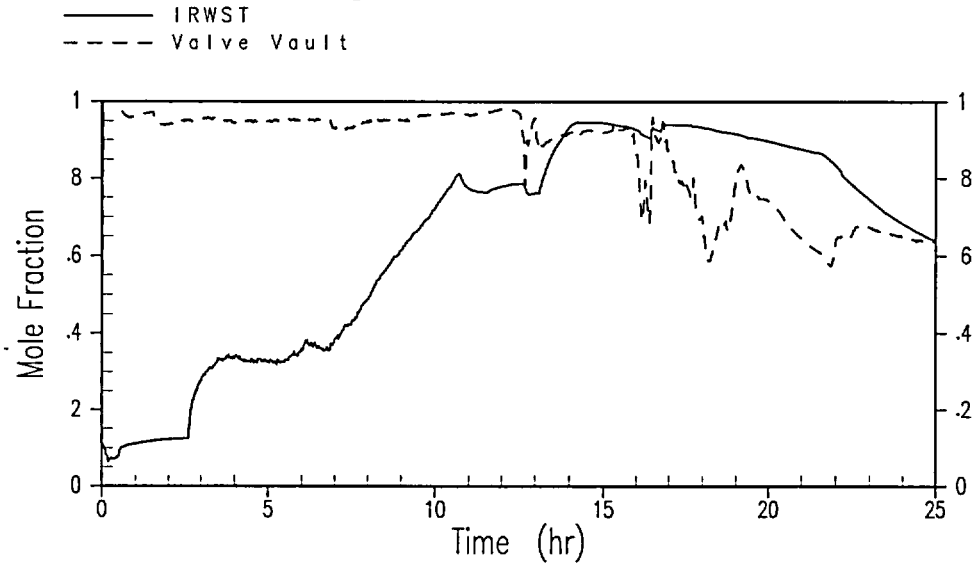
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Well-Mixed Compartment Oxygen Concentration



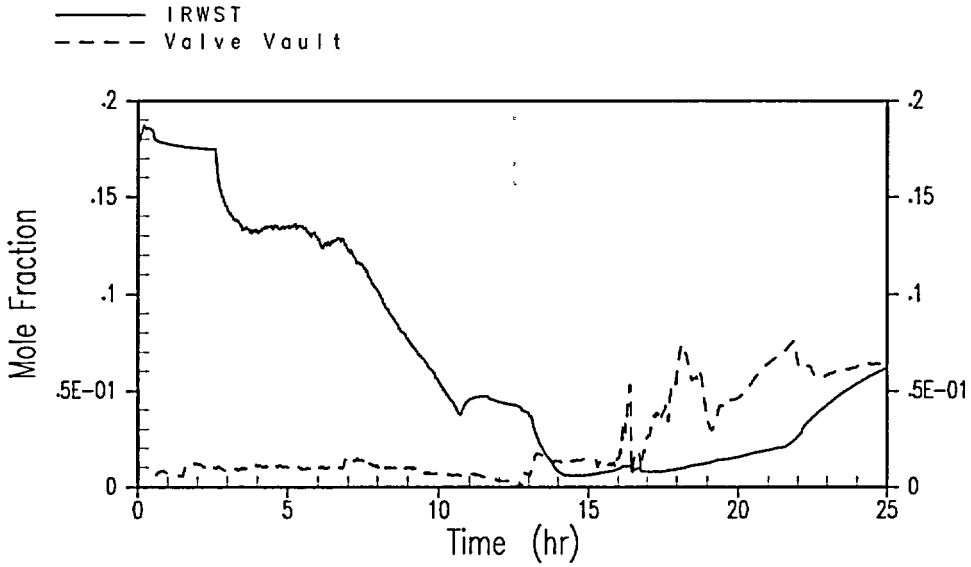
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Confined Compartment Hydrogen Concentration



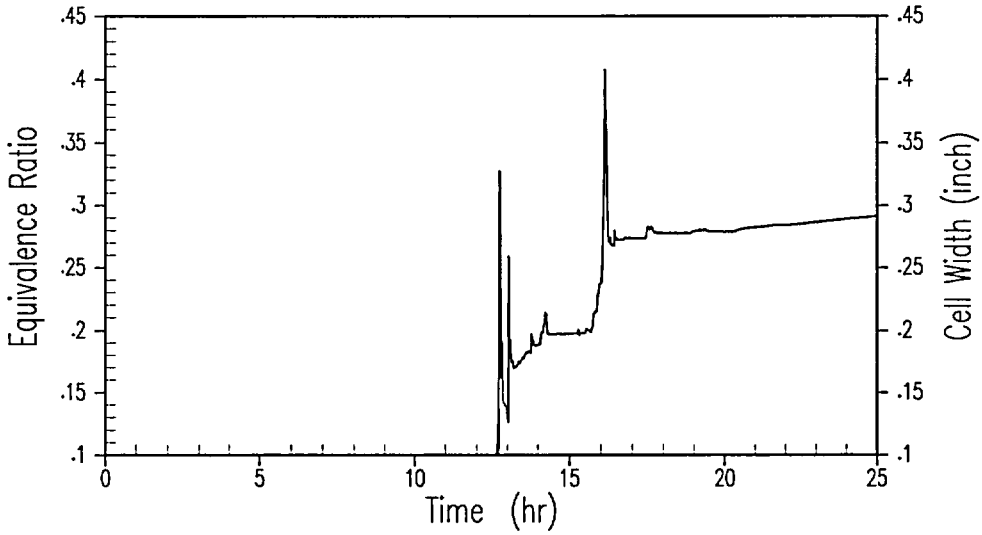
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Confined Compartment Steam Concentration



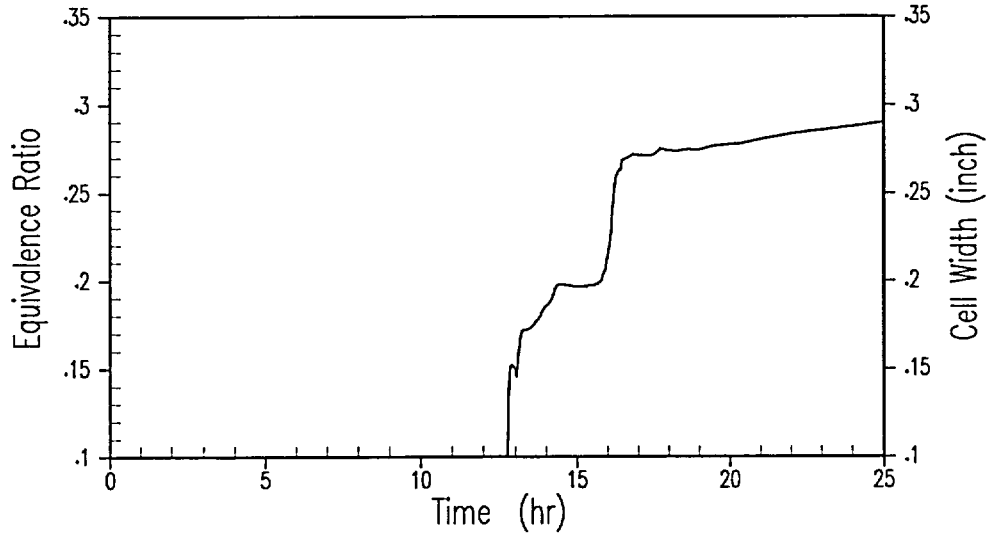
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Confined Compartment Oxygen Concentration



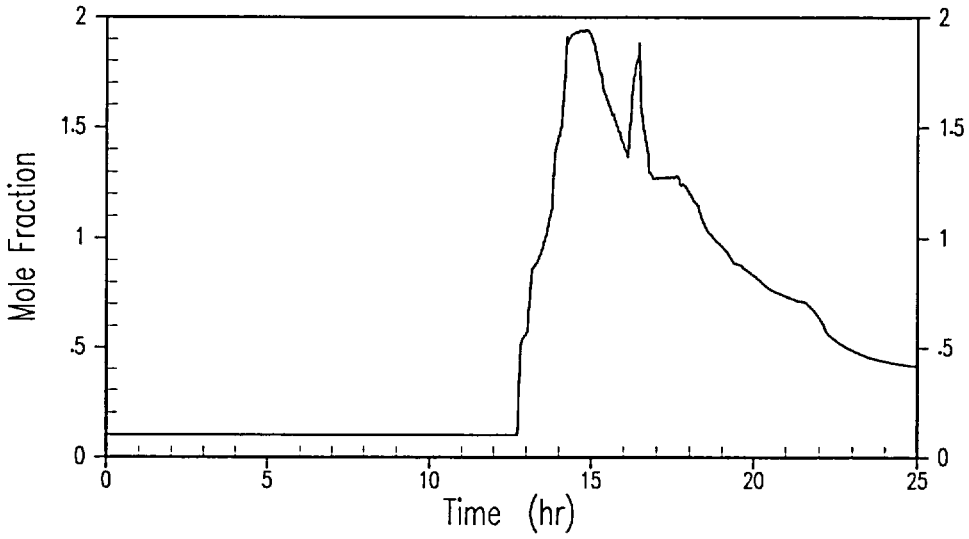
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Equivalence Ratio in SG Room



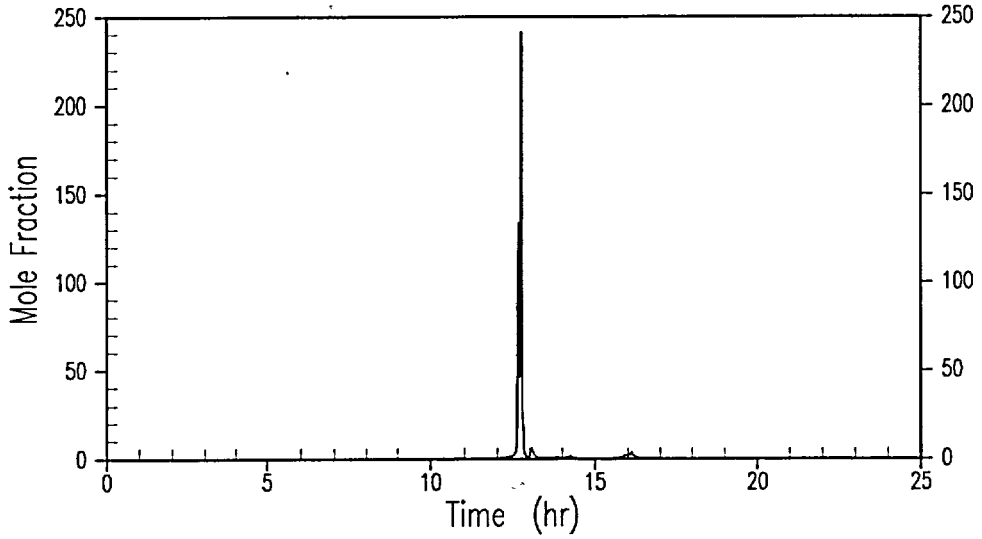
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Equivalence Ratio in CMT Room



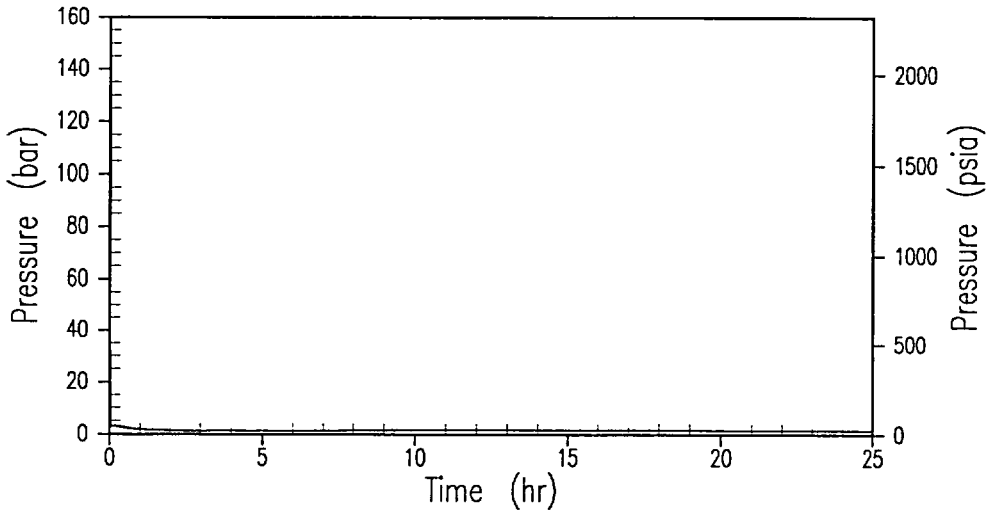
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Equivalence Ratio in IRWST



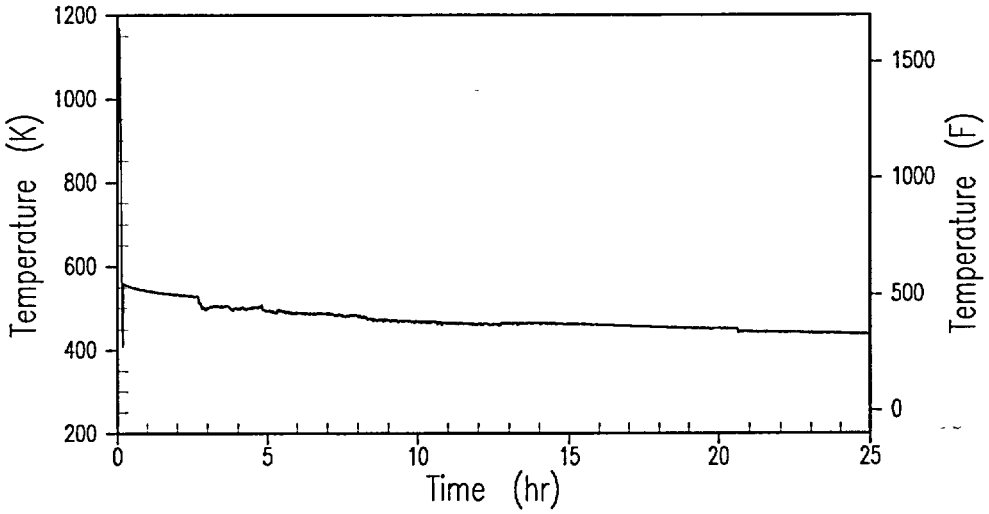
3BL-2: AP1000 DVI Line Break with Failed Grav Recirc (EdF)
Equivalence Ratio in PXS

