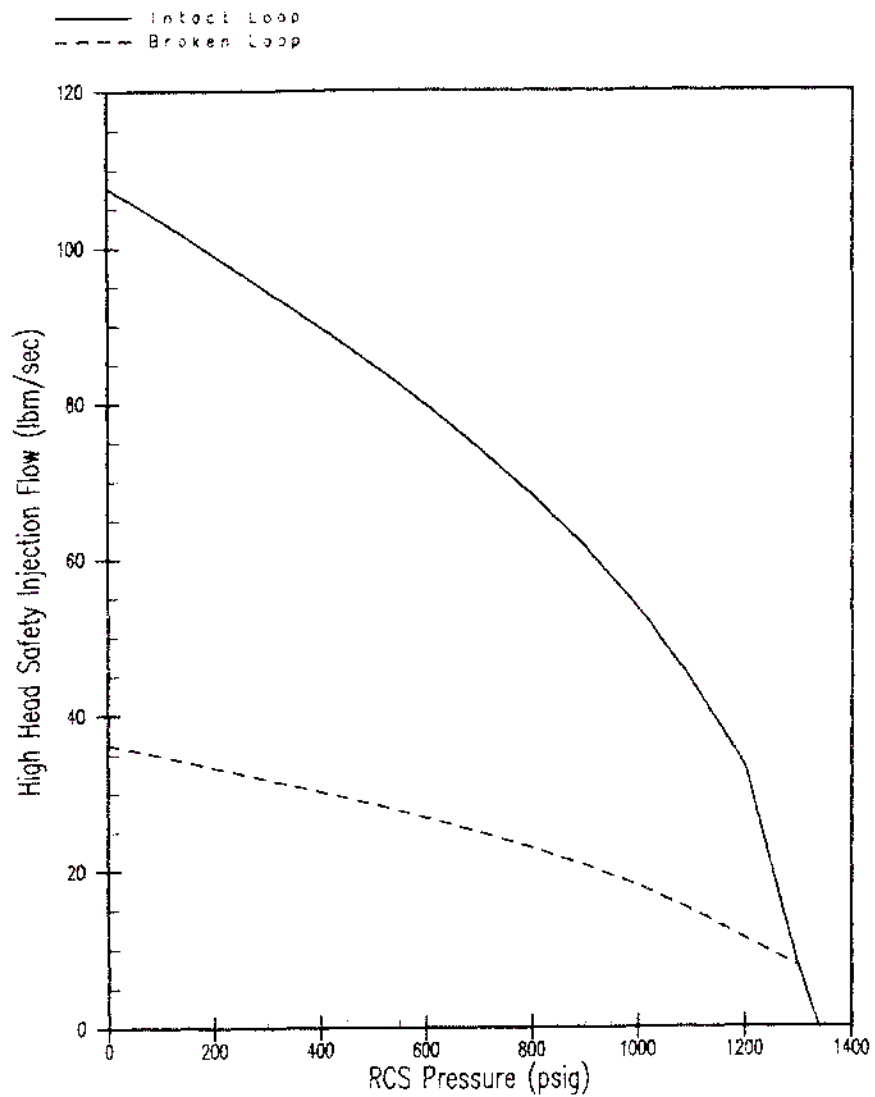


Figure 14.3-2: Indian Point Unit 2 WCOBRA/TRAC Model Loop Layout

| | |
|--|-------------|
| INDIAN POINT UNIT No. 2 | |
| INDIAN POINT UNIT 2 <u>W</u> COBRA/TRAC VESSEL MODEL LOOP LAYOUT | |
| UFSAR FIGURE 14.3-2 | REV. No. 20 |



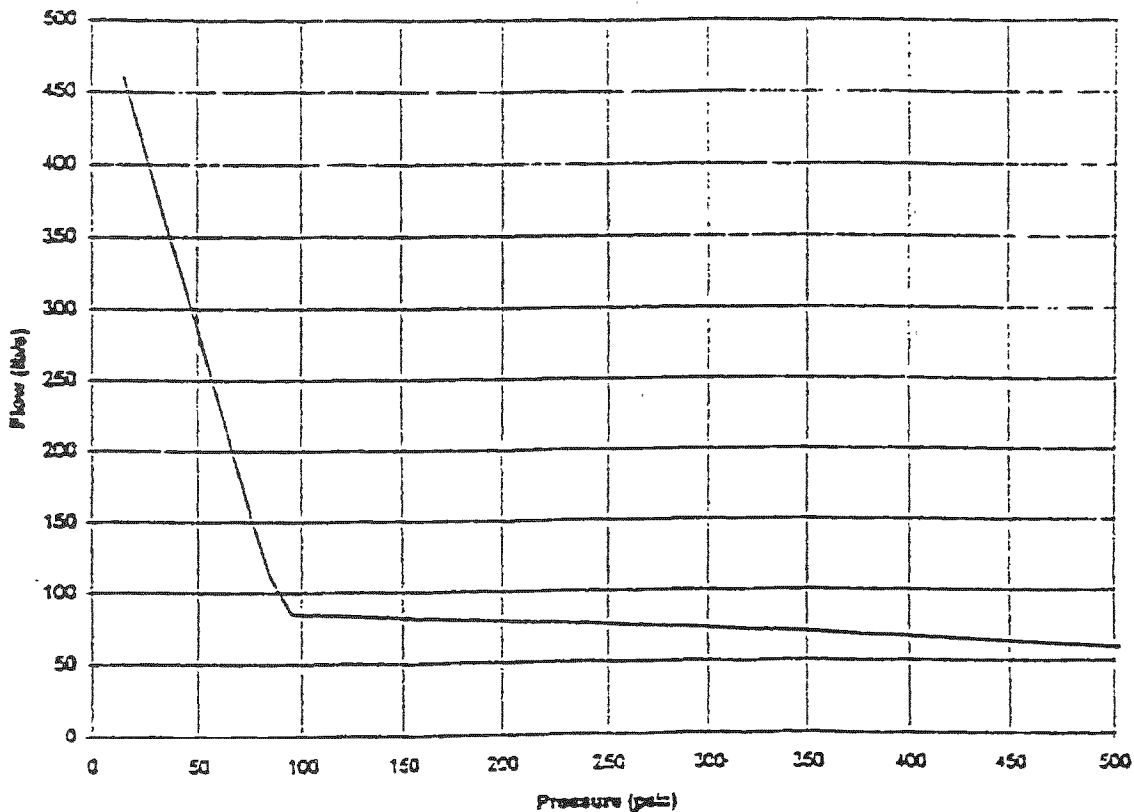
INDIAN POINT UNIT No. 2

HIGH HEAD SAFETY
INJECTION FLOW RATE

UFSAR FIGURE 14.3-3

REV. No. 19

SAFETY INJECTION FLOW vs. RCS PRESSURE



INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-3A

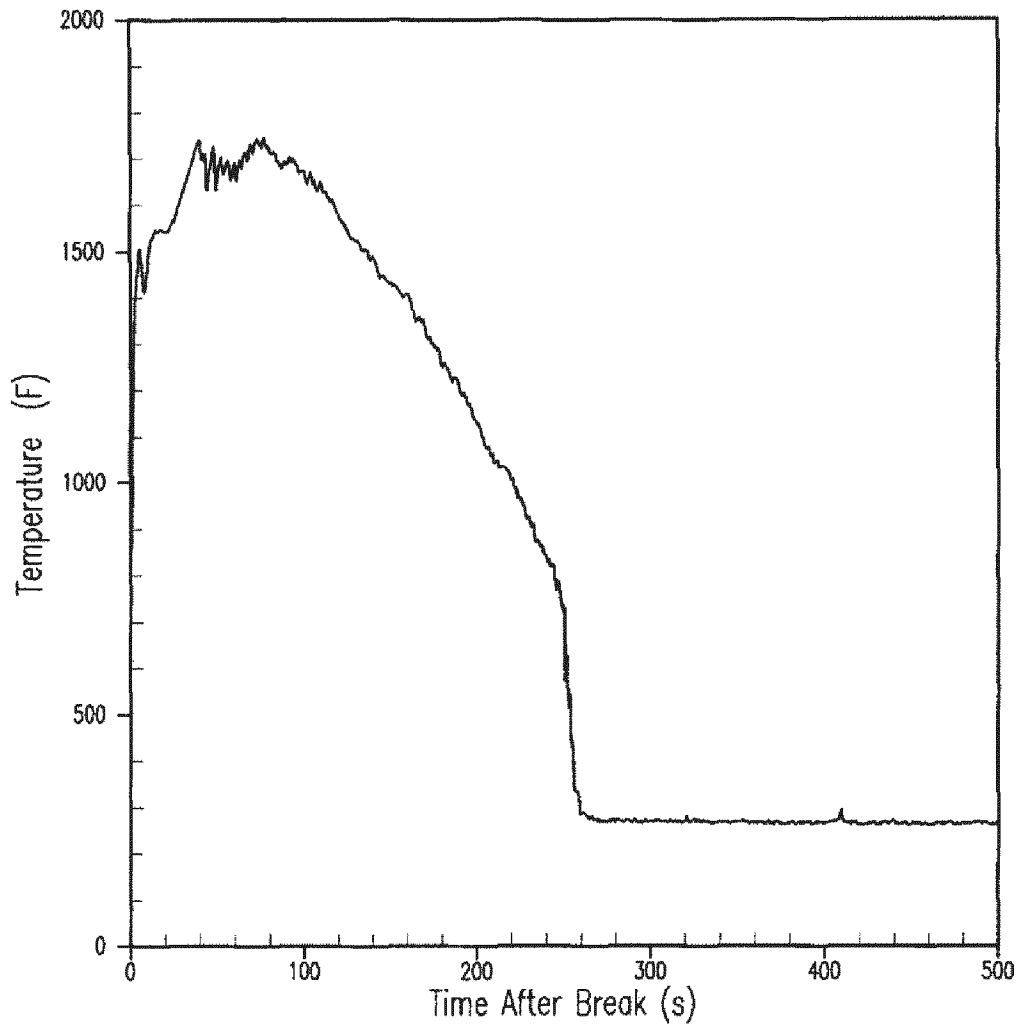
SAFETY INJECTION FLOW vs
RCS PRESSURE

MIC. No. 2000MC4204

REV. No. 17A

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— ROD 1 PEAK CLADDING TEMPERATURE



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Figure 14.3-6: Peak Cladding Temperature for Reference Transient

INDIAN POINT UNIT No. 2

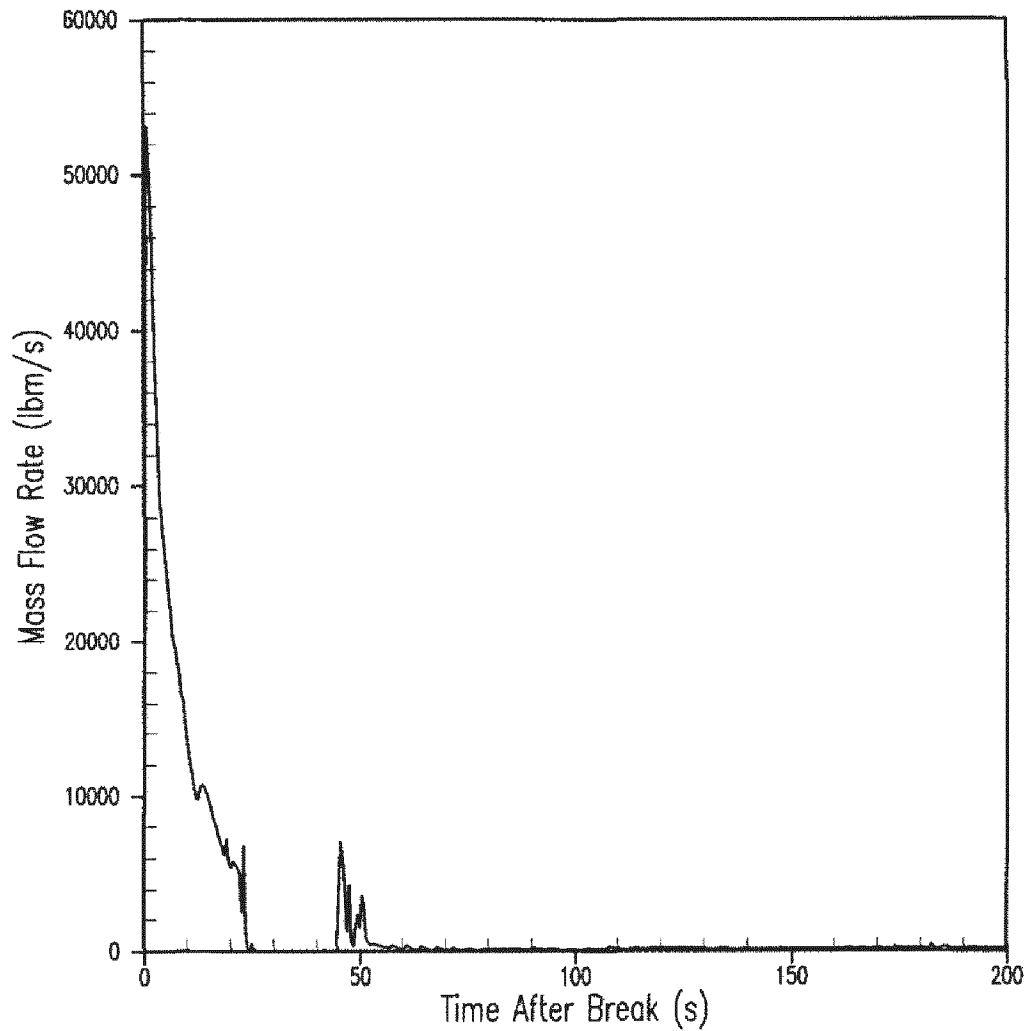
PEAK CLADDING TEMPERATURE
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-6

REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— VESSEL SIDE BREAK FLOW



743853091

Figure 14.3-7: Vessel Side Break Flow for Reference Transient

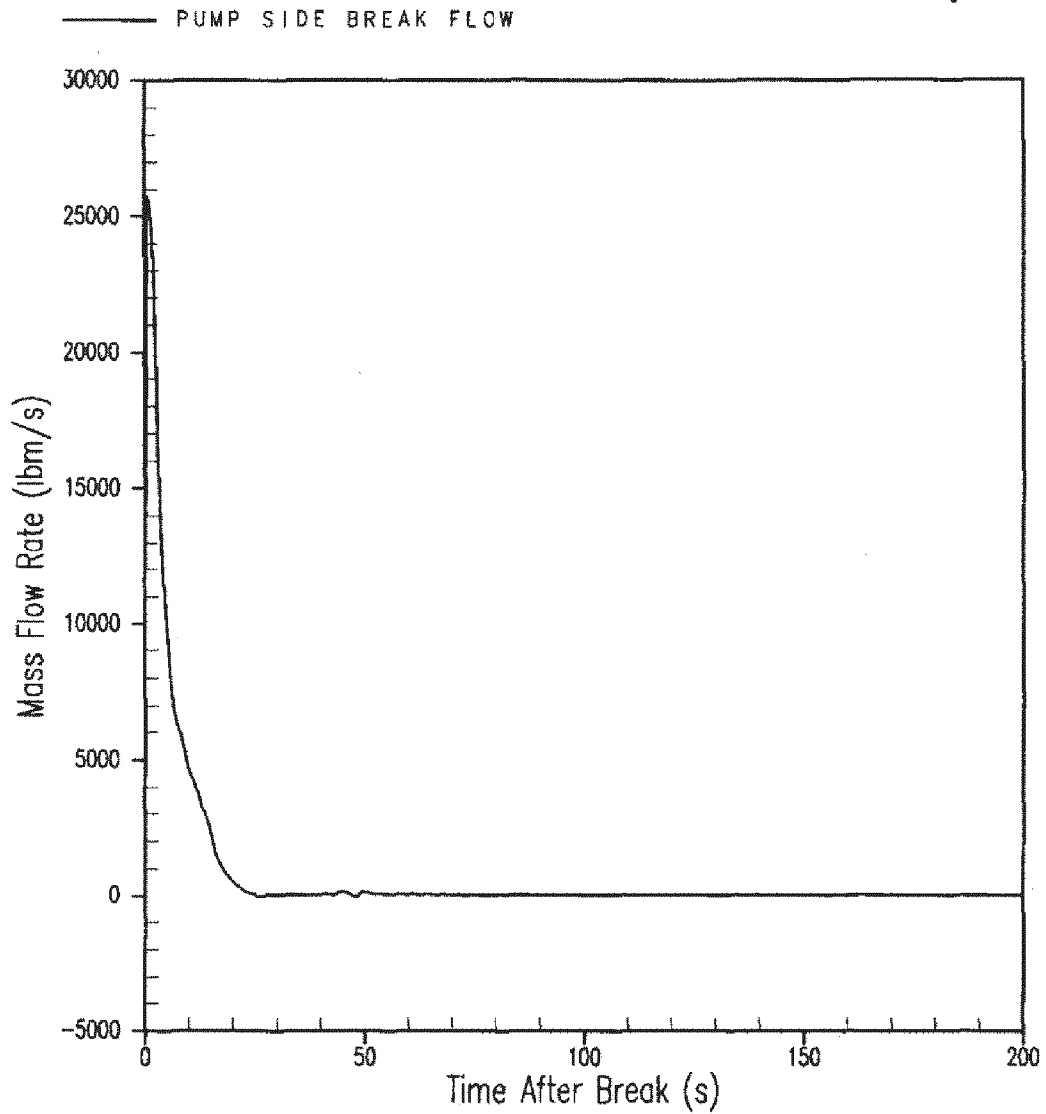
INDIAN POINT UNIT No. 2

VESSEL SIDE BREAK FLOW
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-7

REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis



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Figure 14.3-8: Loop Side Break Flow for Reference Transient

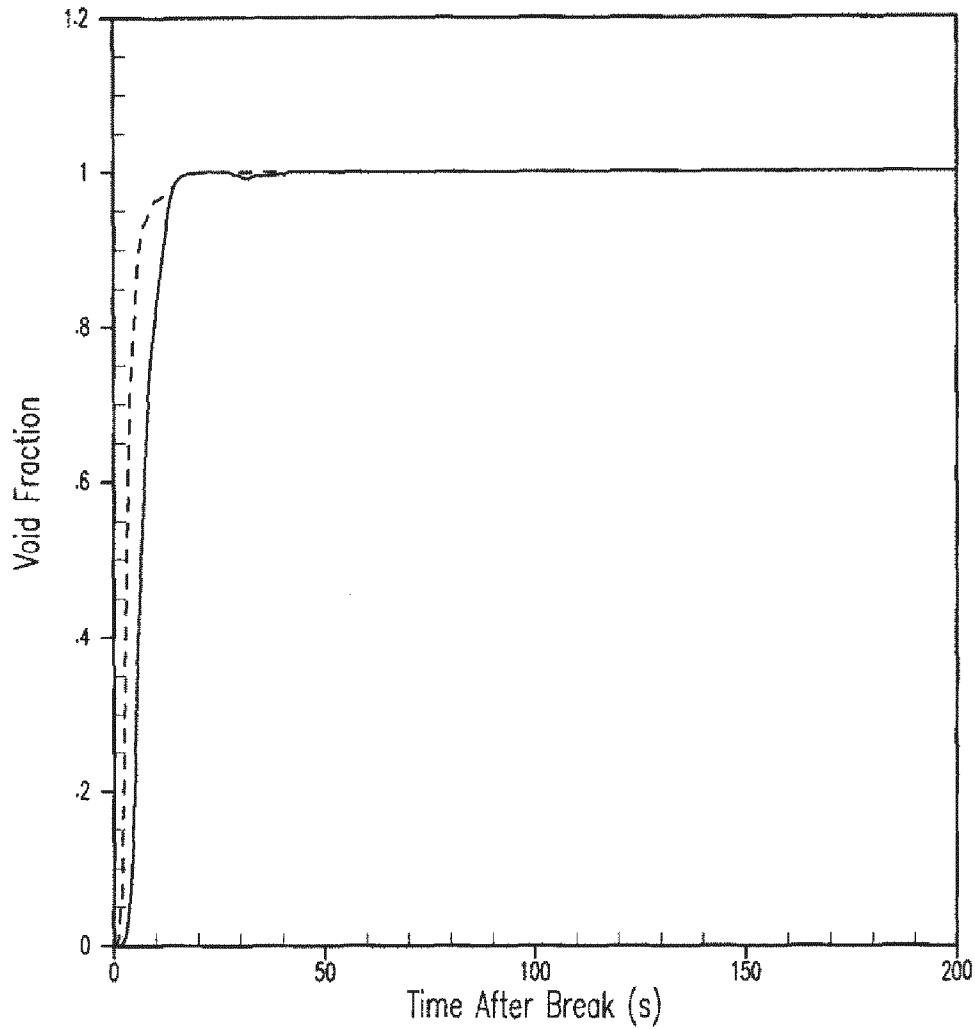
INDIAN POINT UNIT No. 2

LOOP SIDE BREAK FLOW
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-8 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— INTACT LOOP PUMP VOID FRACTION
- - - BROKEN LOOP PUMP VOID FRACTION



