

ArevaEPRDCPEm Resource

From: BRYAN Martin (EXT) [Martin.Bryan.ext@areva.com]
Sent: Wednesday, June 09, 2010 5:49 PM
To: Tesfaye, Getachew
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); GUCWA Len T (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 368, FSAR Ch 6, Supplement 1, Part 3 of 5
Attachments: RAI 368 Supplement 1 US EPR DC Part 3 of 5.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 3 of the 23 questions in RAI No. 368 on April 19, 2010. Because of the file size, AREVA NP is providing a technically correct and complete response to 6 of the remaining 20 questions in 5 parts. The 5 files are designated as "RAI 368 Supplement 1 US EPR DC Part X of 5.pdf," where "X" is one of the five parts. The first file, part 1 of 5, contains the response to 5 of the 6 questions, and the remaining question 06.02.01-77 is transmitted in parts 2 through 5.

Attached is file, "RAI 368 Supplement 1 US EPR DC Part 3 of 5.pdf."

The following table indicates the respective pages in the response document, "RAI 368 Supplement 1 Response US EPR DC Part 3 of 5.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 368 — 06.02.01-77	63	108

The schedule for a technically correct and complete response to the remaining questions is unchanged and is provided below:

Question #	Response Date
RAI 368 — 06.02.01-61	July 8, 2010
RAI 368 — 06.02.01-62	August 5, 2010
RAI 368 — 06.02.01-63	July 8, 2010
RAI 368 — 06.02.01-66	August 5, 2010
RAI 368 — 06.02.01-67	August 5, 2010
RAI 368 — 06.02.01-68	August 5, 2010
RAI 368 — 06.02.01-69	August 5, 2010
RAI 368 — 06.02.01-70	July 8, 2010
RAI 368 — 06.02.01-71	July 8, 2010
RAI 368 — 06.02.01-73	July 8, 2010
RAI 368 — 06.02.01-76	July 8, 2010
RAI 368 — 06.02.01-78	July 8, 2010
RAI 368 — 06.02.01-80	July 8, 2010
RAI 368 — 06.02.01-81	July 8, 2010

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (EXT)
Sent: Wednesday, June 09, 2010 5:42 PM
To: 'Tefaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); GUCWA Len T (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 368, FSAR Ch 6, Supplement 1, Part 2 of 5

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 3 of the 23 questions in RAI No. 368 on April 19, 2010. Because of the file size, AREVA NP is providing a technically correct and complete response to 6 of the remaining 20 questions in 5 parts. The 5 files are designated as "RAI 368 Supplement 1 US EPR DC Part X of 5.pdf," where "X" is one of the five parts. The first file, part 1 of 5, contains the response to 5 of the 6 questions, and the remaining question 06.02.01-77 is transmitted in parts 2 through 5.

Attached is file, "RAI 368 Supplement 1 US EPR DC Part 2 of 5.pdf."

The following table indicates the respective pages in the response document, "RAI 368 Supplement 1 Response US EPR DC Part 2 of 5.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 368 — 06.02.01-77	18	62

The schedule for a technically correct and complete response to the remaining questions is unchanged and is provided below:

Question #	Response Date
RAI 368 — 06.02.01-61	July 8, 2010
RAI 368 — 06.02.01-62	August 5, 2010
RAI 368 — 06.02.01-63	July 8, 2010
RAI 368 — 06.02.01-66	August 5, 2010
RAI 368 — 06.02.01-67	August 5, 2010
RAI 368 — 06.02.01-68	August 5, 2010
RAI 368 — 06.02.01-69	August 5, 2010
RAI 368 — 06.02.01-70	July 8, 2010
RAI 368 — 06.02.01-71	July 8, 2010
RAI 368 — 06.02.01-73	July 8, 2010
RAI 368 — 06.02.01-76	July 8, 2010
RAI 368 — 06.02.01-78	July 8, 2010
RAI 368 — 06.02.01-80	July 8, 2010
RAI 368 — 06.02.01-81	July 8, 2010

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (EXT)
Sent: Wednesday, June 09, 2010 5:32 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); GUCWA Len T (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 368, FSAR Ch 6, Supplement 1, Part 1 of 5

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 3 of the 23 questions in RAI No. 368 on April 19, 2010. Because of the file size, AREVA NP is providing a technically correct and complete response to 6 of the remaining 20 questions in 5 parts. The 5 files are designated as "RAI 368 Supplement 1 US EPR DC Part X of 5.pdf," where "X" is one of the five parts. The first file, part 1 of 5, contains the response to 5 of the 6 questions, and the remaining question 06.02.01-77 is transmitted in parts 2 through 5.

Attached is file, "RAI 368 Supplement 1 US EPR DC Part 1 of 5.pdf."