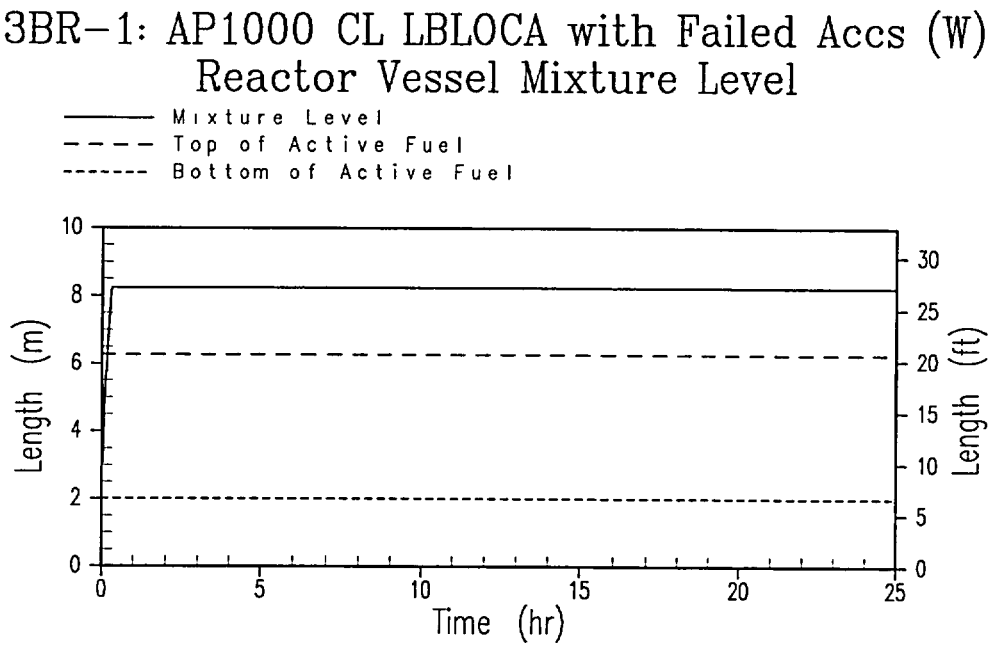


3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Reactor Coolant System Pressure

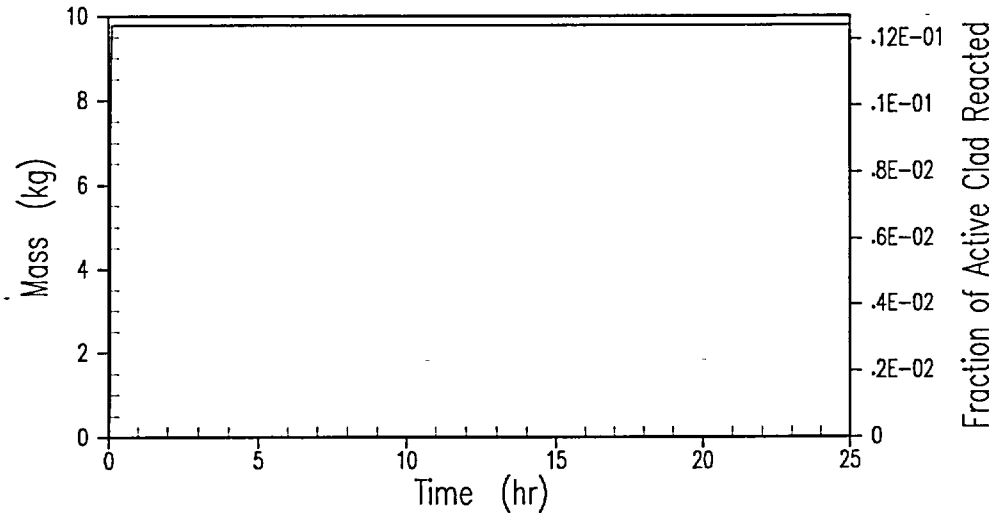


3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Core-Exit Gas Temperature

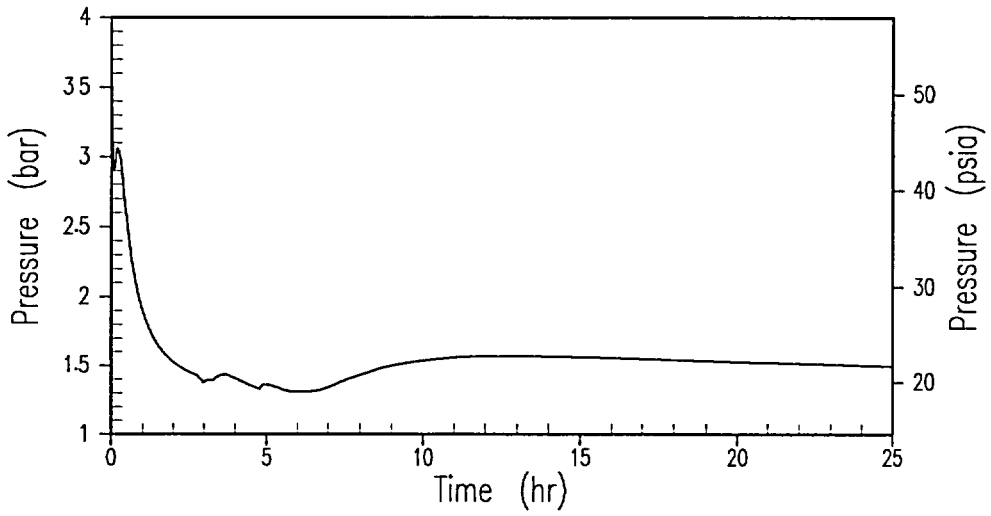


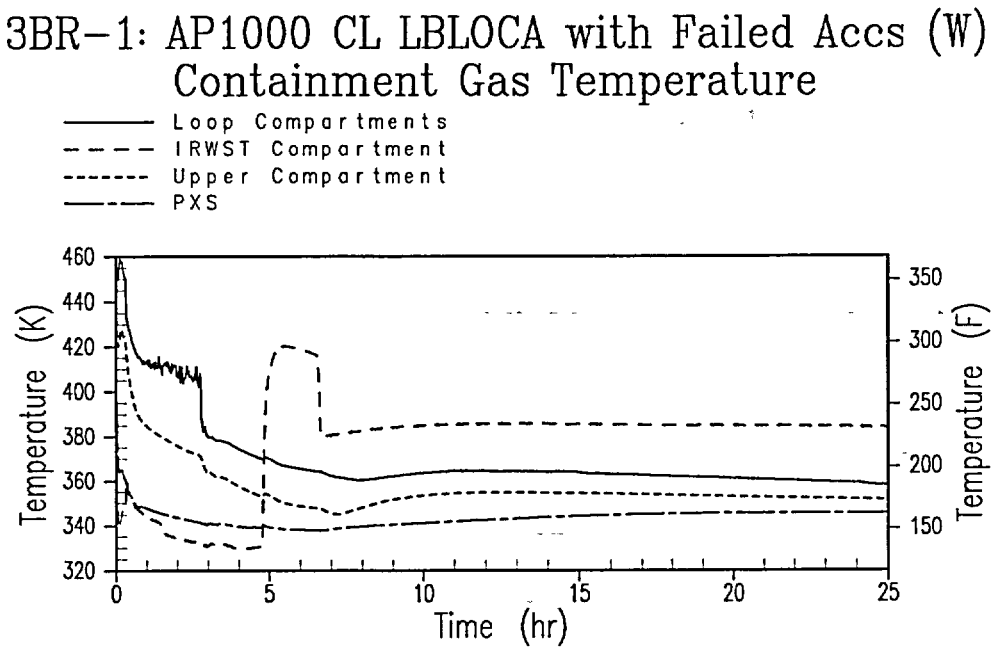

3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Reactor Vessel Mixture Level
Mixture Level
Top of Active Fuel
Bottom of Active Fuel
Length (m)
Length (ft)
Time (hr)
0
2
4
6
8
10
0
5
10
15
20
25
30

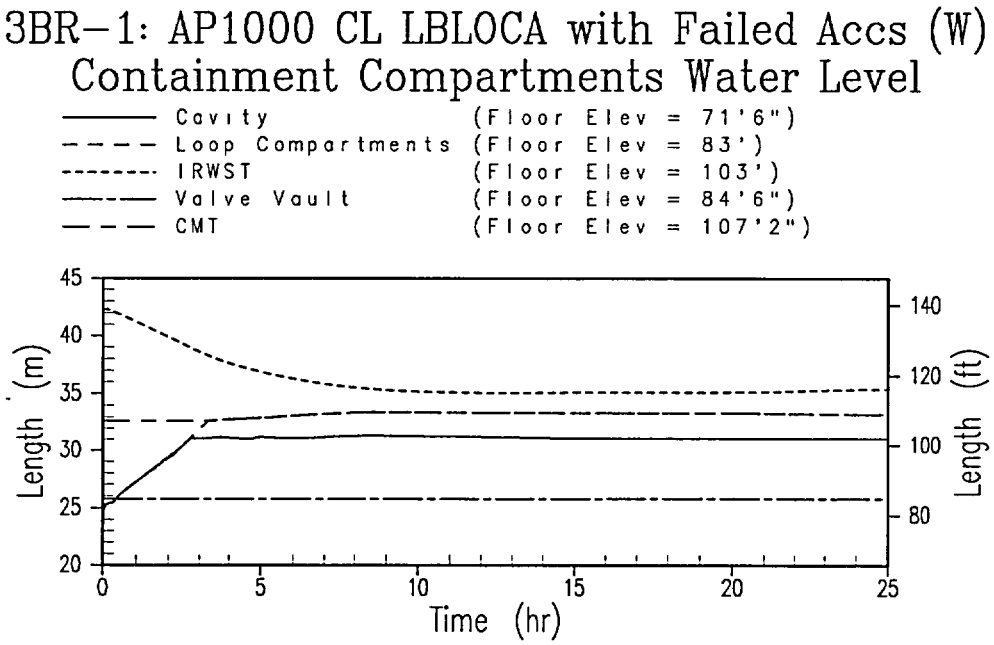
3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Hydrogen Generated In-Vessel

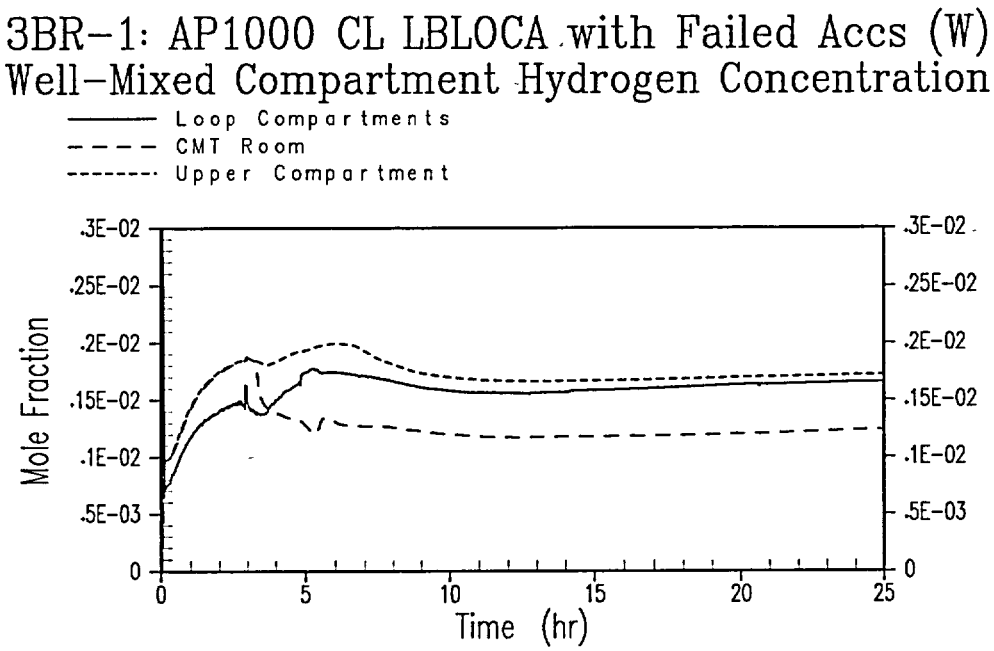


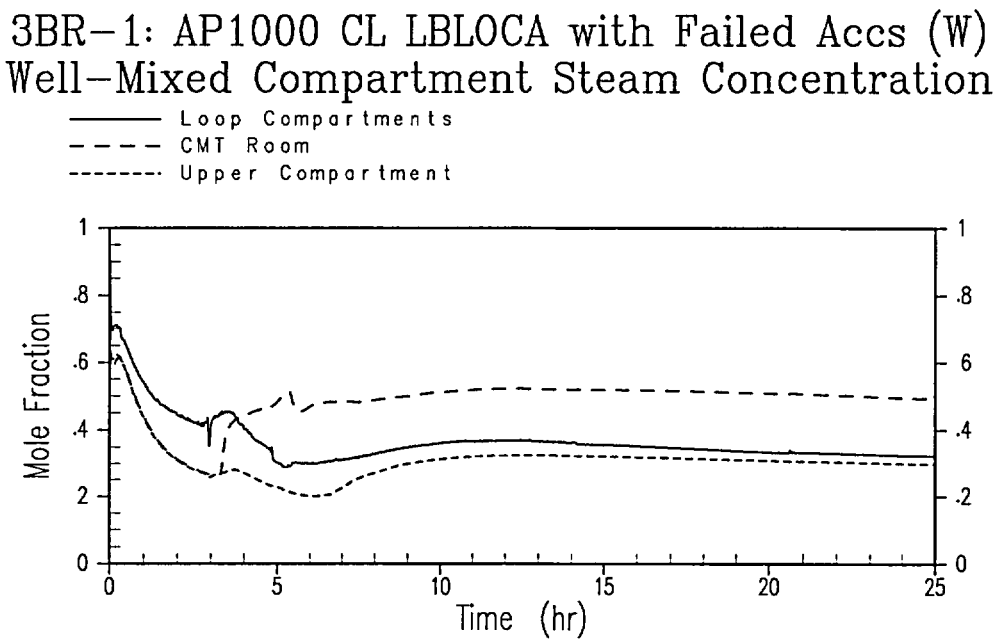
3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Containment Pressure

