

Figure 14.3-1: Indian Point Unit 2 WCOBRA/TRAC Vessel Model Noding Diagram

INDIAN POINT UNIT No. 2

INDIAN POINT UNIT 2  
WCOBRA/TRAC VESSEL MODEL  
NODING DIAGRAM

UFSAR FIGURE 14.3-1

REV. No. 20

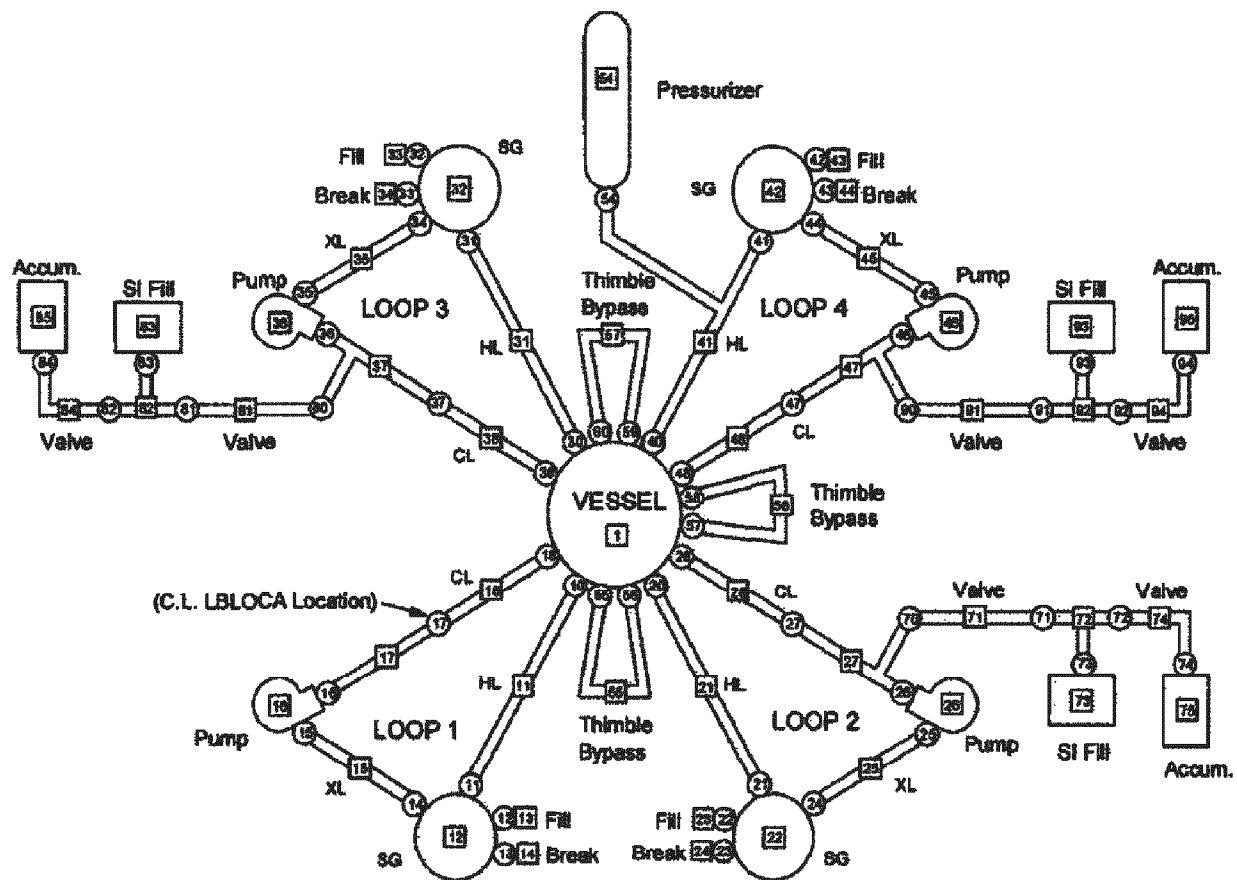


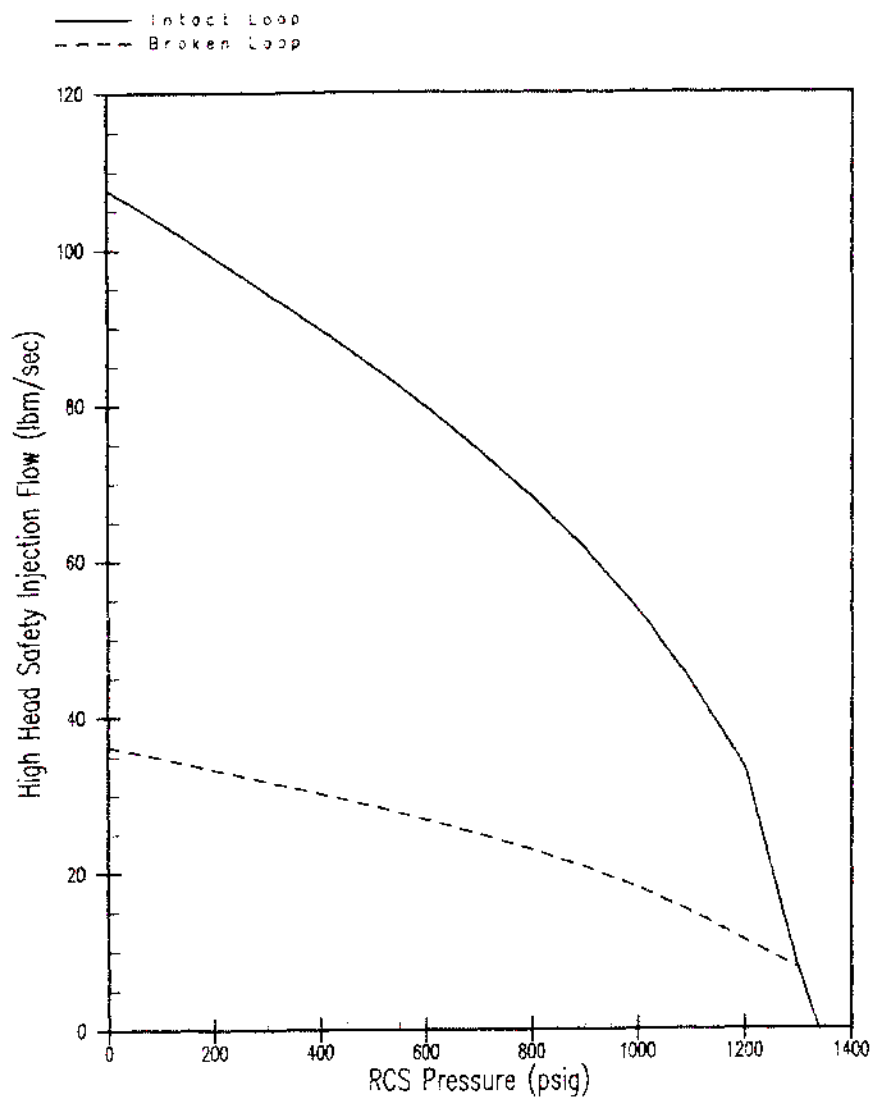
Figure 14.3-2: Indian Point Unit 2 WCOBRA/TRAC Model Loop Layout