15533541

Figure 14.3-9: Void Fraction at the Intact and Broken Loop Pump Inlet for Reference Transient

INDIAN POINT UNIT No. 2

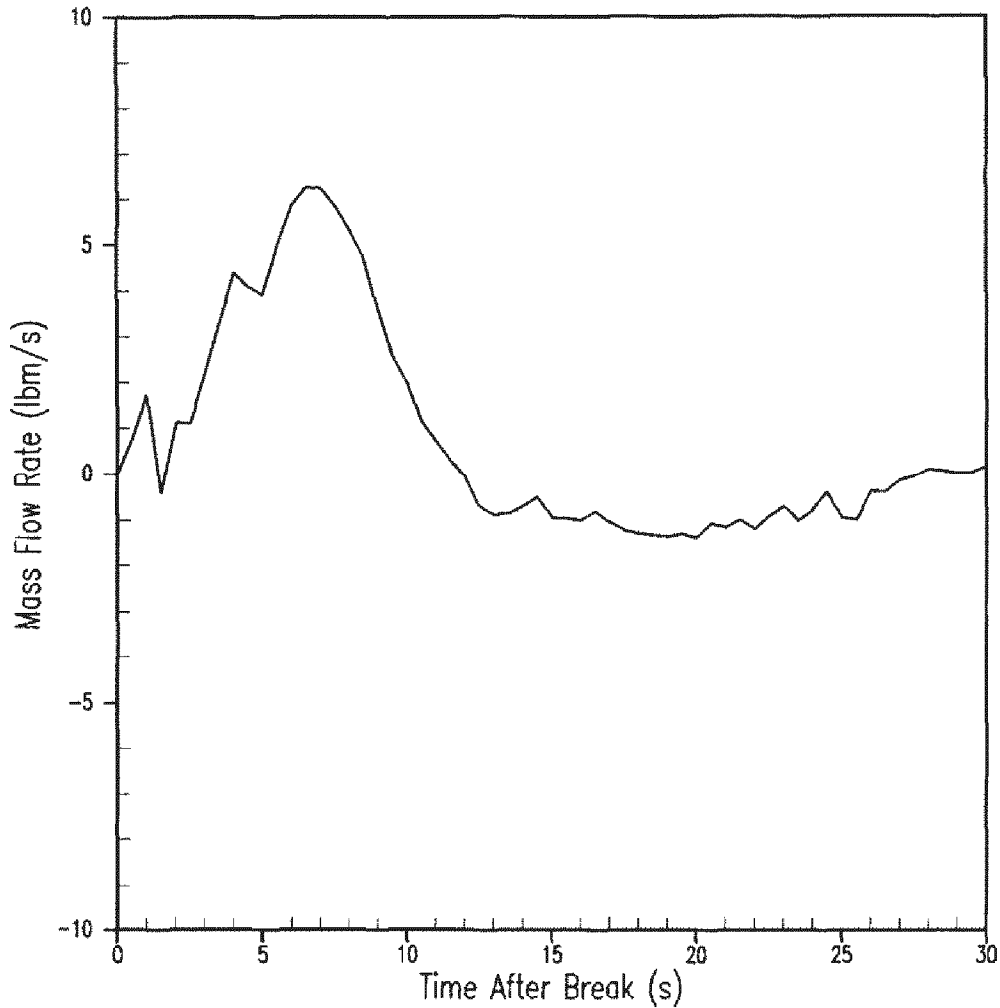
VOID FRACTION AT THE INTACT
AND BROKEN LOOP PUMP INLET
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-9

REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— VAPOR FLOW RATE PER ASSEMBLY IN CORE AVERAGE CH 17



743853001

Figure 14.3-10: Vapor Flow Rate per Assembly at Mid-core in Core Average Channel 17 During Blowdown for Reference Transient

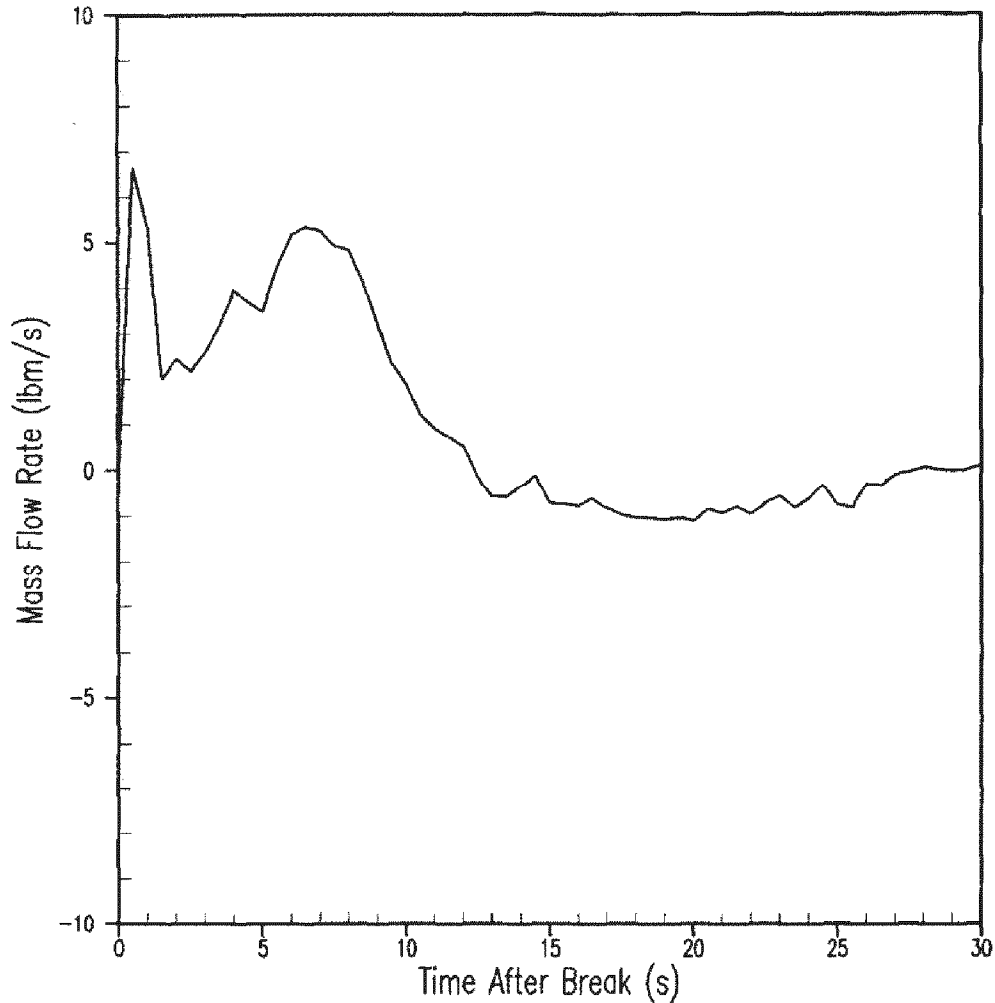
INDIAN POINT UNIT No. 2

**VAPOR FLOW RATE PER ASSEMBLY
AT MID-CORE AVERAGE CHANNEL 17
DURING BLOWDOWN
FOR REFERENCE TRANSIENT**

UFSAR FIGURE 14.3-10 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

VAPOR FLOW RATE IN CORE HOT ASSEMBLY CHANNEL 19



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Figure 14.3-11: Vapor Flow Rate at Mid-core in Core Hot Assembly Channel 19 During Blowdown for Reference Transient

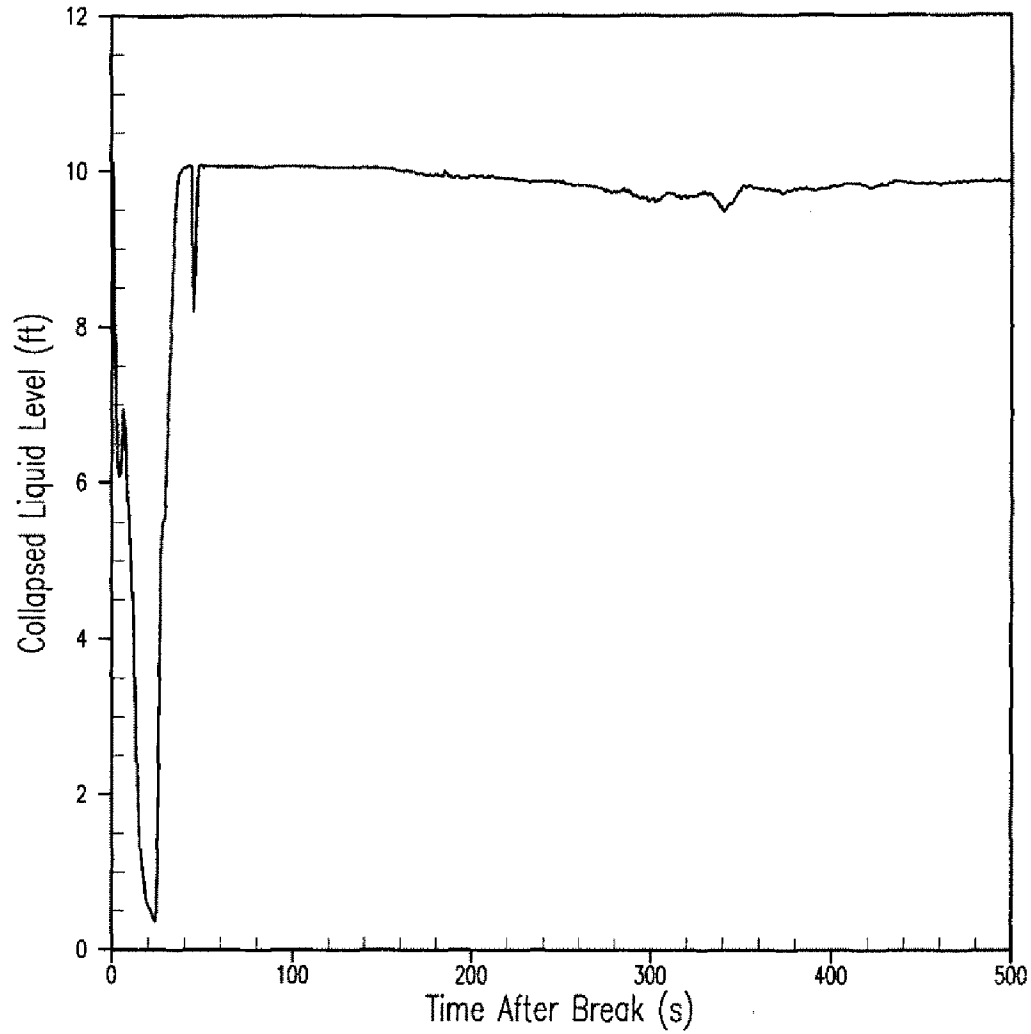
INDIAN POINT UNIT No. 2

VAPOR FLOW RATE PER ASSEMBLY
AT MID-CORE AVERAGE CHANNEL 19
DURING BLOWDOWN
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-11 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— LOWER PLENUM COLLAPSED LIQUID LEVEL



743853091

Figure 14.3-12: Collapsed Liquid Level in Lower Plenum for Reference Transient

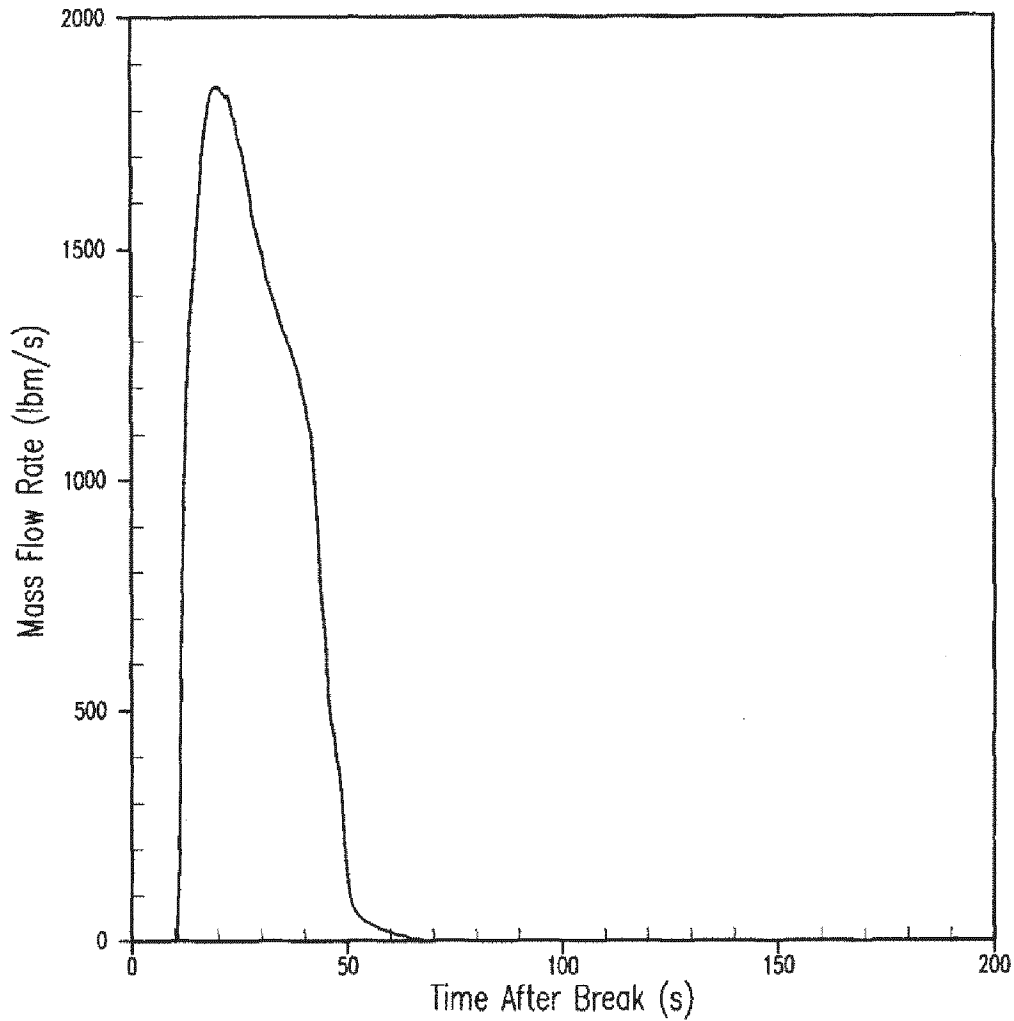
INDIAN POINT UNIT No. 2

COLLAPSED LIQUID LEVEL PLENUM
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-12 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— INTACT LOOP 2 ACCUMULATOR MASS FLOW RATE



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Figure 14.3-13: Intact Loop 2 Accumulator Flow for Reference Transient

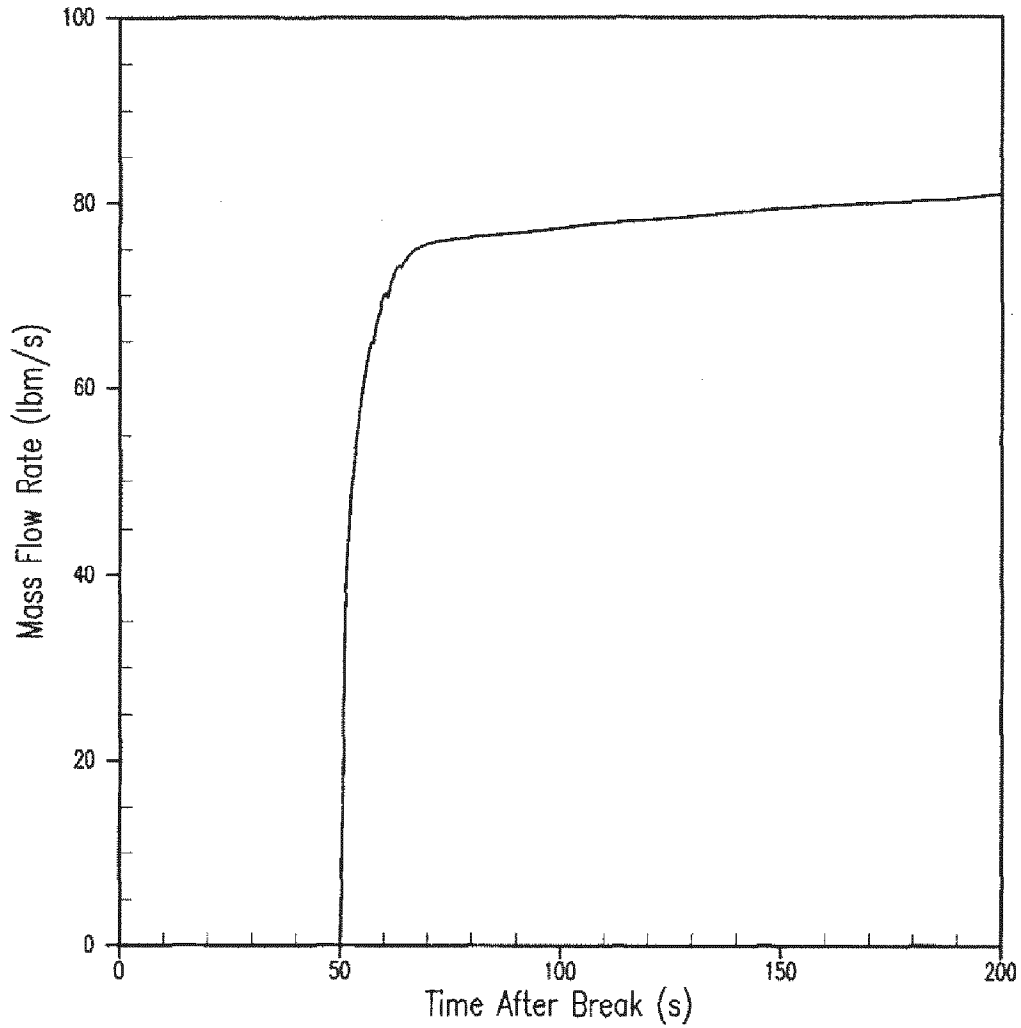
INDIAN POINT UNIT No. 2

INTACT LOOP 2 ACCUMULATOR FLOW
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-13 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

INTACT LOOP 2 SI MASS FLOW RATE



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Figure 14.3-14: Intact Loop 2 Safety Injection Flow for Reference Transient

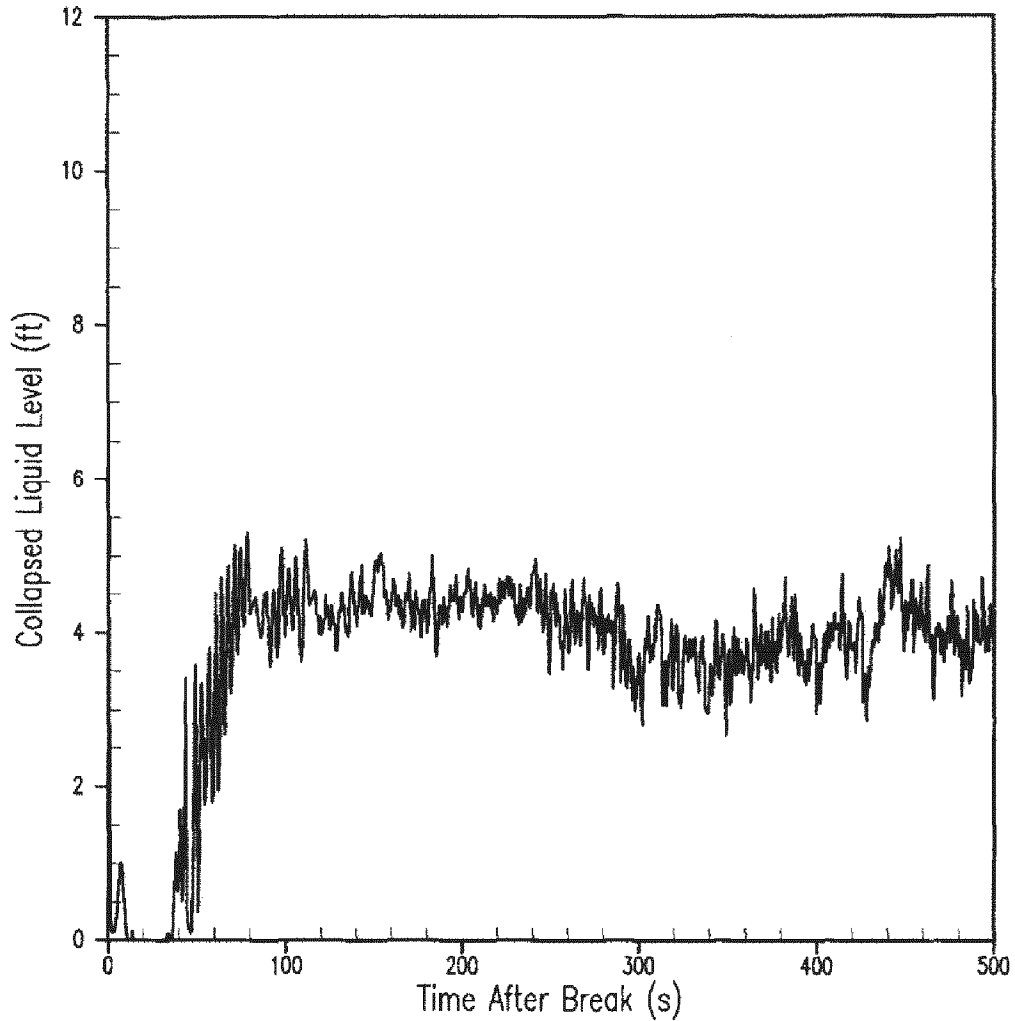
INDIAN POINT UNIT No. 2

INTACT LOOP 2 SAFETY INJECTION FLOW
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-14 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— LIQUID LEVEL IN CORE AVERAGE CHANNEL 17