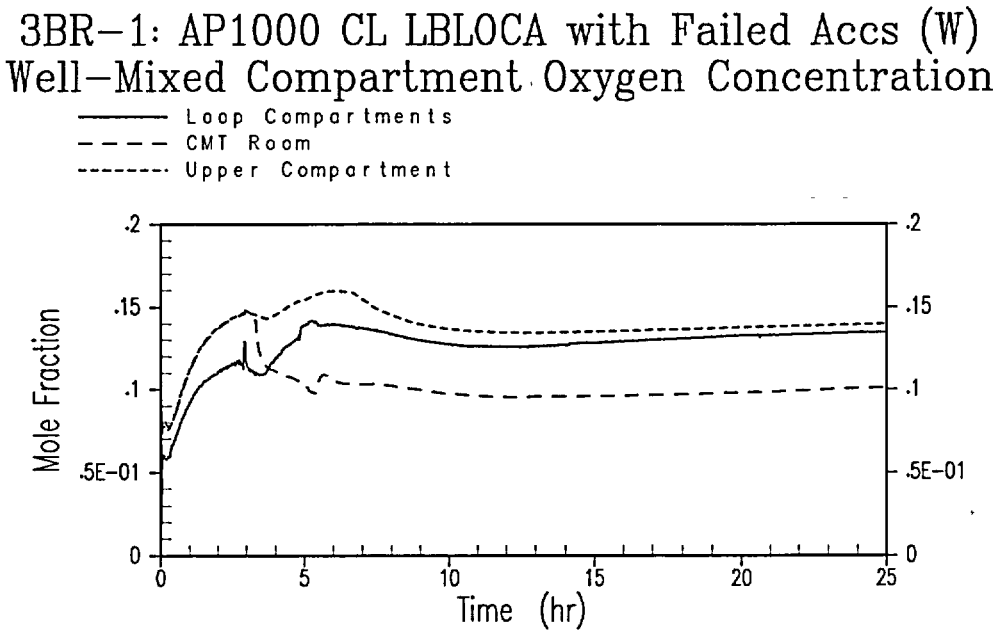



3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Containment Gas Temperature
Loop Compartments
IRWST Compartment
Upper Compartment
PXS
Temperature (K)
460
440
420
400
380
360
340
320
Temperature (F)
350
300
250
200
150
0
5
10
15
20
25
Time (hr)

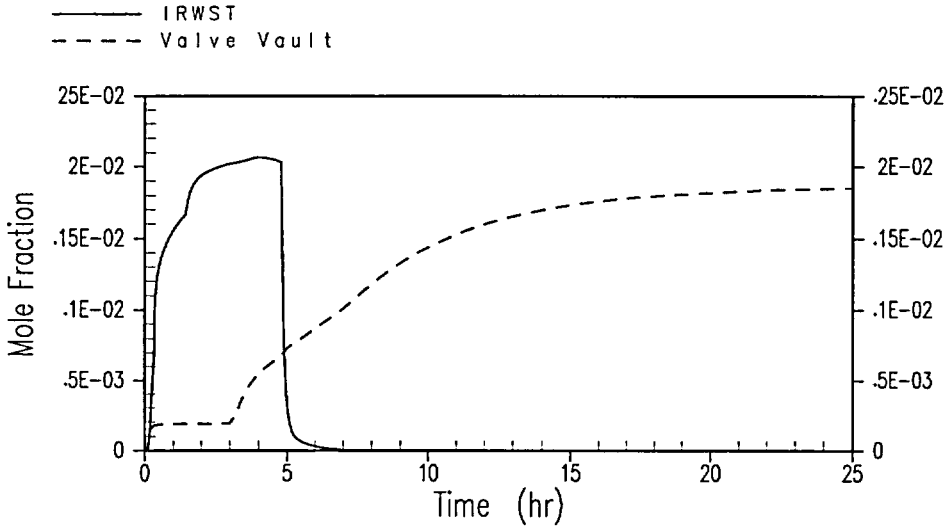

3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
Valve Vault (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
45
40
35
30
25
20
Length (ft)
140
120
100
80
0
5
10
15
20
25
Time (hr)

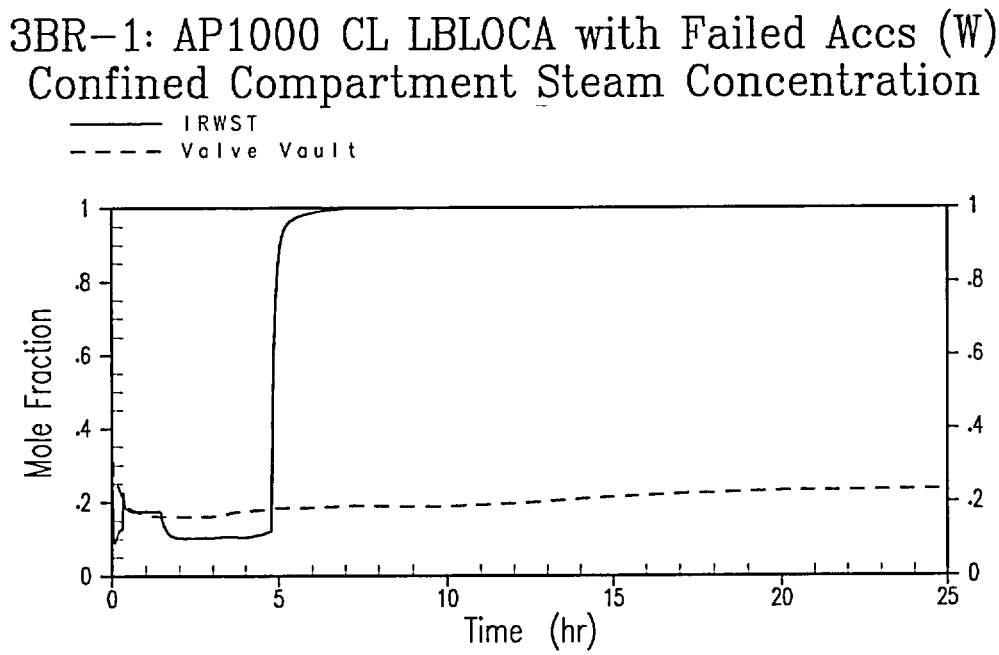

3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Well-Mixed Compartment Hydrogen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.3E-02
.25E-02
.2E-02
.15E-02
.1E-02
.5E-03
0
0
5
10
15
20
25
Time (hr)


3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Well-Mixed Compartment Steam Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
Time (hr)
1
.8
.6
.4
2
0
5
10
15
20
25
6
.2

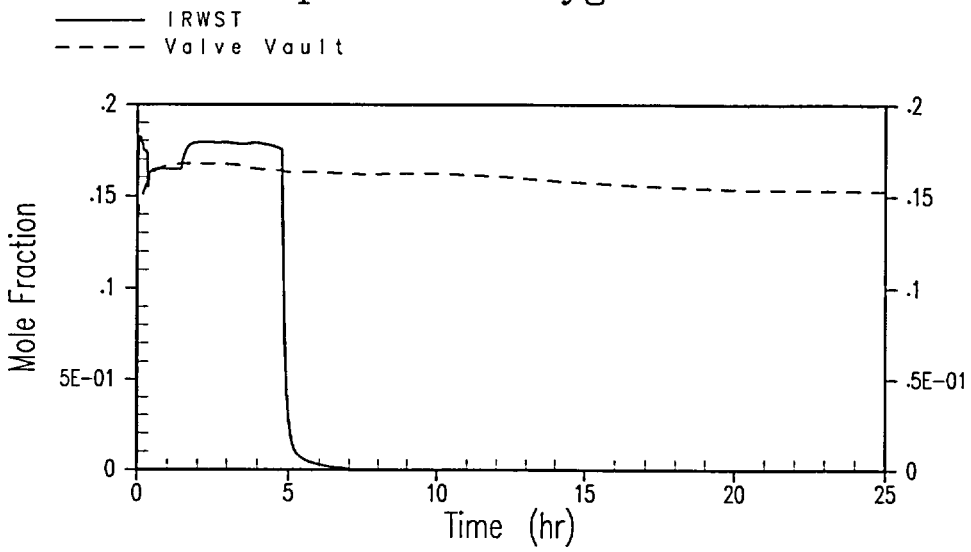

3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Well-Mixed Compartment Oxygen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.2
.15
.1
.5E-01
0
0
5
10
15
20
25
Time (hr)

3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Confined Compartment Hydrogen Concentration

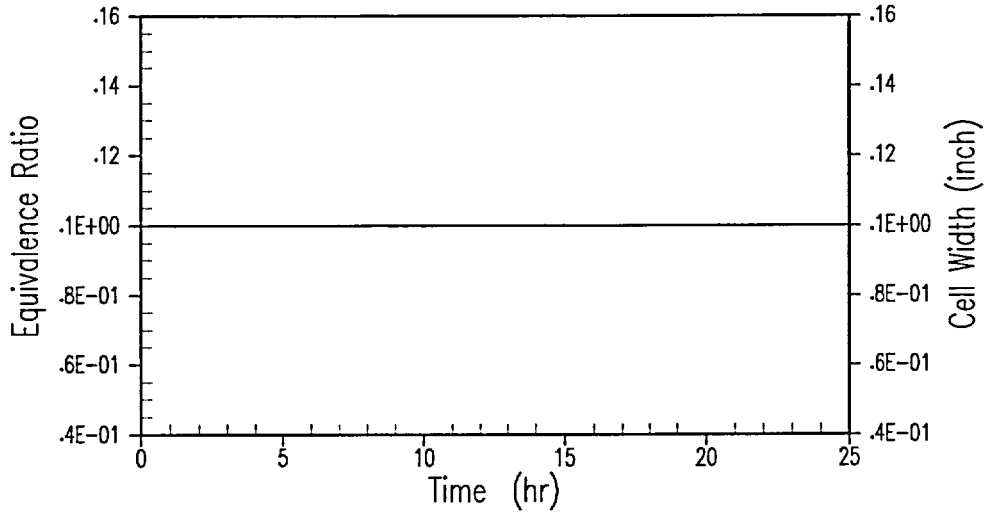



3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Confined Compartment Steam Concentration
IRWST
Valve Vault
Mole Fraction
Time (hr)
0
.2
.4
.6
.8
1
0
5
10
15
20
25

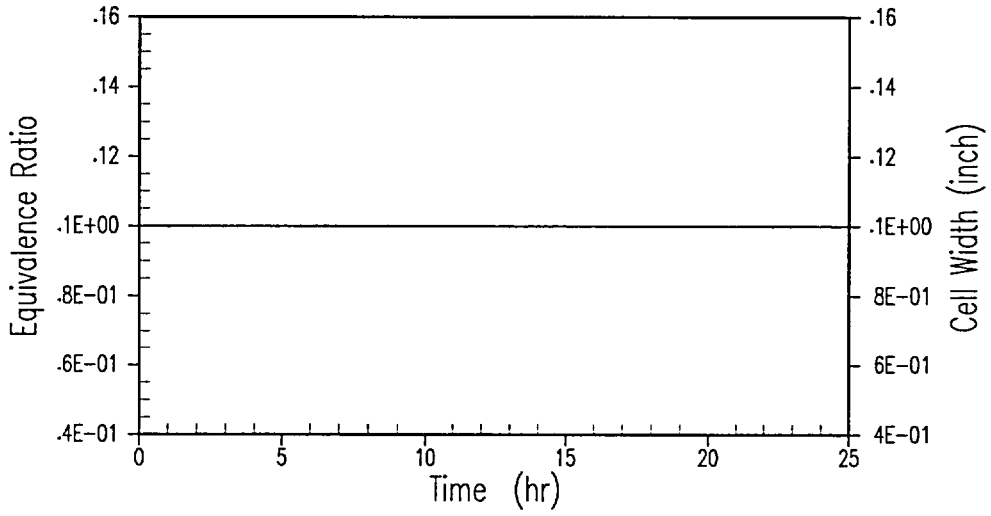
3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Confined Compartment Oxygen Concentration



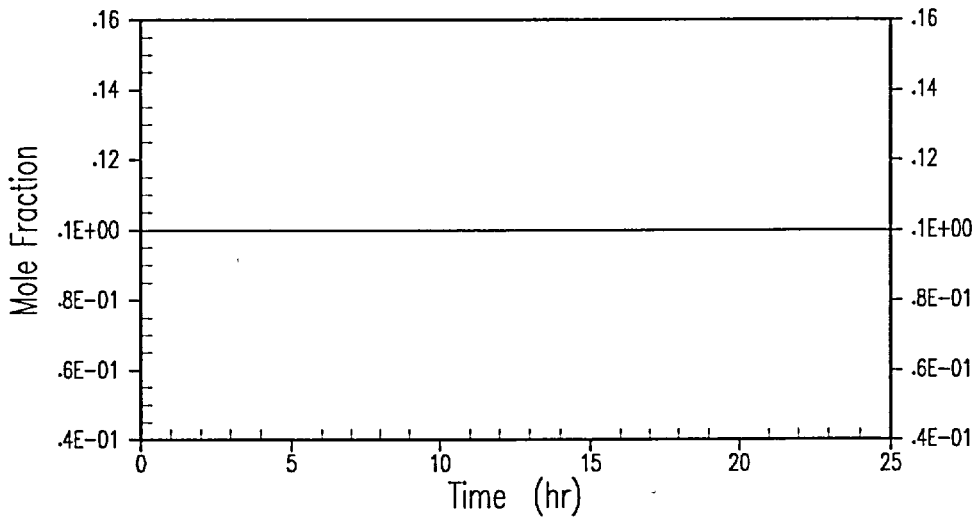
3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Equivalence Ratio in SG Room