INDIAN POINT UNIT No. 2

INDIAN POINT UNIT 2  
WCOBRA/TRAC VESSEL MODEL  
LOOP LAYOUT

UFSAR FIGURE 14.3-2

REV. No. 20



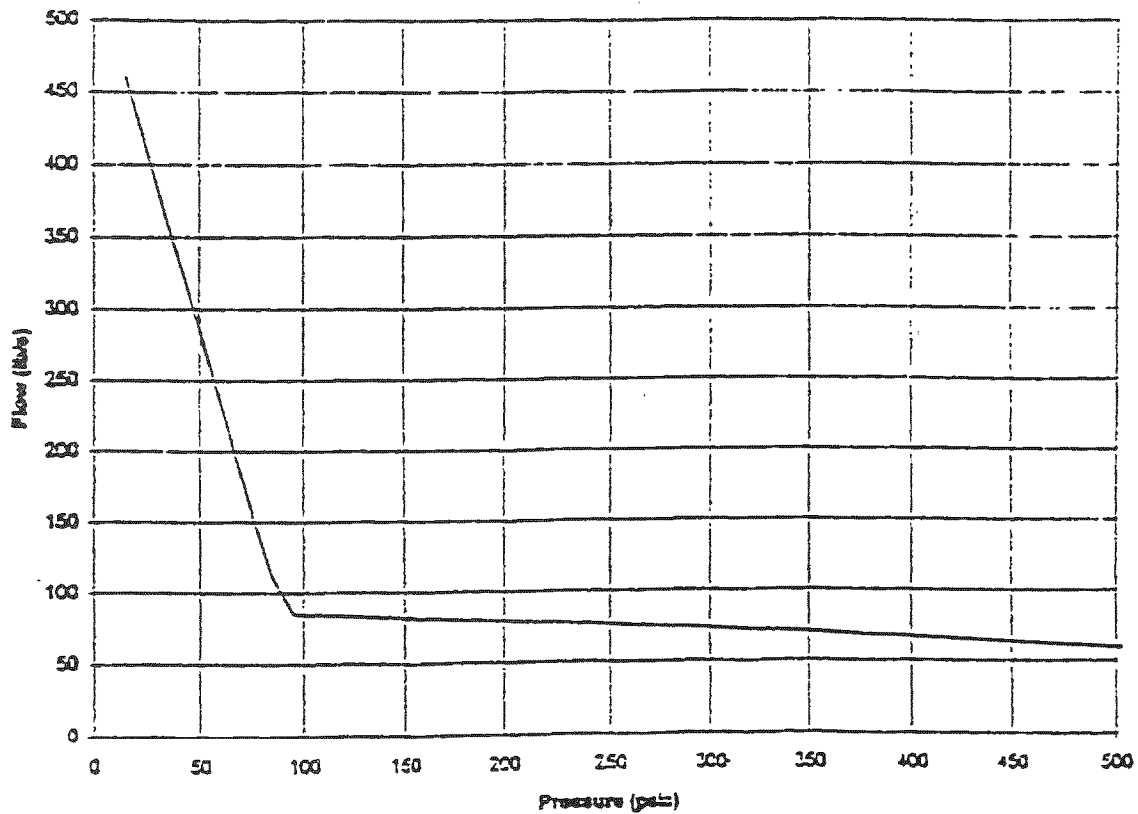
INDIAN POINT UNIT No. 2

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

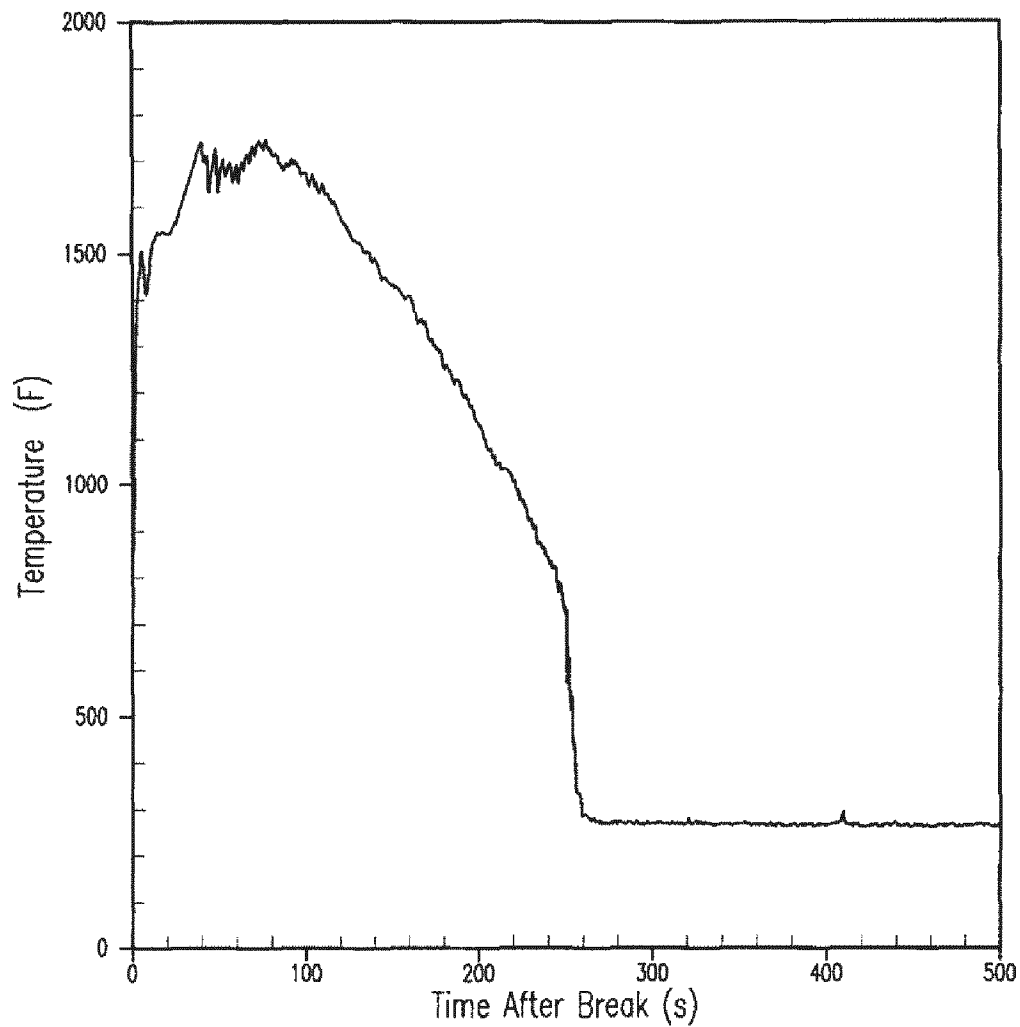
SAFETY INJECTION FLOW vs  
RCS PRESSURE

MIC. No. 2000MC4204

REV. No. 17A

## Indian Point Unit 2 Best-Estimate LBLOCA Analysis

— ROD 1 PEAK CLADDING TEMPERATURE



743863001

Figure 14.3-6: Peak Cladding Temperature for Reference Transient

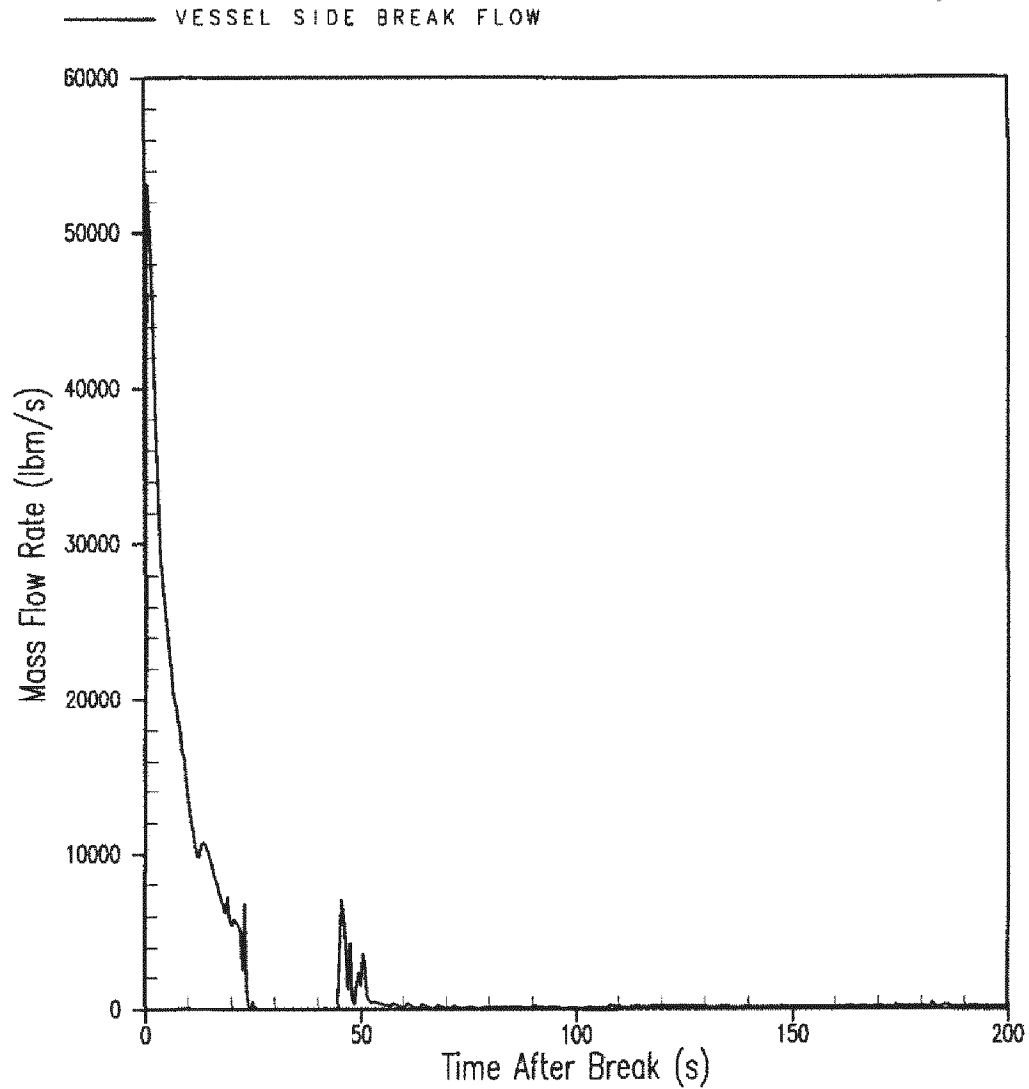
INDIAN POINT UNIT No. 2

PEAK CLADDING TEMPERATURE  
FOR REFERENCE TRANSIENT

UFSAR FIGURE 14.3-6

REV. No. 20

## Indian Point Unit 2 Best-Estimate LBLOCA Analysis



743853091

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

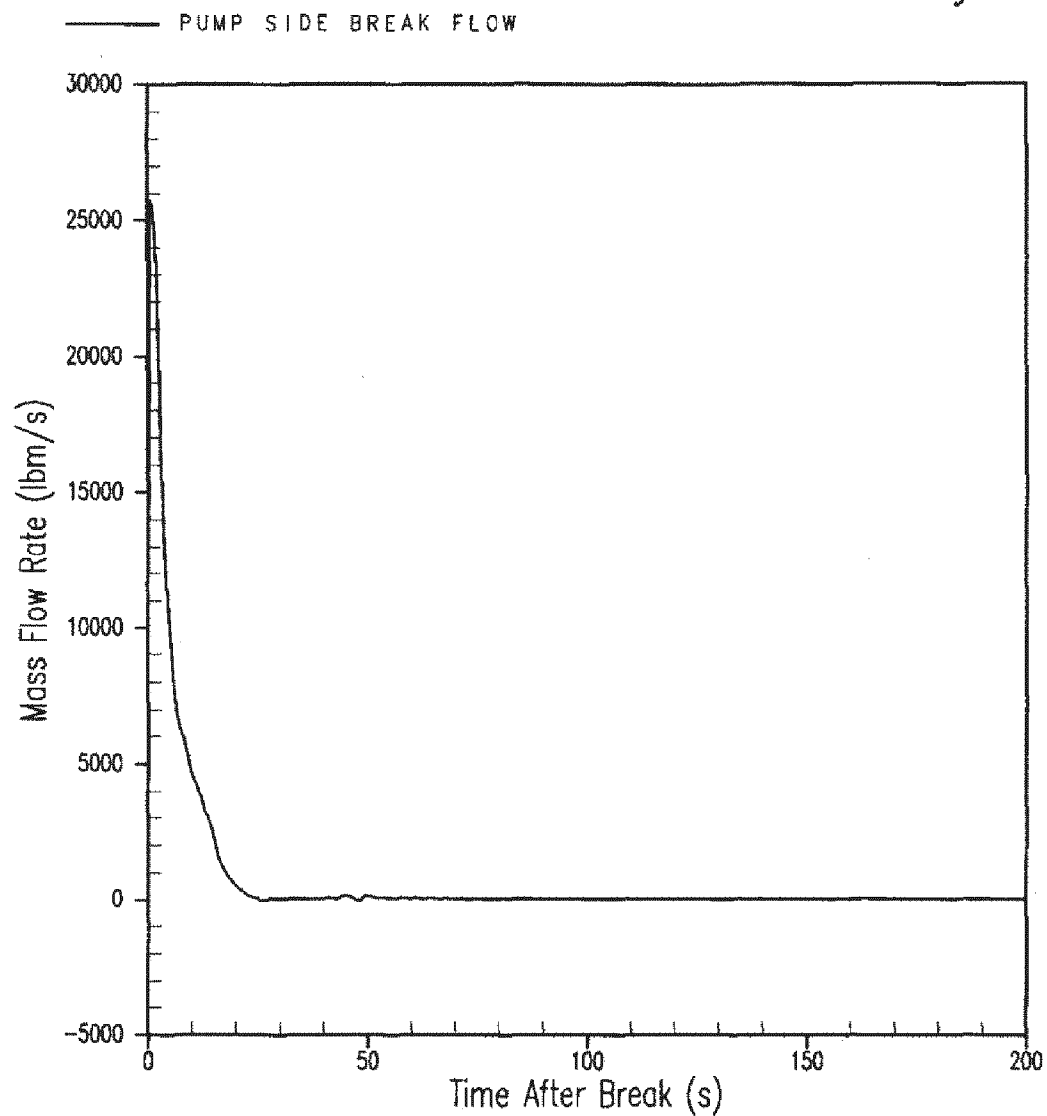
INDIAN POINT UNIT No. 2

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

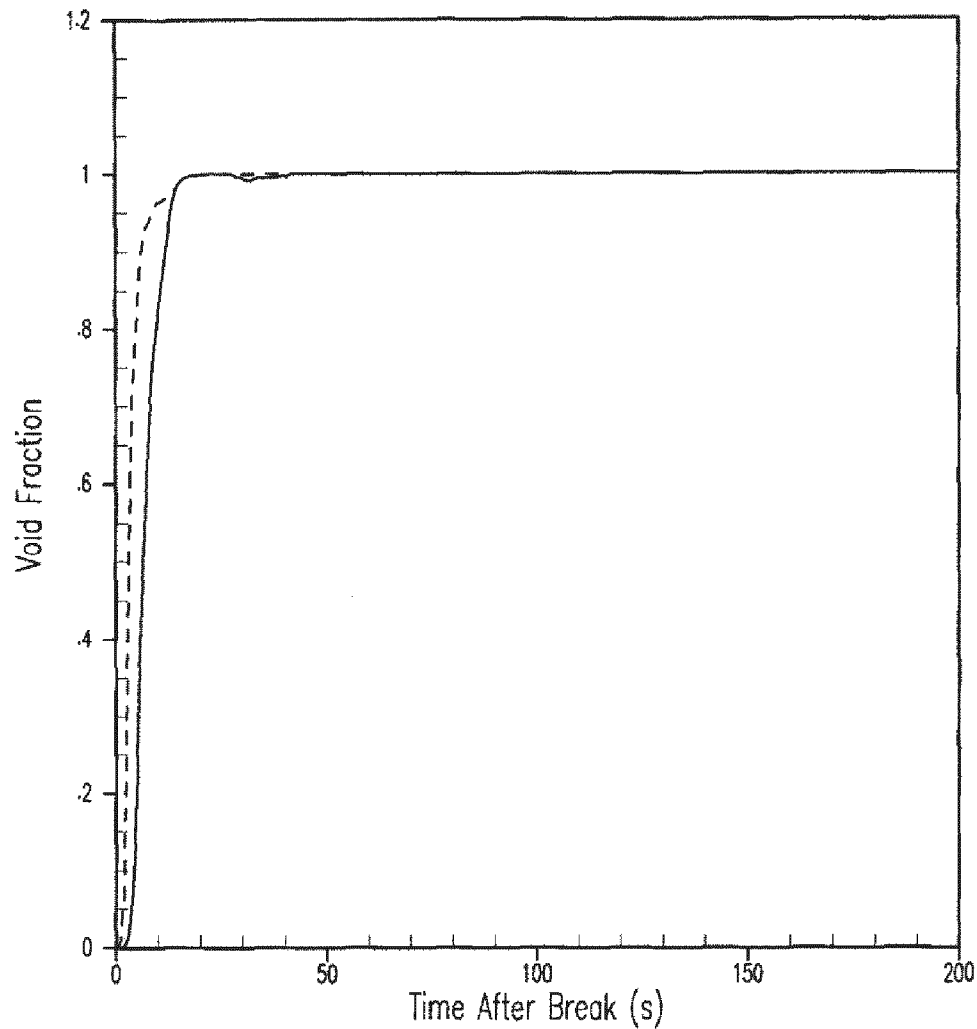
LOOP SIDE BREAK FLOW  
FOR REFERENCE TRANSIENT

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

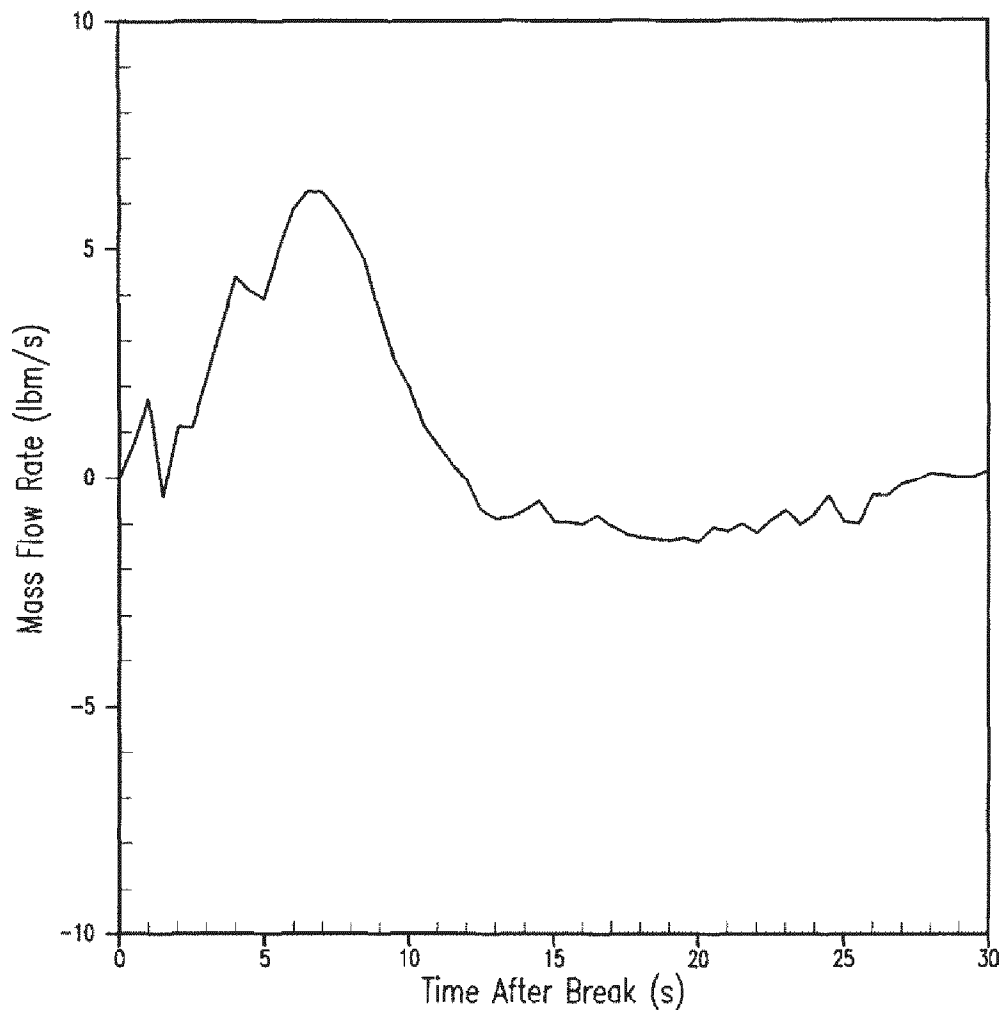
UFSAR FIGURE 14.3-9

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**

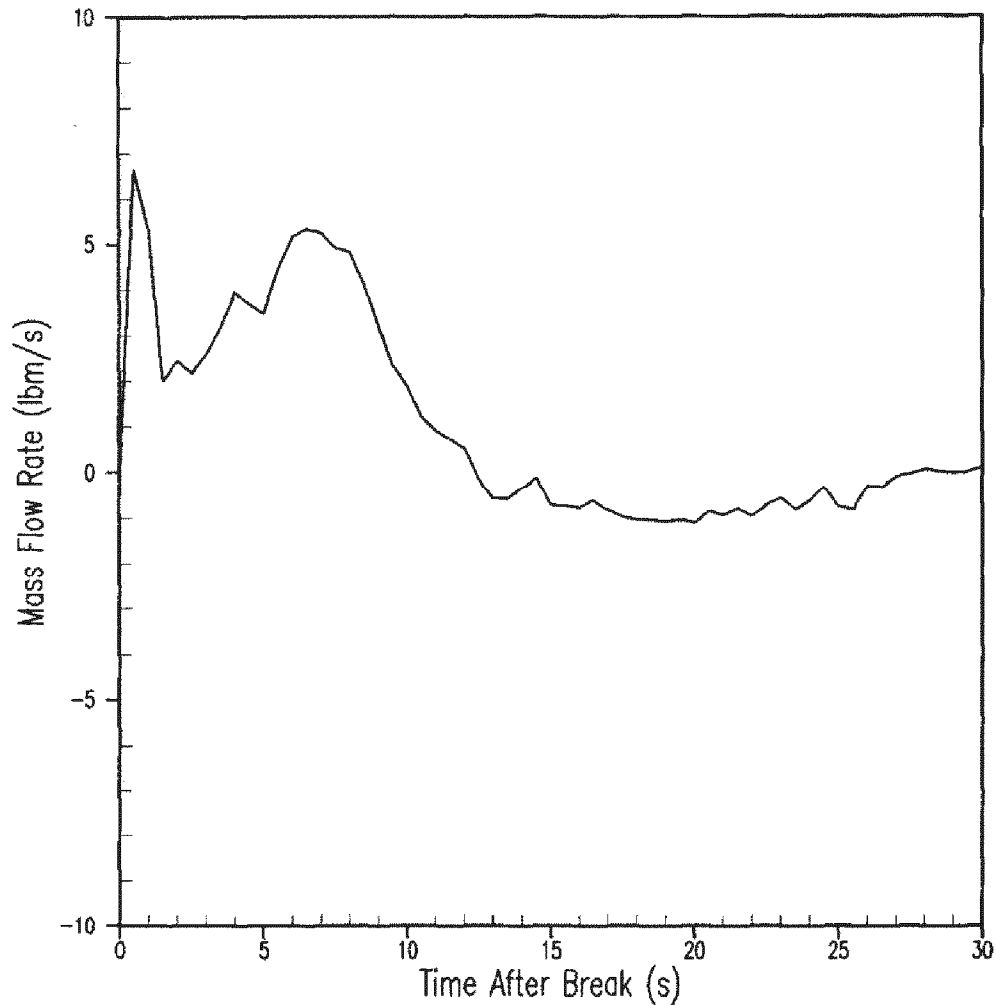
**INDIAN POINT UNIT No. 2**

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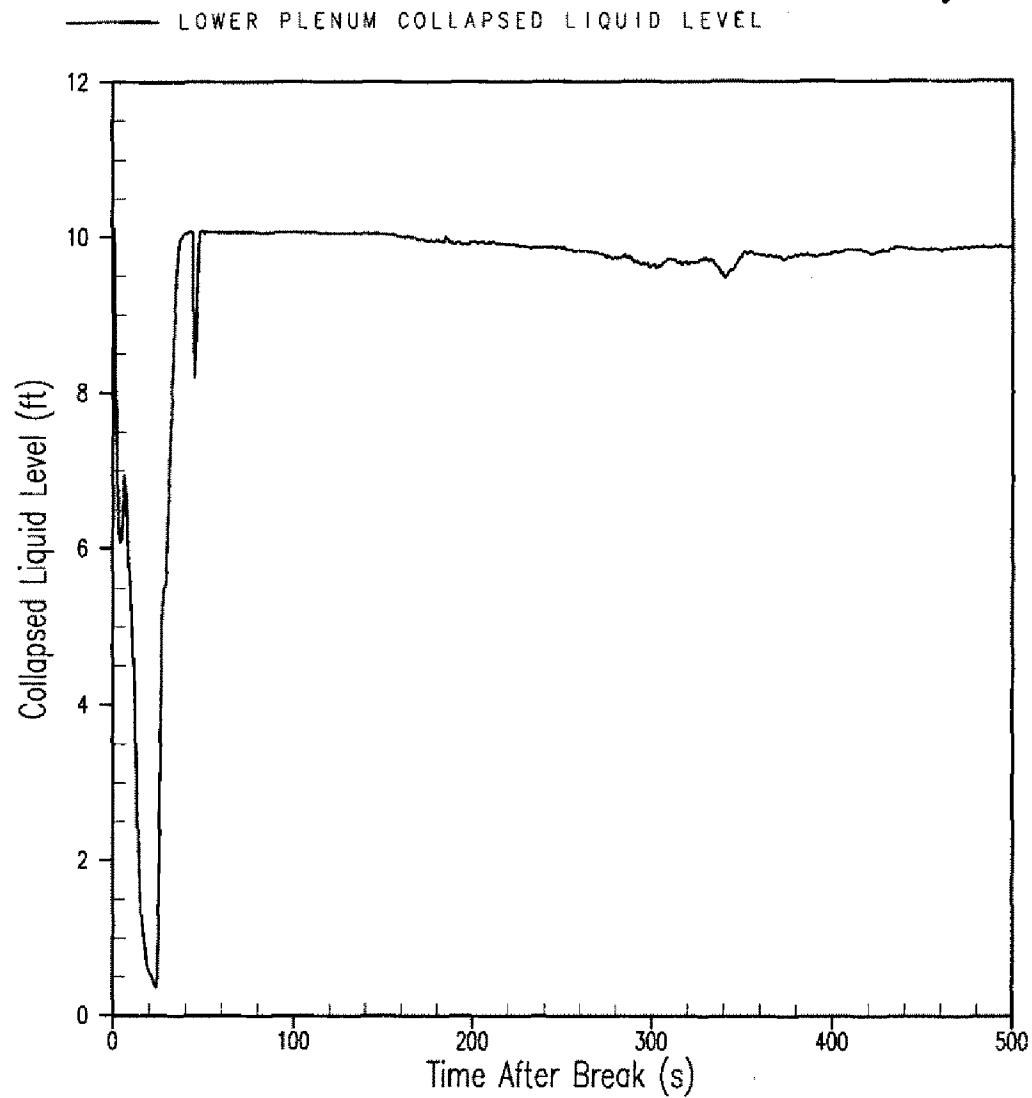
**Figure 14.3-11: Vapor Flow Rate at Mid-core in Core Hot Assembly Channel 19 During Blowdown for Reference Transient**

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



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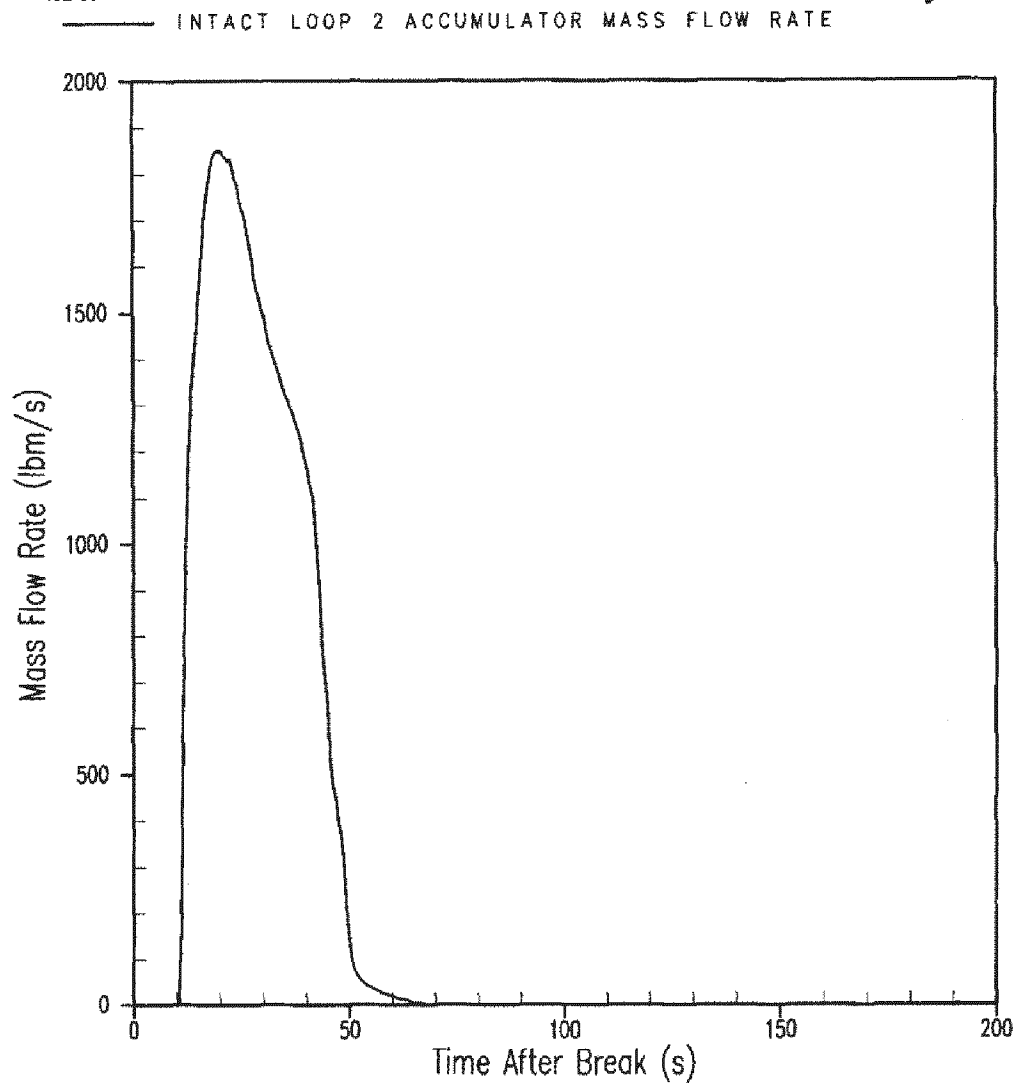
**Figure 14.3-12: Collapsed Liquid Level in Lower Plenum for Reference Transient**

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



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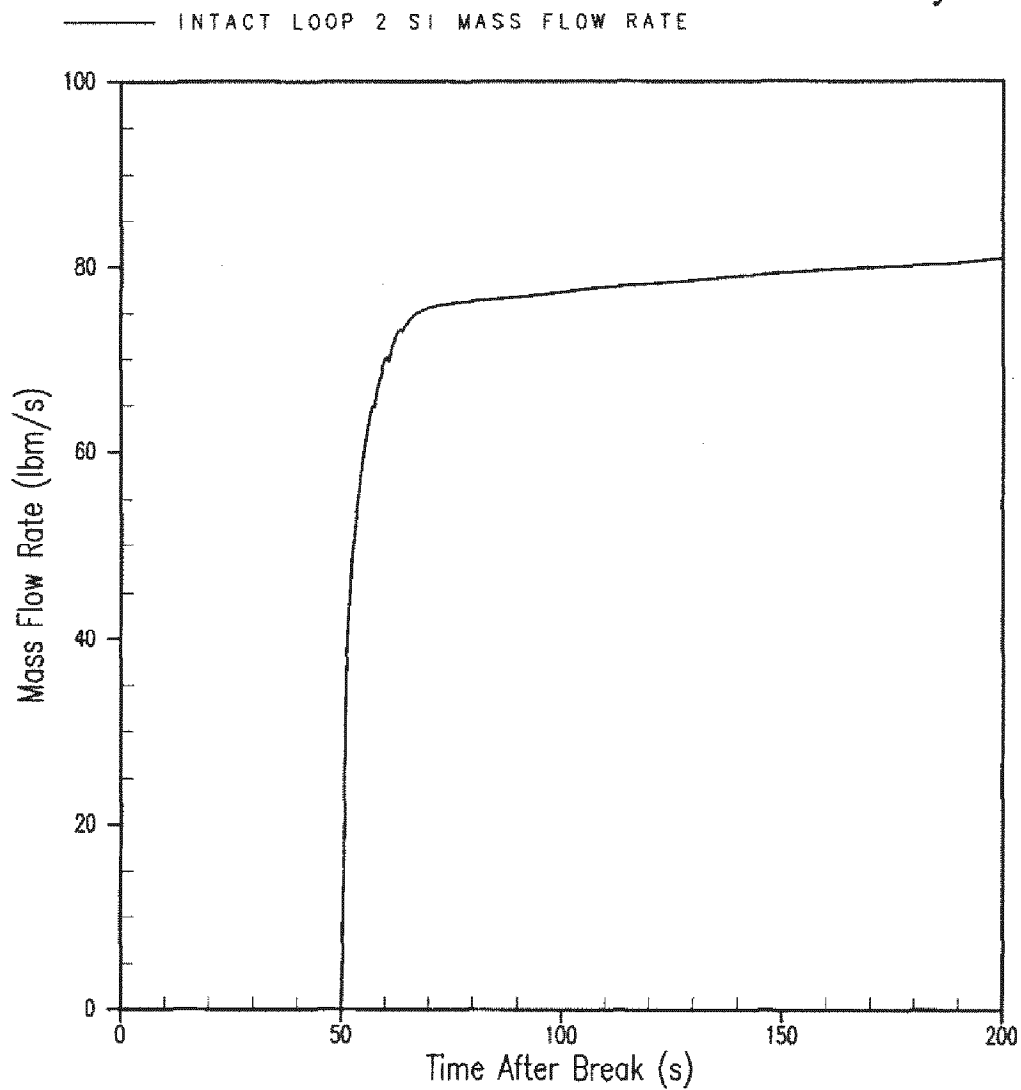
Figure 14.3-13: Intact Loop 2 Accumulator Flow for Reference Transient