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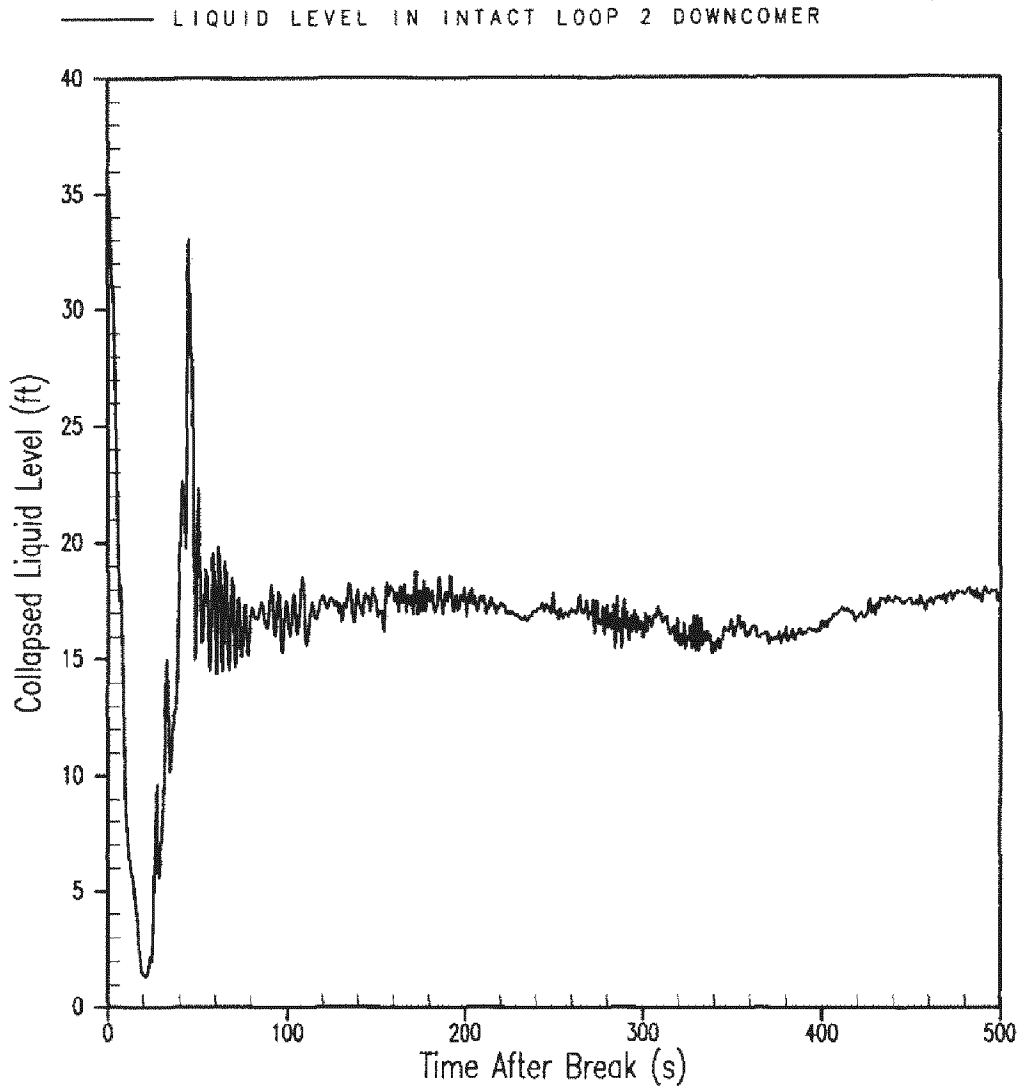
Figure 14.3-15: Collapsed Liquid Level in Core Average Channel 17 for Reference Transient

INDIAN POINT UNIT No. 2

COLLAPSED LIQUID LEVEL
IN CORE AVERAGE CHANNEL 17
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-15 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis



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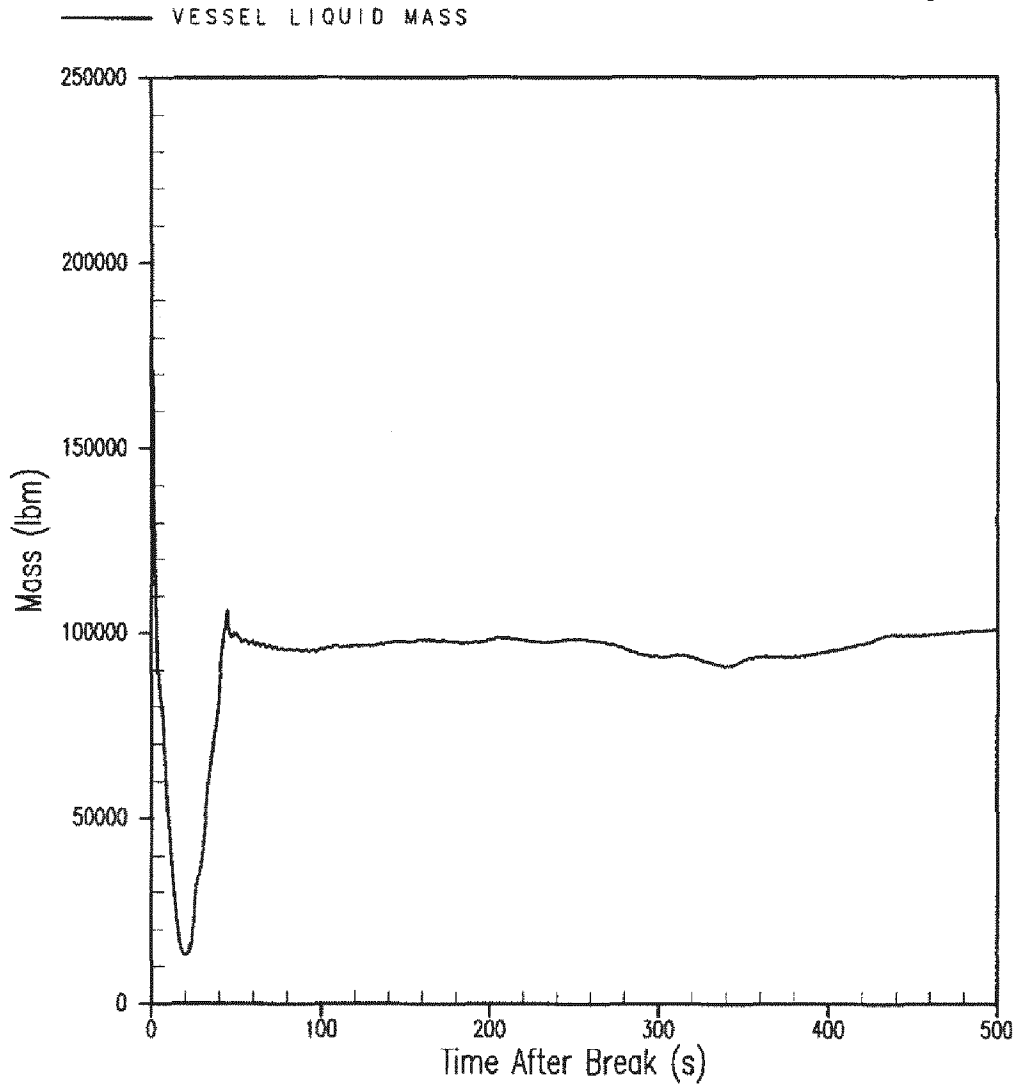
Figure 14.3-16: Collapsed Liquid Level in Intact Loop Downcomer for Reference Transient

INDIAN POINT UNIT No. 2

COLLAPSED LIQUID LEVEL
IN INTACT LOOP DOWNCOMER
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-16 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis



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Figure 14.3-17: Vessel Fluid Mass for Reference Transient

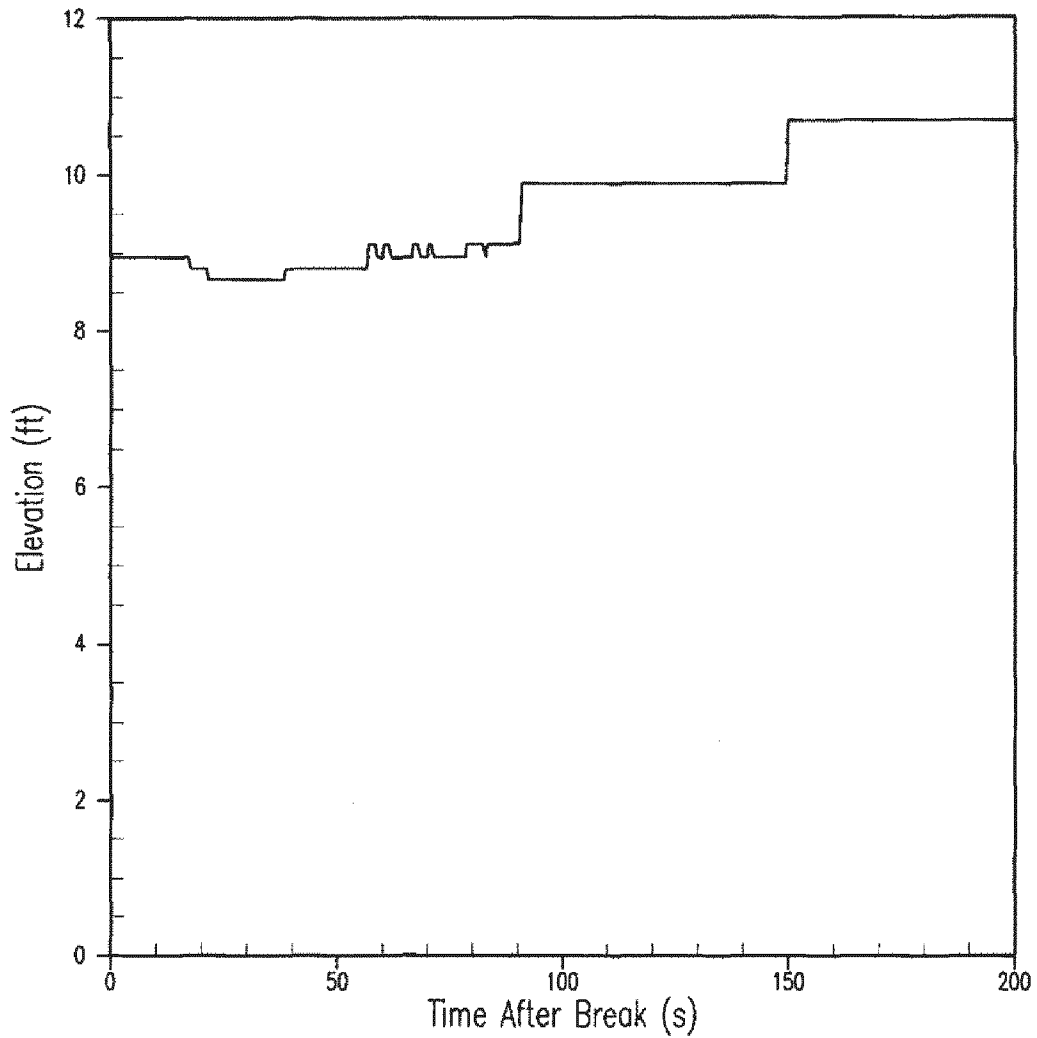
INDIAN POINT UNIT No. 2

VESSEL FLUID MASS
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-17 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— ROD 1 PEAK CLADDING TEMPERATURE LOCATION



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Figure 14.3-18: Peak Cladding Temperature Elevation for Reference Transient

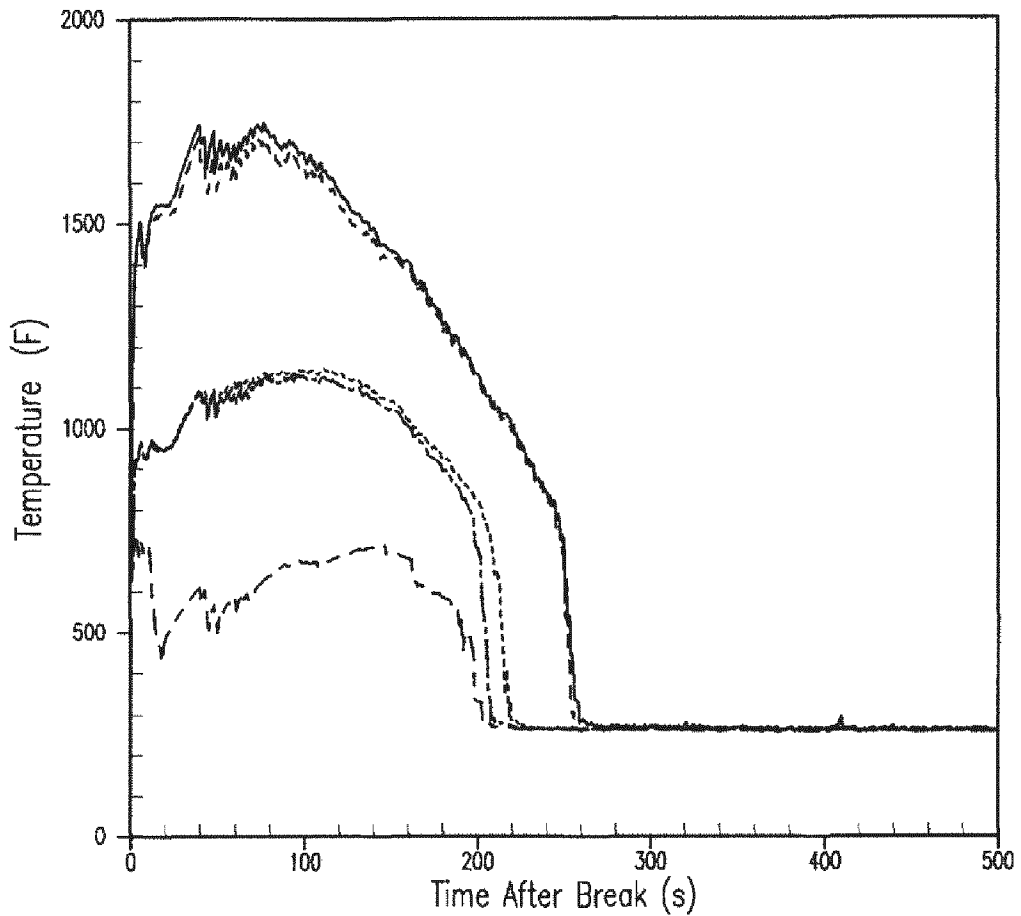
INDIAN POINT UNIT No. 2

PEAK CLADDING TEMPERATURE ELEVATION
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-18 | REV. No. 20

Indian Point Unit 2 Best-Estimate LBLOCA Analysis

- ROD 1 PEAK CLADDING TEMPERATURE
- ROD 2 PEAK CLADDING TEMPERATURE
- ROD 3 PEAK CLADDING TEMPERATURE
- ROD 4 PEAK CLADDING TEMPERATURE
- ROD 5 PEAK CLADDING TEMPERATURE



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Figure 14.3-19: Peak Cladding Temperature Comparison for Five Rods for Reference Transient

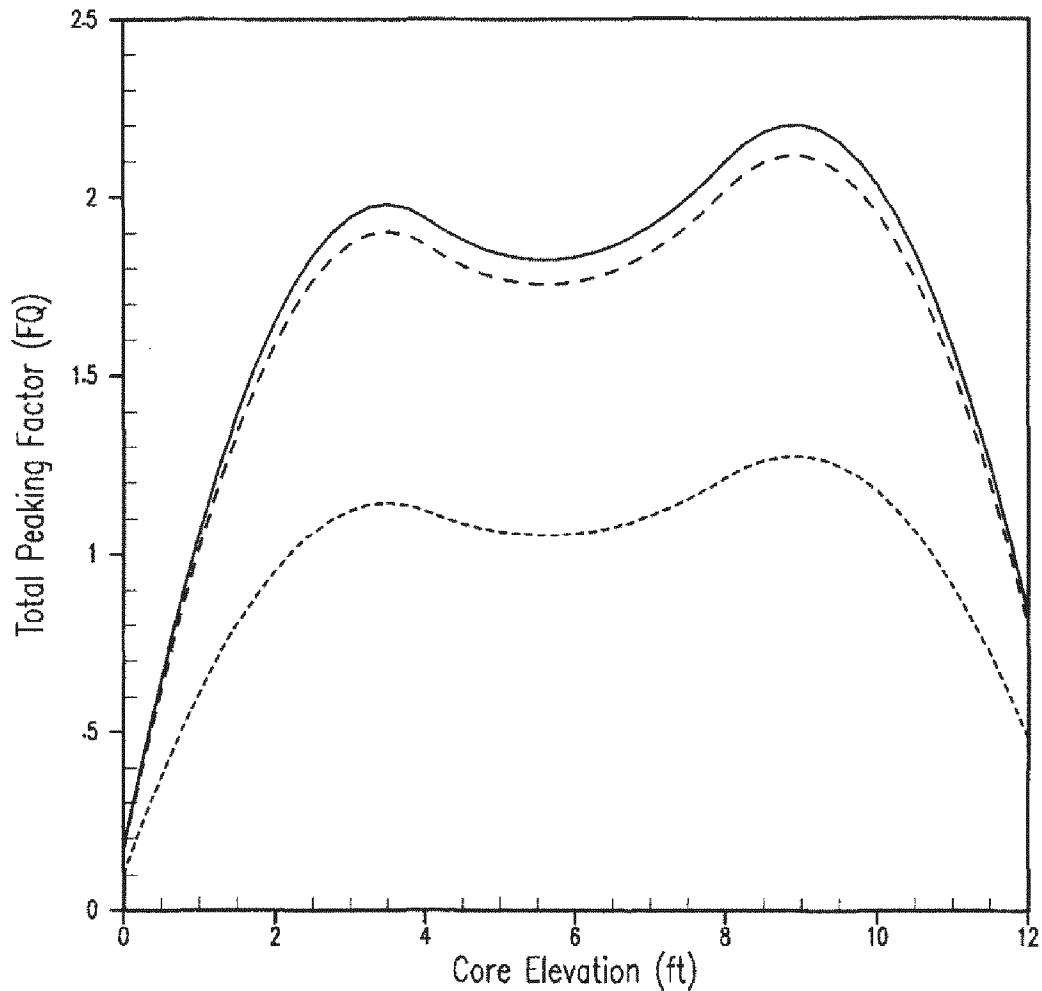
INDIAN POINT UNIT No. 2

PEAK CLADDING TEMPERATURE
COMPARISON FOR FIVE RODS
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-19 | REV. No. 20

Axial Power Distribution for Initial Transient

— Hot Rod
- - - Hot Assembly Rod
- · - · - Average Rod



1896025509

Figure 14.3-20: Indian Point Unit 2 Axial Power Distribution for Initial and Reference Transient