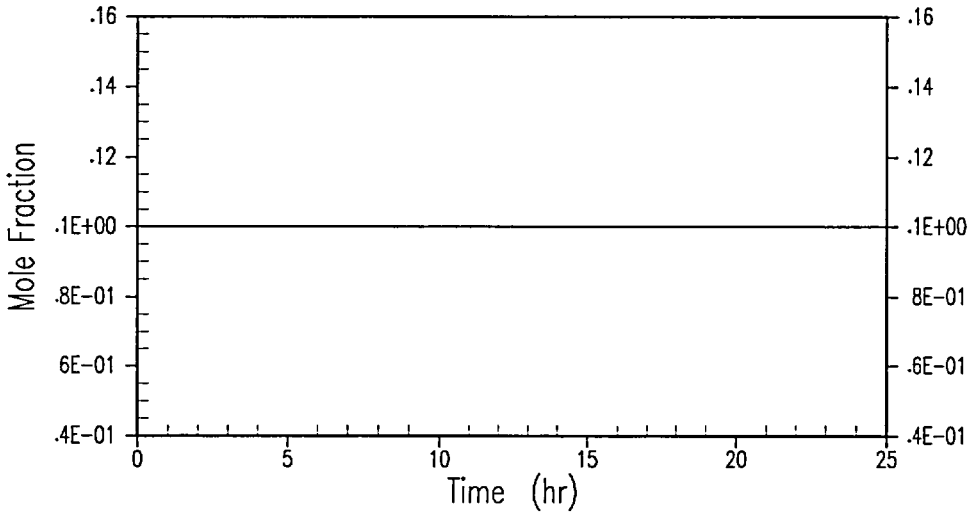
3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Equivalence Ratio in CMT Room



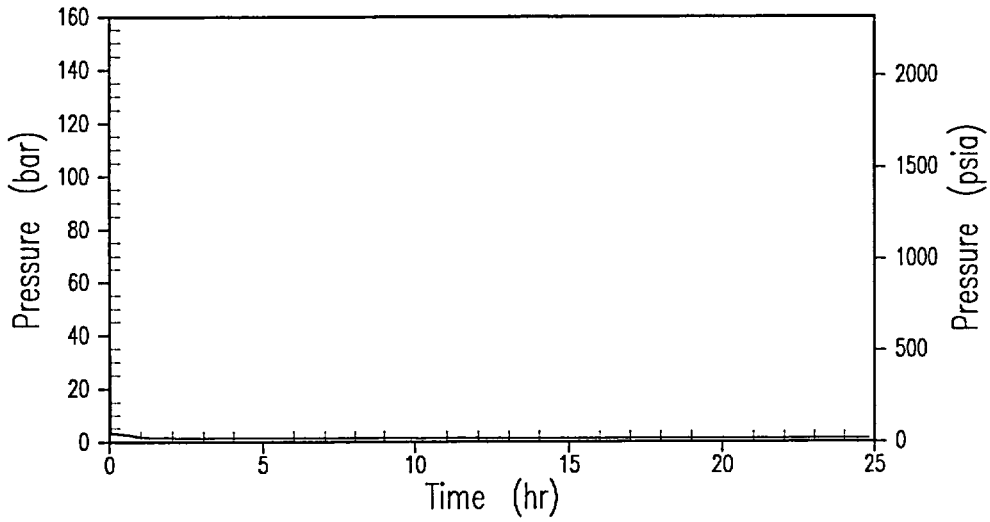
3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Equivalence Ratio in IRWST



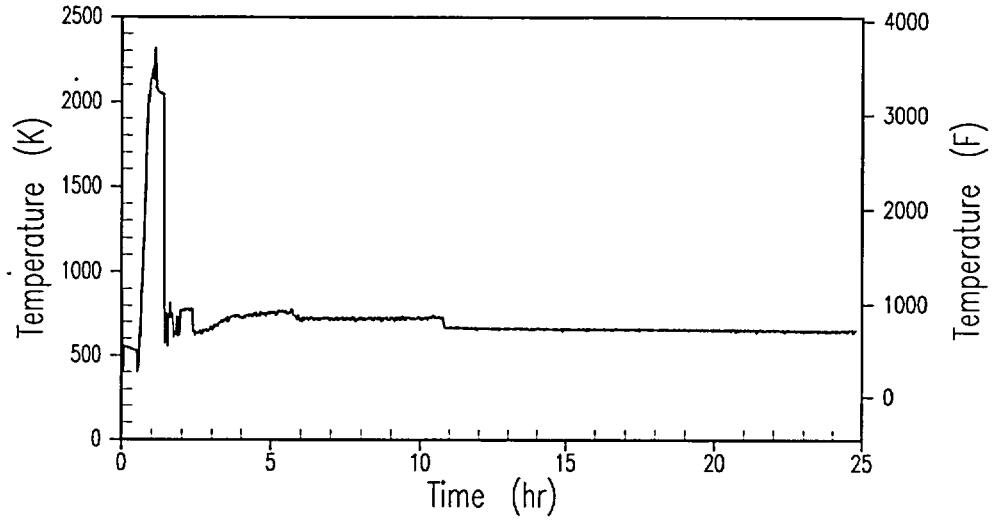
3BR-1: AP1000 CL LBLOCA with Failed Accs (W)
Equivalence Ratio in PXS

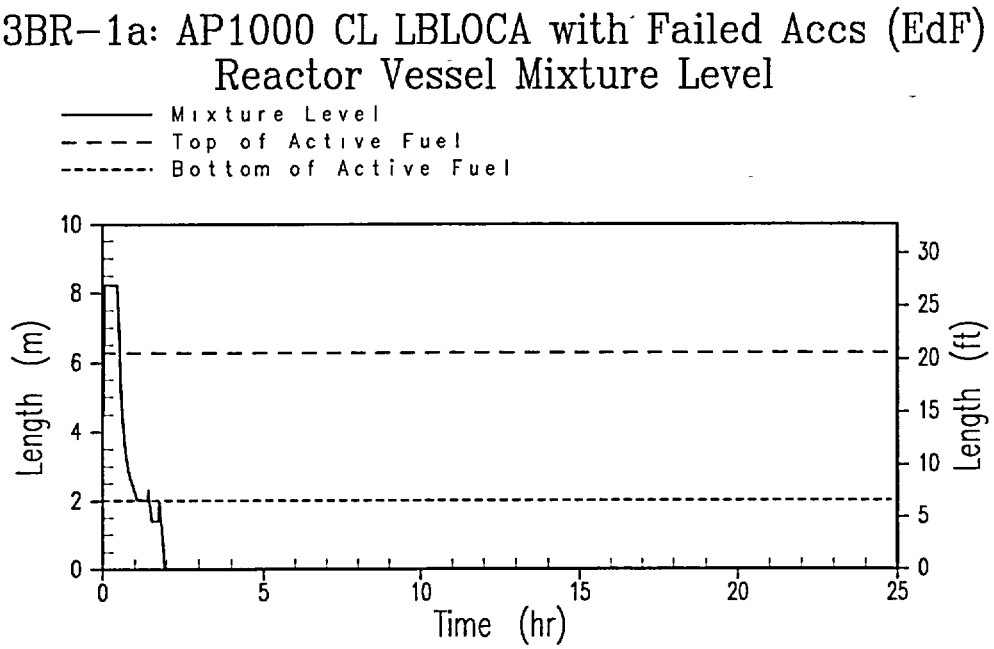


3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Reactor Coolant System Pressure

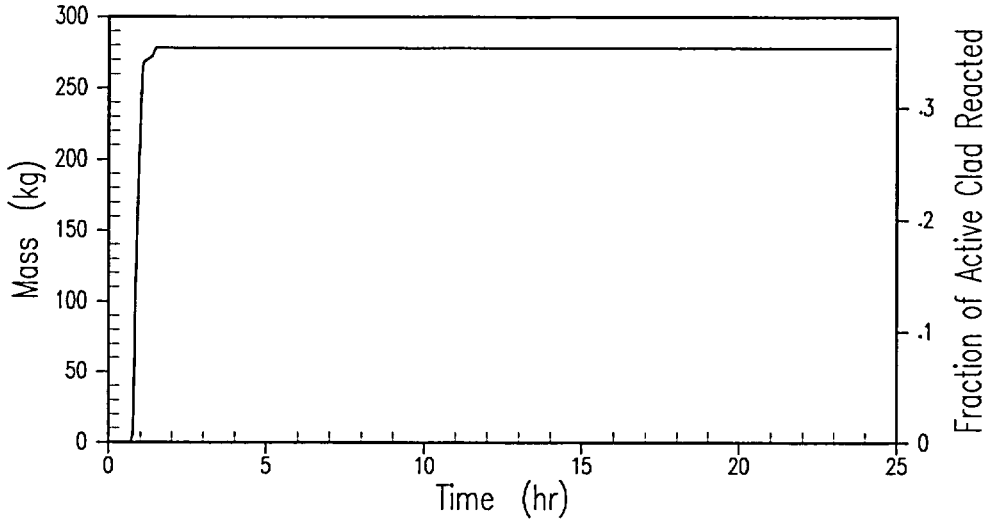


3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Core-Exit Gas Temperature

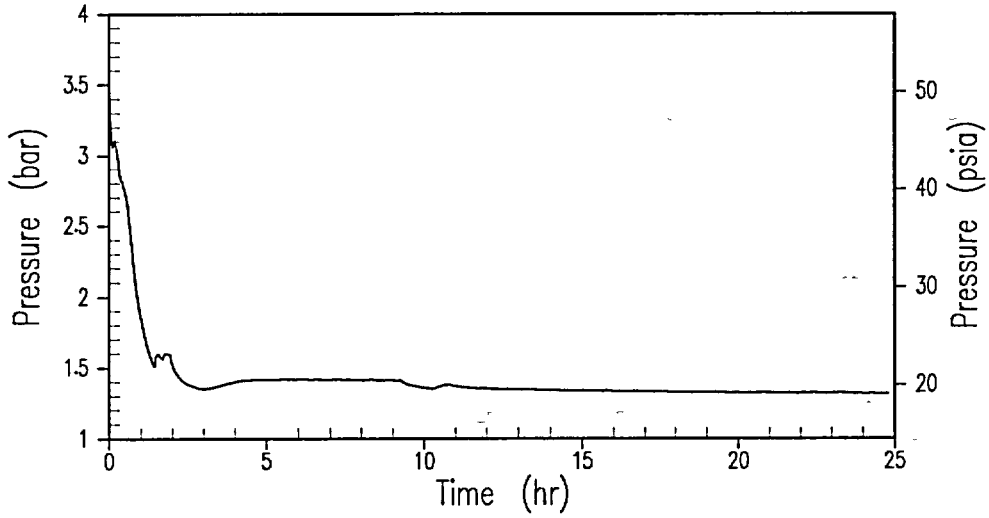



3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Reactor Vessel Mixture Level
Mixture Level
Top of Active Fuel
Bottom of Active Fuel
Length (m)
Length (ft)
Time (hr)
0
2
4
6
8
10
0
5
10
15
20
25
30

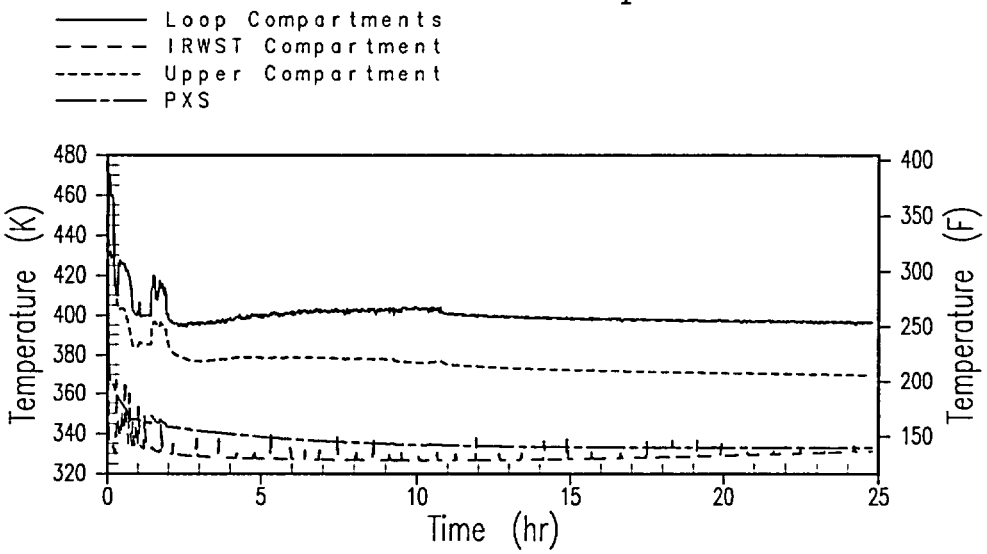
3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Hydrogen Generated In-Vessel