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



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

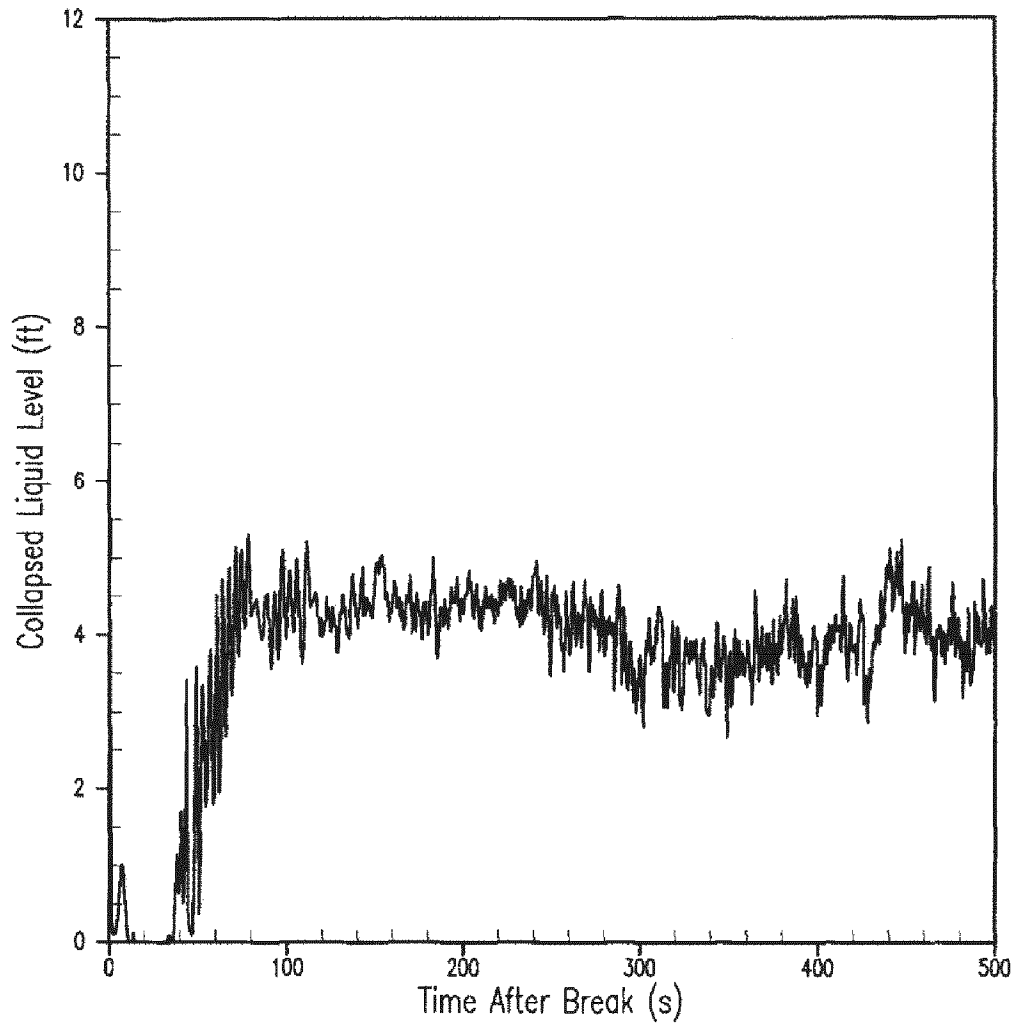
INDIAN POINT UNIT No. 2

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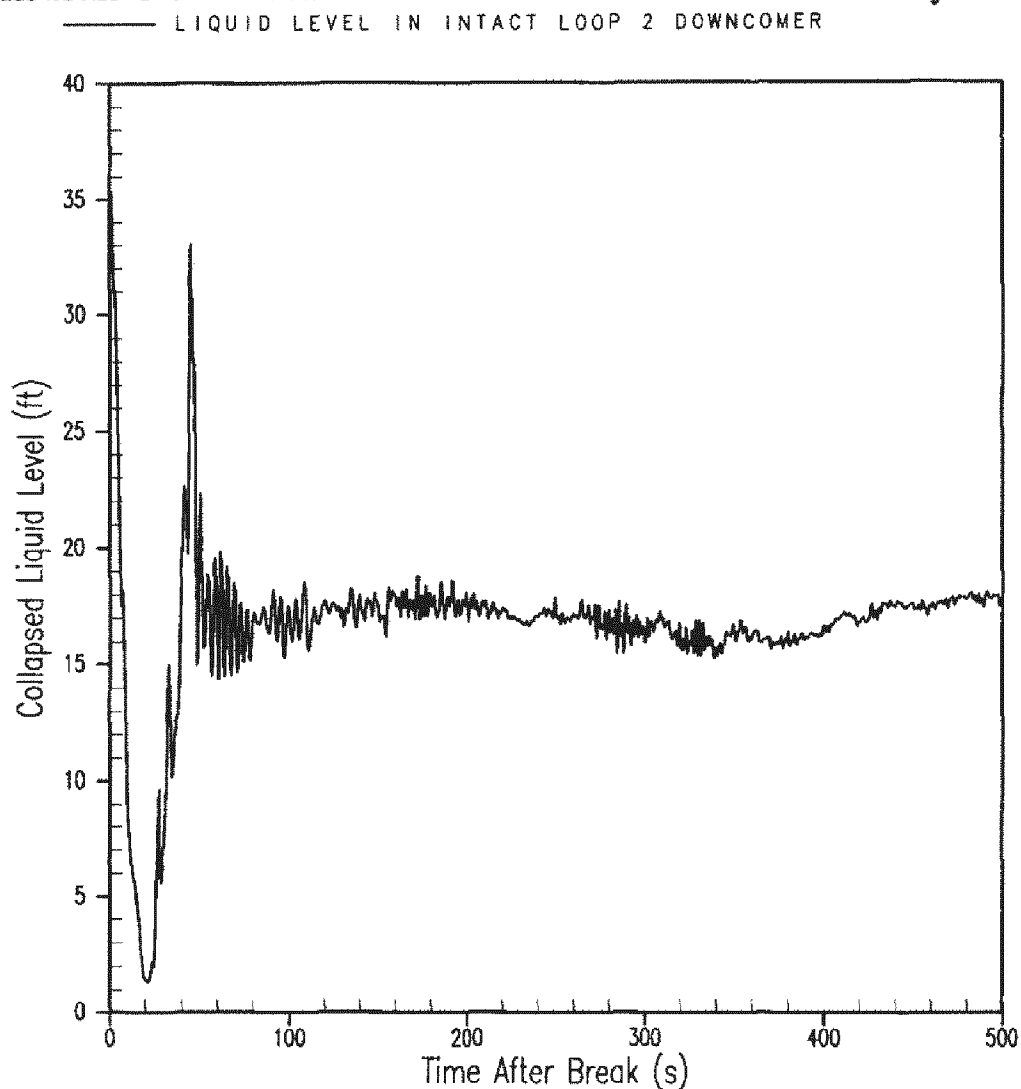
**Figure 14.3-15: Collapsed Liquid Level in Core Average Channel 17 for Reference Transient**

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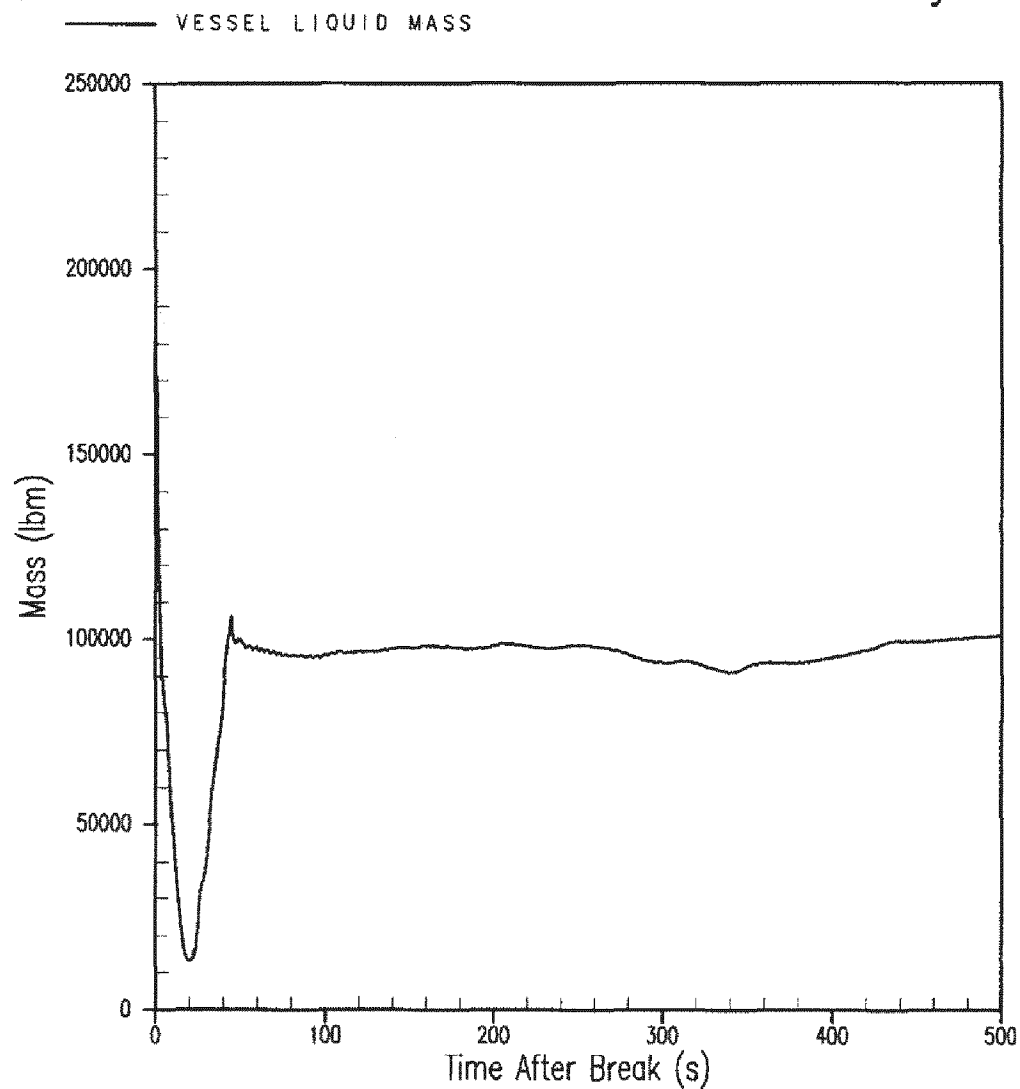
**Figure 14.3-16: Collapsed Liquid Level in Intact Loop Downcomer for Reference Transient**

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

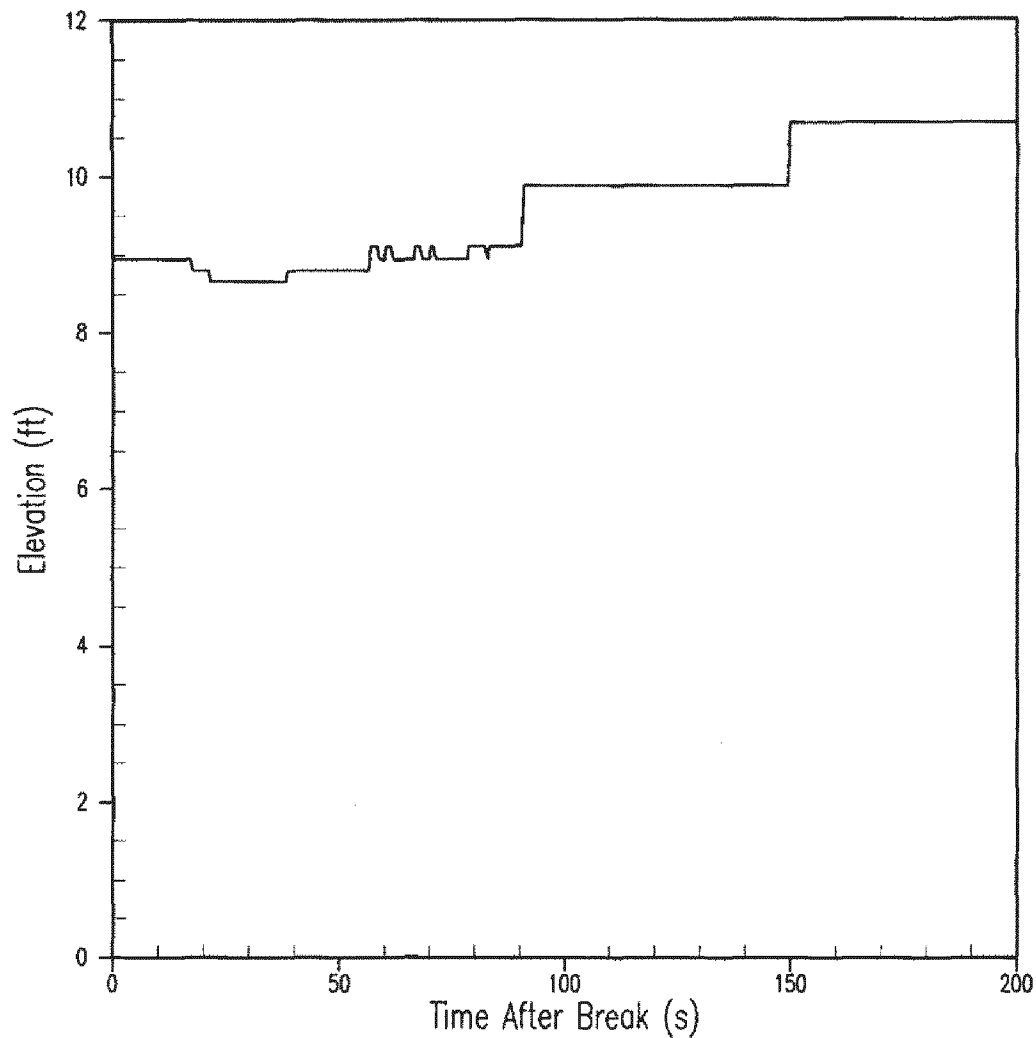
VESSEL FLUID MASS  
FOR REFERENCE TRANSIENT

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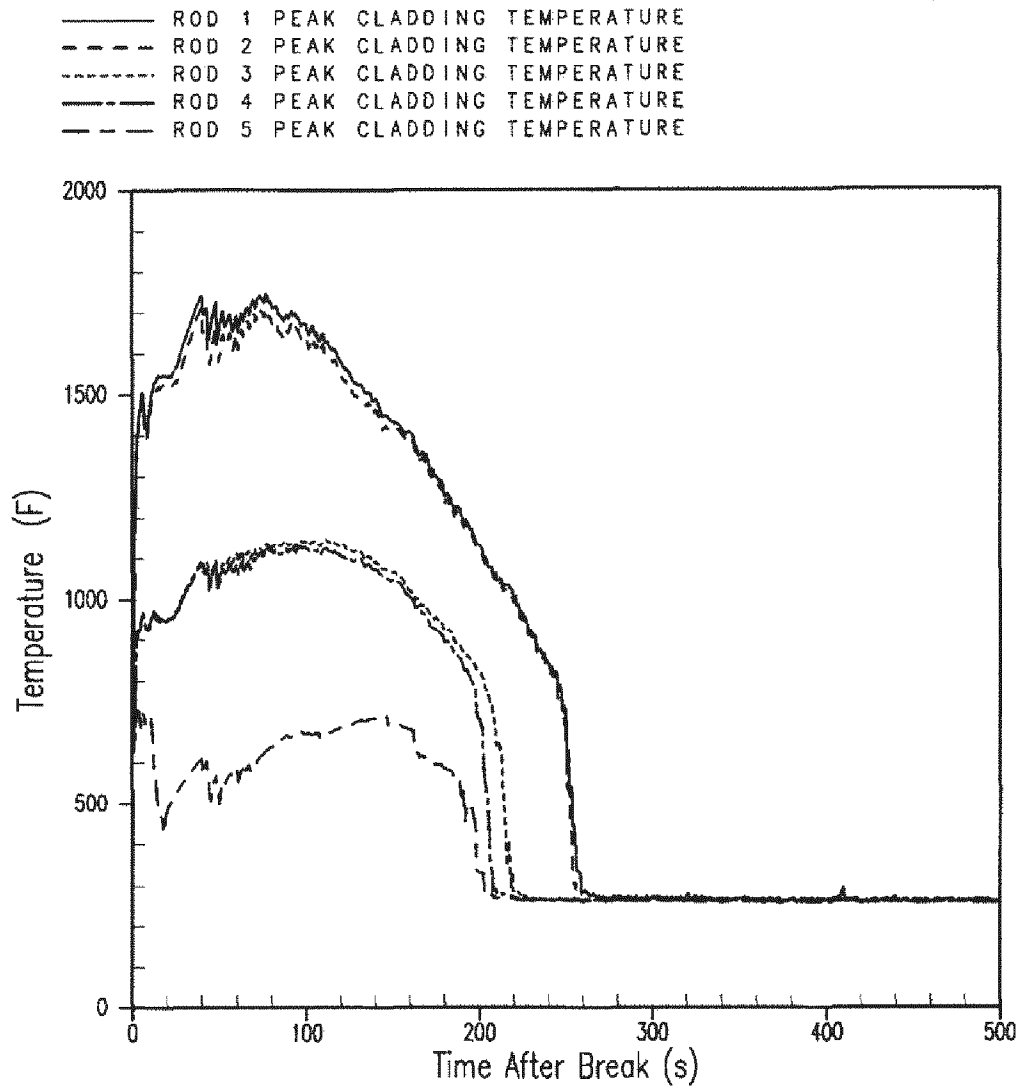
**Figure 14.3-18: Peak Cladding Temperature Elevation for Reference Transient**

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



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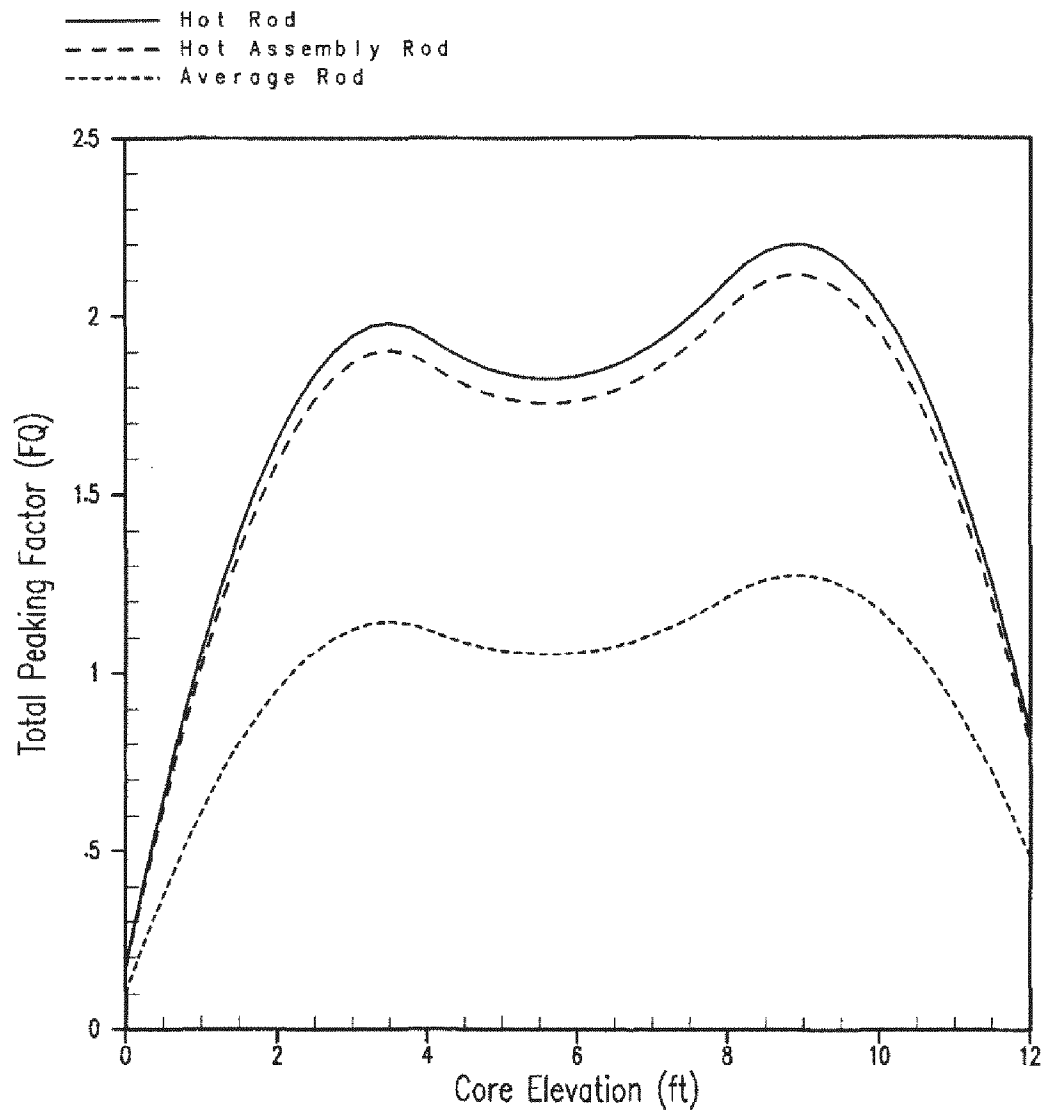
**Figure 14.3-19: Peak Cladding Temperature Comparison for Five Rods for Reference Transient**