INDIAN POINT UNIT No. 2

INDIAN POINT UNIT 2
AXIAL POWER DISTRIBUTION FOR INITIAL
AND REFERENCE TRANSIENT

UFSAR FIGURE 14.3-20 | REV. No. 20

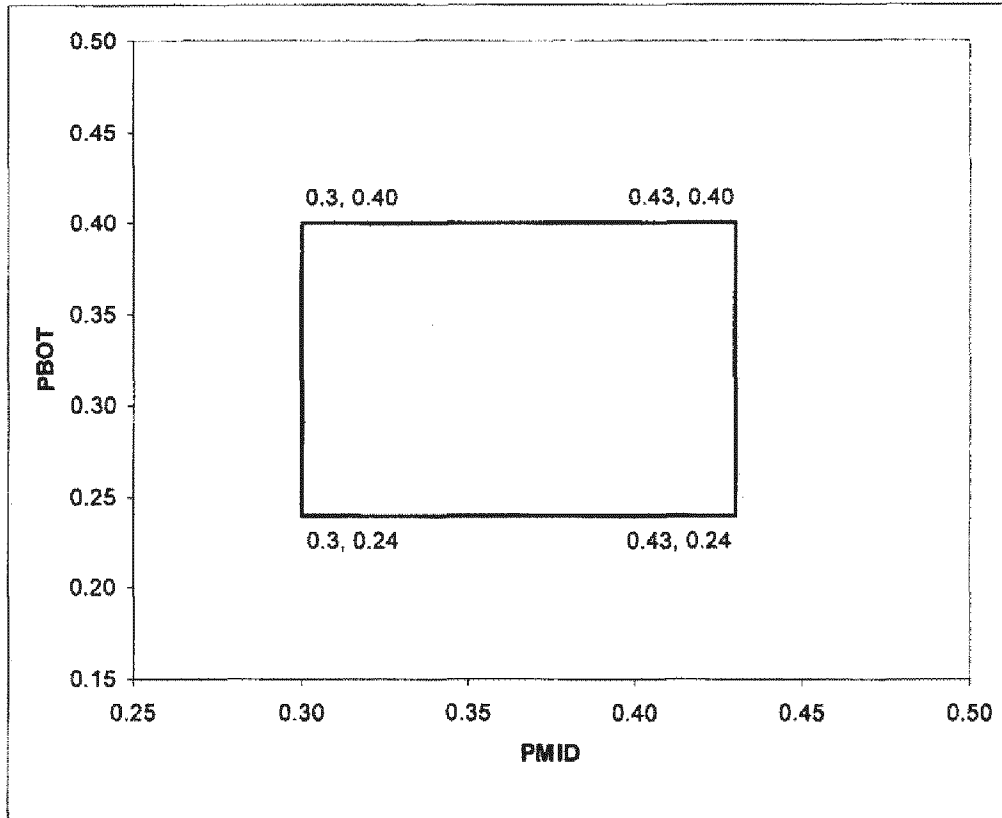


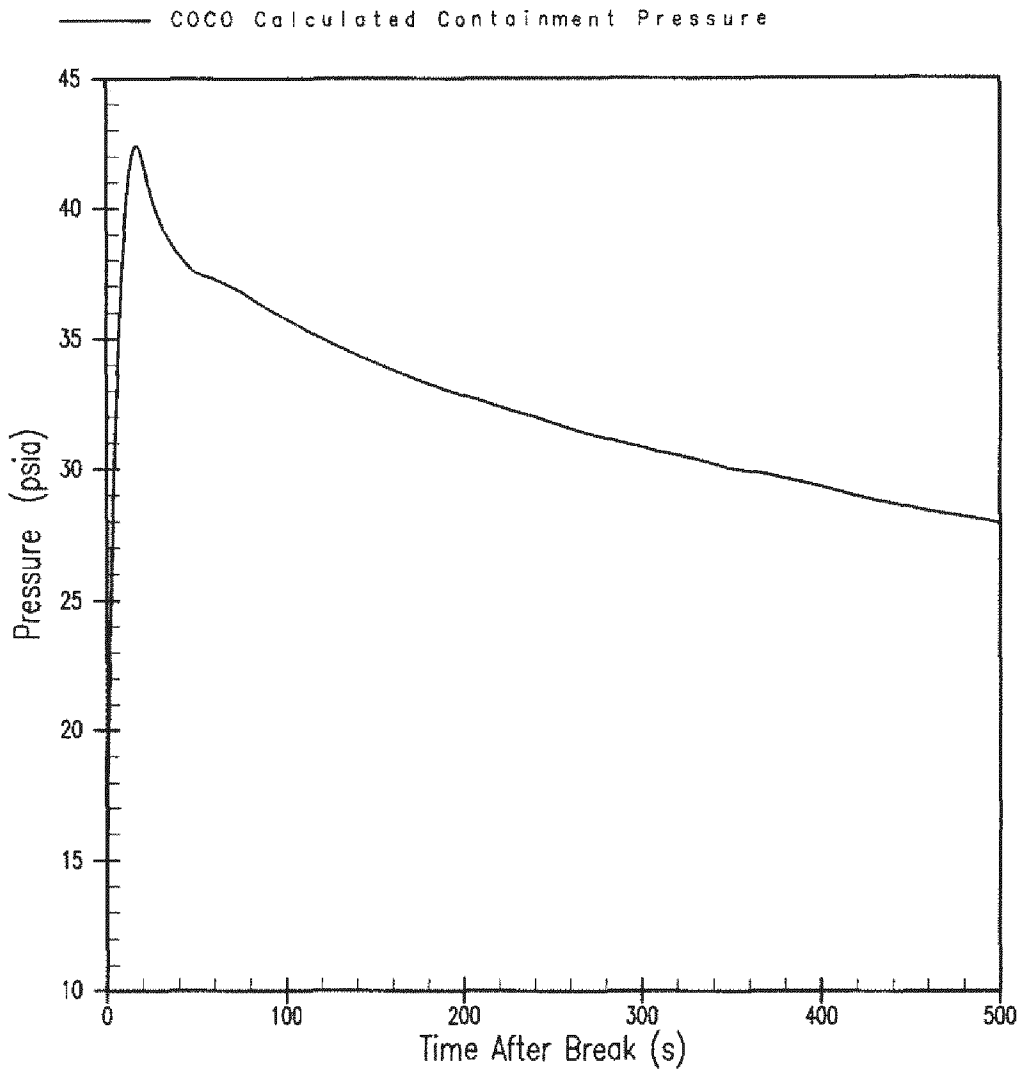
Figure 14.3-21: Indian Point Unit 2 PBOT/PMID Analysis and Operating Limits

INDIAN POINT UNIT No. 2

INDIAN POINT UNIT 2
PBOT/PMID ANALYSIS
AND OPERATING LIMITS

UFSAR FIGURE 14.3-21 | REV. No. 20

Indian Point Unit 2



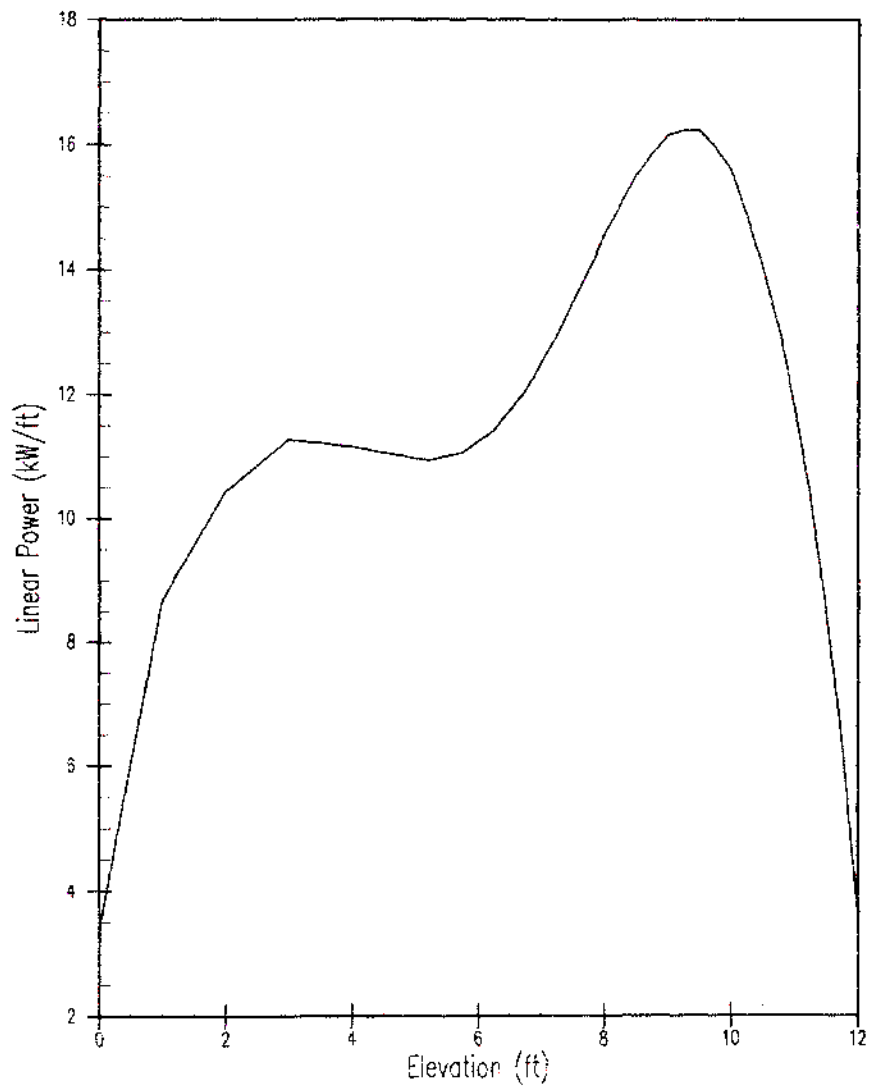
1089352356

Figure 14.3-22: Indian Point Unit 2 Lower Bound COCO Calculated Containment Pressure

INDIAN POINT UNIT No. 2

INDIAN POINT UNIT 2
LOWER BOUND COCO CALCULATED
CONTAINMENT PRESSURE

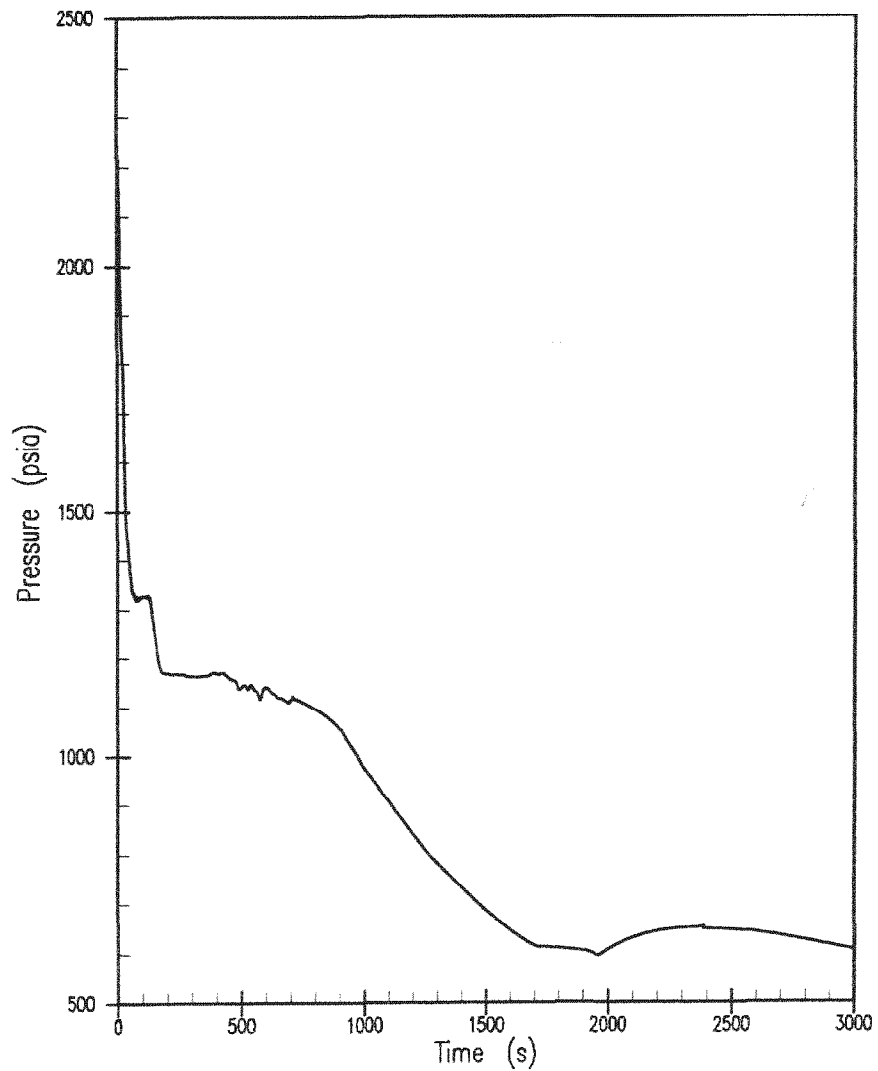
UFSAR FIGURE 14.3-22 | REV. No. 20



INDIAN POINT UNIT No. 2

SMALL BREAK LOCA
AXIAL POWER SHAPE

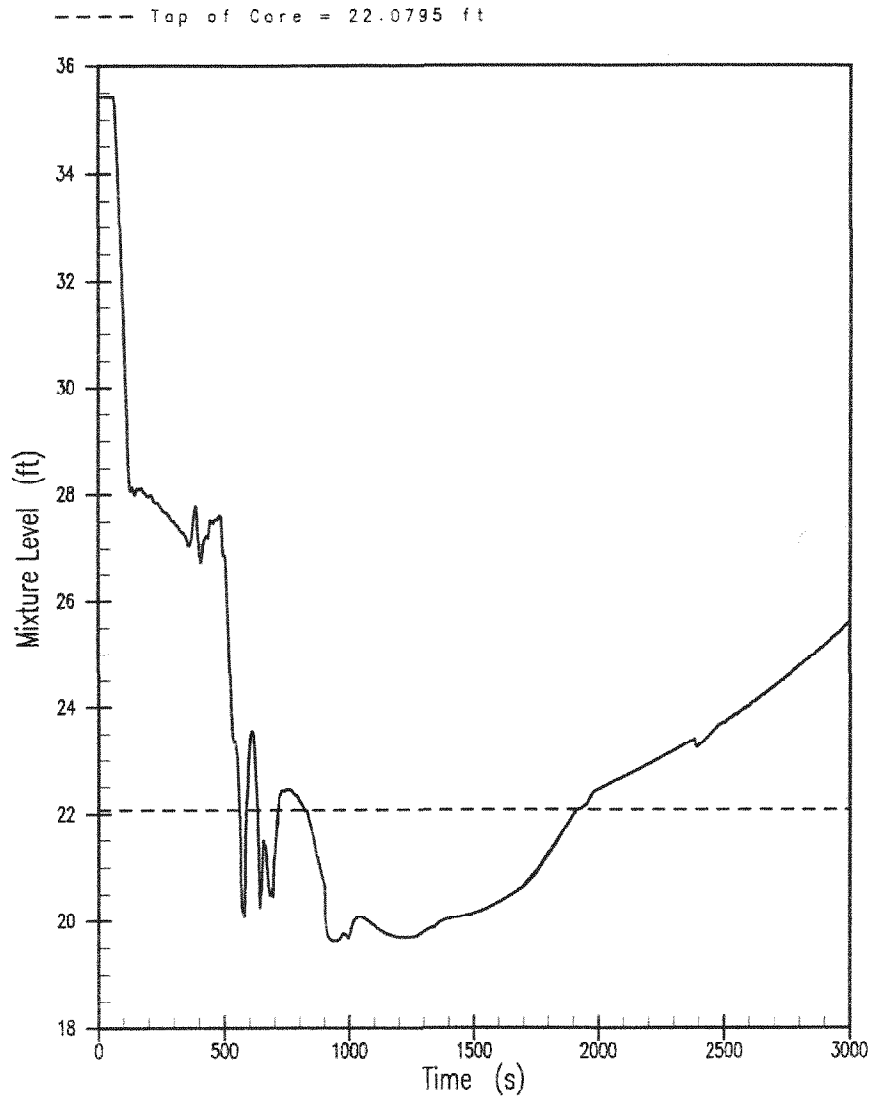
UFSAR FIGURE 14.3-53 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA
RCS PRESSURE

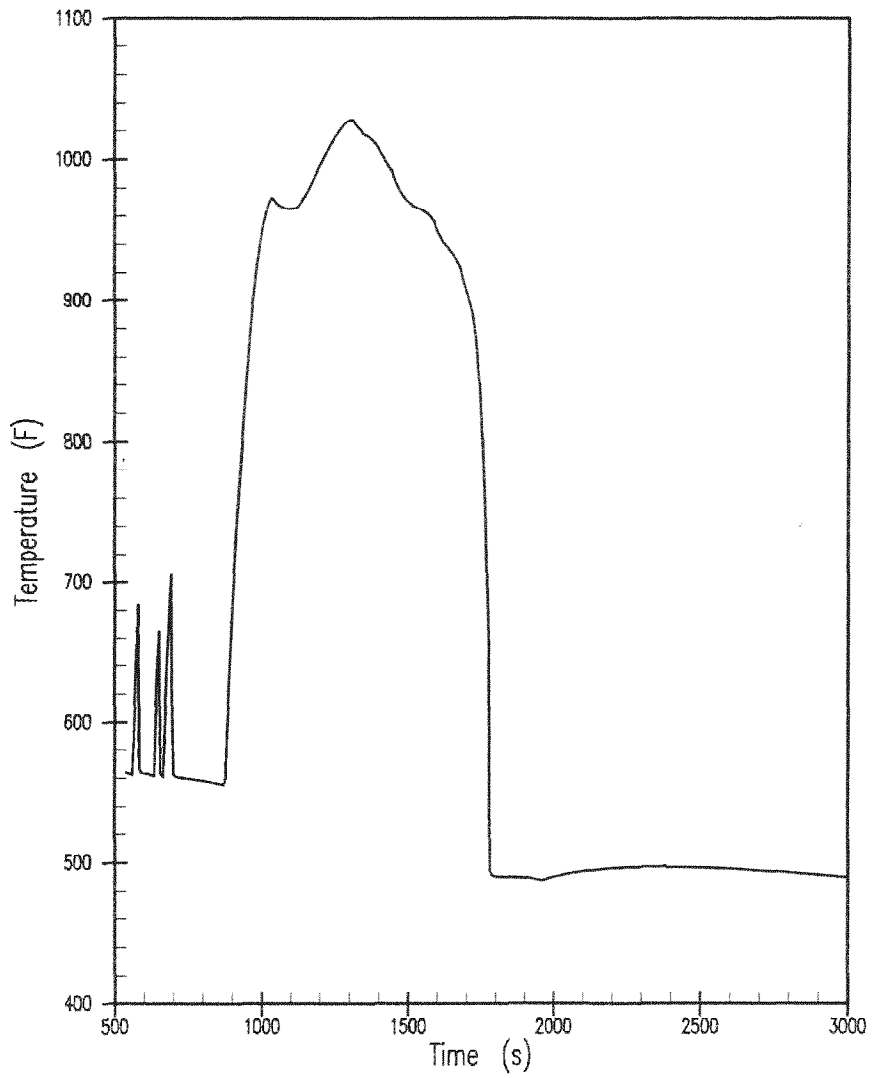
UFSAR FIGURE 14.3-54 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA
CORE MIXTURE LEVEL

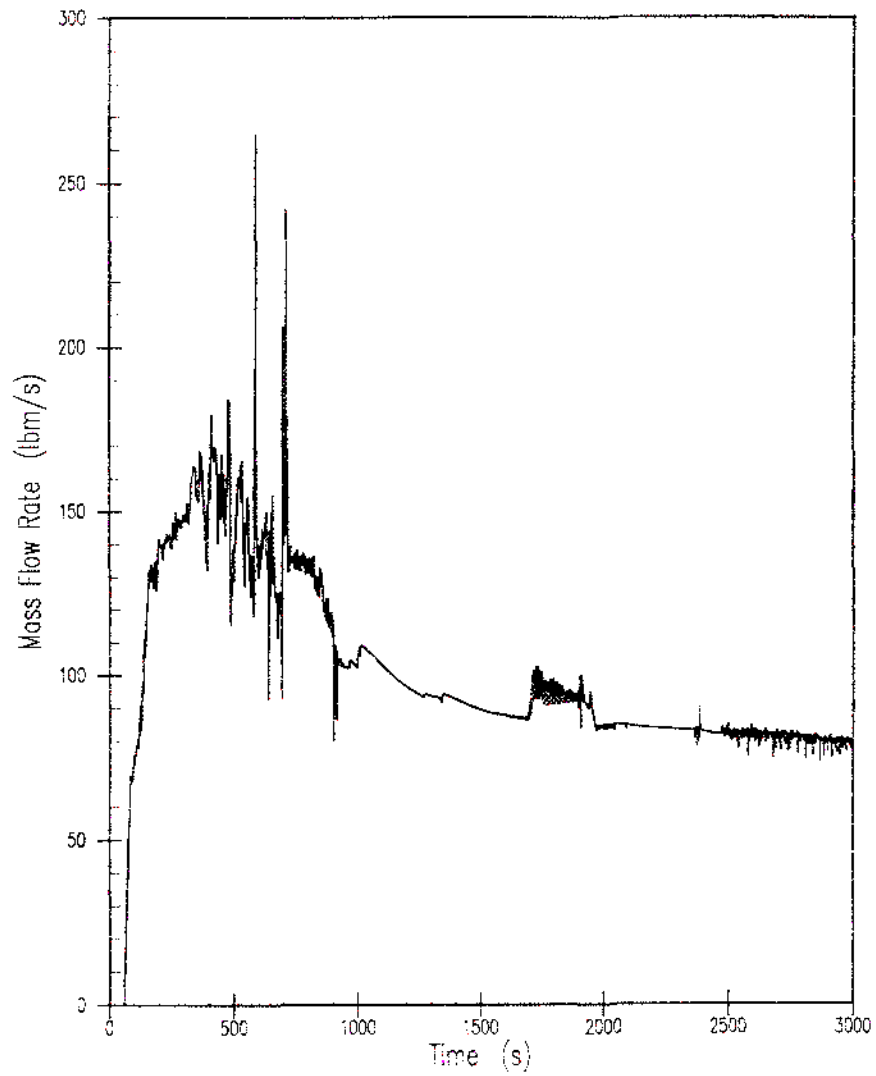
UFSAR FIGURE 14.3-55 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA HOT ROD
CLAD AVERAGE TEMPERATURE