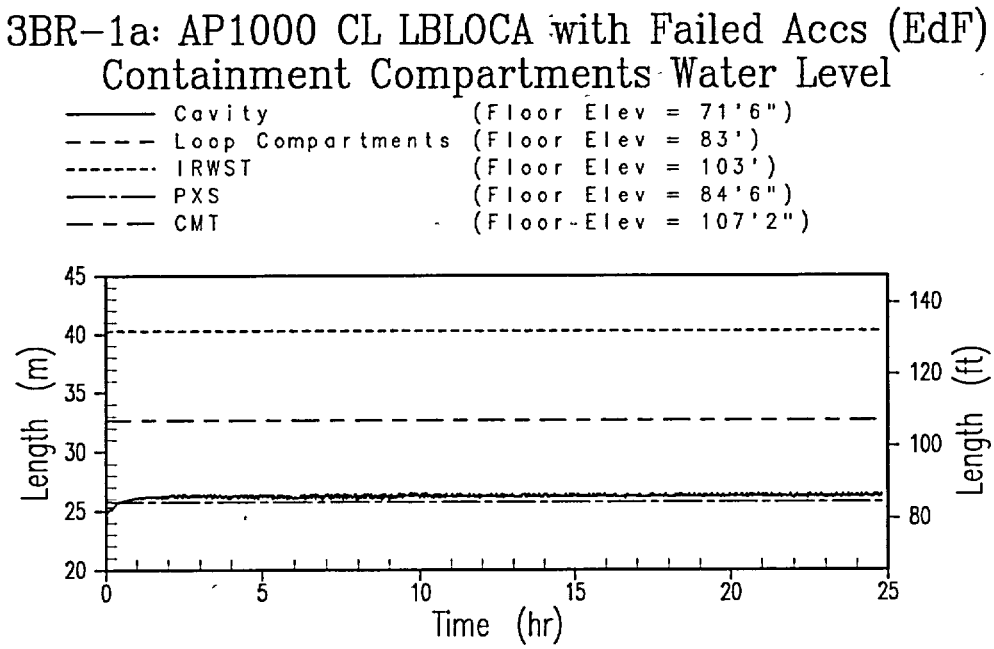


3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Containment Pressure

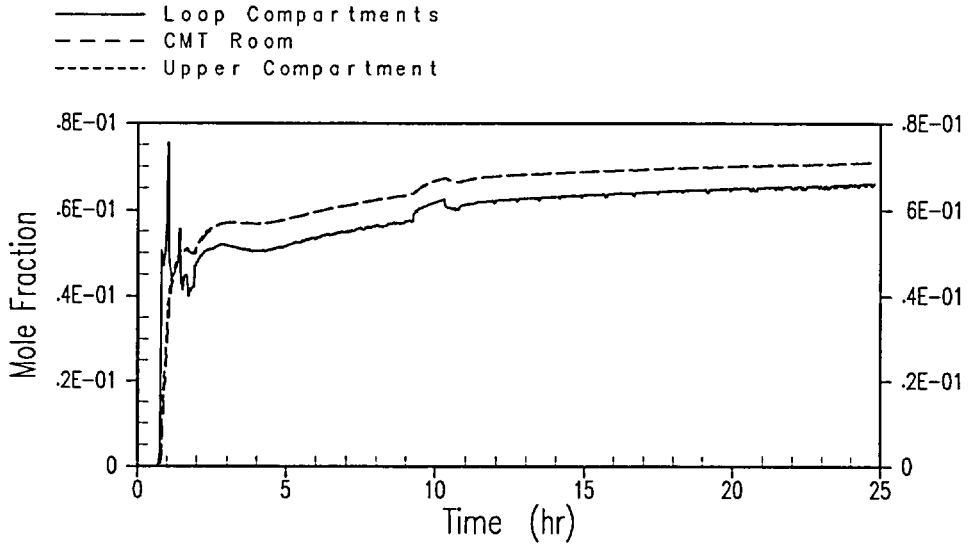


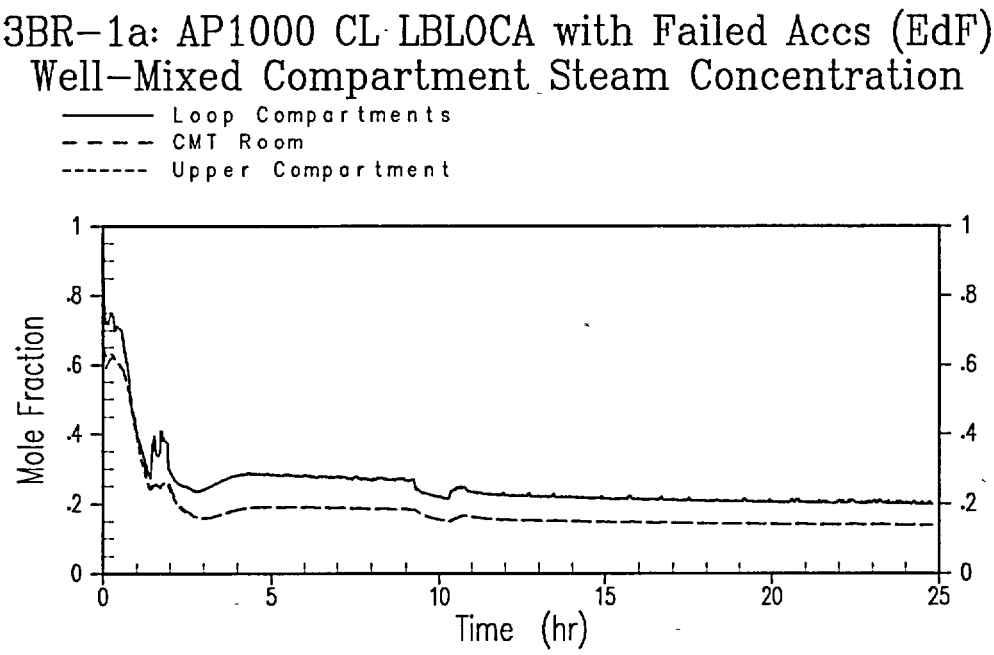
3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Containment Gas Temperature



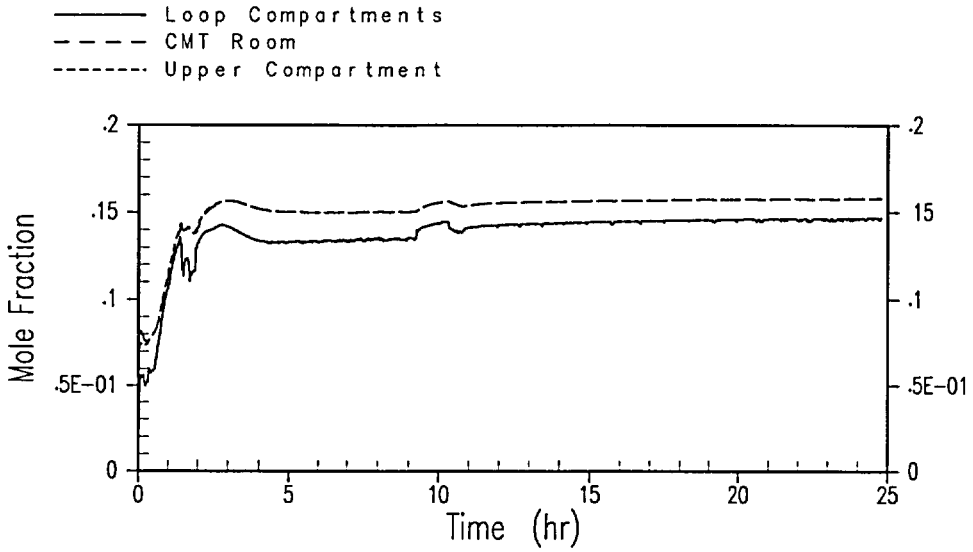

3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
PXS (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
Length (ft)
Time (hr)
45
40
35
30
25
20
140
120
100
80
0
5
10
15
20
25

3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Well-Mixed Compartment Hydrogen Concentration

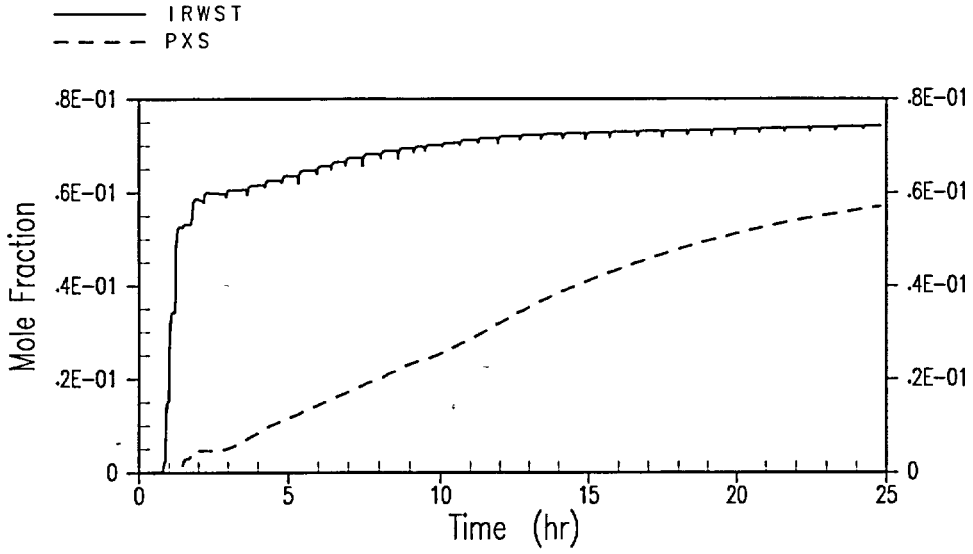


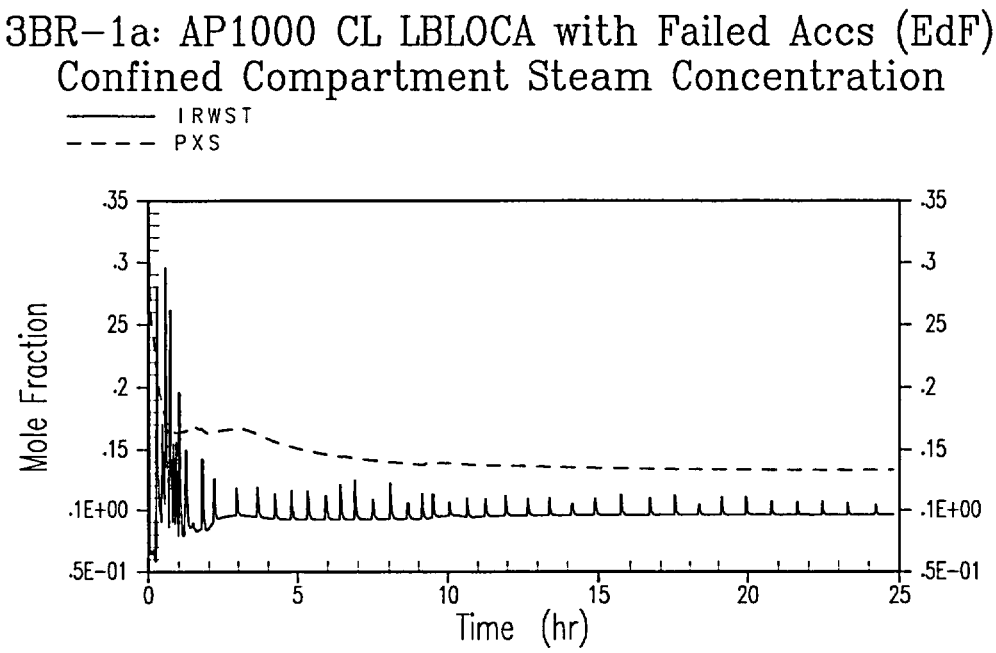

3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Well-Mixed Compartment Steam Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
Time (hr)
0
.2
.4
.6
.8
1
0
5
10
15
20
25

3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Well-Mixed Compartment Oxygen Concentration

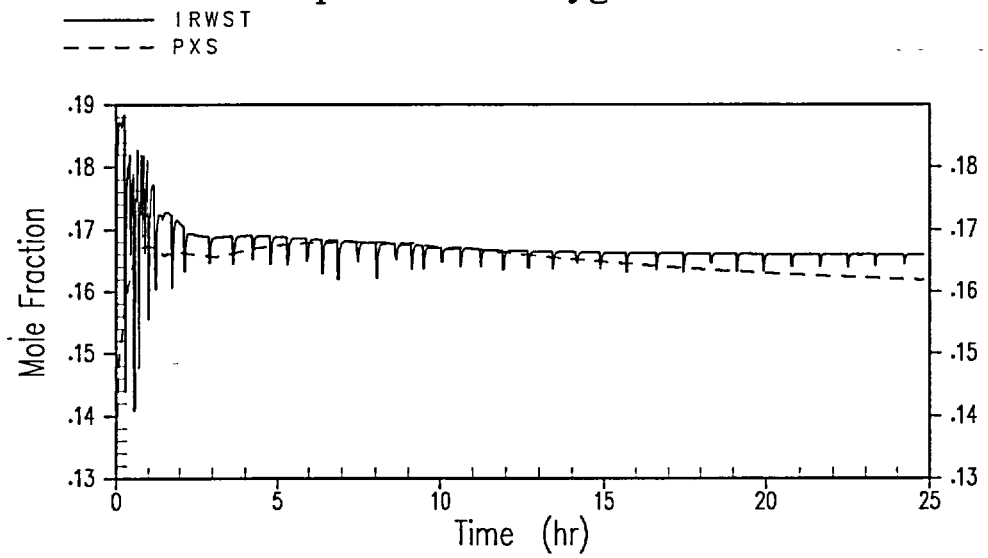


3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Confined Compartment Hydrogen Concentration