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



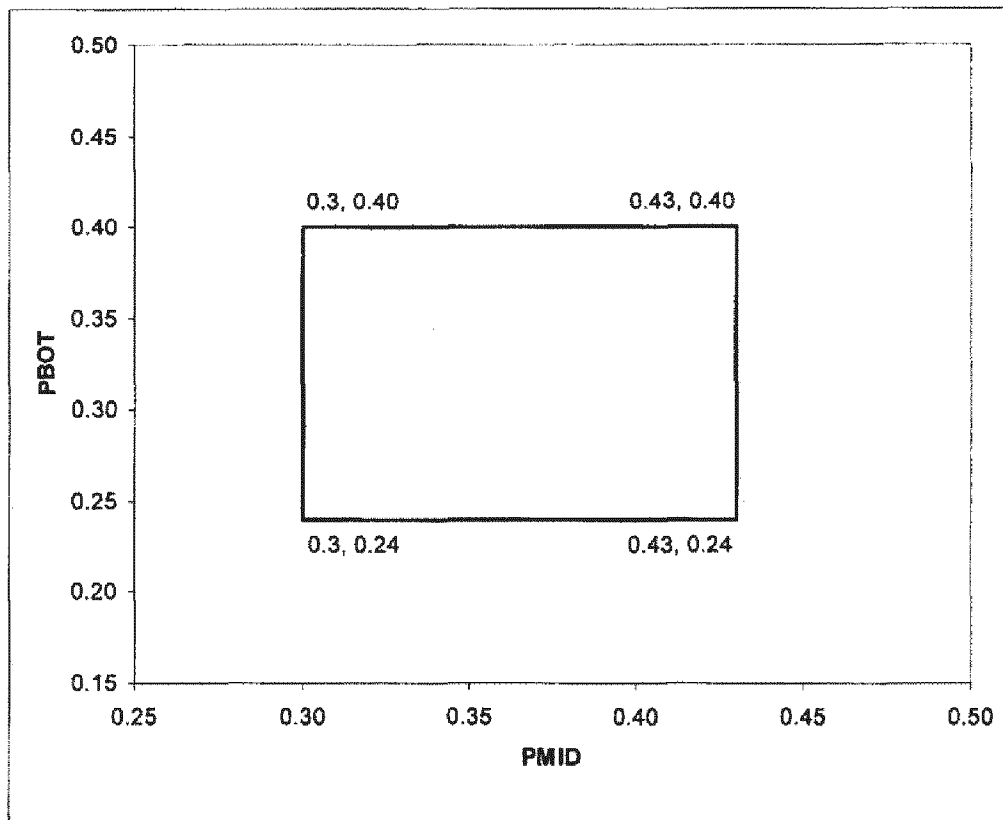
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Figure 14.3-20: Indian Point Unit 2 Axial Power Distribution for Initial and Reference Transient

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



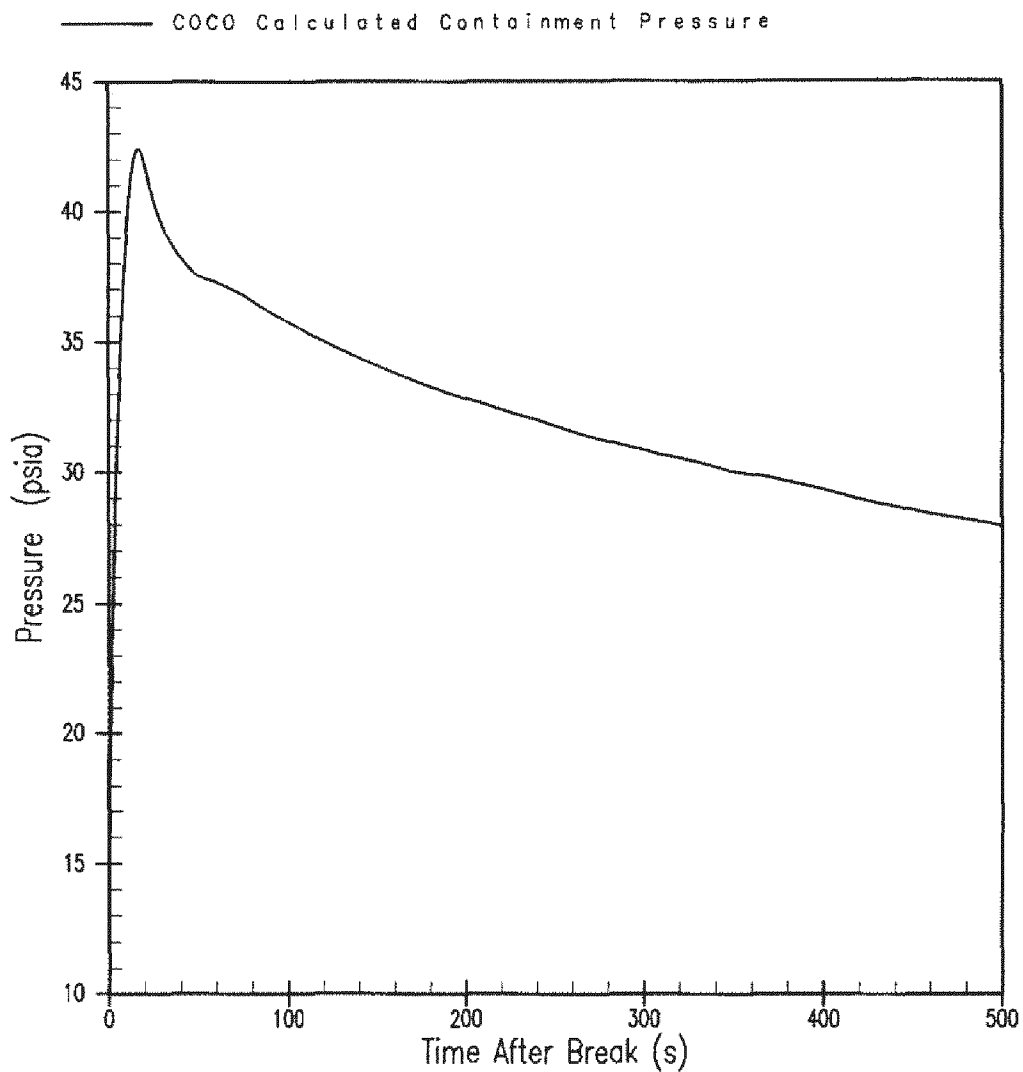
**Figure 14.3-21: Indian Point Unit 2 PBOT/PMID Analysis and Operating Limits**

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



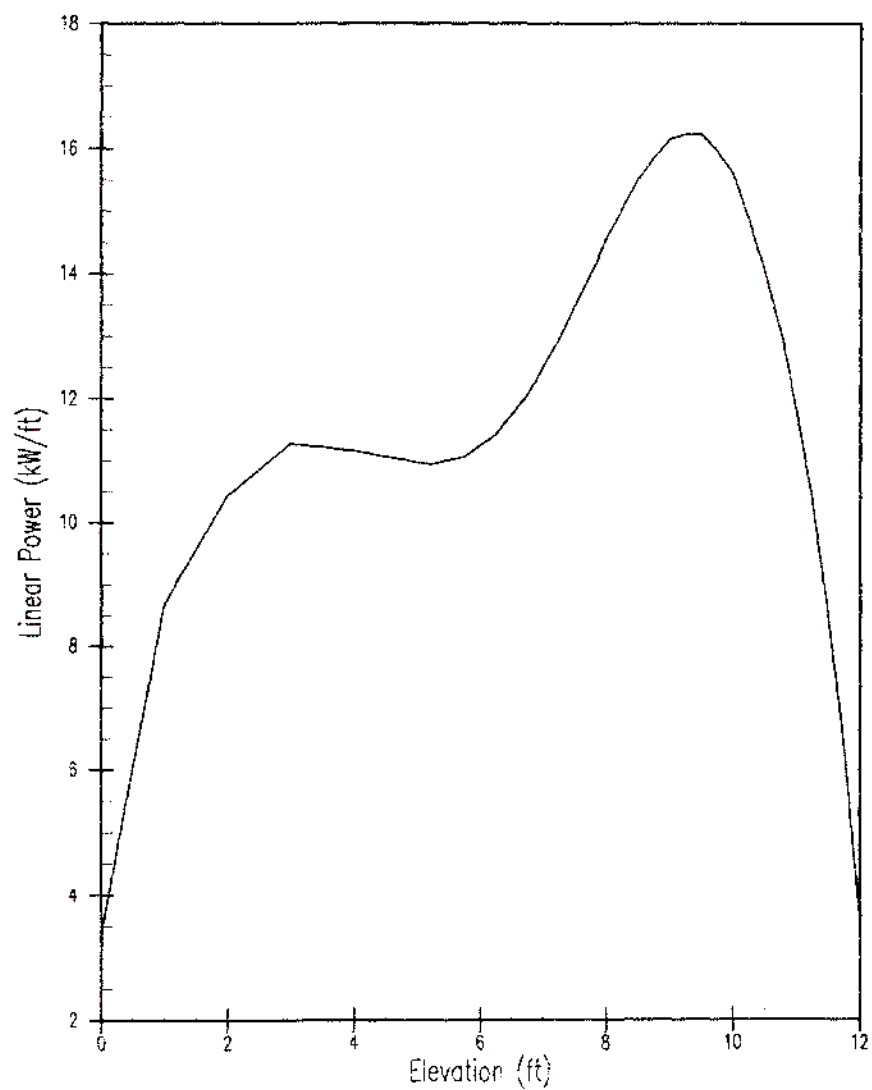
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**Figure 14.3-22: Indian Point Unit 2 Lower Bound COCO Calculated Containment Pressure**

INDIAN POINT UNIT No. 2

INDIAN POINT UNIT 2  
LOWER BOUND COCO CALCULATED  
CONTAINMENT PRESSURE

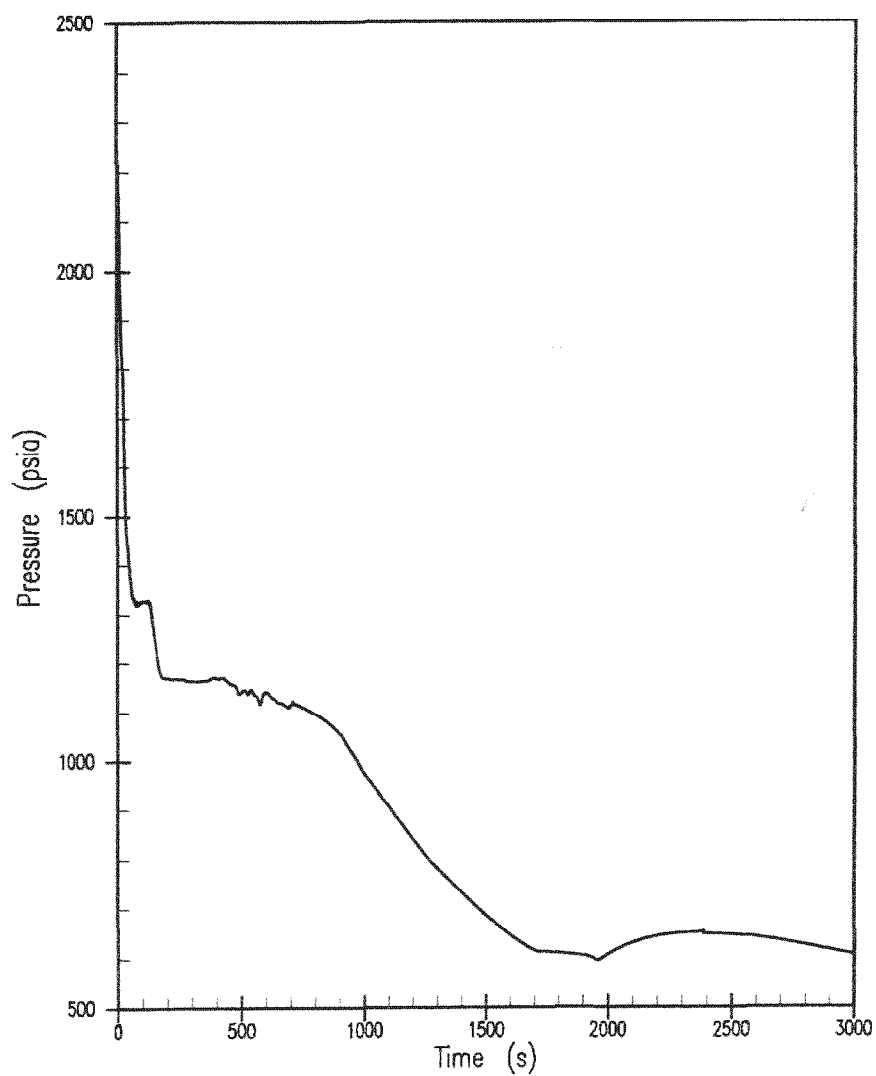
UFSAR FIGURE 14.3-22 | REV. No. 20



INDIAN POINT UNIT No. 2

SMALL BREAK LOCA  
AXIAL POWER SHAPE

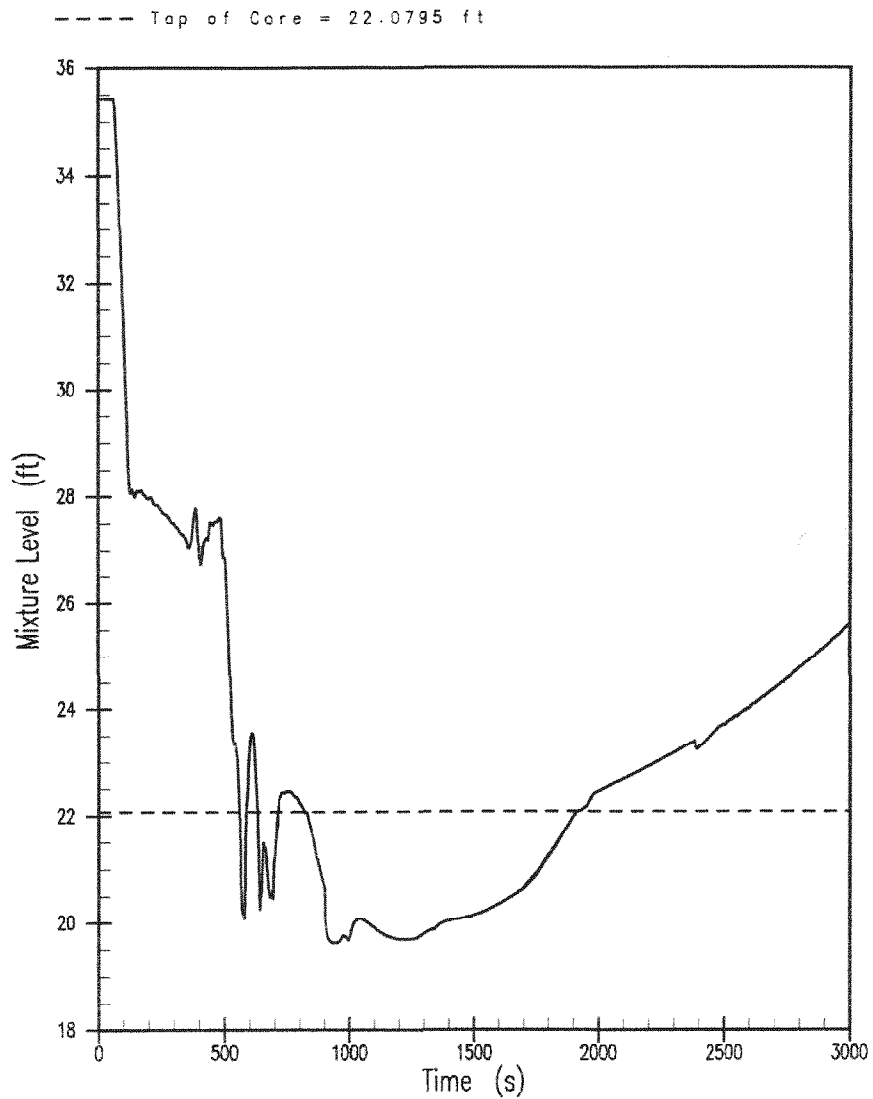
UFSAR FIGURE 14.3-53 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA  
RCS PRESSURE

UFSAR FIGURE 14.3-54 | REV. No. 19

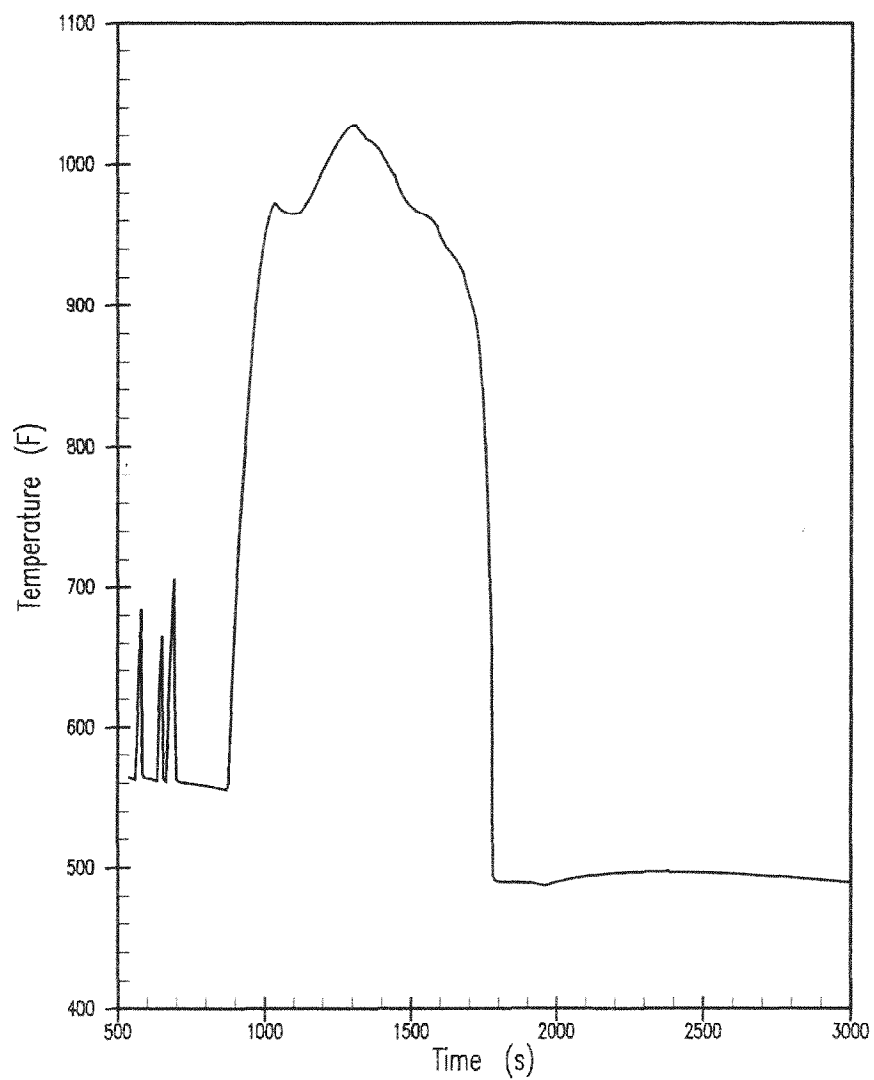


INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA  
CORE MIXTURE LEVEL

UFSAR FIGURE 14.3-55 | REV. No. 19

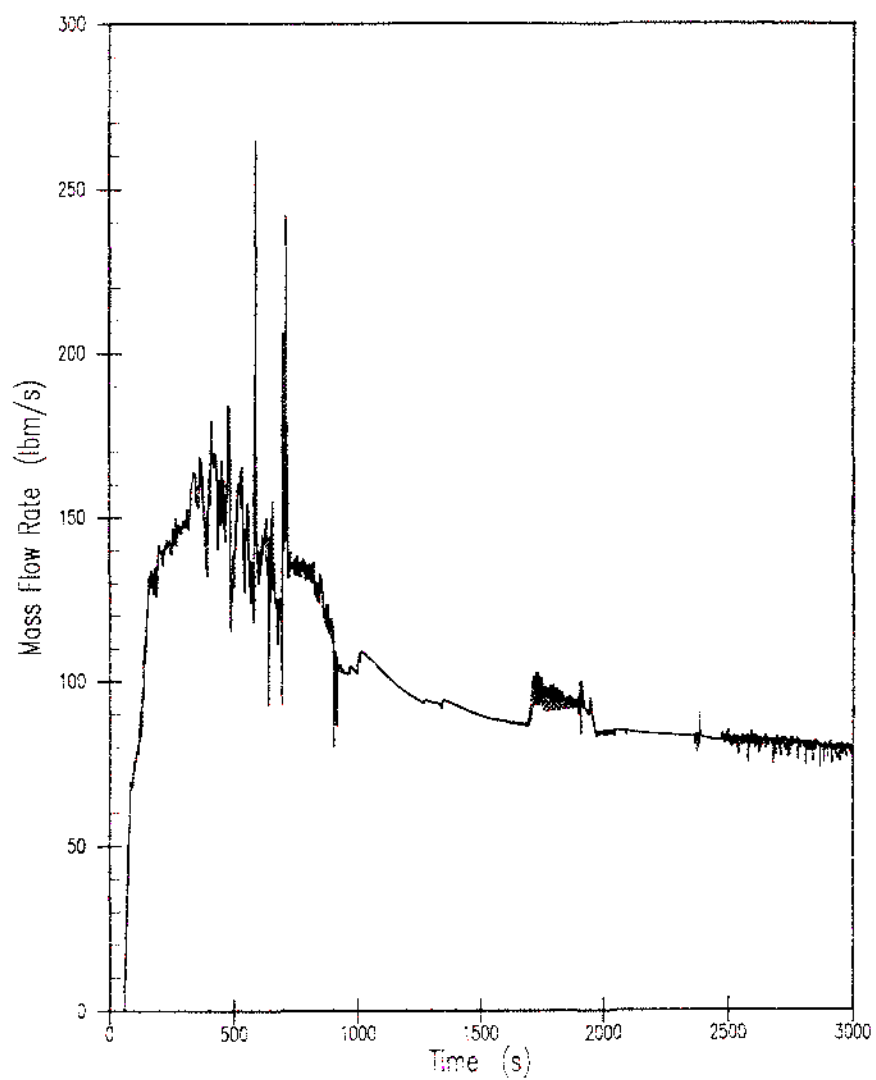




INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA HOT ROD  
CLAD AVERAGE TEMPERATURE