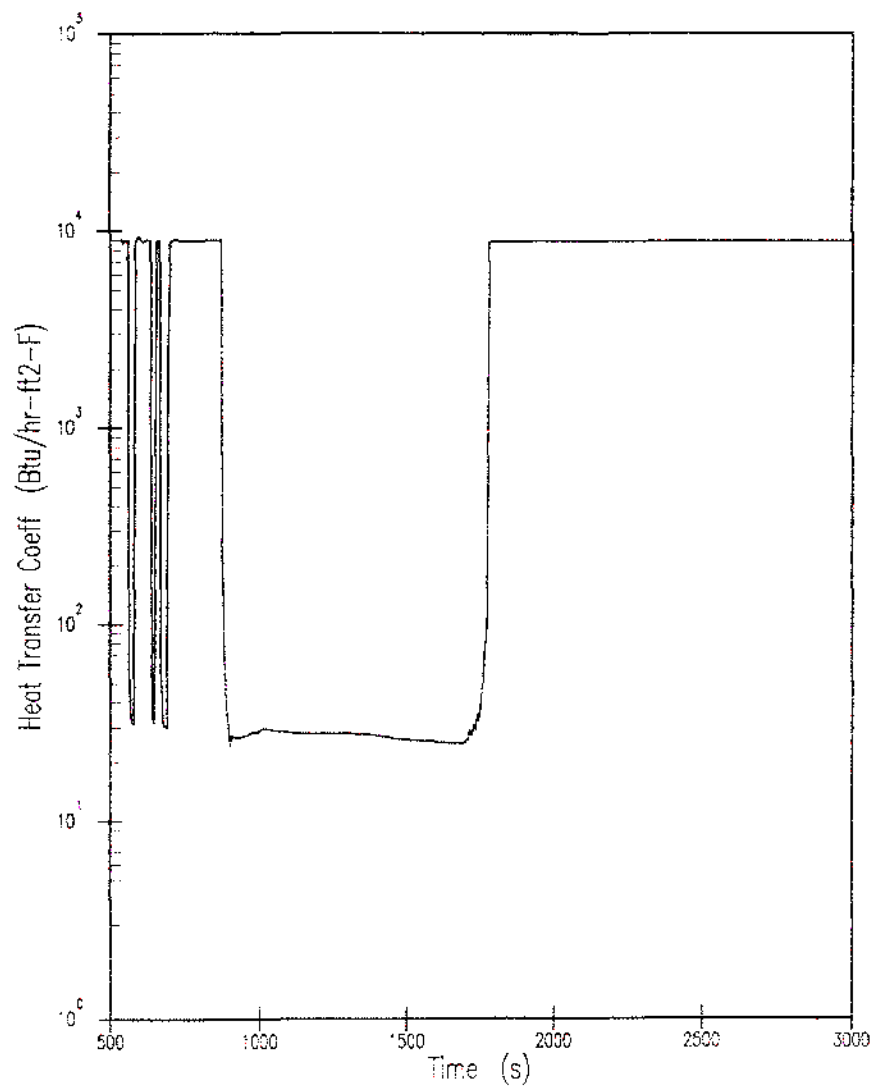
UFSAR FIGURE 14.3-56 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA CORE
OUTLET STEAM FLOW

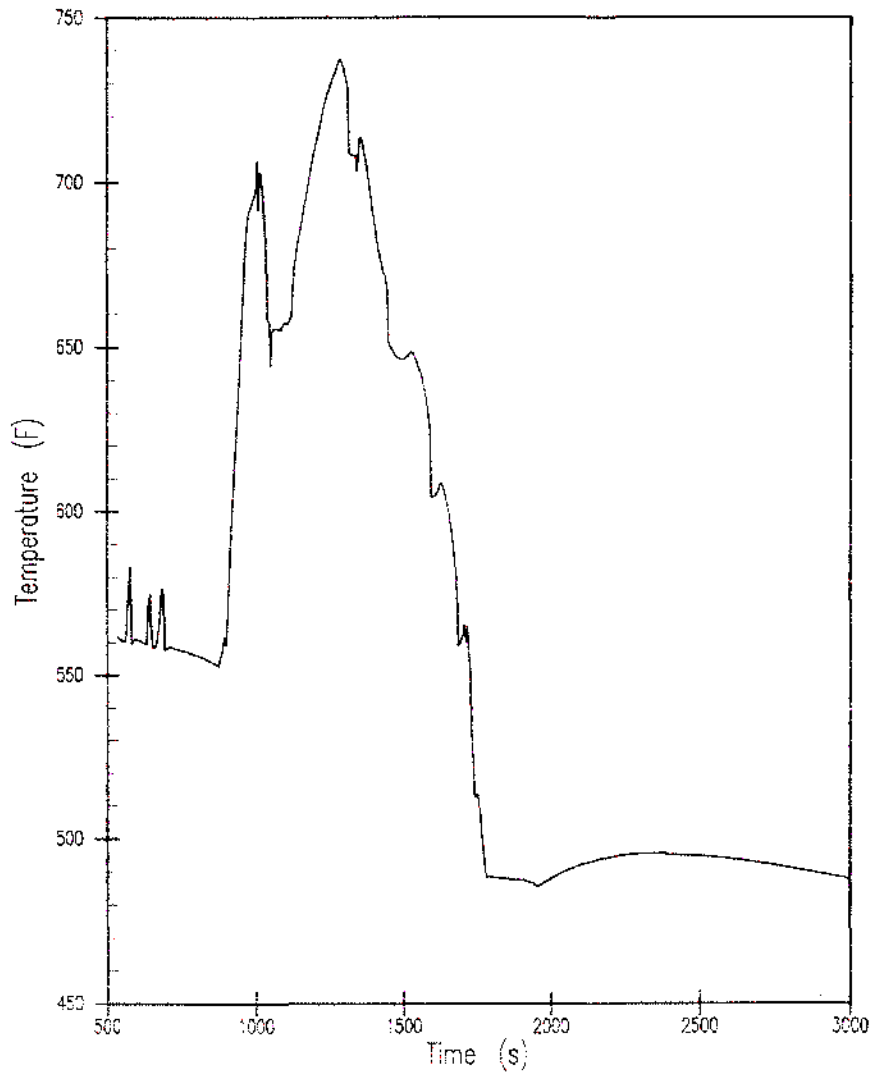
UFSAR FIGURE 14.3-57 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA
HEAT TRANSFER COEFFICIENT

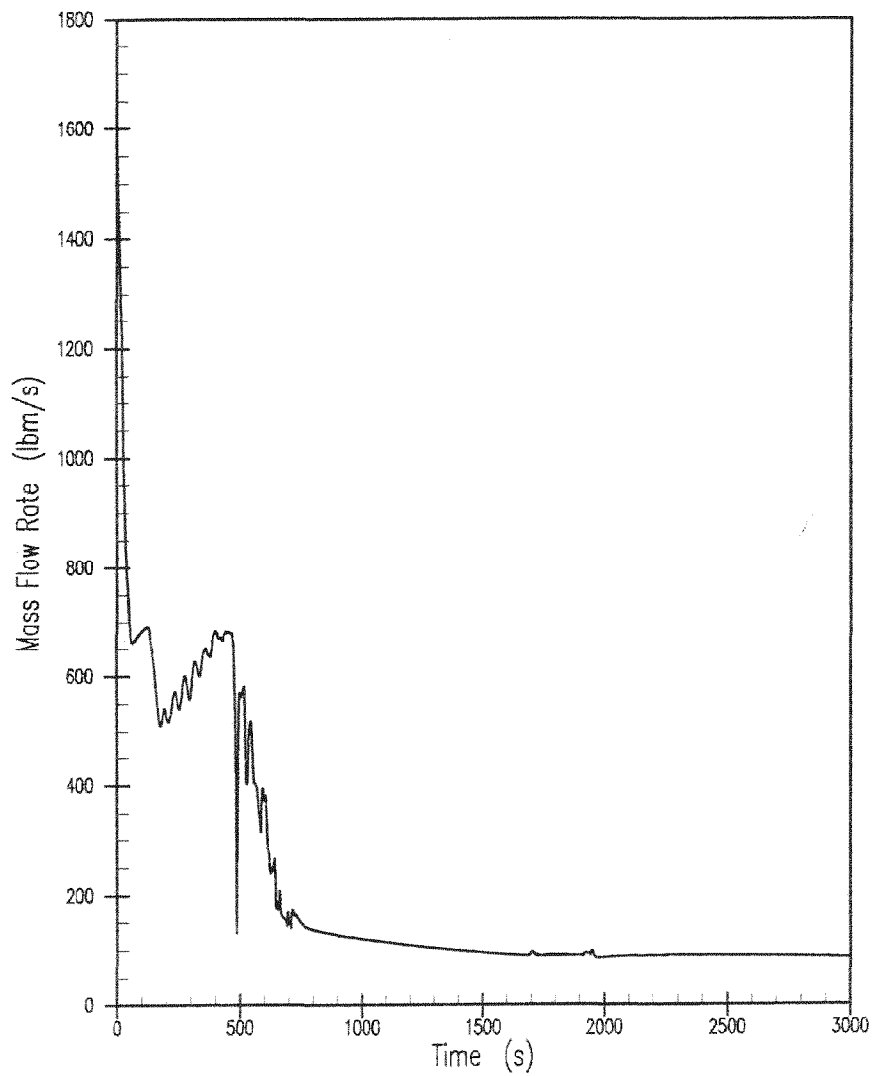
UFSAR FIGURE 14.3-58 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA HOT
SPOT FLUID TEMPERATURE

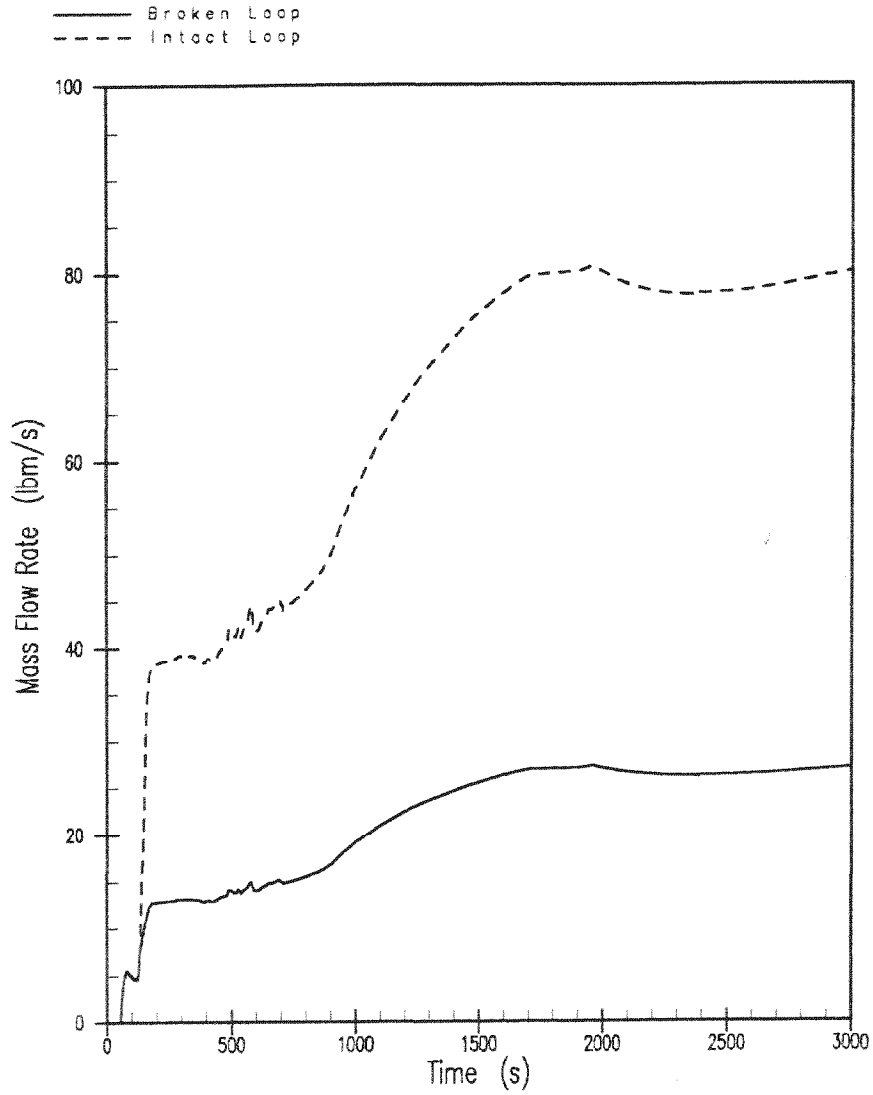
UFSAR FIGURE 14.3-59 REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA
BREAK FLOW

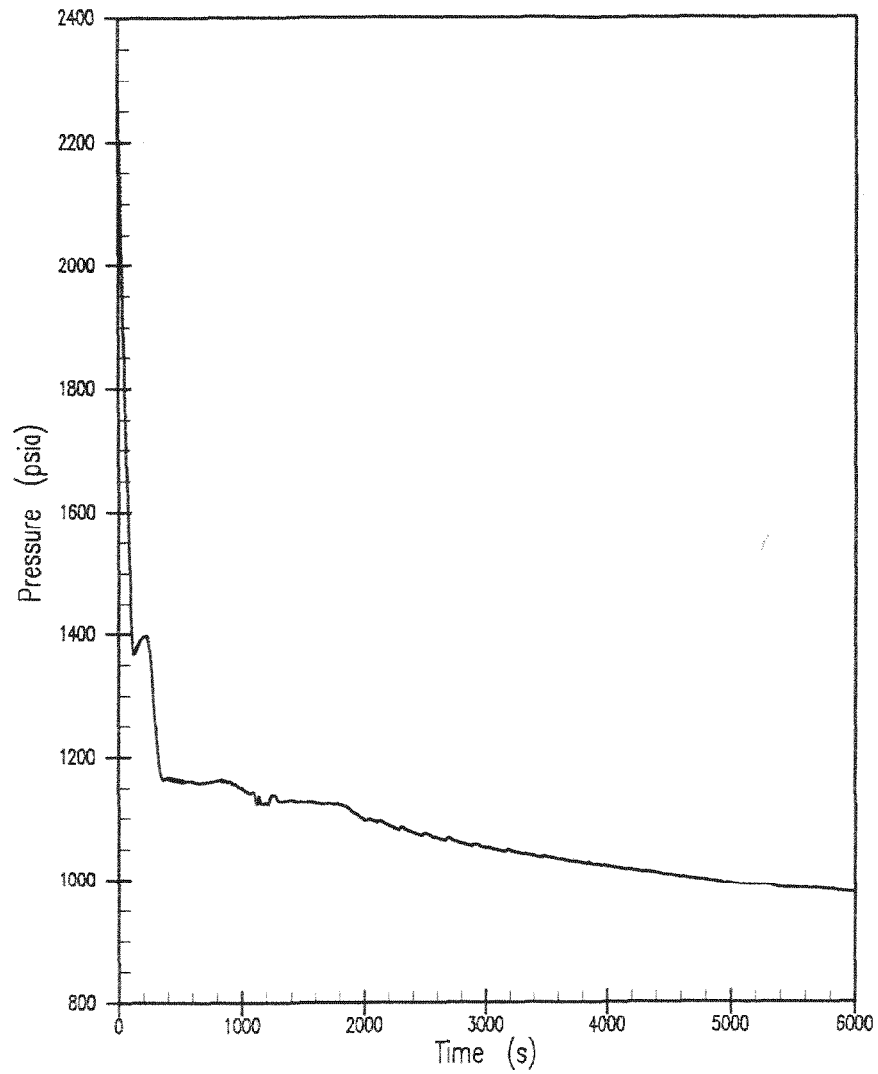
UFSAR FIGURE 14.3-60 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA SAFETY
 INJECTION MASS FLOW RATE