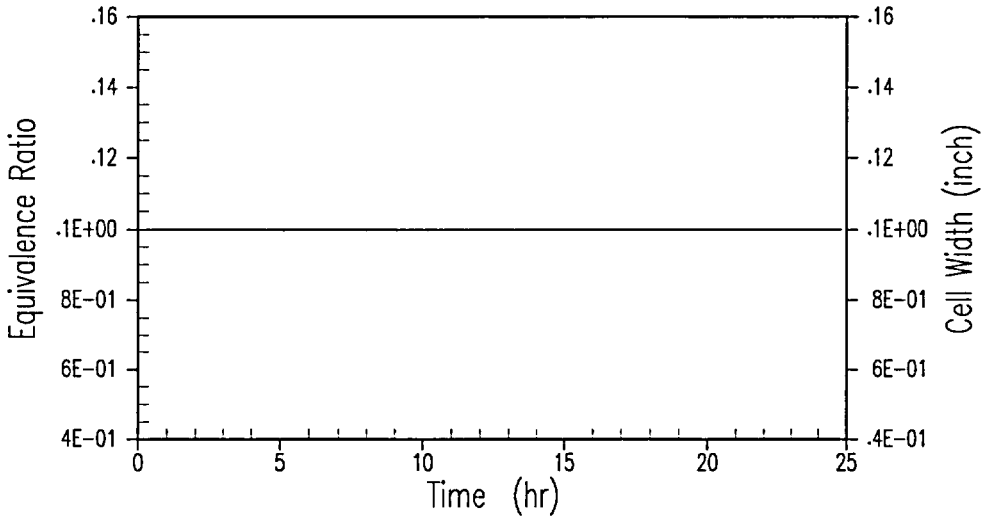



3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Confined Compartment Steam Concentration
IRWST
PXS
Mole Fraction
.35
.3
25
.2
.15
.1E+00
.5E-01
0
5
10
15
20
25
Time (hr)

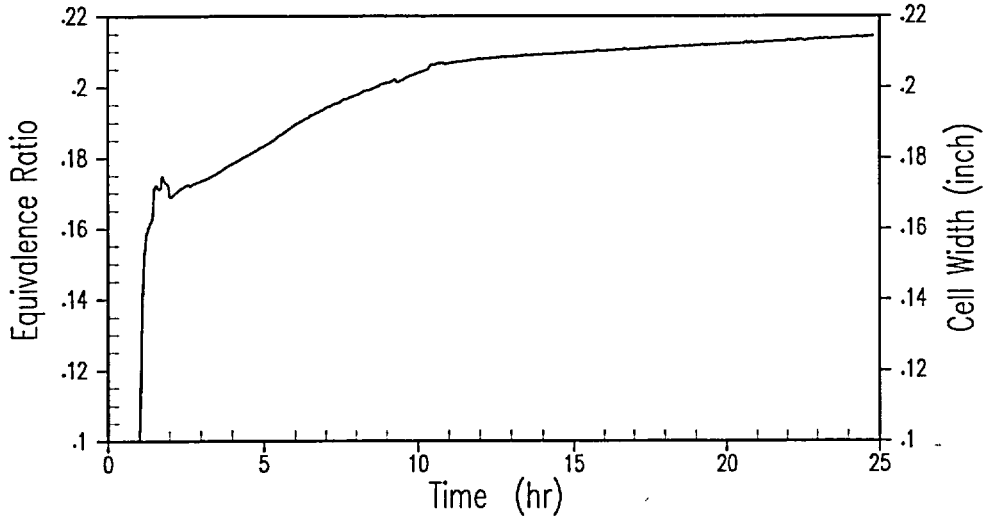
3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Confined Compartment Oxygen Concentration



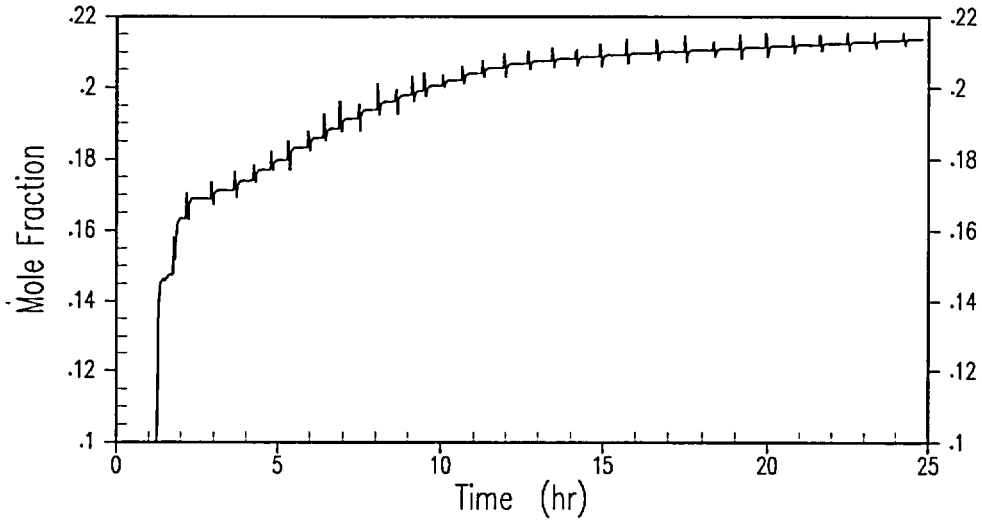
3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Equivalence Ratio in SG Room



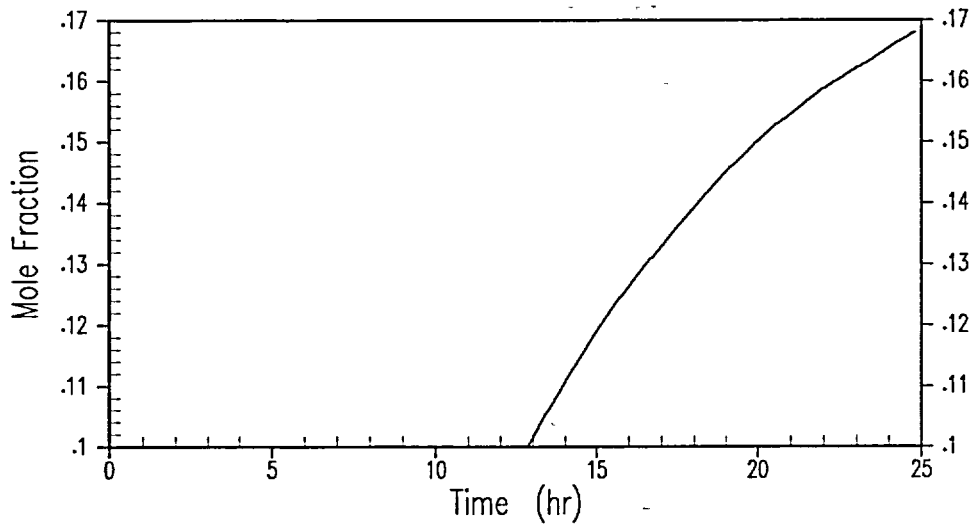
3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Equivalence Ratio in CMT Room



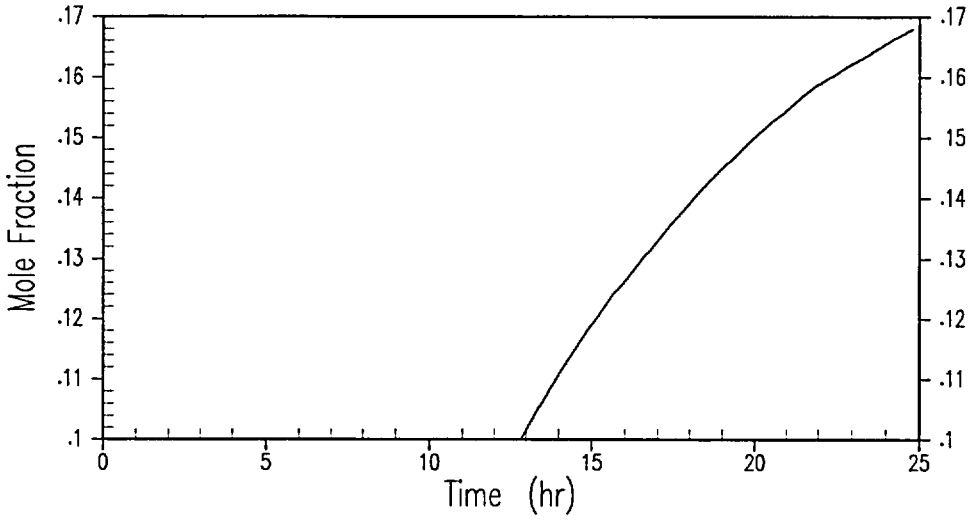
3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Equivalence Ratio in IRWST



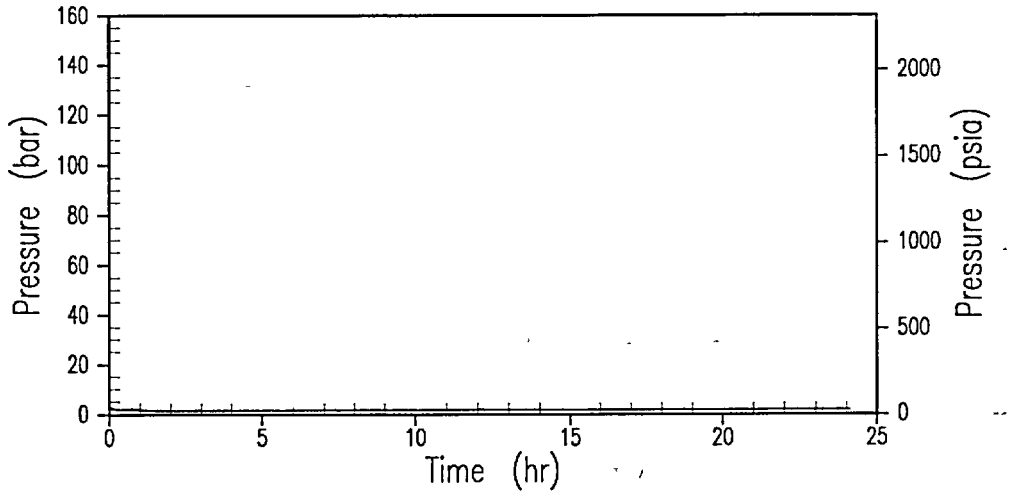
3BR-1a: AP1000 CL LBLOCA with Failed Accs (EdF)
Equivalence Ratio in PXS



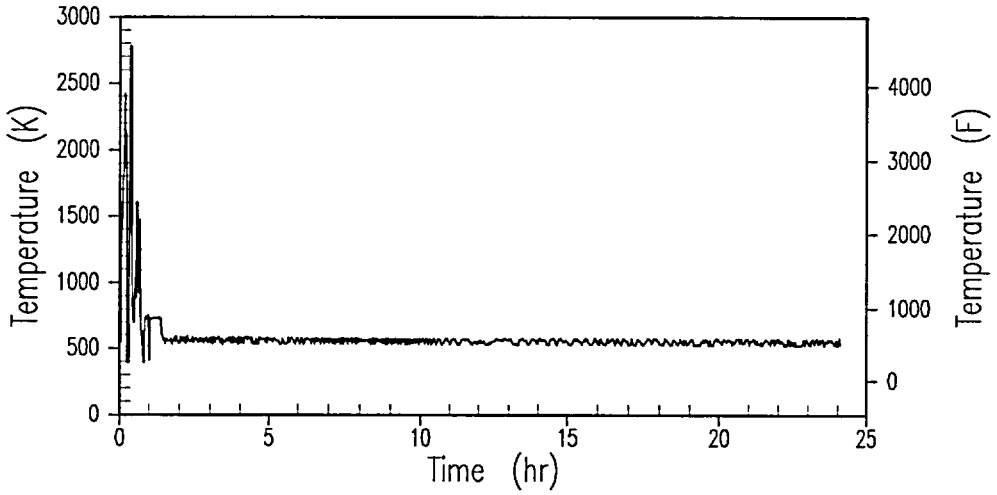
3BR-1: AP1000 CL LBLOCA with Failed Accs (EdF)
Equivalence Ratio in Valve Vault