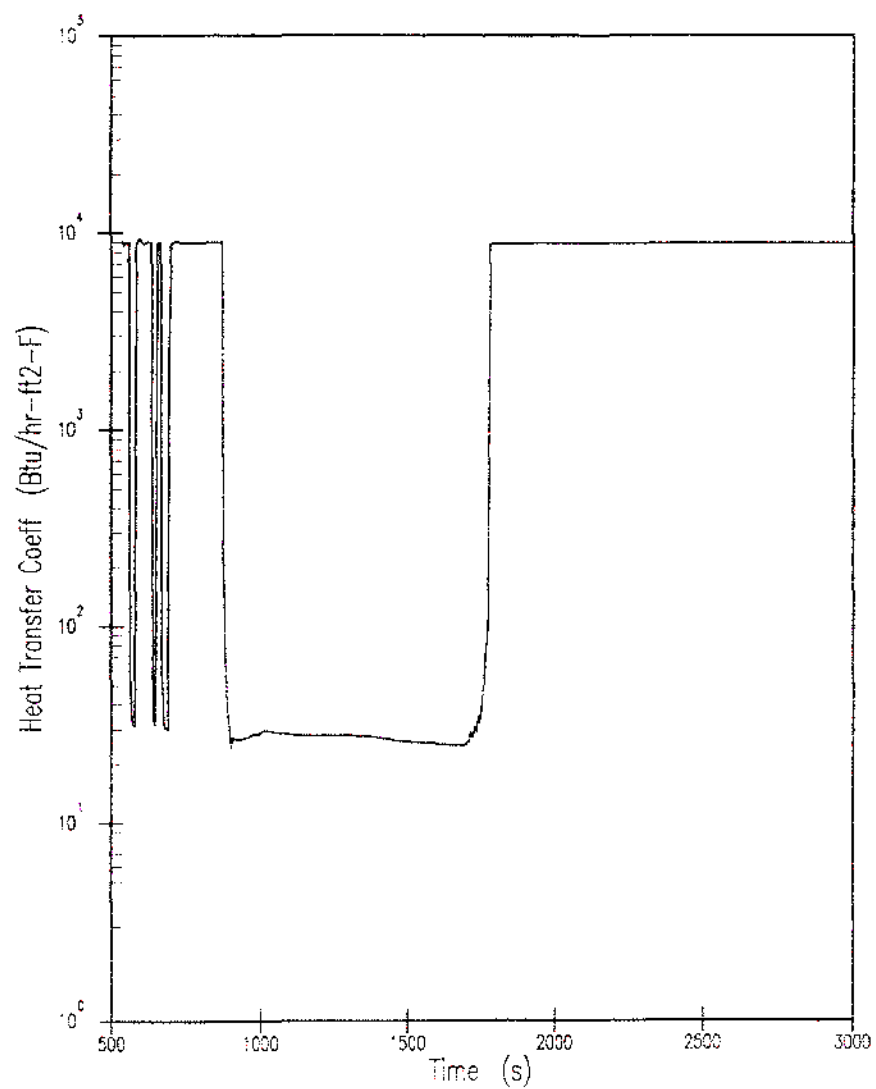
UFSAR FIGURE 14.3-56 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA CORE  
OUTLET STEAM FLOW

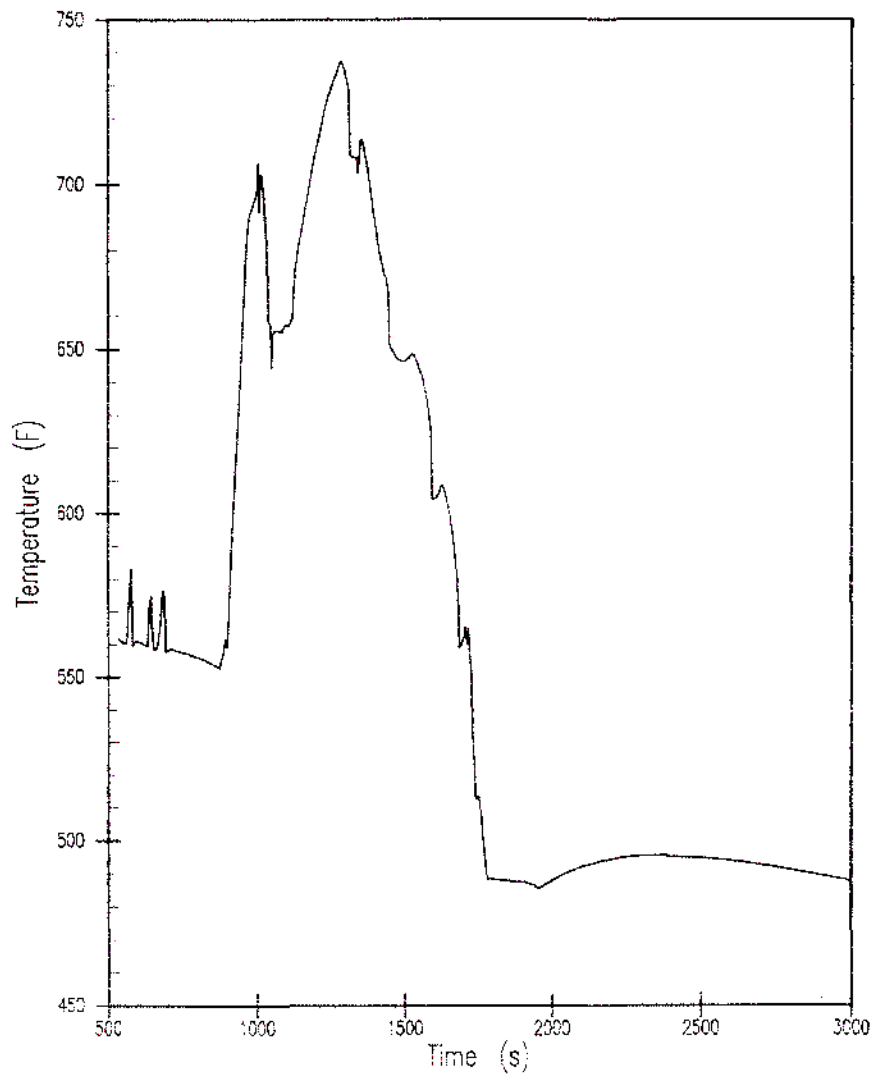
UFSAR FIGURE 14.3-57 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA  
HEAT TRANSFER COEFFICIENT

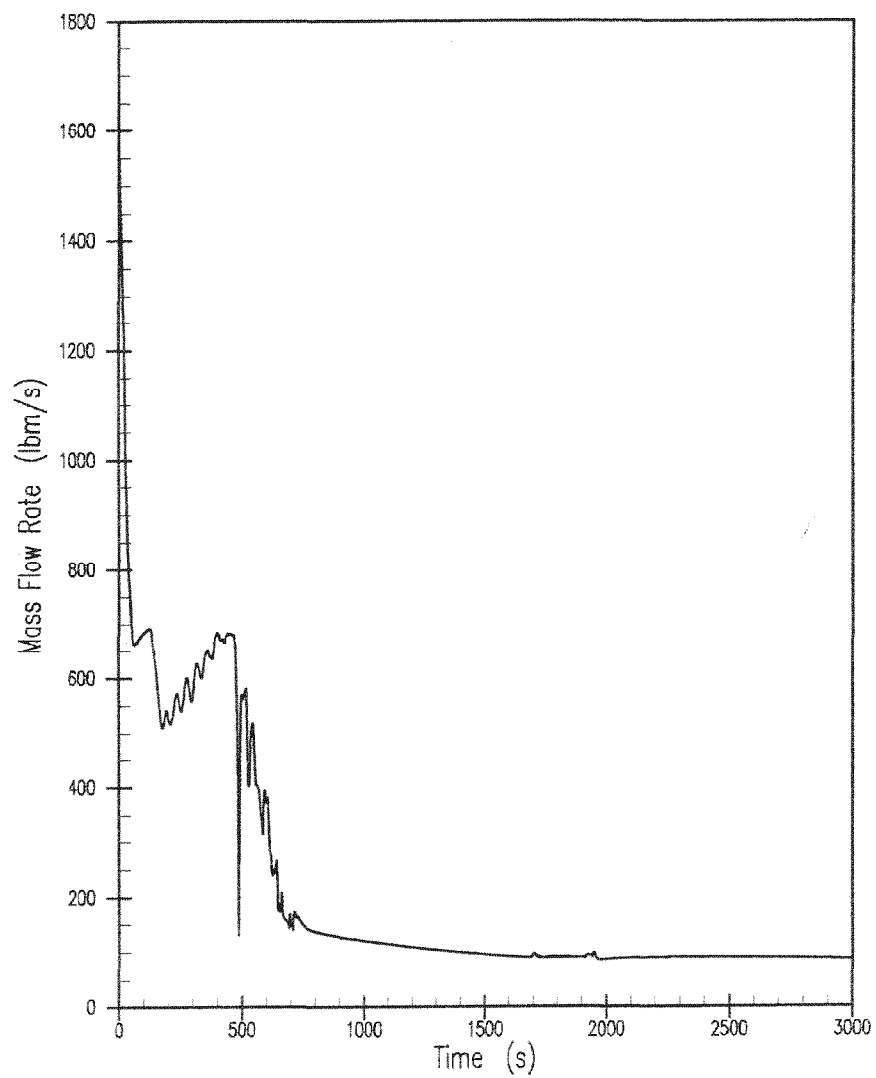
UFSAR FIGURE 14.3-58 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA HOT  
SPOT FLUID TEMPERATURE

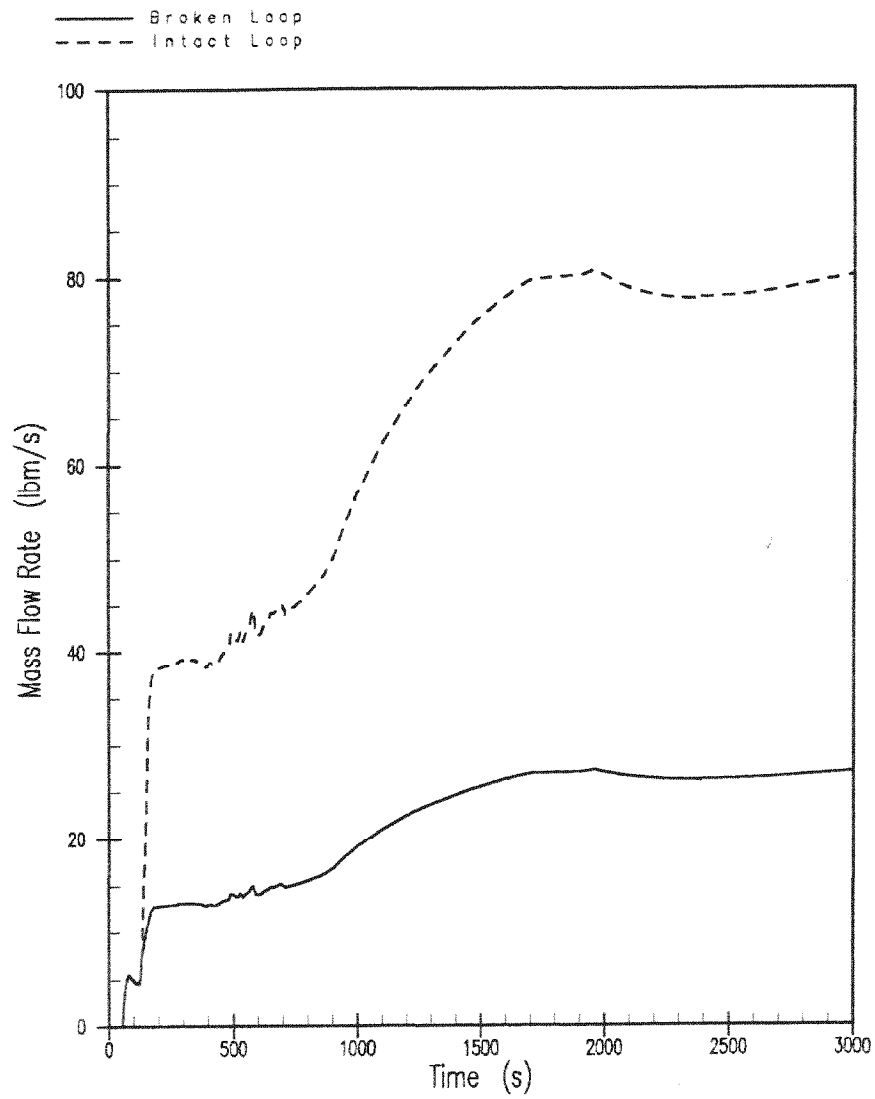
UFSAR FIGURE 14.3-59 REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA  
BREAK FLOW