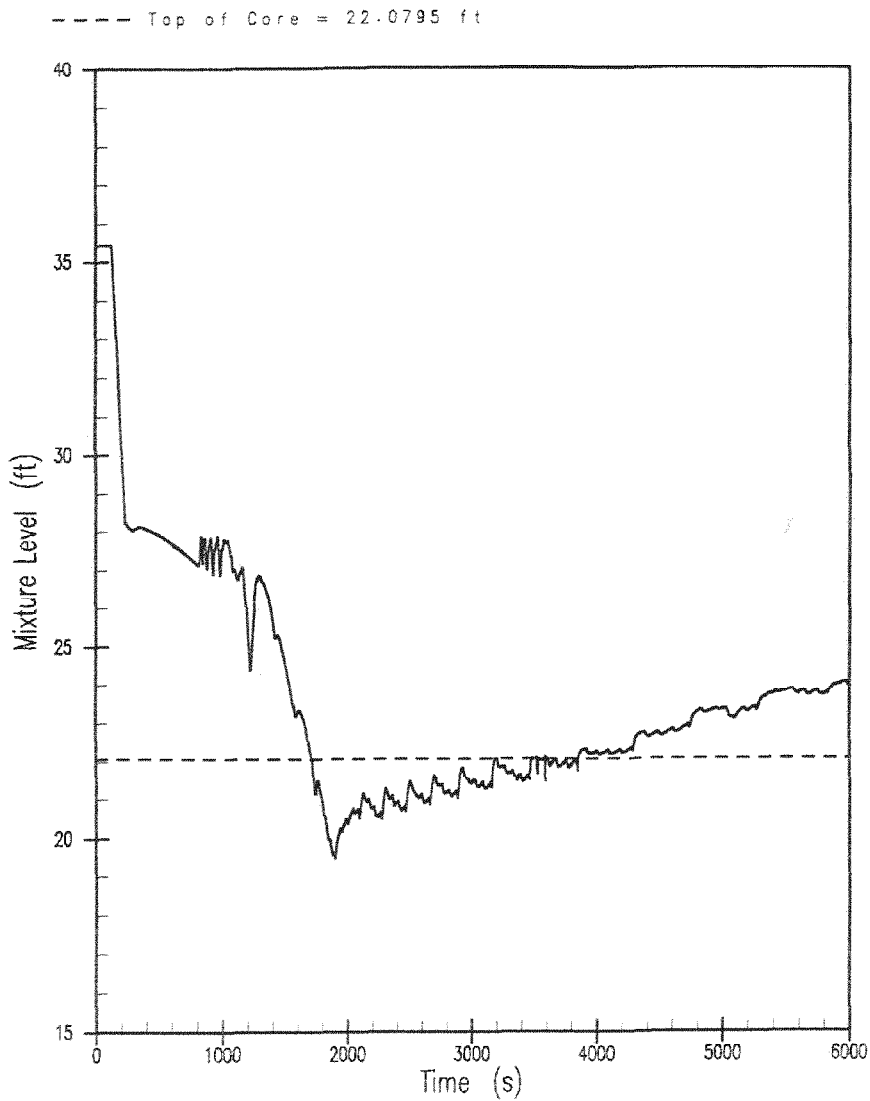
UFSAR FIGURE 14.3-61 | REV. No. 19



INDIAN POINT UNIT No. 2

2.0" SMALL BREAK LOCA
RCS PRESSURE

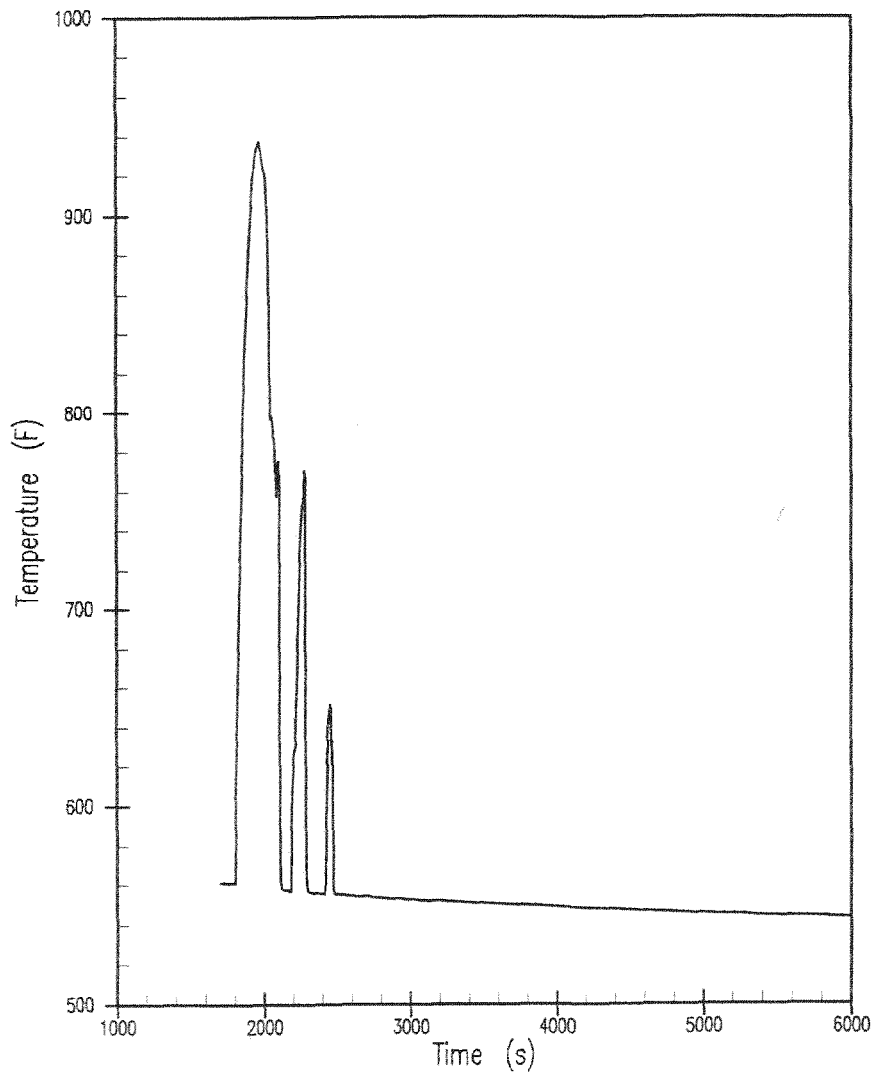
UFSAR FIGURE 14.3-62 | REV. No. 19



INDIAN POINT UNIT No. 2

2.0" SMALL BREAK LOCA
CORE MIXTURE LEVEL

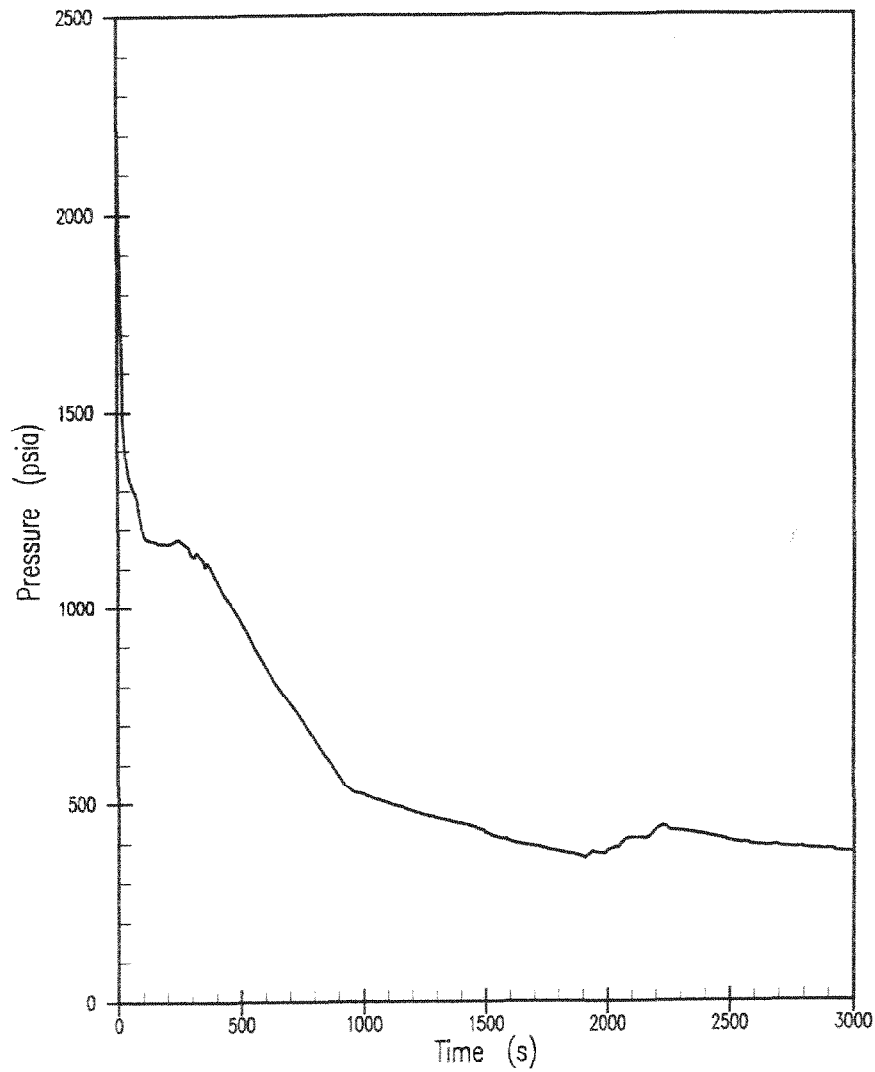
UFSAR FIGURE 14.3-63 | REV. No. 19



INDIAN POINT UNIT No. 2

2.0" SMALL BREAK LOCA HOT ROD
CLAD AVERAGE TEMPERATURE

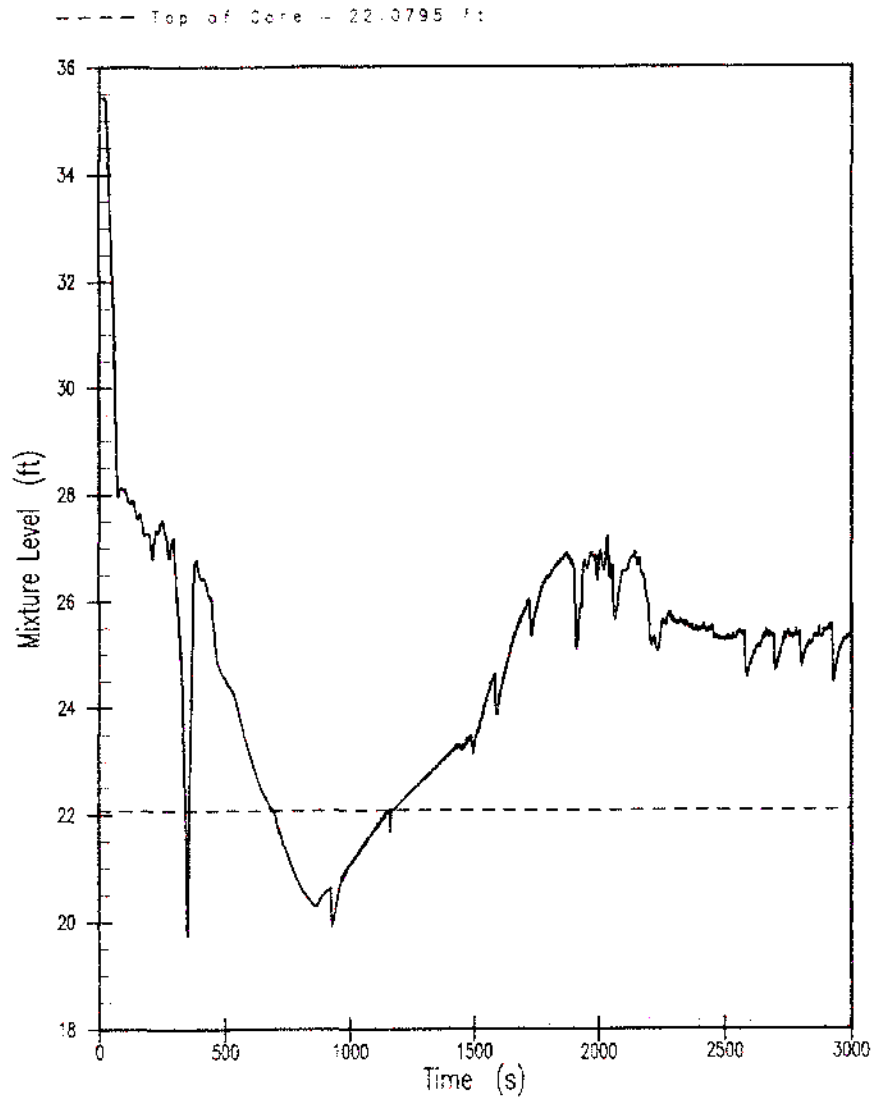
UFSAR FIGURE 14.3-64 | REV. No. 19



INDIAN POINT UNIT No. 2

4.0" SMALL BREAK LOCA
RCS PRESSURE

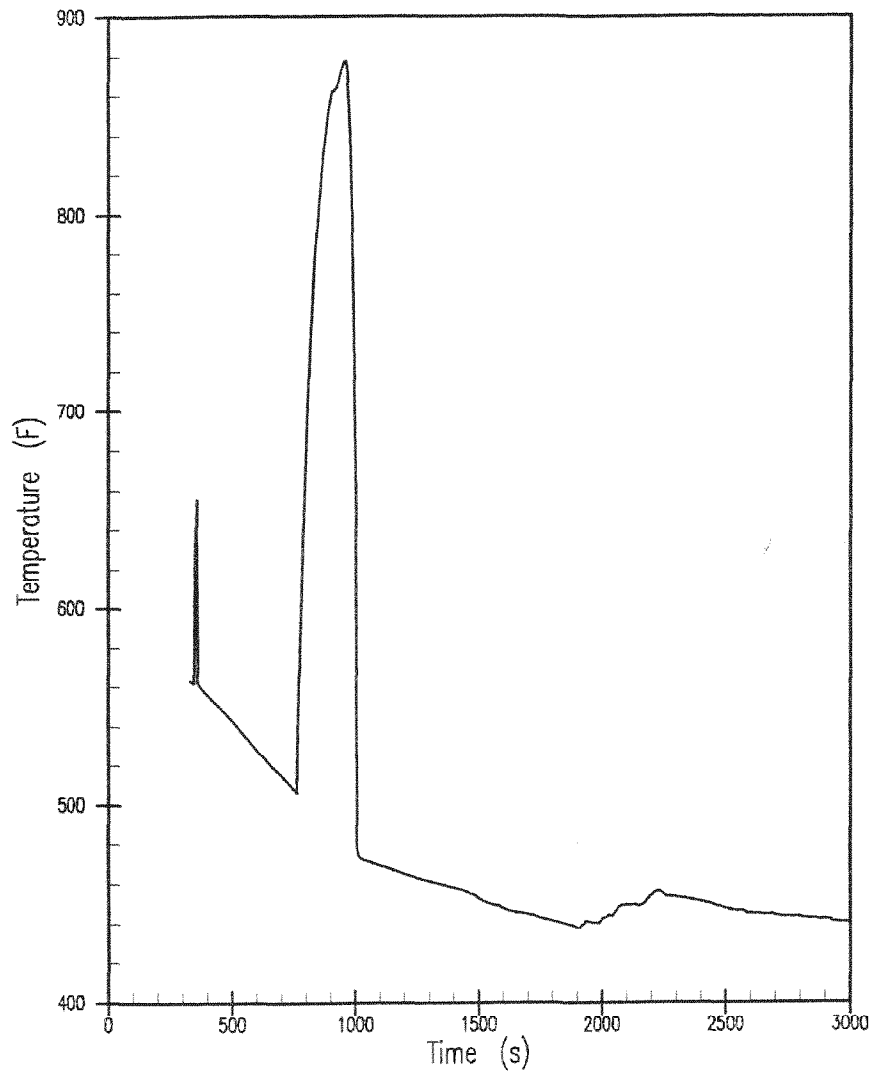
UFSAR FIGURE 14.3-65 | REV. No. 19



INDIAN POINT UNIT No. 2

4.0" SMALL BREAK LOCA
CORE MIXTURE LEVEL

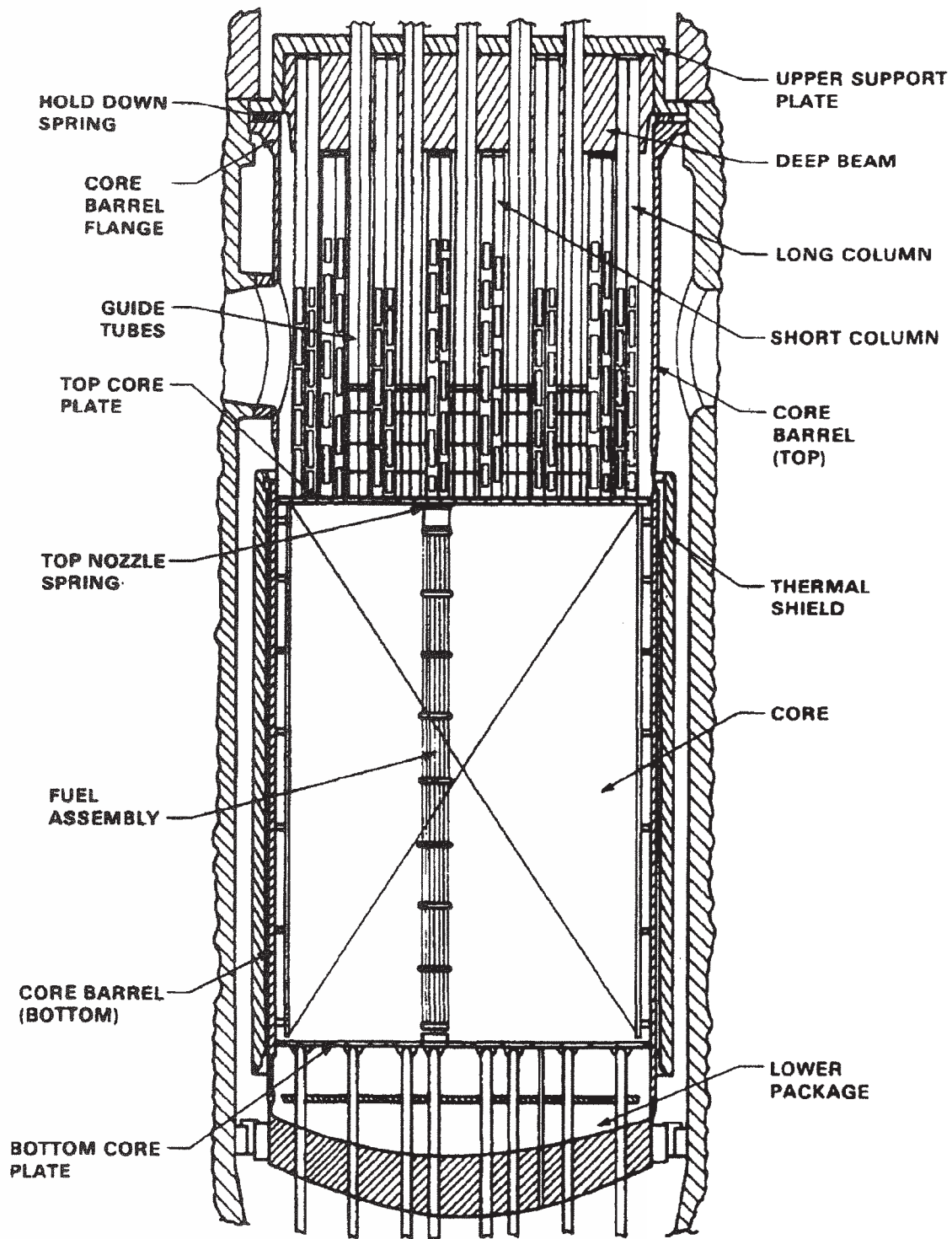
UFSAR FIGURE 14.3-66 REV. No. 19



INDIAN POINT UNIT No. 2

4.0" SMALL BREAK LOCA HOT ROD
CLAD AVERAGE TEMPERATURE

UFSAR FIGURE 14.3-67 | REV. No. 19



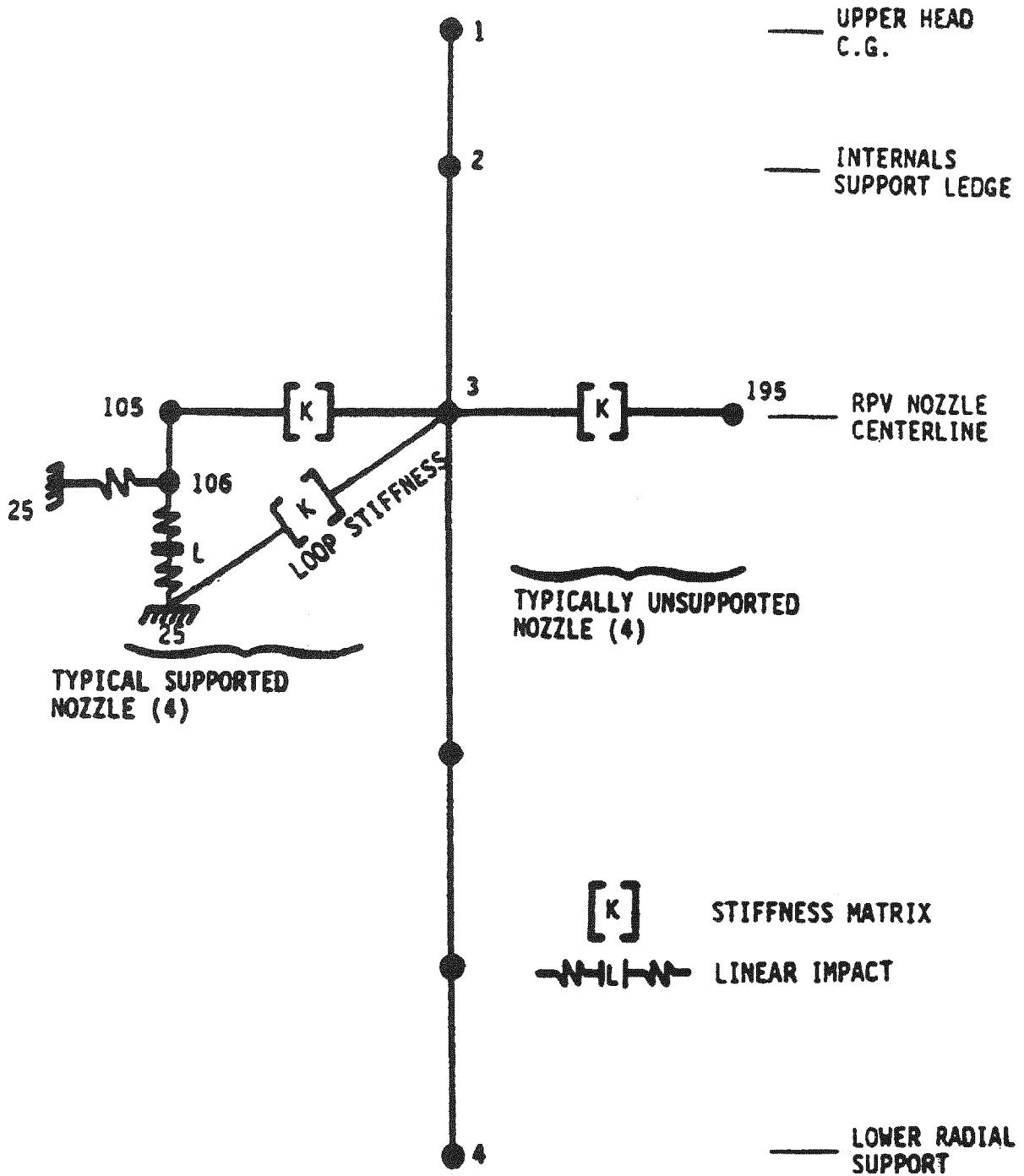
INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-101