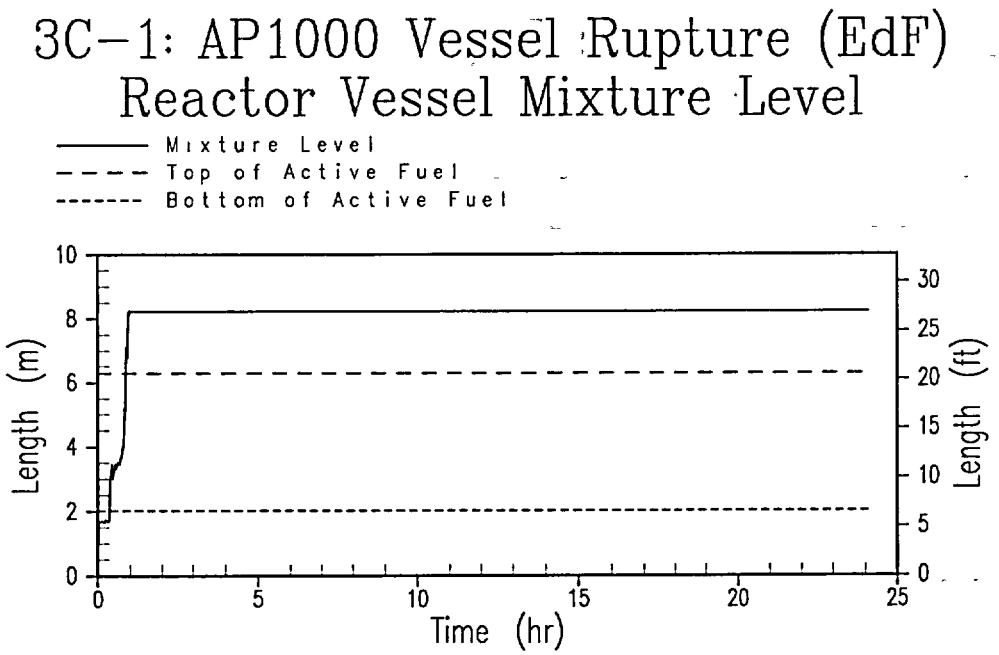


3C-1: AP1000 Vessel Rupture (EdF) Reactor Coolant System Pressure

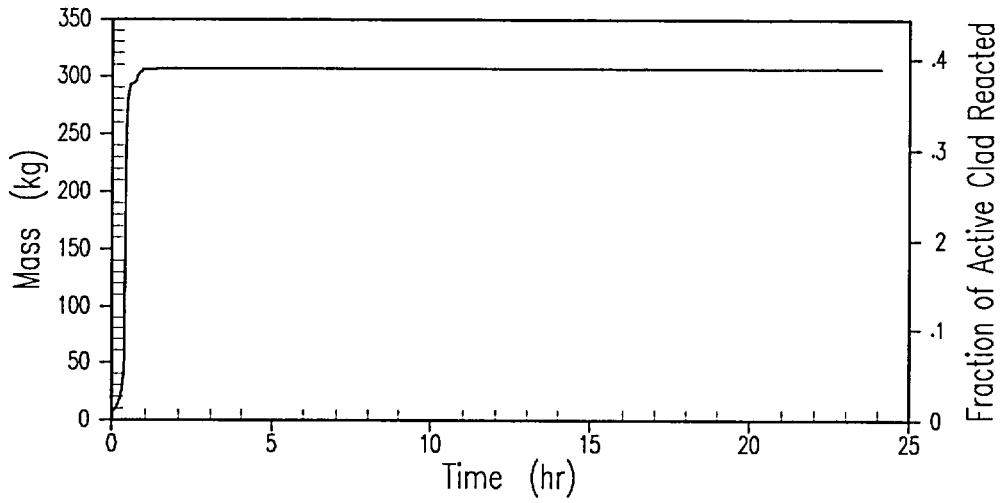


3C-1: AP1000 Vessel Rupture (EdF) Core-Exit Gas Temperature

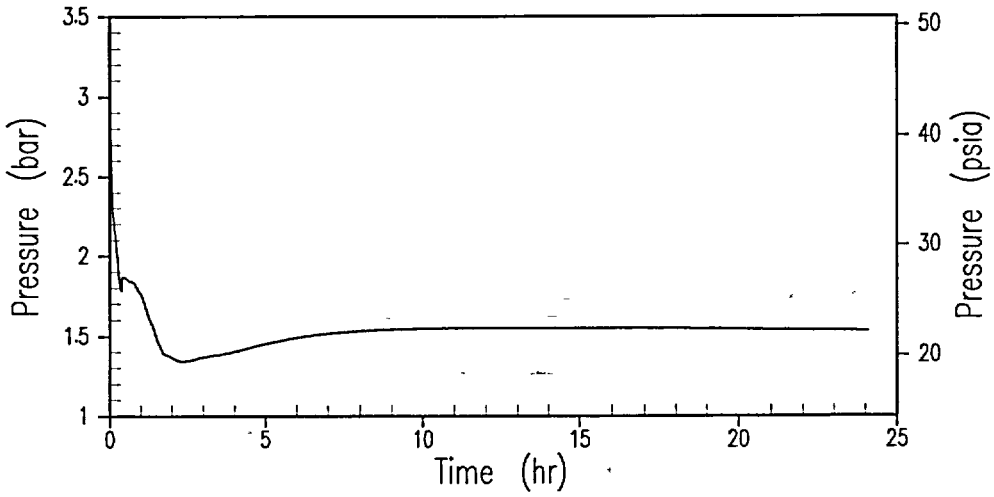


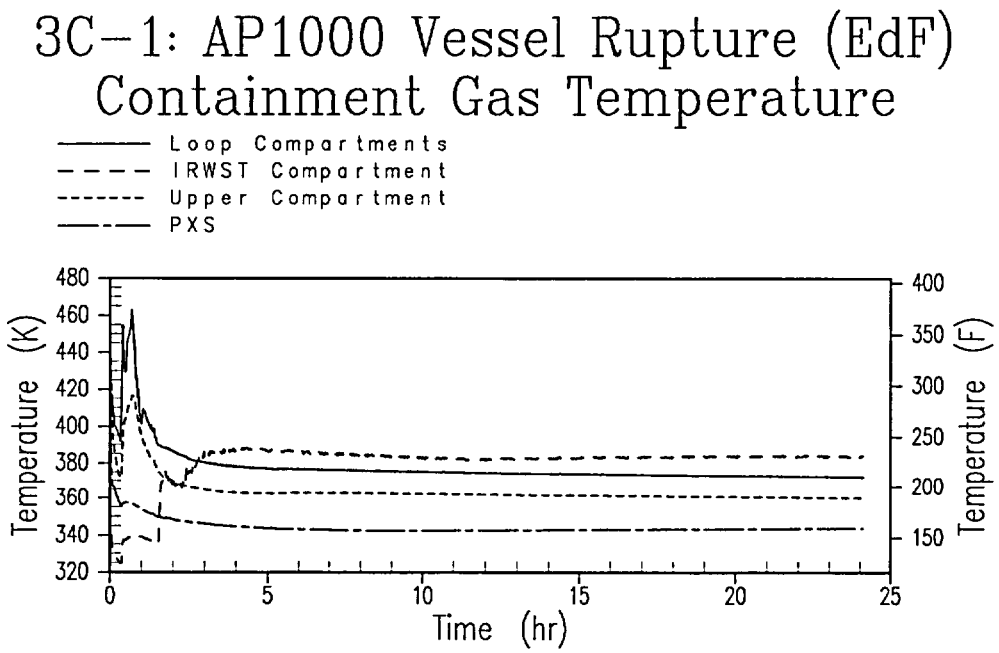

3C-1: AP1000 Vessel Rupture (EdF)
Reactor Vessel Mixture Level
Mixture Level
Top of Active Fuel
Bottom of Active Fuel
Length (m)
Length (ft)
Time (hr)
0
2
4
6
8
10
0
5
10
15
20
25
0
5
10
15
20
25
30

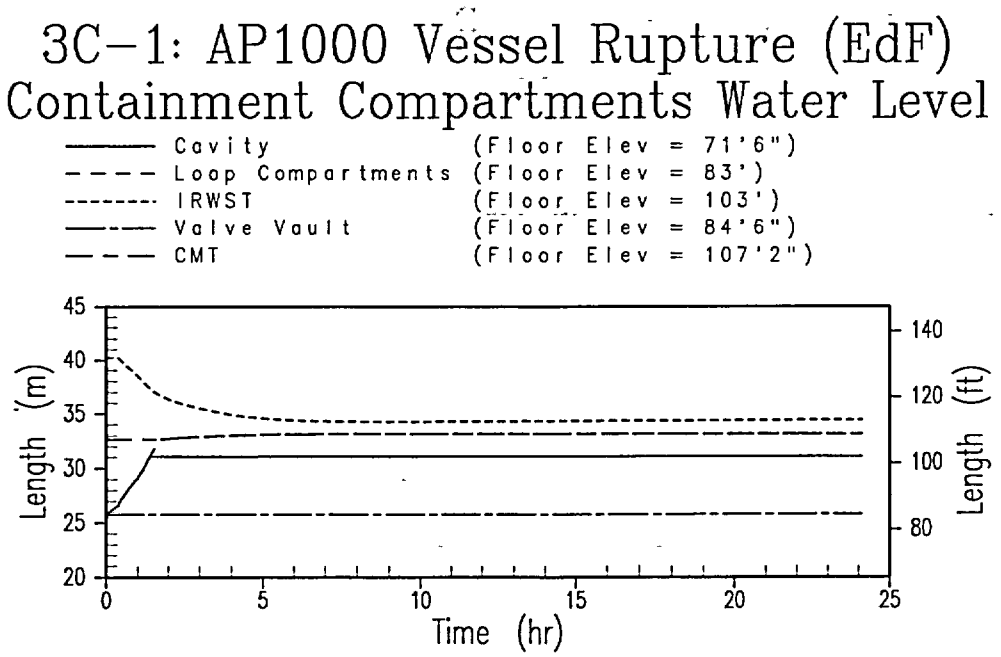
3C-1: AP1000 Vessel Rupture (EdF) Hydrogen Generated In-Vessel

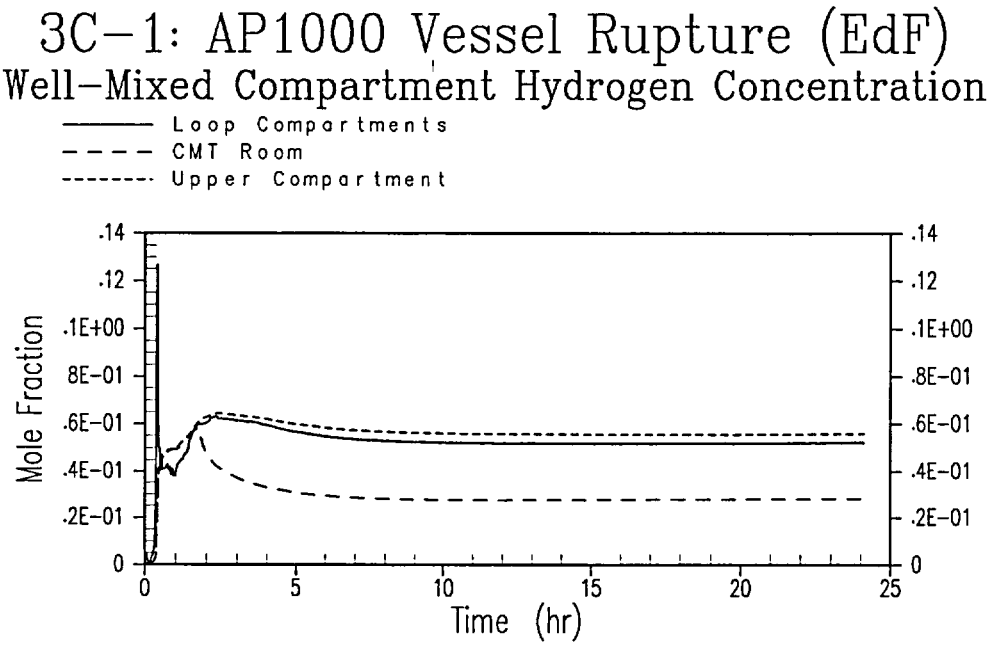


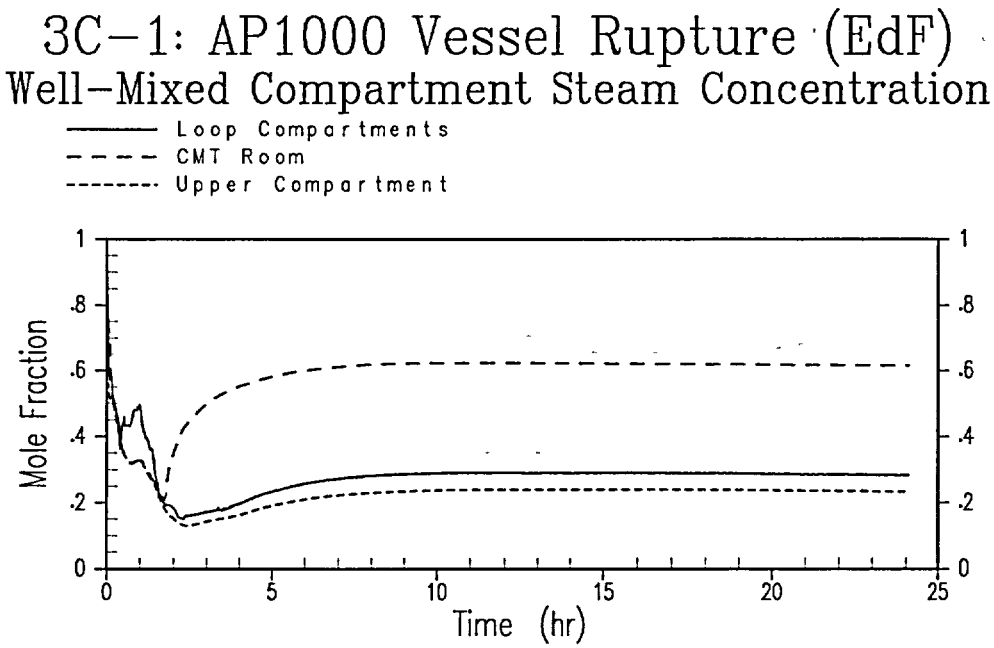
3C-1: AP1000 Vessel Rupture (EdF) Containment Pressure