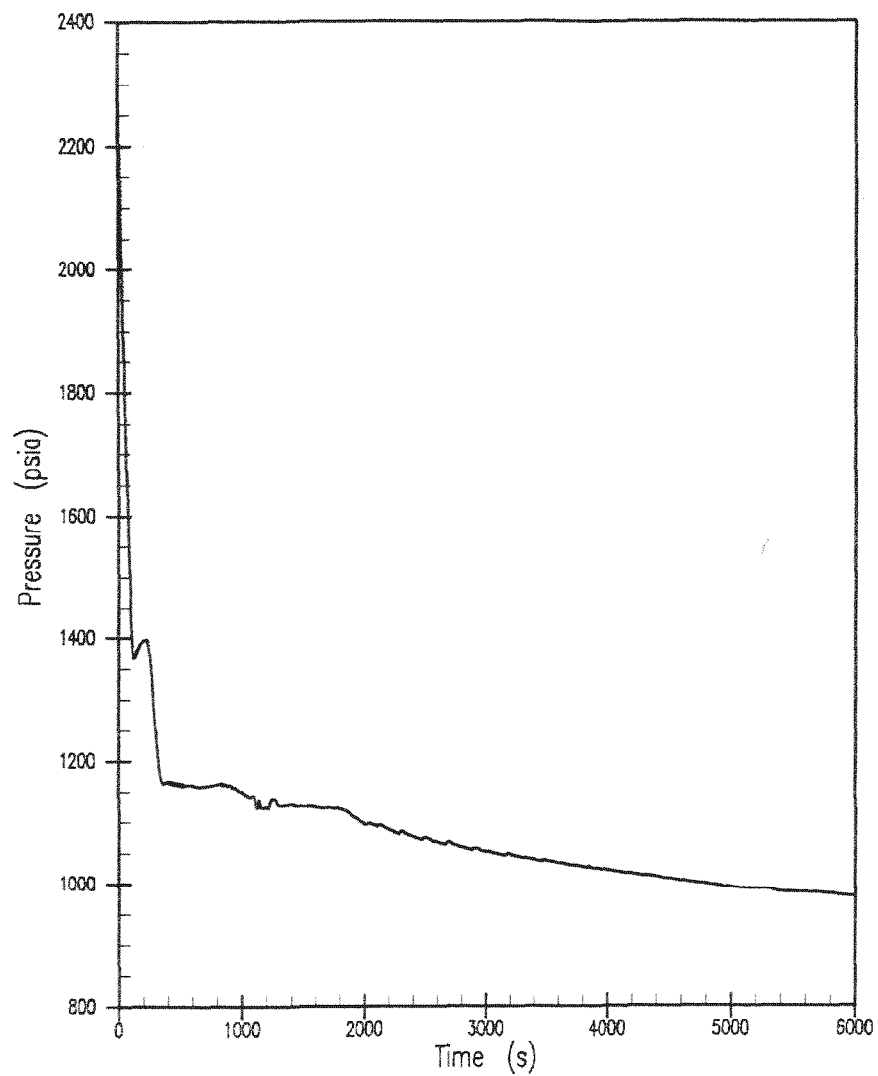
UFSAR FIGURE 14.3-60 | REV. No. 19



INDIAN POINT UNIT No. 2

3.0" SMALL BREAK LOCA SAFETY  
INJECTION MASS FLOW RATE

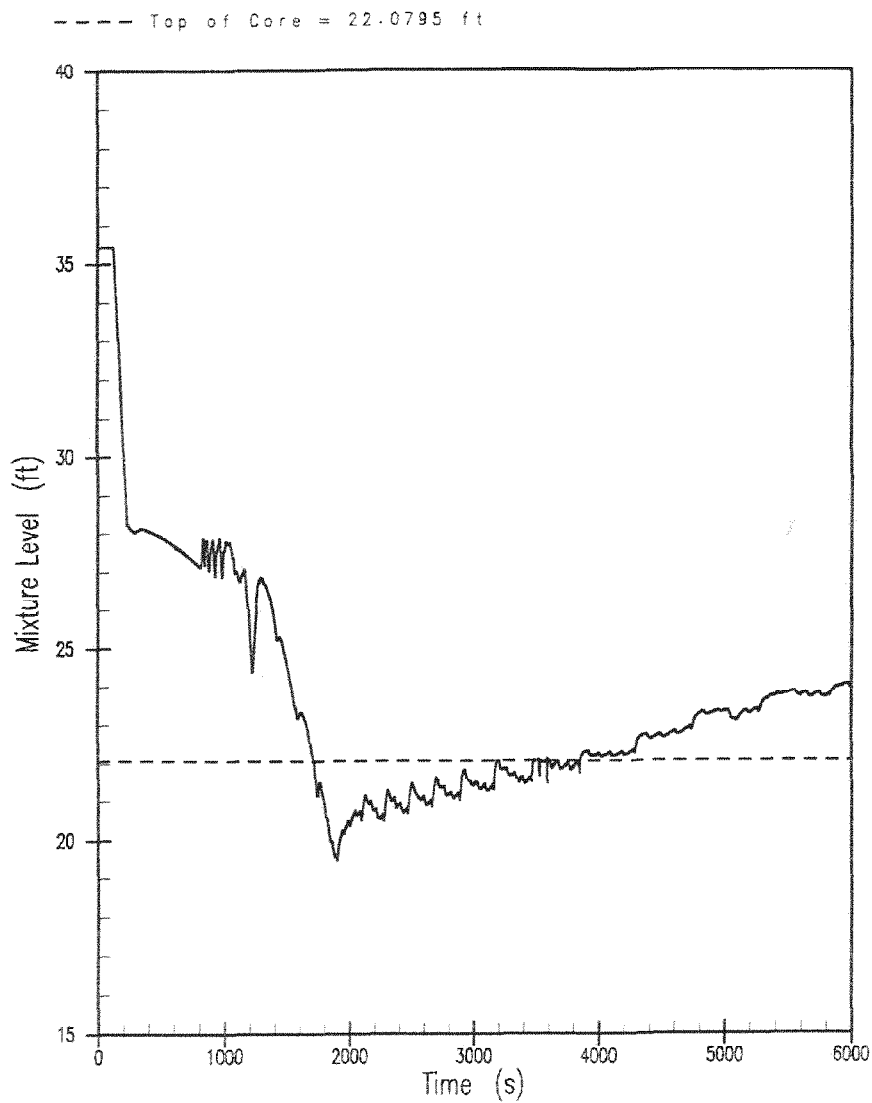
UFSAR FIGURE 14.3-61 | REV. No. 19



INDIAN POINT UNIT No. 2

2.0" SMALL BREAK LOCA  
RCS PRESSURE

UFSAR FIGURE 14.3-62 | REV. No. 19

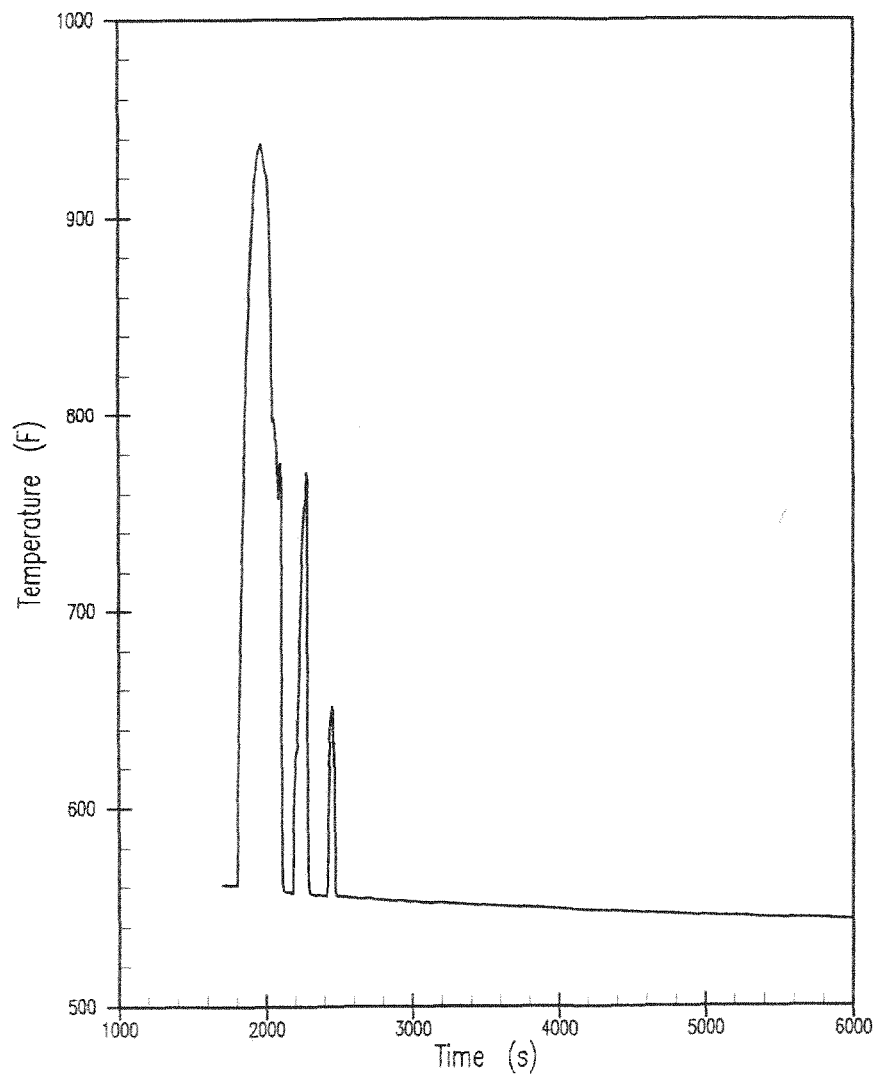


INDIAN POINT UNIT No. 2

2.0" SMALL BREAK LOCA  
CORE MIXTURE LEVEL

UFSAR FIGURE 14.3-63 | REV. No. 19

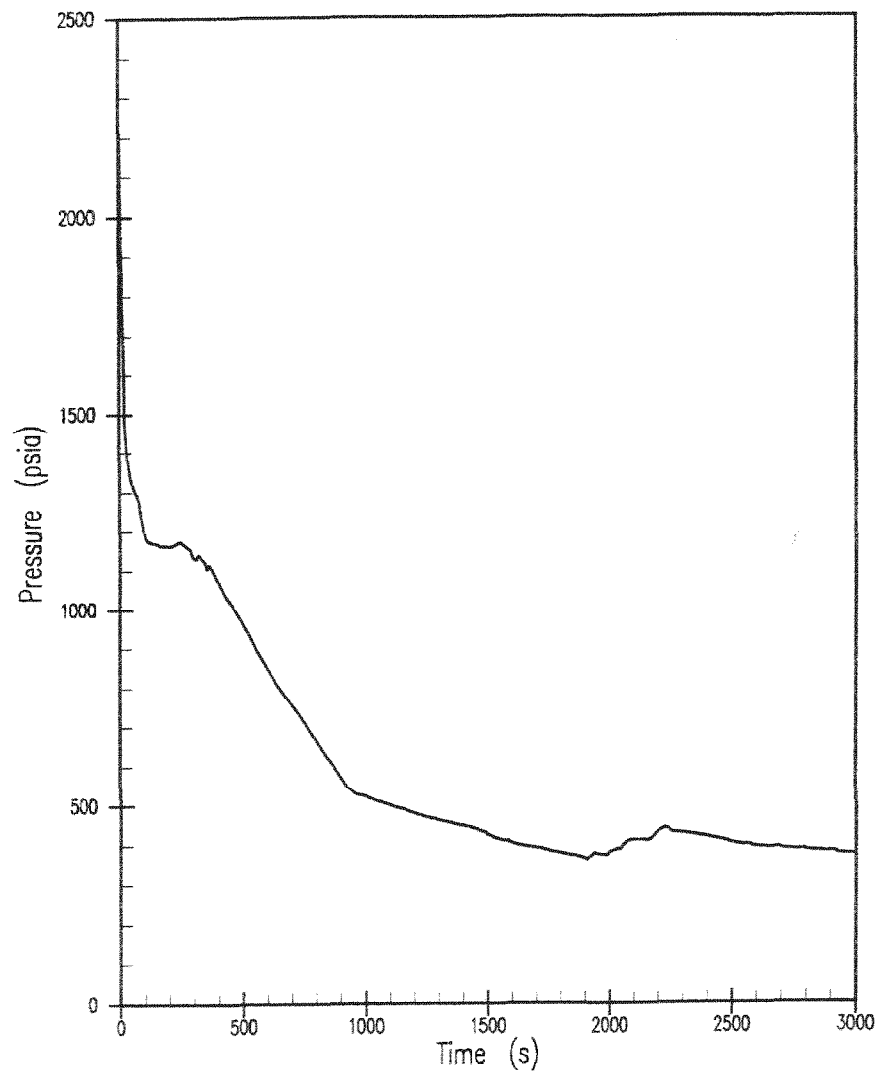




INDIAN POINT UNIT No. 2

2.0" SMALL BREAK LOCA HOT ROD  
CLAD AVERAGE TEMPERATURE

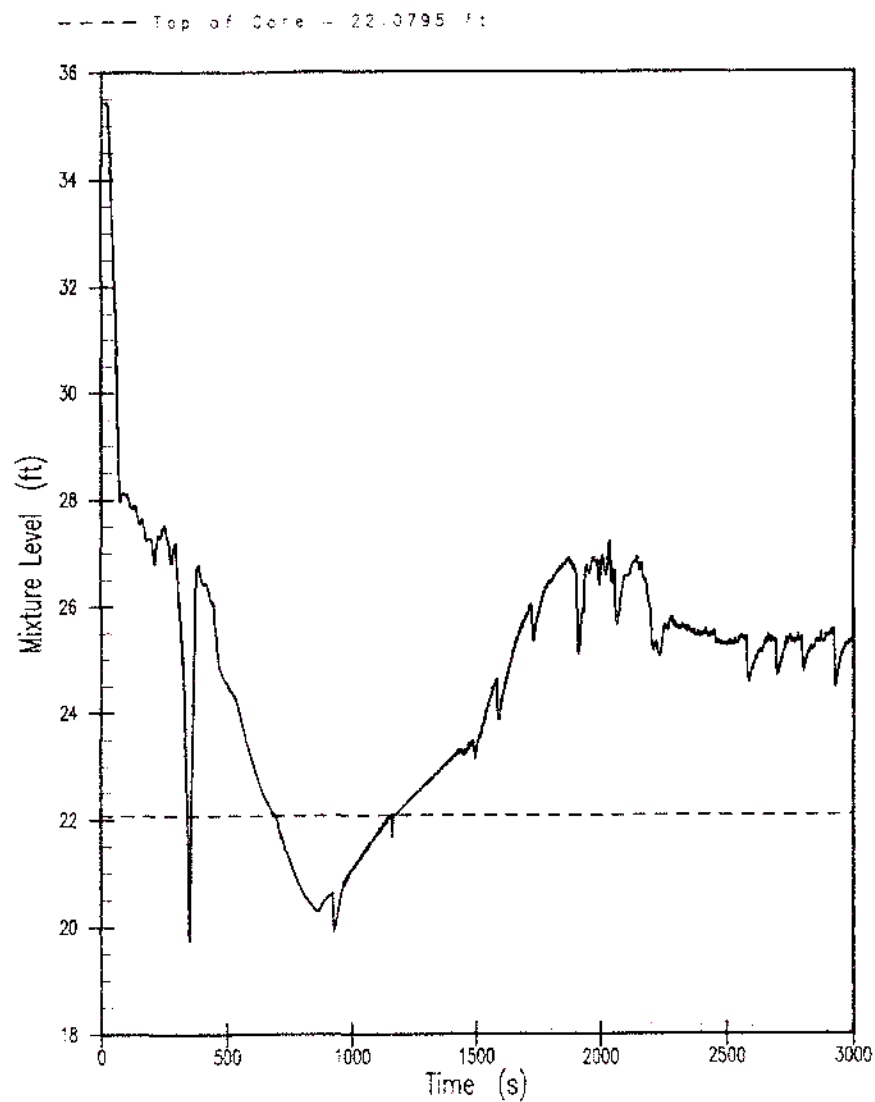
UFSAR FIGURE 14.3-64 | REV. No. 19



INDIAN POINT UNIT No. 2

4.0" SMALL BREAK LOCA  
RCS PRESSURE

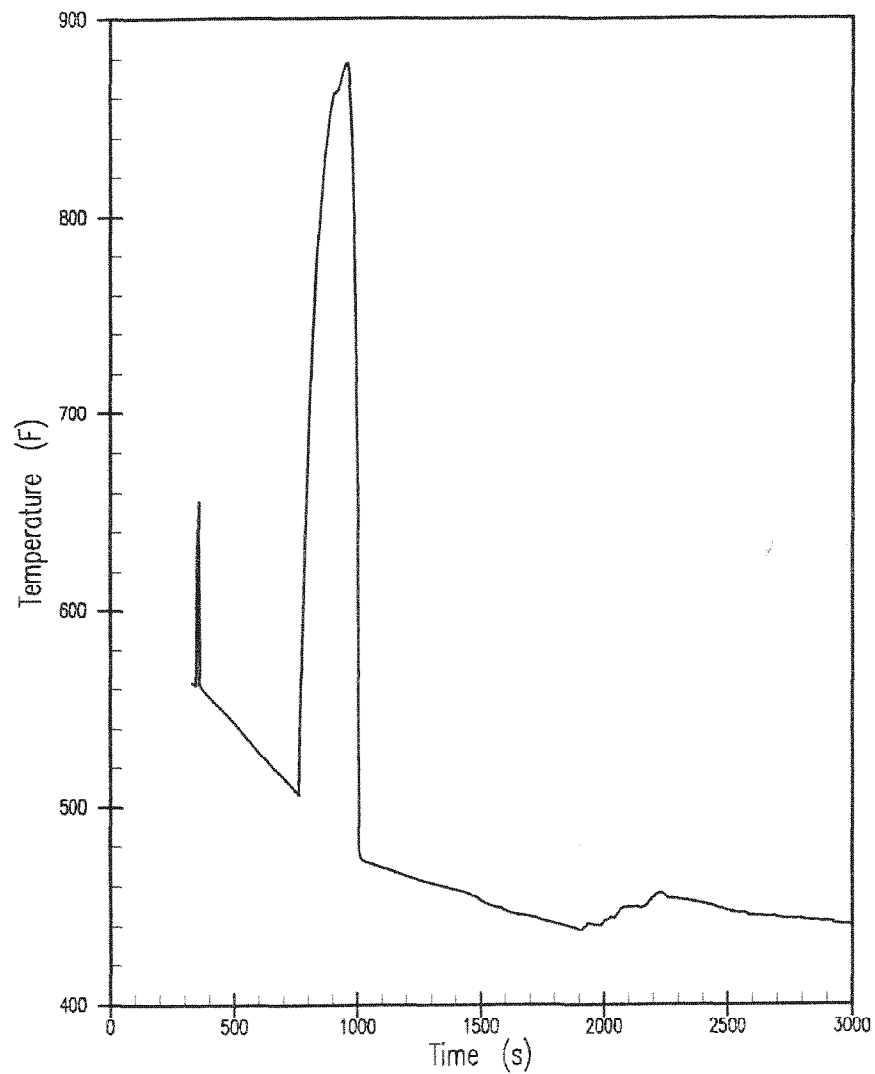
UFSAR FIGURE 14.3-65 | REV. No. 19



INDIAN POINT UNIT No. 2

4.0" SMALL BREAK LOCA  
CORE MIXTURE LEVEL

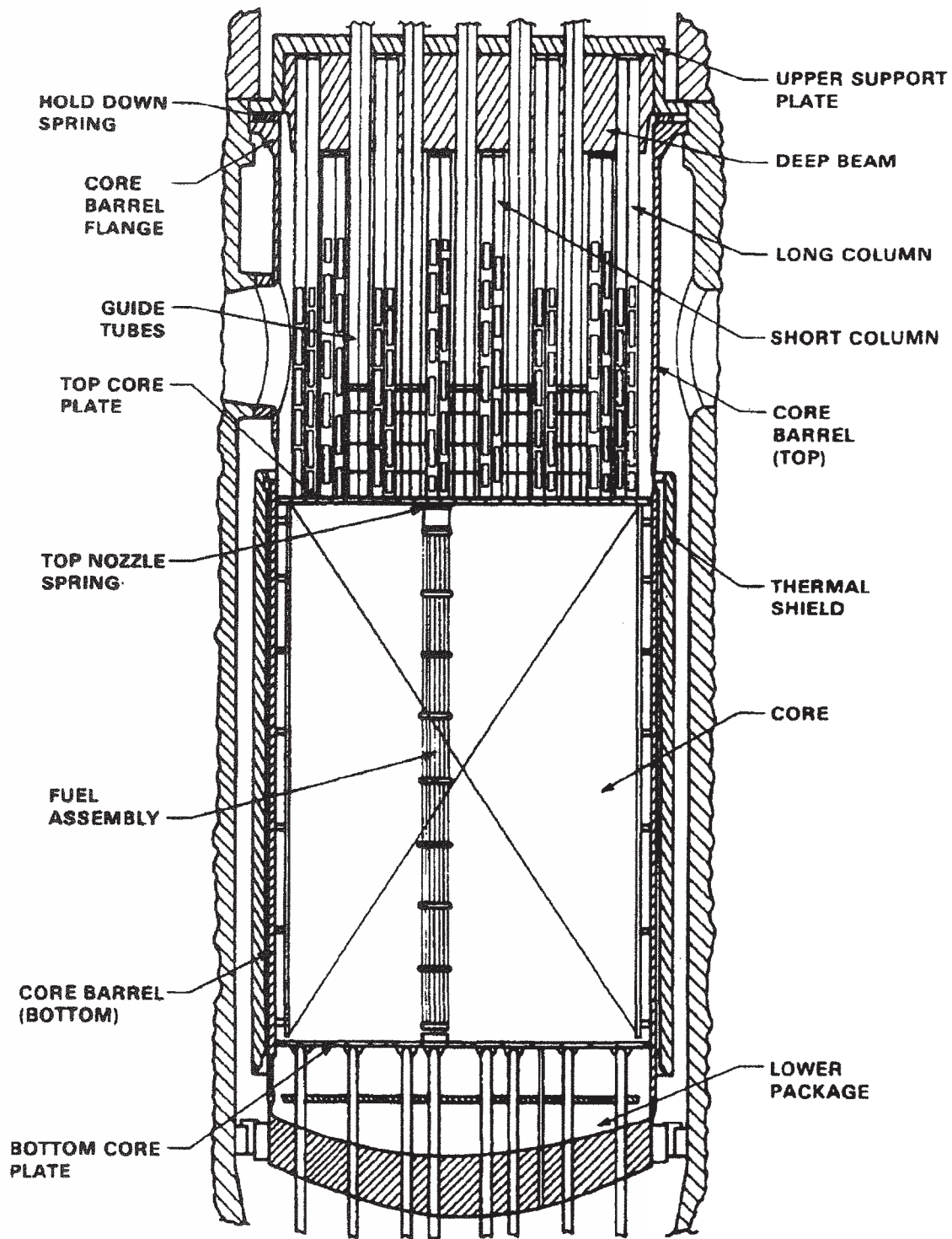
UFSAR FIGURE 14.3-66 REV. No. 19



INDIAN POINT UNIT No. 2

4.0" SMALL BREAK LOCA HOT ROD  
CLAD AVERAGE TEMPERATURE

UFSAR FIGURE 14.3-67 | REV. No. 19



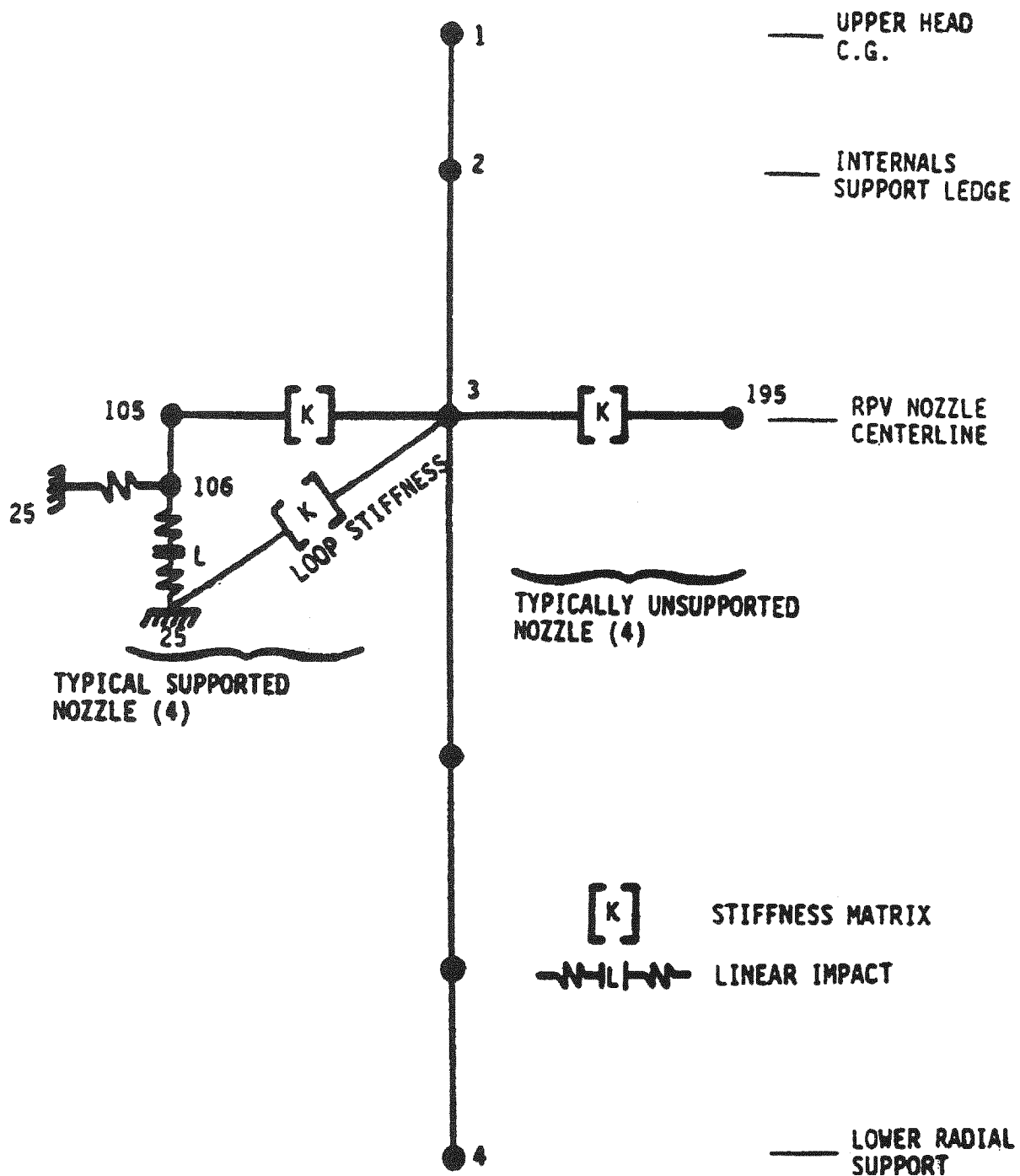
INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-101

REACTOR VESSEL INTERNALS

MIC. No. 2000MC4300

REV. No. 17A



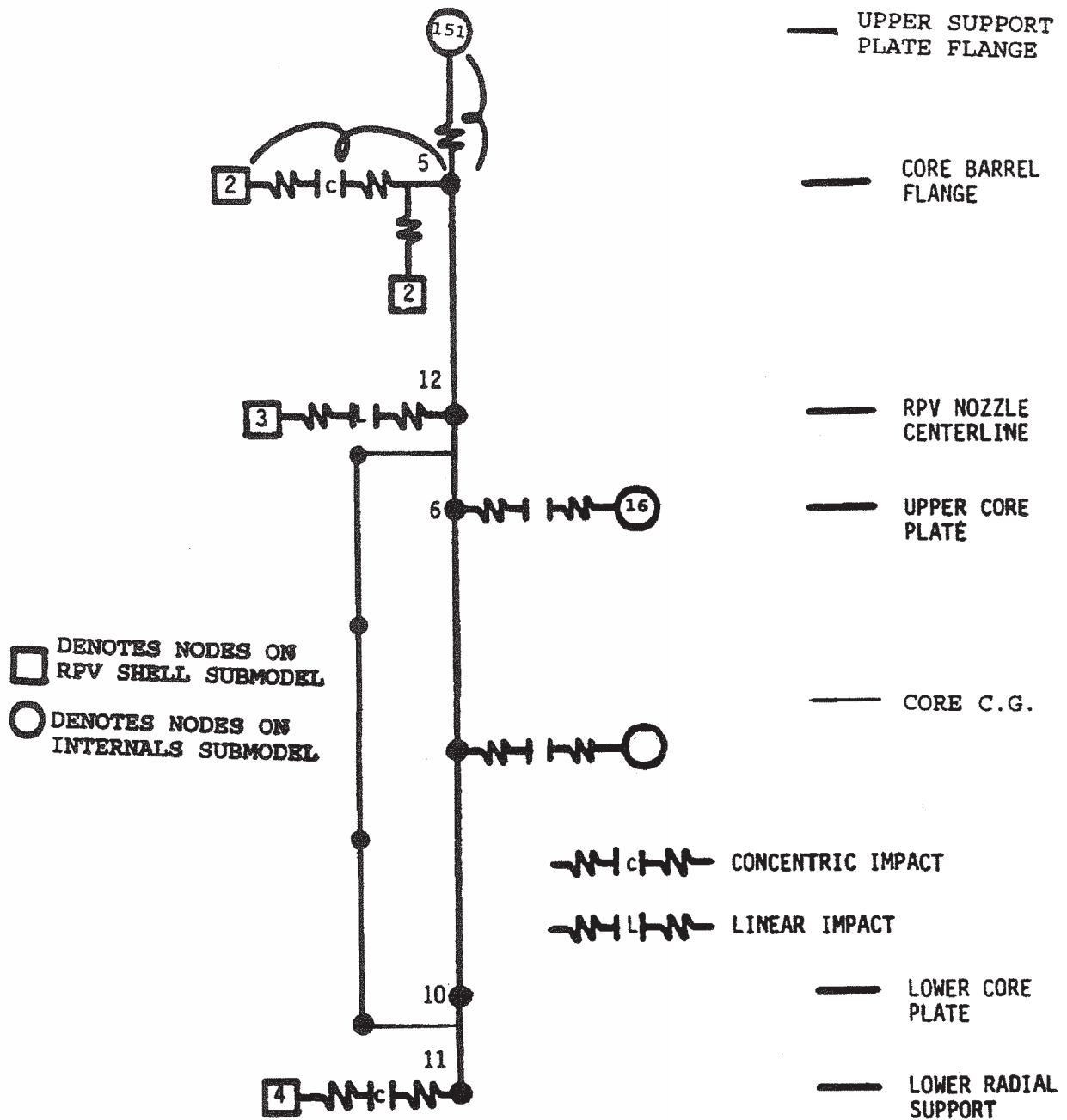
INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-102