REACTOR VESSEL INTERNALS

MIC. No. 2000MC4300

REV. No. 17A



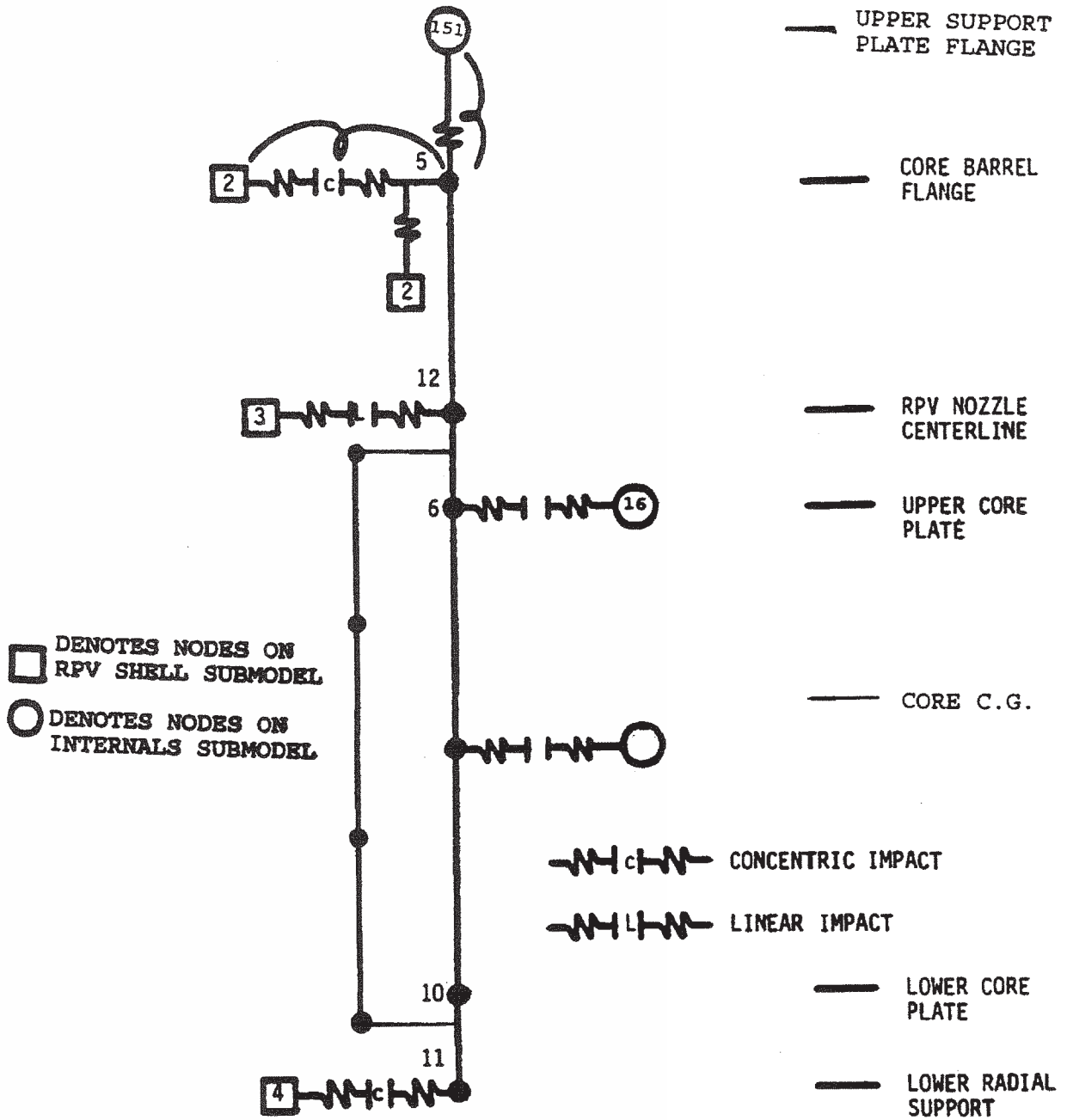
INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-102

RPV SHELL AND SUPPORT SYSTEM

MIC. No. 2000MC4301

REV. No. 17A



INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-103A

REACTOR VESSEL INTERNALS CORE
BARREL ASSEMBLY

MIC. No. 2001MB1166

REV. No. 17A

□ DENOTES NODES ON RPV SHELL SUBMODEL
 ○ DENOTES NODES ON CORE BARREL SUBMODEL

SUPPORT COLUMNS AND GUIDE TUBES

—N|N— LINEAR IMPACT

— UPPER SUPPORT PLATE

— UPPER CORE PLATE

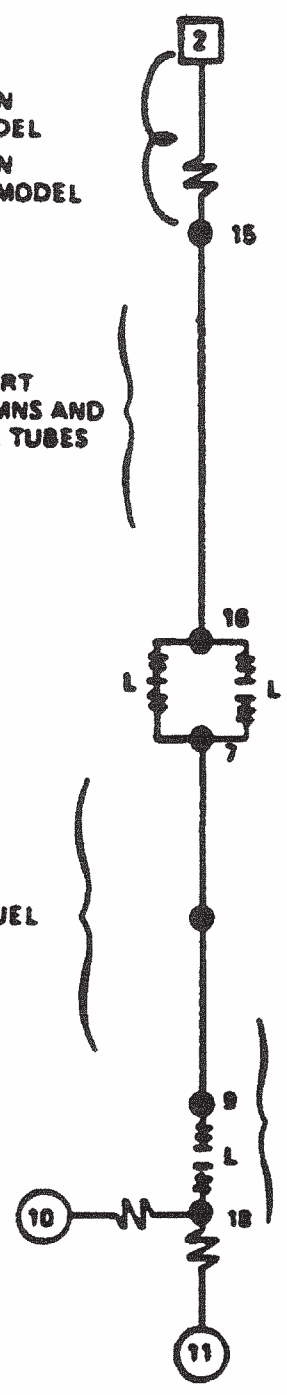
TOP FUEL NOZZLE

— CORE C.G.

FUEL

BOTTOM FUEL NOZZLE

— LOWER CORE PLATE



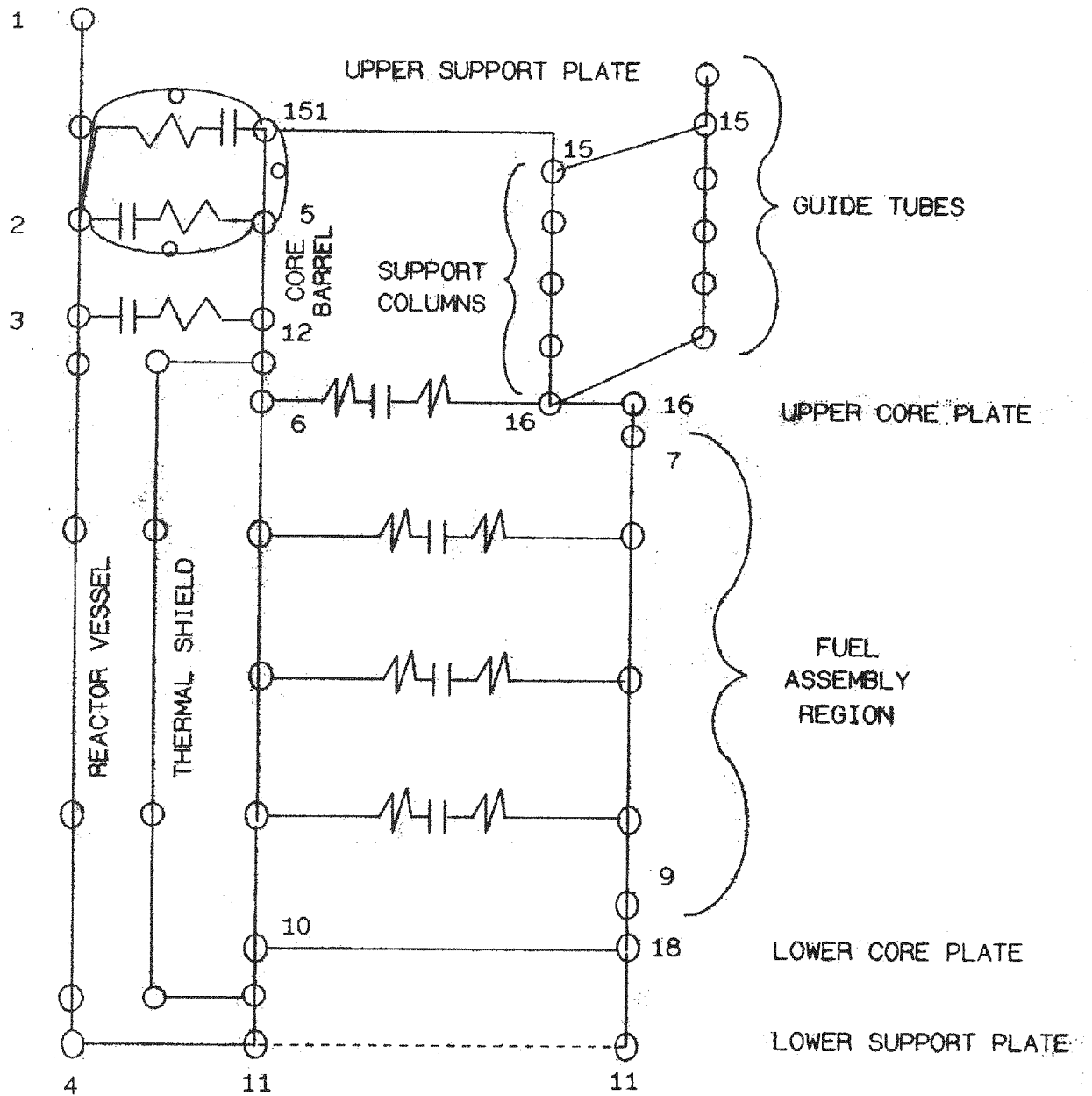
INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-103B

REACTOR INTERNALS AND FUEL

MIC. No. 2001MB1167

REV. No. 17A



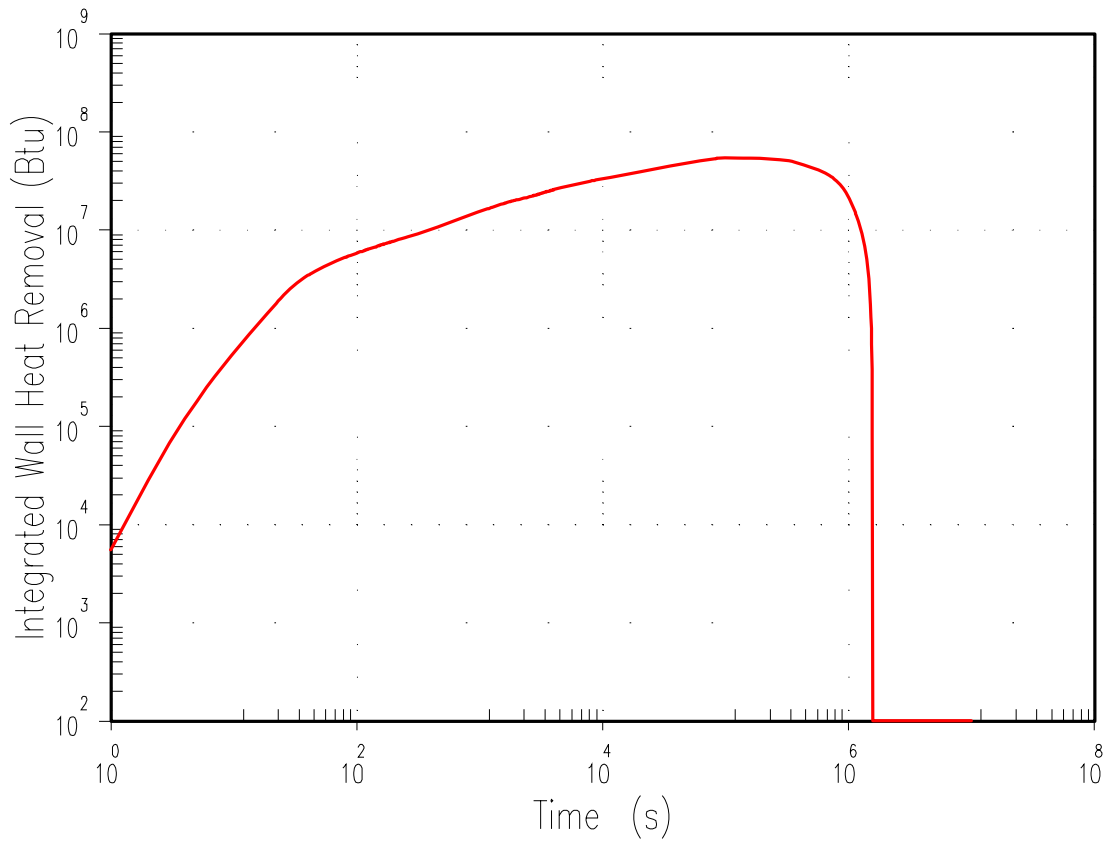
INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-104

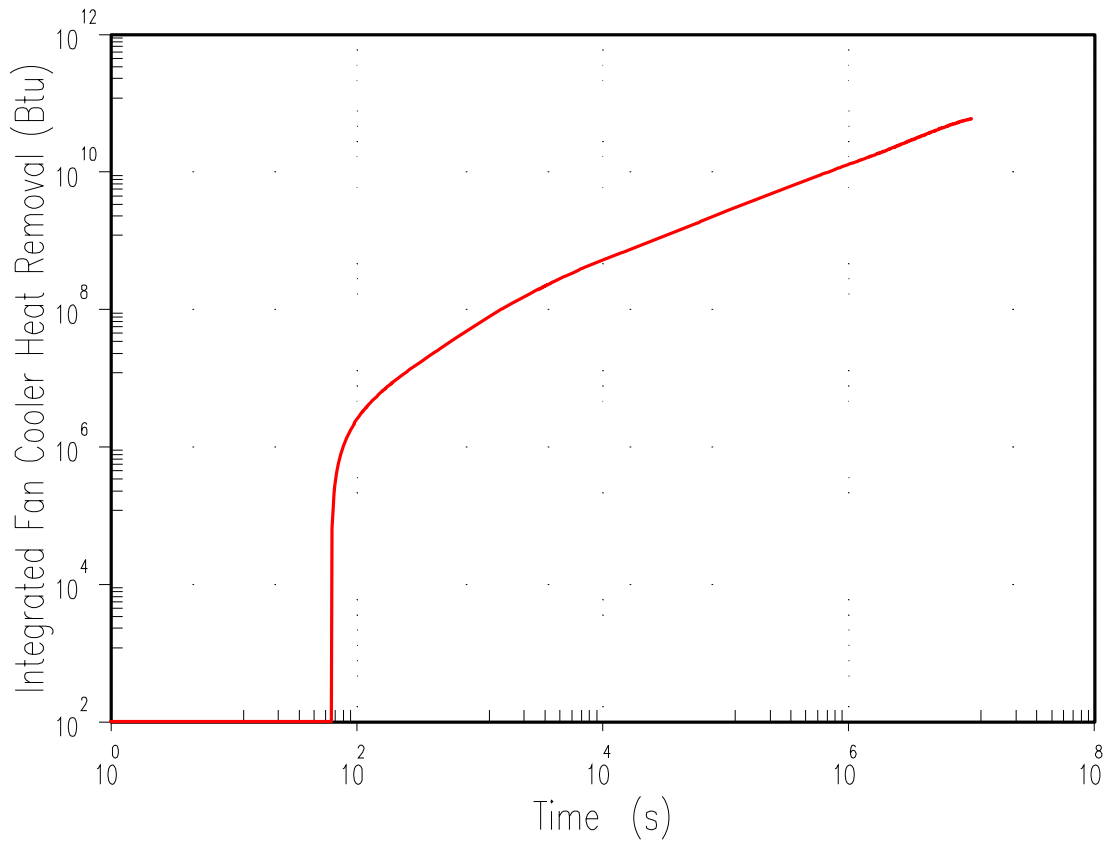
RPV SYSTEM MODEL

MIC. No. 2000MC4303

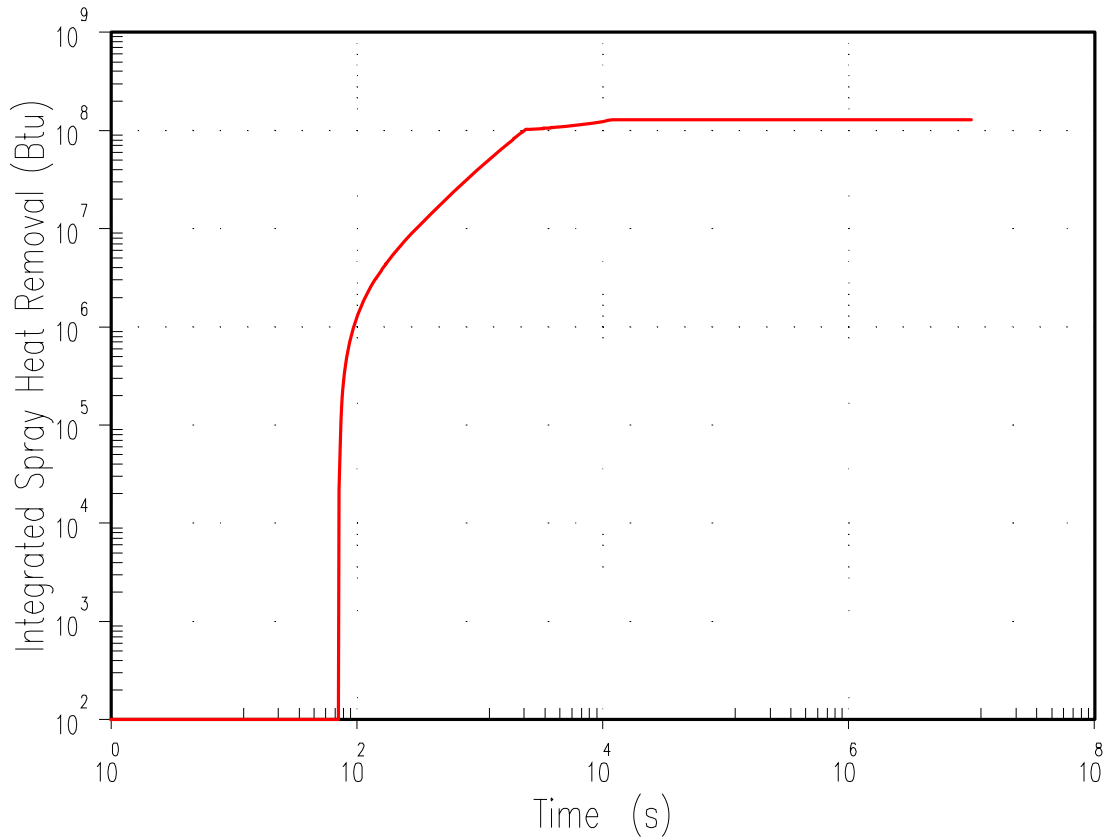
REV. No. 17A



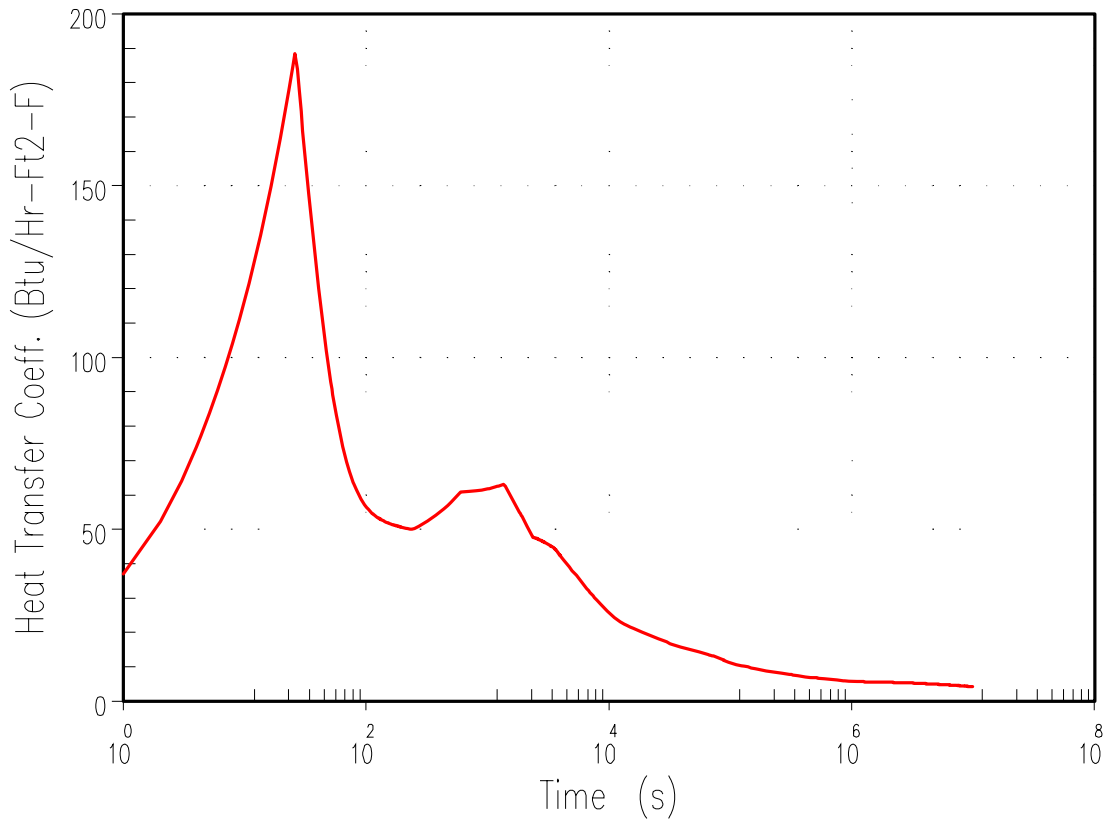
| | |
|--|-------------|
| INDIAN POINT UNIT No. 2 | |
| DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS INTEGRATED WALL HEAT REMOVAL | |
| UFSAR FIGURE 14.3-105 | REV. No. 26 |