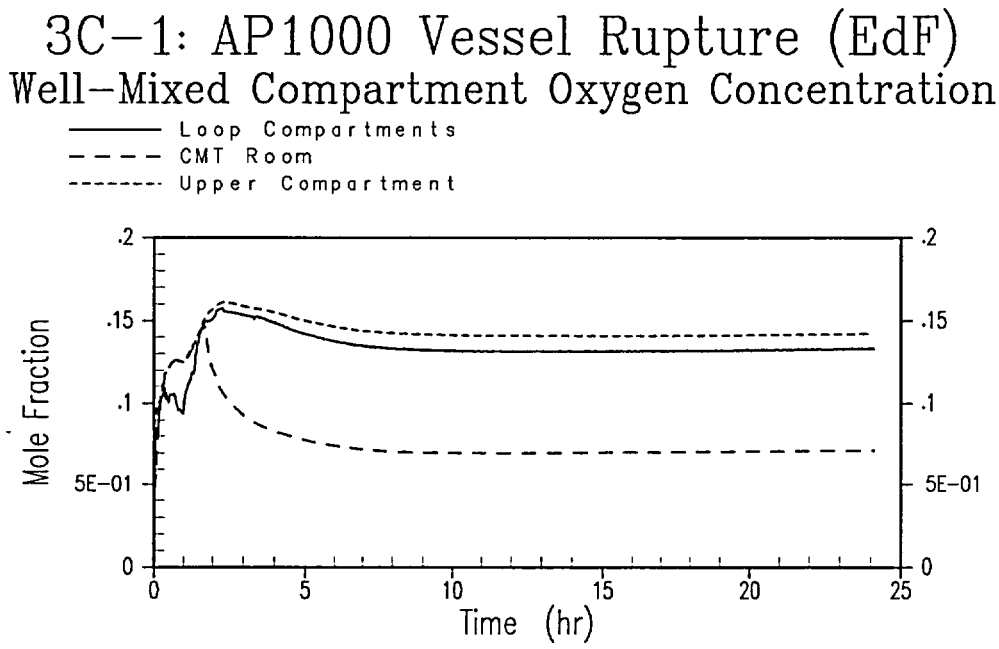


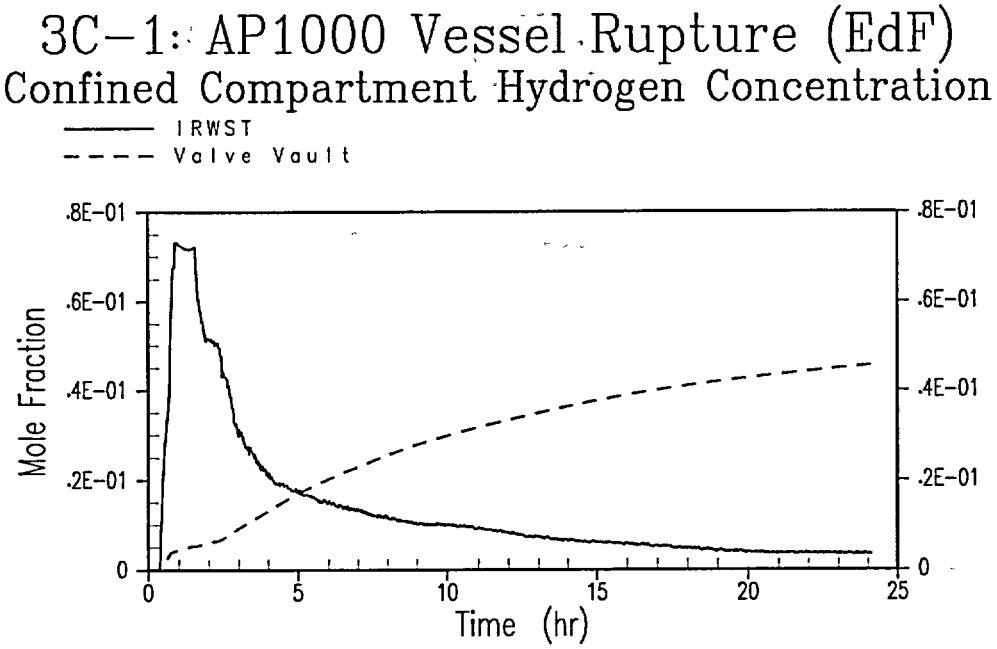

3C-1: AP1000 Vessel Rupture (EdF)
Containment Gas Temperature
Loop Compartments
IRWST Compartment
Upper Compartment
PXS
Temperature (K)
480
460
440
420
400
380
360
340
320
Temperature (F)
400
350
300
250
200
150
0
5
10
15
20
25
Time (hr)

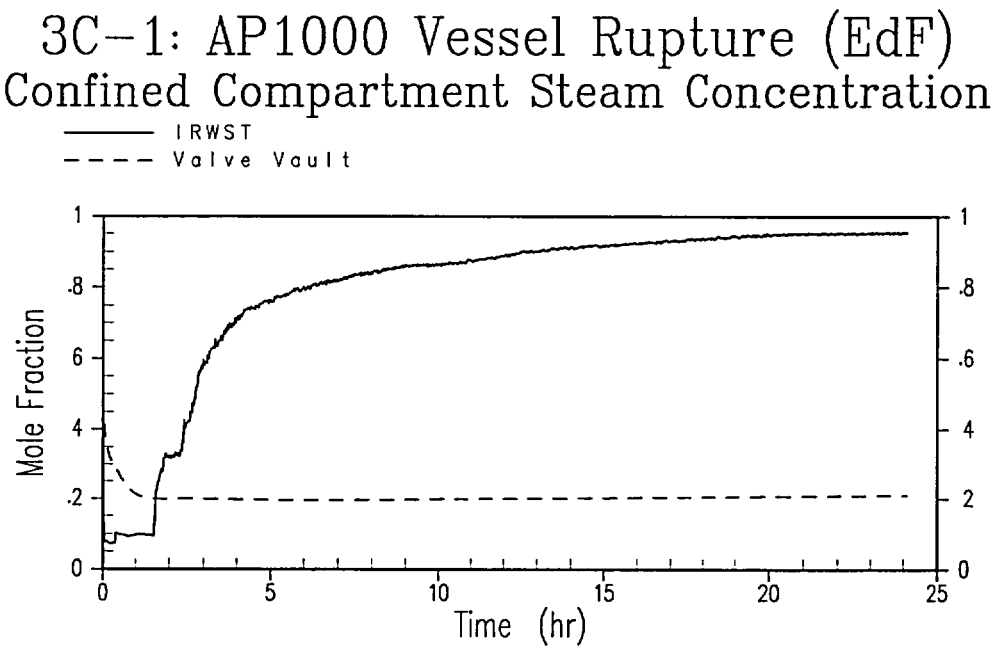

3C-1: AP1000 Vessel Rupture (EdF)
Containment Compartments Water Level
Cavity (Floor Elev = 71'6")
Loop Compartments (Floor Elev = 83')
IRWST (Floor Elev = 103')
Valve Vault (Floor Elev = 84'6")
CMT (Floor Elev = 107'2")
Length (m)
Length (ft)
Time (hr)
45
40
35
30
25
20
140
120
100
80
0
5
10
15
20
25

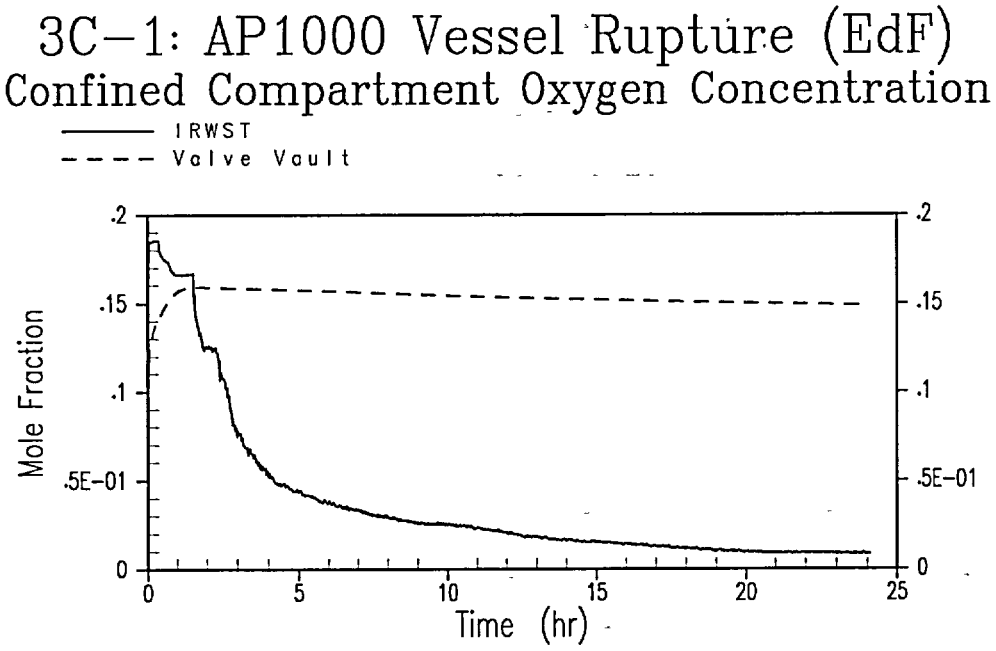

3C-1: AP1000 Vessel Rupture (EdF)
Well-Mixed Compartment Hydrogen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.14
.12
.1E+00
8E-01
.6E-01
.4E-01
.2E-01
0
0
5
10
15
20
25
Time (hr)


3C-1: AP1000 Vessel Rupture (EdF)
Well-Mixed Compartment Steam Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
Time (hr)
0
.2
.4
.6
.8
1
0
5
10
15
20
25

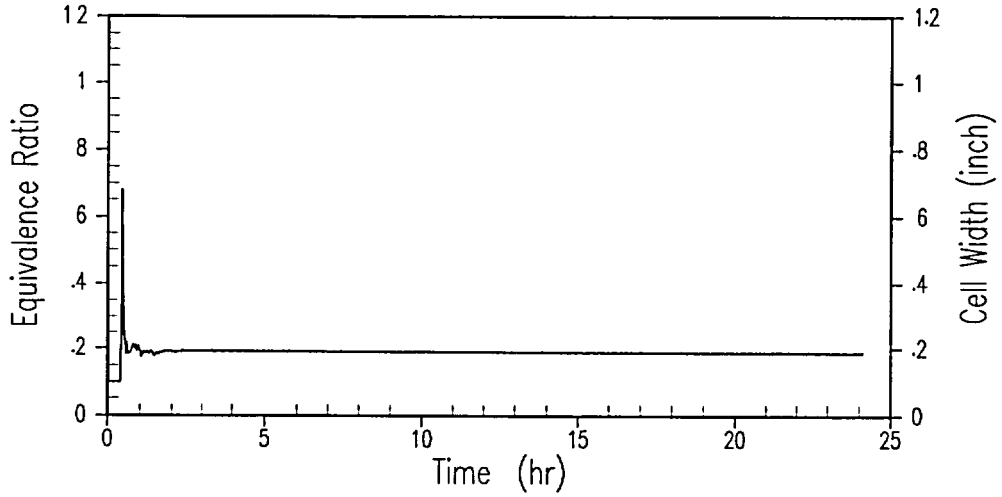

3C-1: AP1000 Vessel Rupture (EdF)
Well-Mixed Compartment Oxygen Concentration
Loop Compartments
CMT Room
Upper Compartment
Mole Fraction
.2
.15
.1
5E-01
0
0
5
10
15
20
25
Time (hr)


3C-1: AP1000 Vessel Rupture (EdF)
Confined Compartment Hydrogen Concentration
IRWST
Valve Vault
Mole Fraction
.8E-01
.6E-01
.4E-01
.2E-01
0
0
5
10
15
20
25
Time (hr)

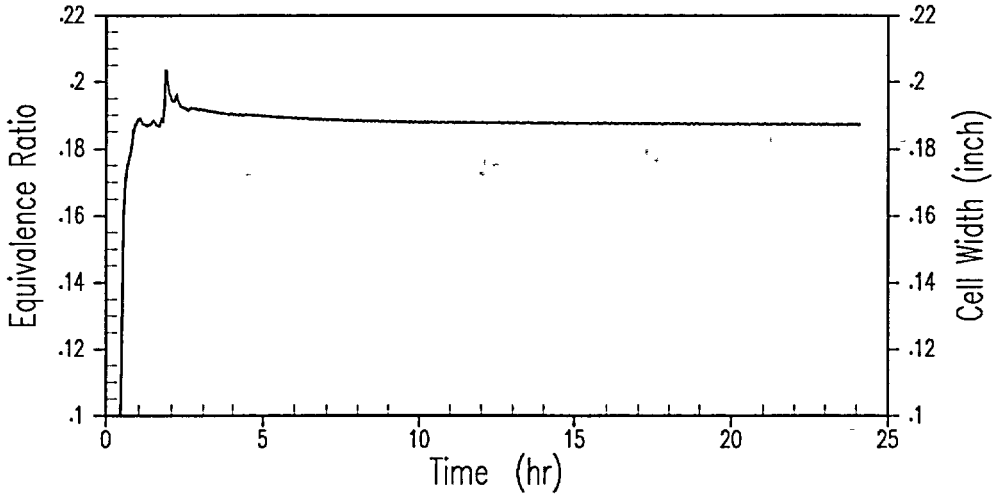
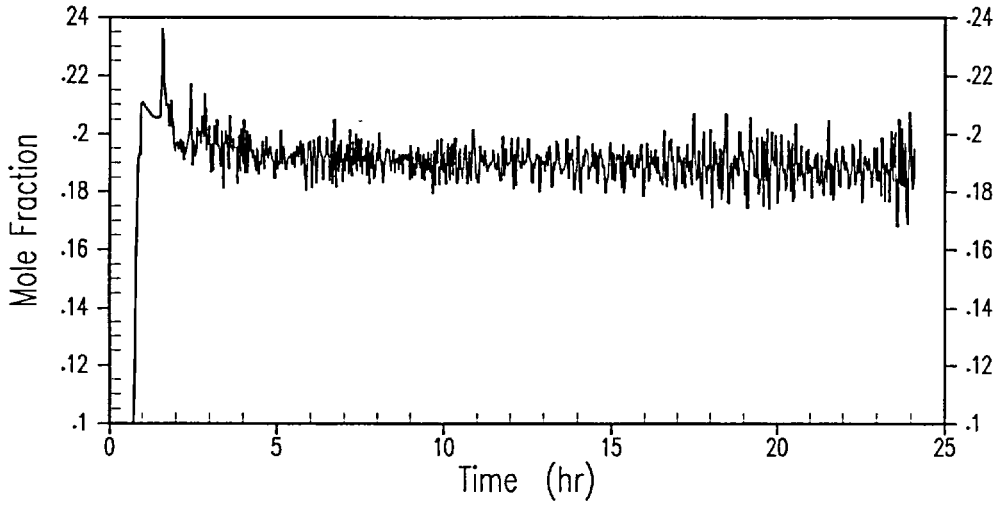

3C-1: AP1000 Vessel Rupture (EdF)
Confined Compartment Steam Concentration
IRWST
Valve Vault
Mole Fraction
Time (hr)
1
.8
6
4
.2
0
.6
2
5
10
15
20
25


3C-1: AP1000 Vessel Rupture (EdF)
Confined Compartment Oxygen Concentration
IRWST
Valve Vault
Mole Fraction
.2
.15
.1
.5E-01
0
0
5
10
15
20
25
Time (hr)

3C-1: AP1000 Vessel Rupture (EdF) Equivalence Ratio in SG Room



3C-1: AP1000 Vessel Rupture (EdF) Equivalence Ratio in CMT Room



3C-1: AP1000 Vessel Rupture (EdF) Equivalence Ratio in IRWST