RPV SHELL AND SUPPORT SYSTEM

MIC. No. 2000MC4301

REV. No. 17A



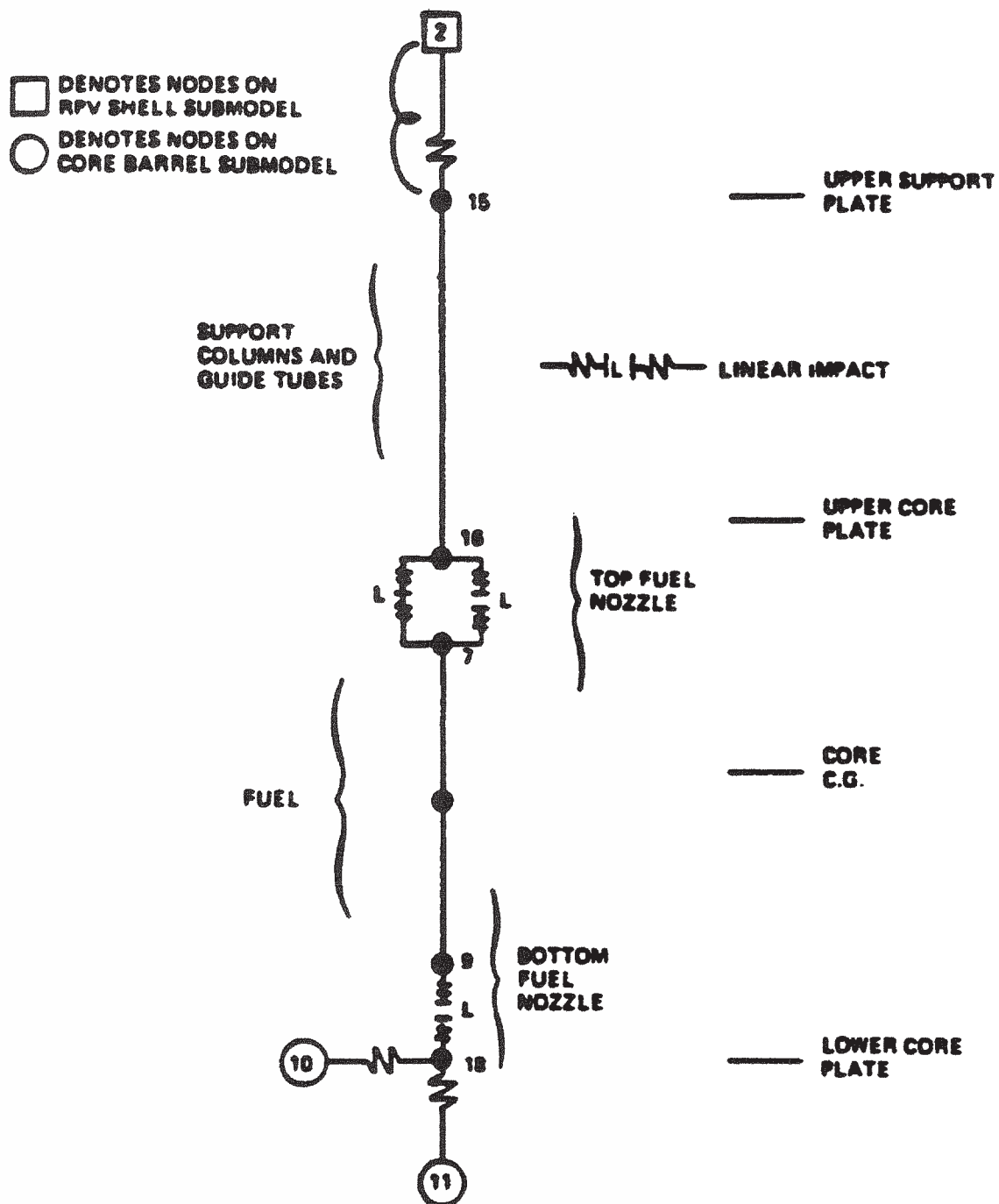
INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-103A

REACTOR VESSEL INTERNALS CORE  
BARREL ASSEMBLY

MIC. No. 2001MB1166

REV. No. 17A



INDIAN POINT UNIT No. 2

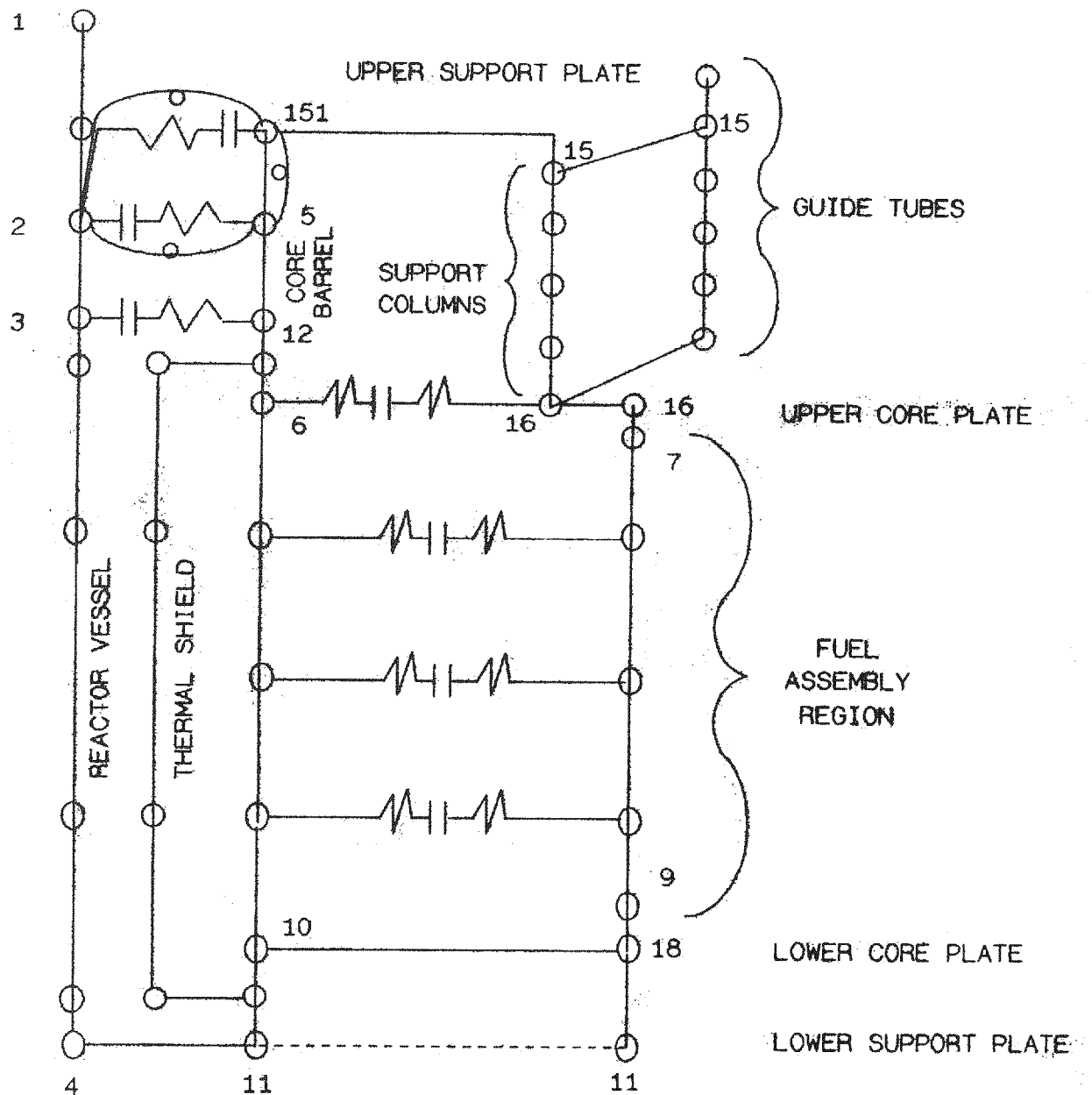
UFSAR FIGURE 14.3-103B

REACTOR INTERNALS AND FUEL

MIC. No. 2001MB1167

REV. No. 17A





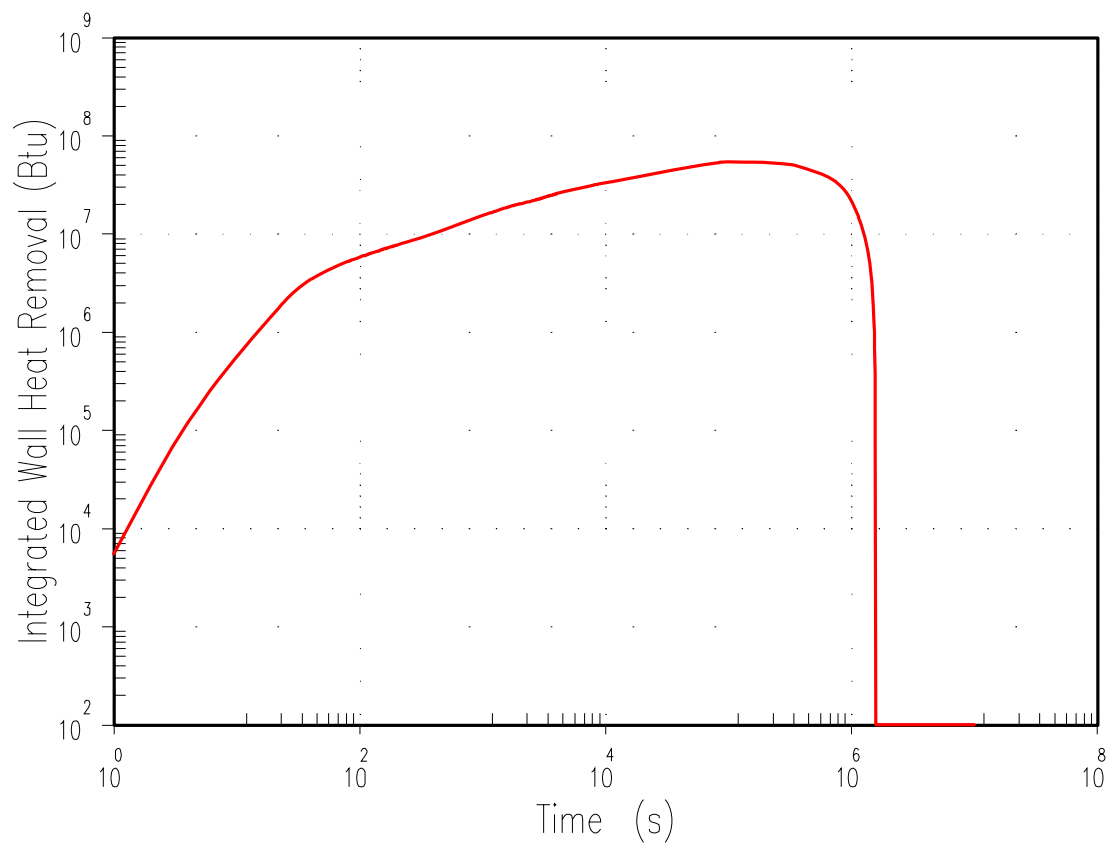
INDIAN POINT UNIT No. 2

UFSAR FIGURE 14.3-104

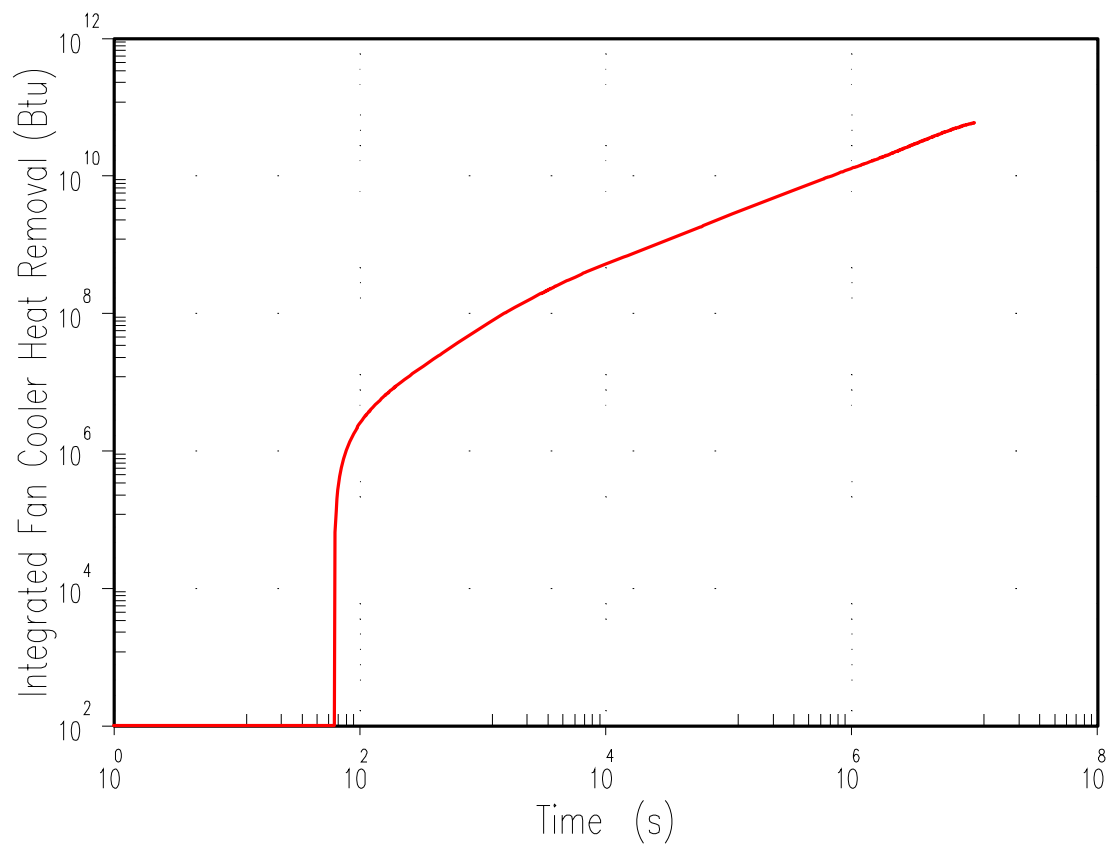
RPV SYSTEM MODEL

MIC. No. 2000MC4303

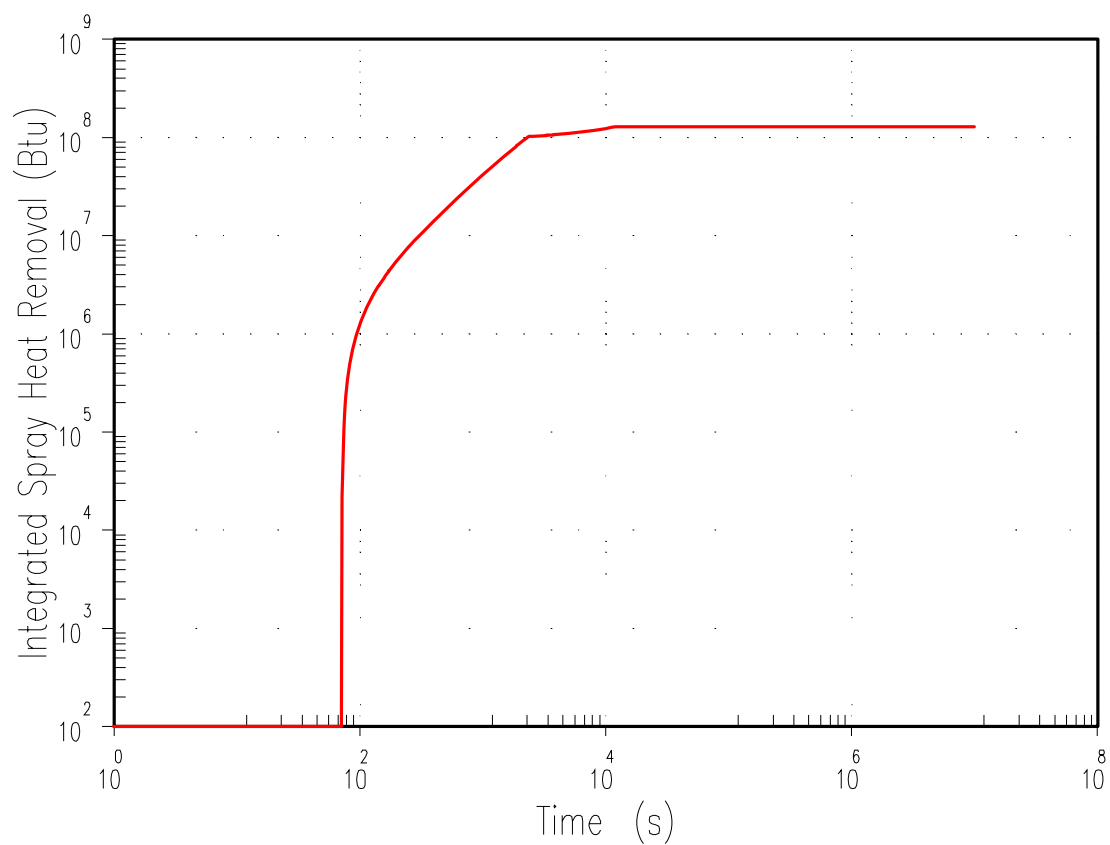
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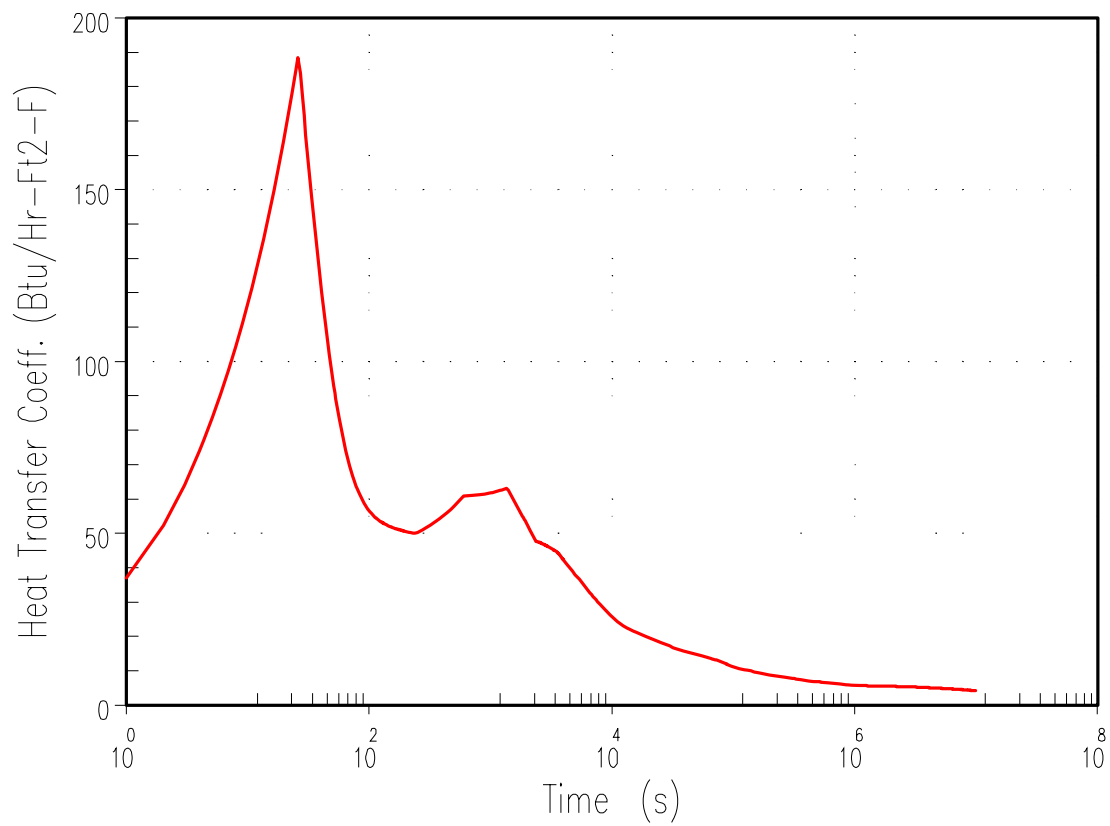
INDIAN POINT UNIT No. 2	
DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS INTEGRATED WALL HEAT REMOVAL	
UFSAR FIGURE 14.3-105	REV. No. 26