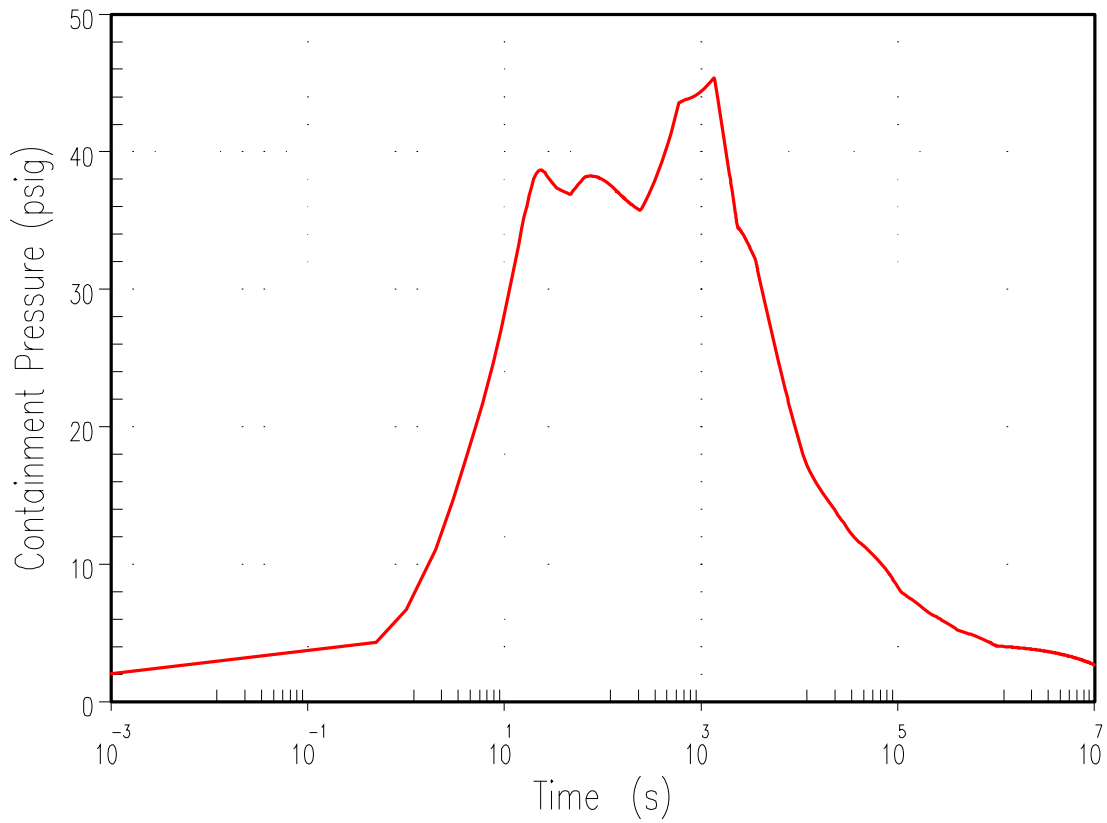
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|--|-------------|
| INDIAN POINT UNIT No. 2 | |
| DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS INTEGRATED FAN COOLER HEAT REMOVAL | |
| UFSAR FIGURE 14.3-106 | REV. No. 26 |



| | |
|---|-------------|
| INDIAN POINT UNIT No. 2 | |
| DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS INTEGRATED SPRAY HEAT REMOVAL | |
| UFSAR FIGURE 14.3-107 | REV. No. 26 |

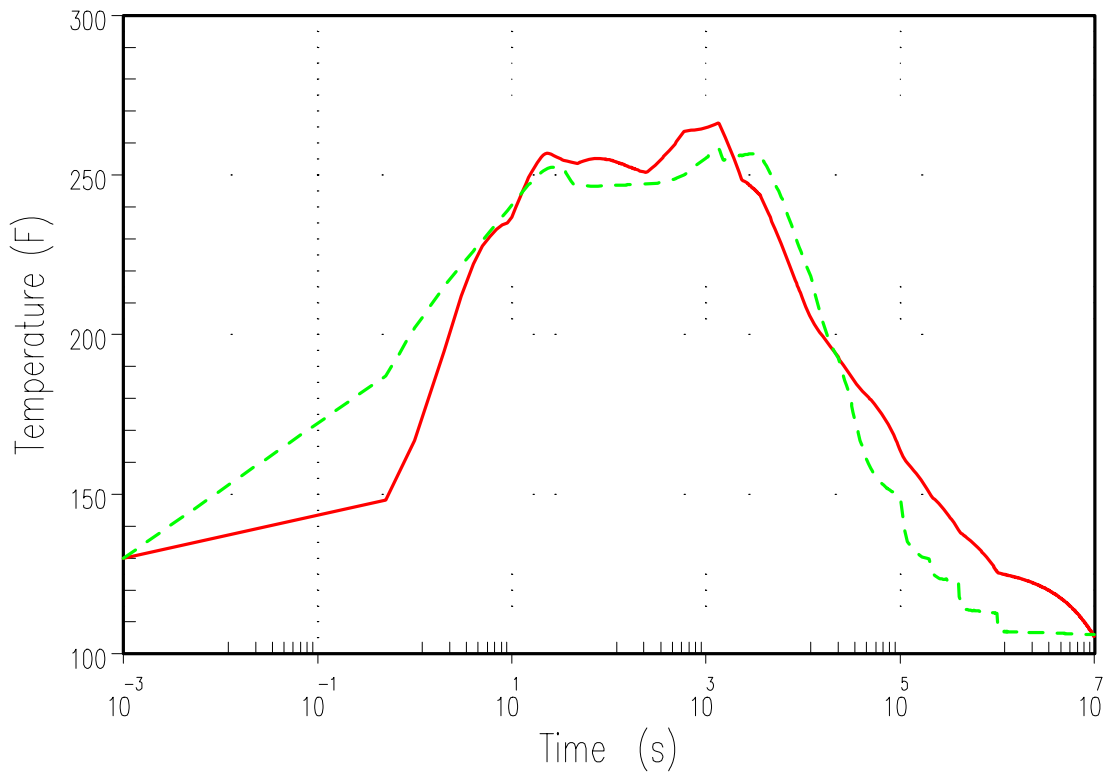


| | |
|--|-------------|
| INDIAN POINT UNIT No. 2 | |
| DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS STRUCTURAL HEAT TRANSFER COEFFICIENT | |
| UFSAR FIGURE 14.3-108 | REV. No. 26 |

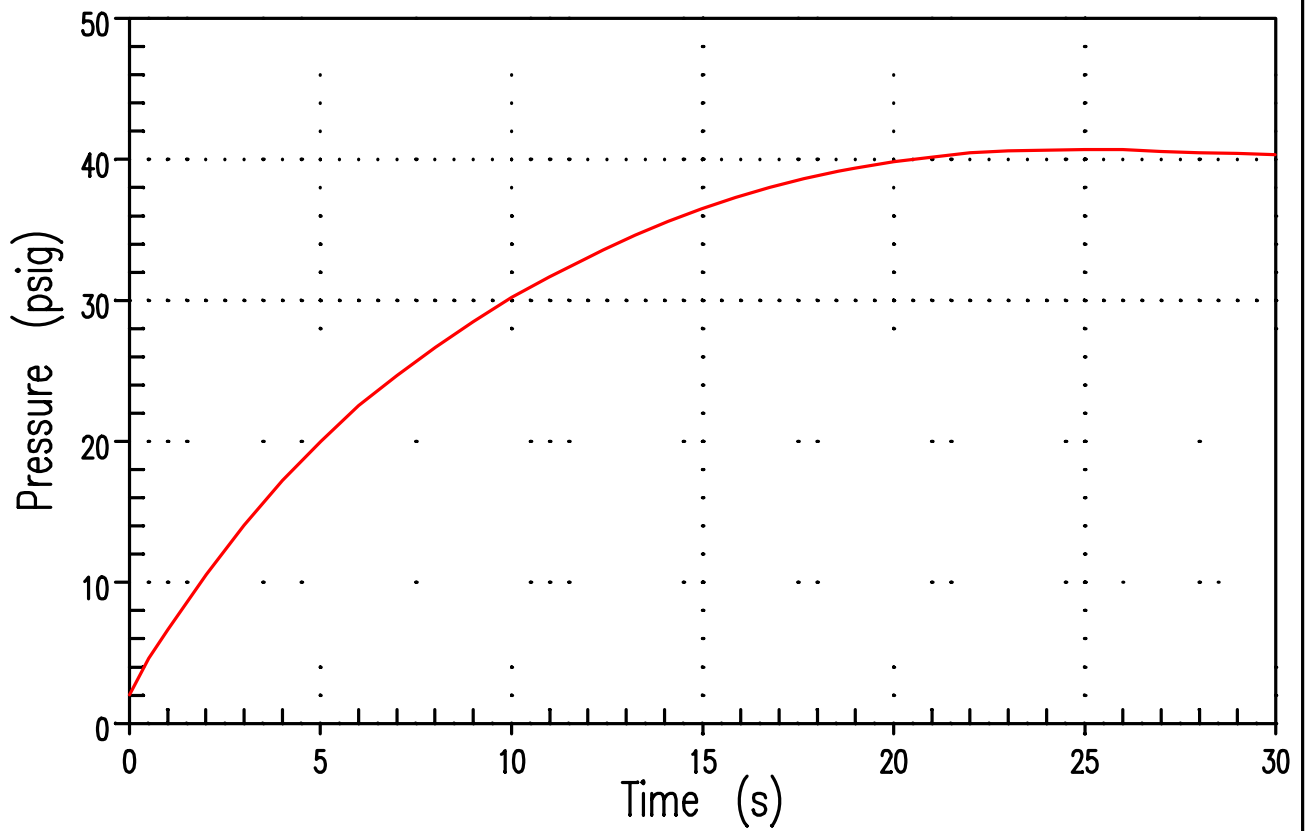


| | |
|--|-------------|
| INDIAN POINT UNIT No. 2 | |
| DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS CONTAINMENT PRESSURE | |
| UFSAR FIGURE 14.3-109 | REV. No. 26 |

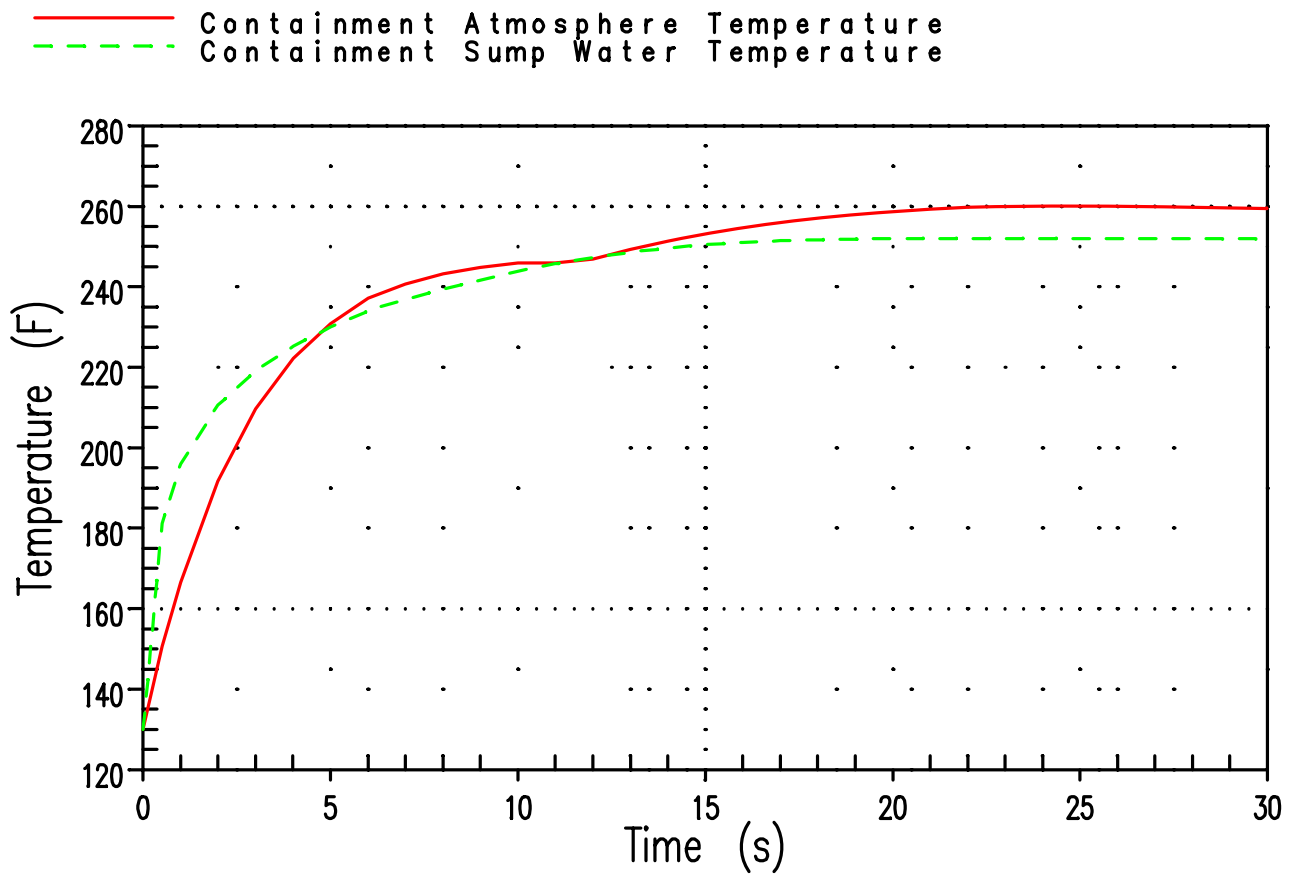
— Containment Atmosphere Temperature
- - - Containment Sump Water Temperature



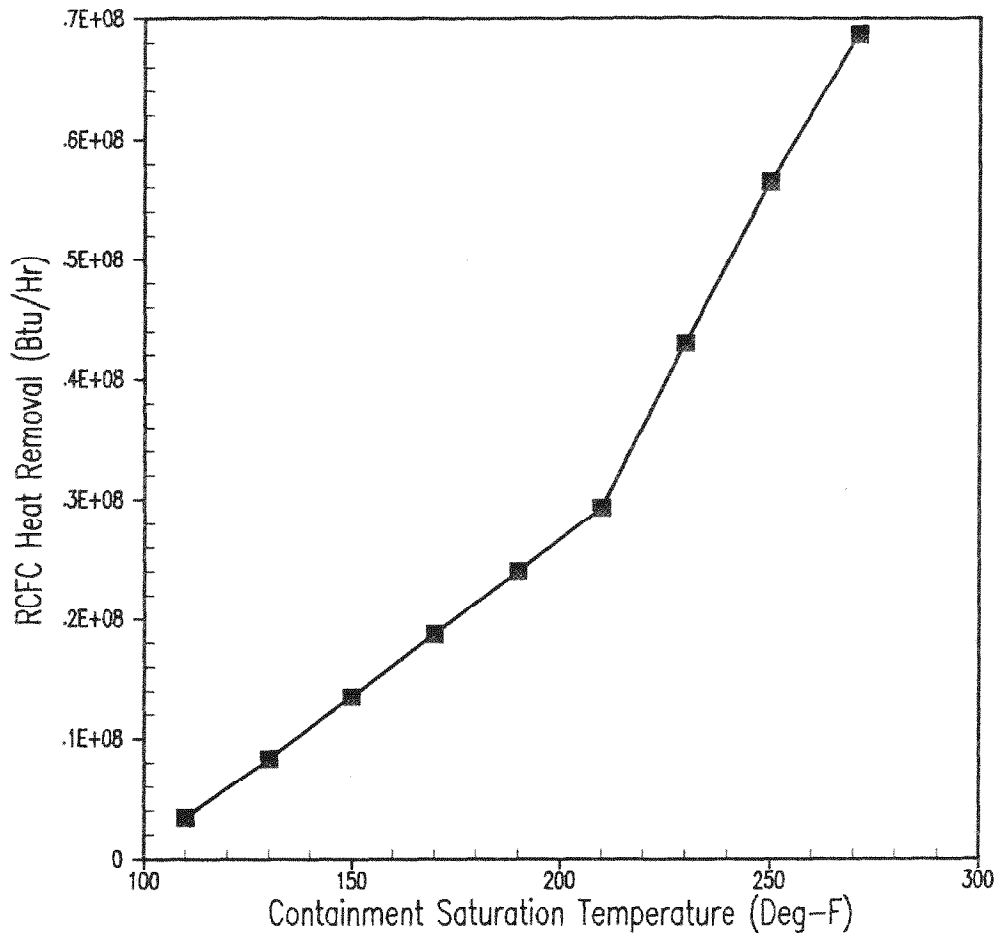
| | |
|---|-------------|
| INDIAN POINT UNIT No. 2 | |
| DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS CONTAINMENT TEMPERATURE | |
| UFSAR FIGURE 14.3-110 | REV. No. 26 |



| | |
|--|-------------|
| INDIAN POINT UNIT No. 2 | |
| DOUBLE-ENDED HOT LEG BREAK FOR 3216 MWt | |
| CONTAINMENT PRESSURE | |
| UFSAR FIGURE 14.3-113 | REV. No. 26 |



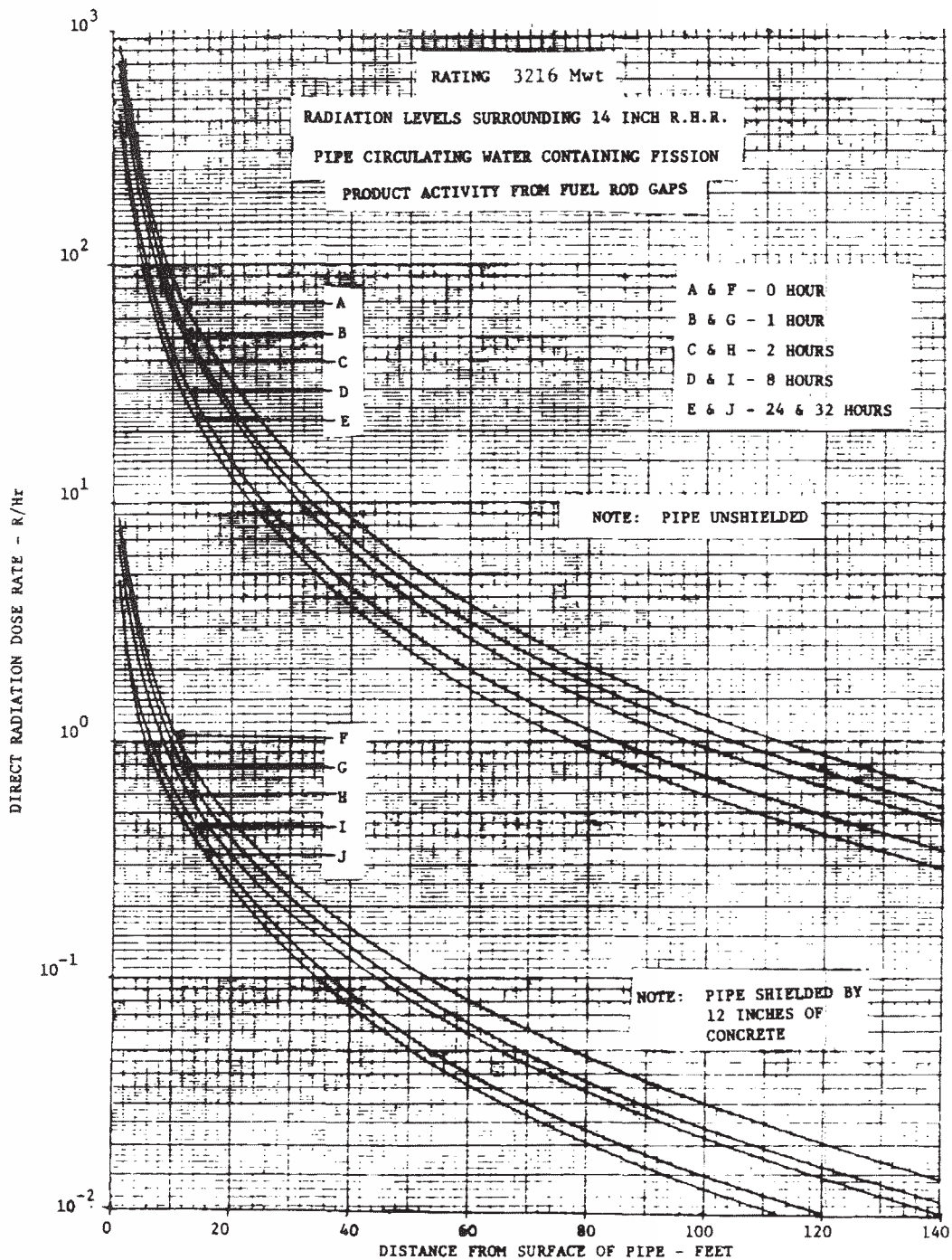
| | |
|--|-------------|
| INDIAN POINT UNIT No. 2 | |
| DOUBLE-ENDED HOT LEG BREAK FOR 3216 MWt | |
| CONTAINMENT TEMPERATURE | |
| UFSAR FIGURE 14.3-114 | REV. No. 26 |



INDIAN POINT UNIT No. 2

FAN COOLER HEAT REMOVAL AS A
 FUNCTION OF CONTAINMENT TEMPERATURE
 95°F SERVICE WATER, 1600 GPM SW FLOW

UFSAR FIGURE 14.3-115 | REV. No. 19



INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-129

RADIATION LEVELS SURROUNDING
14-INCH RESIDUAL HEAT REMOVAL PIPE
(FIGURE RETAINED FOR HISTORICAL PURPOSES)

MIC. No. 2000MC4342

REV. No. 17A