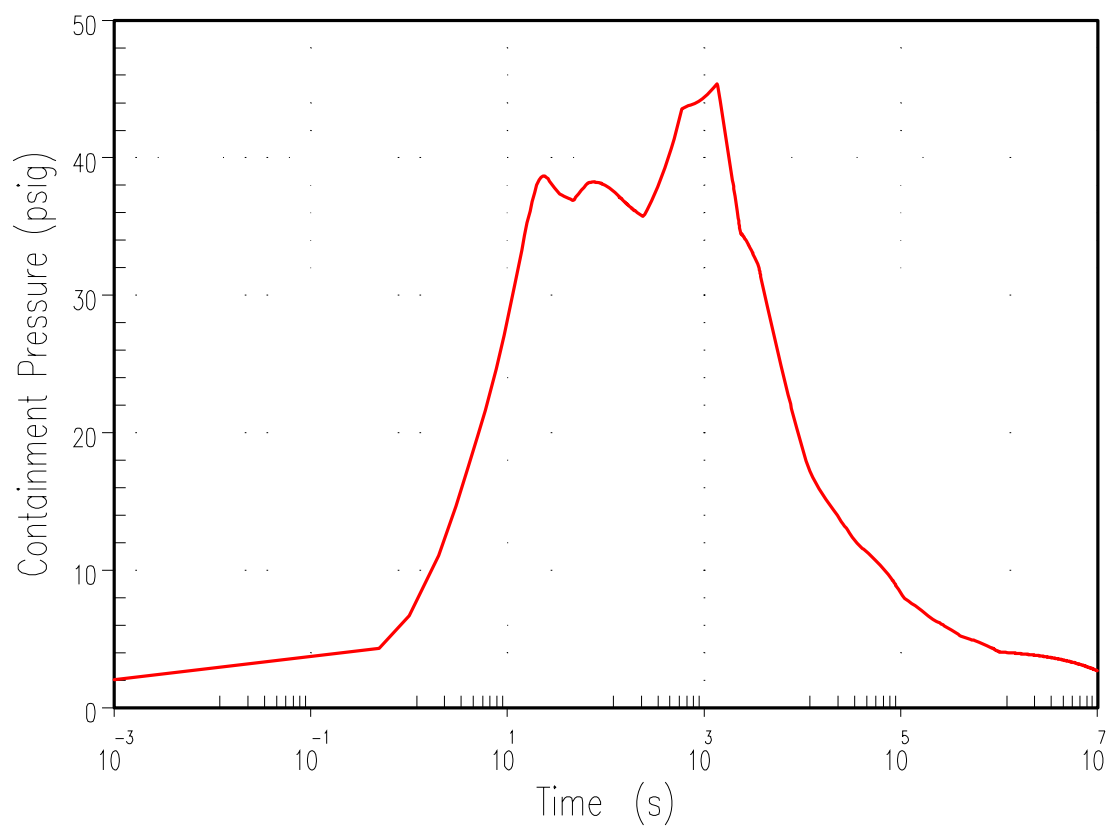
INDIAN POINT UNIT No. 2	
DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS INTEGRATED FAN COOLER HEAT REMOVAL	
UFSAR FIGURE 14.3-106	REV. No. 26



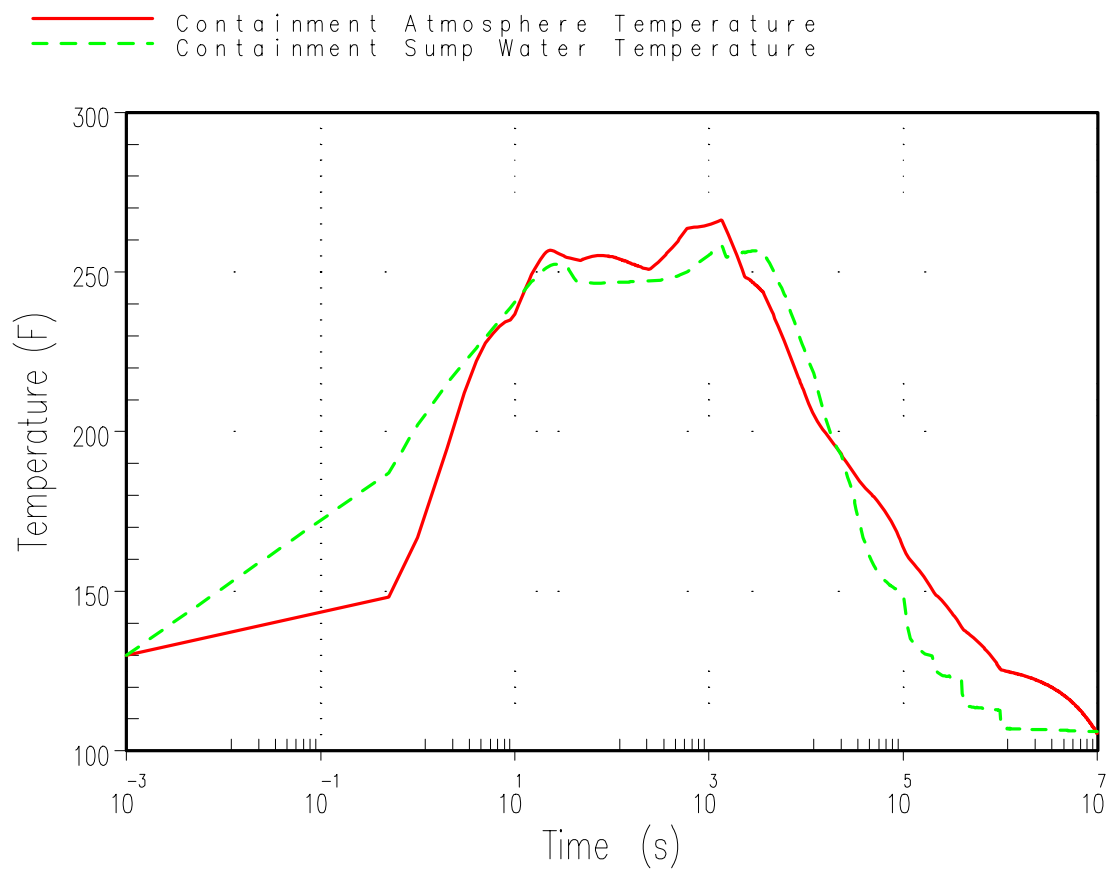
INDIAN POINT UNIT No. 2	
DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS INTEGRATED SPRAY HEAT REMOVAL	
UFSAR FIGURE 14.3-107	REV. No. 26



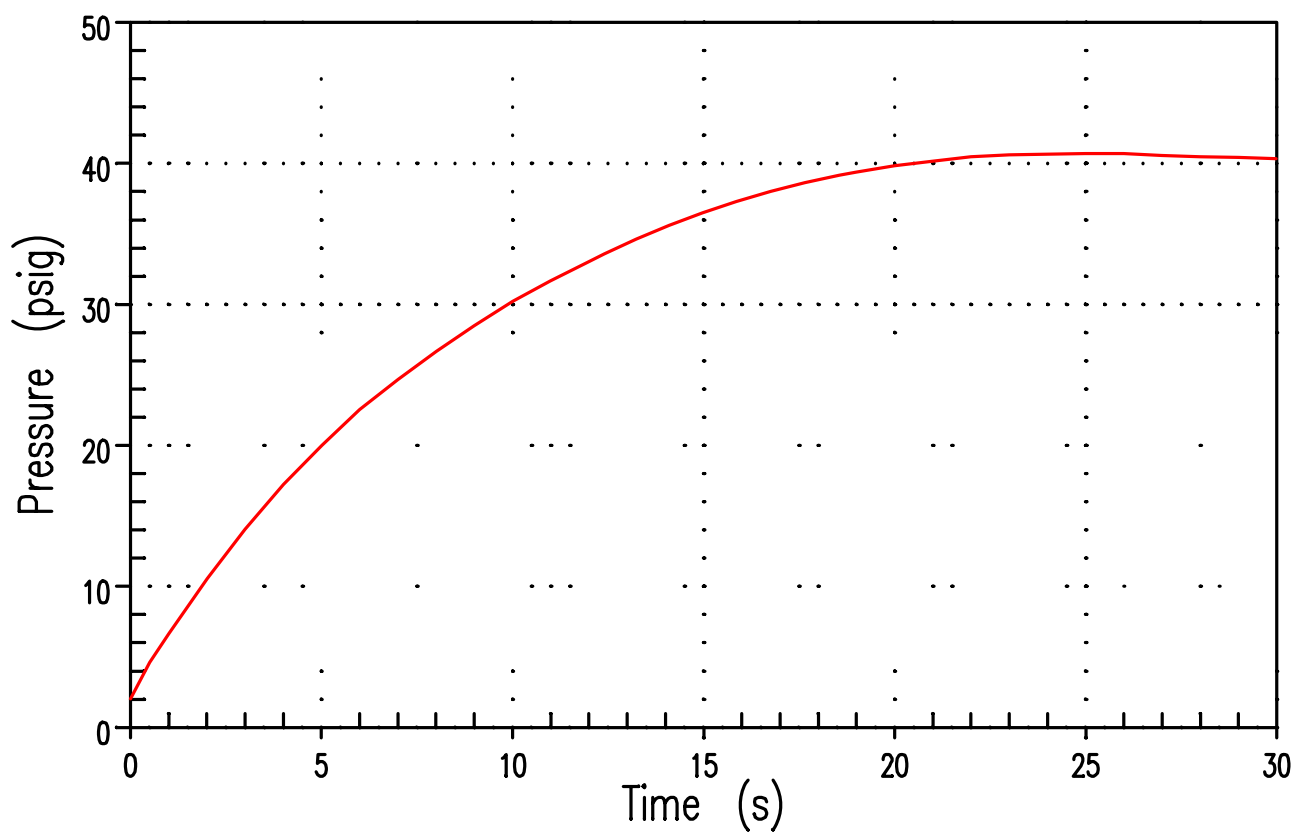
INDIAN POINT UNIT No. 2	
DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS STRUCTURAL HEAT TRANSFER COEFFICIENT	
UFSAR FIGURE 14.3-108	REV. No. 26



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

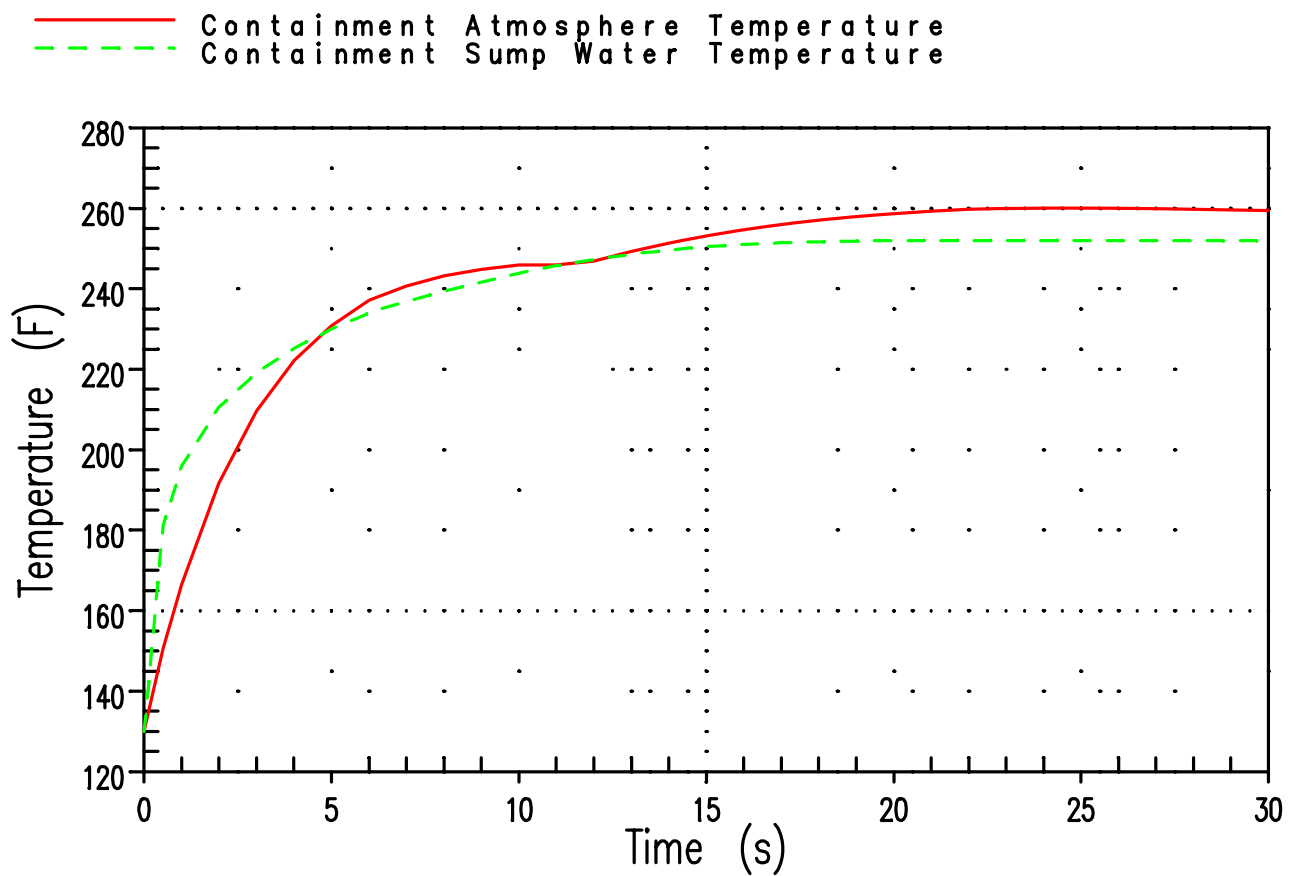


INDIAN POINT UNIT No. 2	
DOUBLE-ENDED PUMP SUCTION BREAK FOR 3216 MWt MINIMUM SAFEGUARDS CONTAINMENT TEMPERATURE	
UFSAR FIGURE 14.3-110	REV. No. 26

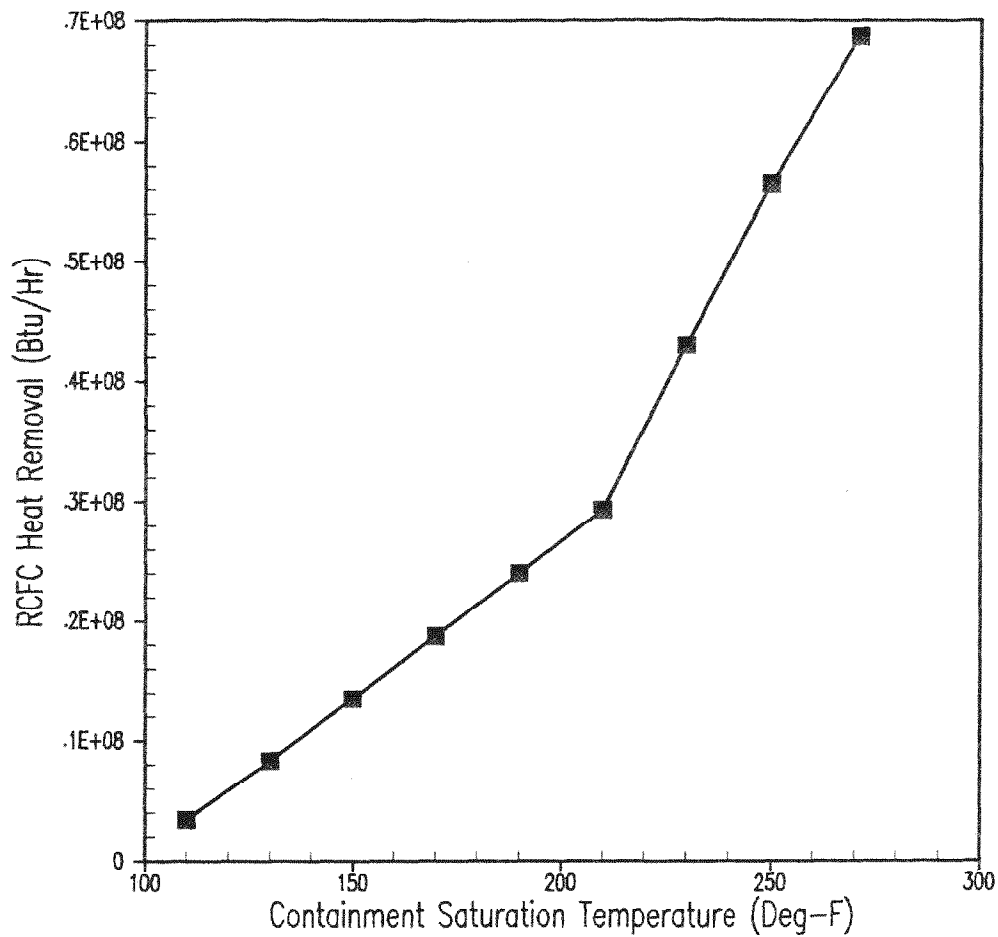


INDIAN POINT UNIT No. 2	
DOUBLE-ENDED HOT LEG BREAK	
FOR 3216 MWt	
CONTAINMENT PRESSURE	
UFSAR FIGURE 14.3-113	REV. No. 26





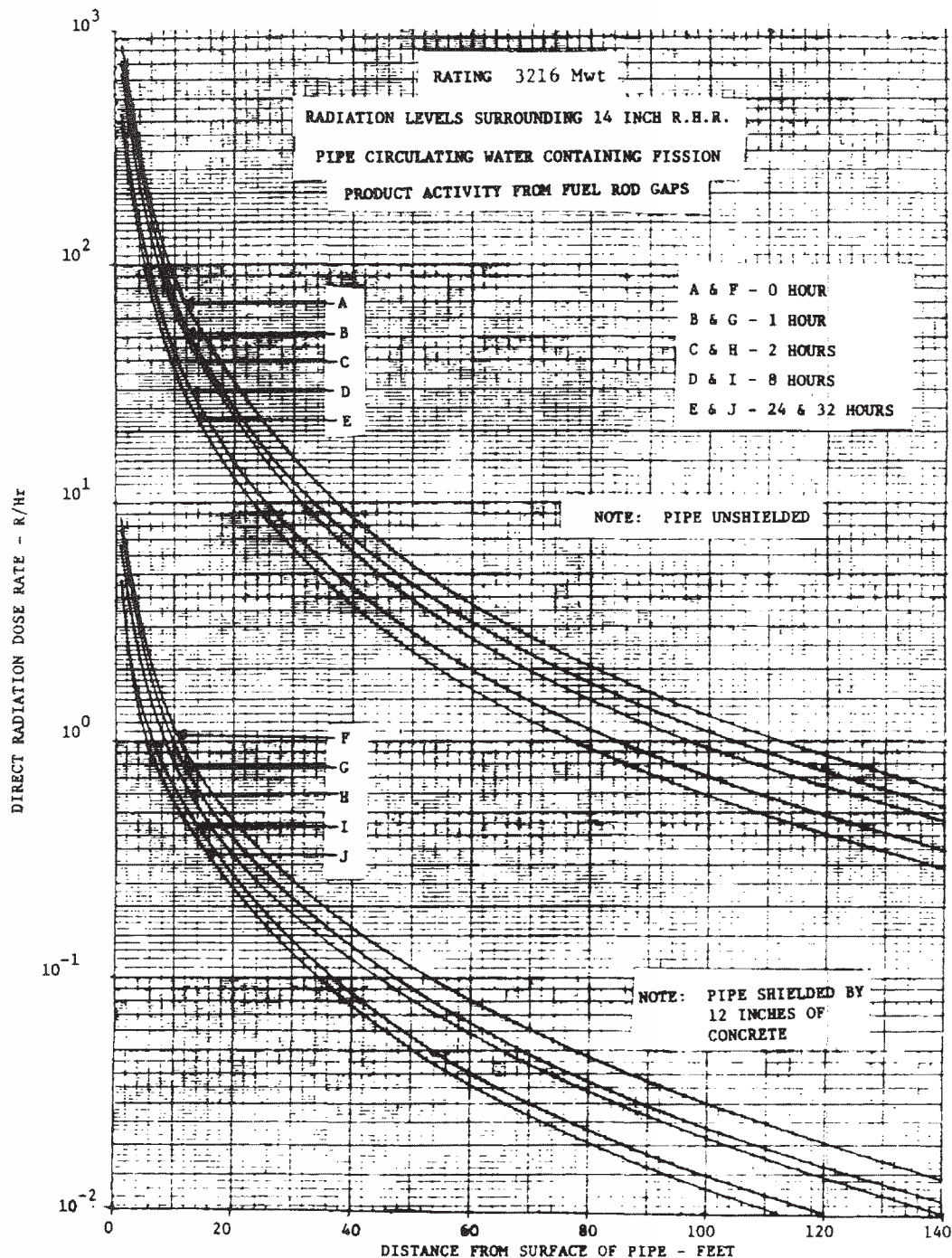
INDIAN POINT UNIT No. 2	
DOUBLE-ENDED HOT LEG BREAK FOR 3216 MWt	
CONTAINMENT TEMPERATURE	
UFSAR FIGURE 14.3-114	REV. No. 26



### 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