The following table indicates the respective pages in the response document, "RAI 368 Supplement 1 Response US EPR DC Part 1 of 5.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 368 — 06.02.01-58	2	9
RAI 368 — 06.02.01-59	10	13
RAI 368 — 06.02.01-60	14	14
RAI 368 — 06.02.01-64	15	15
RAI 368 — 06.02.01-65	16	17

The schedule for a technically correct and complete response to the remaining questions is unchanged and is provided below:

Question #	Response Date
RAI 368 — 06.02.01-61	July 8, 2010
RAI 368 — 06.02.01-62	August 5, 2010
RAI 368 — 06.02.01-63	July 8, 2010
RAI 368 — 06.02.01-66	August 5, 2010
RAI 368 — 06.02.01-67	August 5, 2010
RAI 368 — 06.02.01-68	August 5, 2010

RAI 368 — 06.02.01-69	August 5, 2010
RAI 368 — 06.02.01-70	July 8, 2010
RAI 368 — 06.02.01-71	July 8, 2010
RAI 368 — 06.02.01-73	July 8, 2010
RAI 368 — 06.02.01-76	July 8, 2010
RAI 368 — 06.02.01-78	July 8, 2010
RAI 368 — 06.02.01-80	July 8, 2010
RAI 368 — 06.02.01-81	July 8, 2010

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: WELLS Russell D (AREVA NP INC)
Sent: Monday, April 19, 2010 6:17 PM
To: 'Getachew Tesfaye'
Cc: BRYAN Martin (EXT); BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 368, FSAR Ch 6

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 368 Response US EPR DC.pdf," provides technically correct and complete responses to 3 of the 23 questions.

The following table indicates the respective pages in the response document, "RAI 368 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 368 — 06.02.01-58	2	2
RAI 368 — 06.02.01-59	3	3
RAI 368 — 06.02.01-60	4	4
RAI 368 — 06.02.01-61	5	5
RAI 368 — 06.02.01-62	6	6
RAI 368 — 06.02.01-63	7	7
RAI 368 — 06.02.01-64	8	8
RAI 368 — 06.02.01-65	9	9
RAI 368 — 06.02.01-66	10	10
RAI 368 — 06.02.01-67	11	11
RAI 368 — 06.02.01-68	12	12
RAI 368 — 06.02.01-69	13	13
RAI 368 — 06.02.01-70	14	14
RAI 368 — 06.02.01-71	15	15
RAI 368 — 06.02.01-72	16	17
RAI 368 — 06.02.01-73	18	18
RAI 368 — 06.02.01-74	19	19

RAI 368 — 06.02.01-75	20	20
RAI 368 — 06.02.01-76	21	21
RAI 368 — 06.02.01-77	22	22
RAI 368 — 06.02.01-78	23	23
RAI 368 — 06.02.01-80	24	24
RAI 368 — 06.02.01-81	25	25

A complete answer is not provided for 20 of the 23 questions. The schedule for a technically correct and complete response to these questions is provided below. Some of the response dates are subject to change based on anticipated feedback from the NRC staff regarding prioritization of responses. AREVA NP plans to discuss the response schedule with the NRC staff during an April 30, 2010, meeting.

Question #	Response Date
RAI 368 — 06.02.01-58	June 9, 2010
RAI 368 — 06.02.01-59	June 9, 2010
RAI 368 — 06.02.01-60	June 9, 2010
RAI 368 — 06.02.01-61	July 8, 2010
RAI 368 — 06.02.01-62	August 5, 2010
RAI 368 — 06.02.01-63	July 8, 2010
RAI 368 — 06.02.01-64	July 8, 2010
RAI 368 — 06.02.01-65	June 9, 2010
RAI 368 — 06.02.01-66	August 5, 2010
RAI 368 — 06.02.01-67	August 5, 2010
RAI 368 — 06.02.01-68	August 5, 2010
RAI 368 — 06.02.01-69	August 5, 2010
RAI 368 — 06.02.01-70	July 8, 2010
RAI 368 — 06.02.01-71	July 8, 2010
RAI 368 — 06.02.01-73	July 8, 2010
RAI 368 — 06.02.01-76	July 8, 2010
RAI 368 — 06.02.01-77	June 9, 2010
RAI 368 — 06.02.01-78	July 8, 2010
RAI 368 — 06.02.01-80	July 8, 2010
RAI 368 — 06.02.01-81	July 8, 2010

Sincerely,

(Russ Wells on behalf of)
 Martin (Marty) C. Bryan
 Licensing Advisory Engineer
 AREVA NP Inc.
 Tel: (434) 832-3016
Martin.Bryan.ext@areva.com

From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Friday, March 19, 2010 4:08 PM
To: ZZ-DL-A-USEPR-DL
Cc: Jensen, Walton; Jackson, Christopher; Snodderly, Michael; Carneal, Jason; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 368 (4344), FSARCh. 6

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on February 9, 2010, and discussed with your staff on March 4, 2010. Draft RAI Question 06.02.01-79 was deleted, and Draft RAI Questions 06.02.01-61, 06.02.01-72, 06.02.01-73, and 06.02.01-78 were modified as a result of that discussion. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule.

Thanks,
Getachew Tesfaye
Sr. Project Manager
NRO/DNRL/NARP
(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 1527

Mail Envelope Properties (BC417D9255991046A37DD56CF597DB7106765E68)

Subject: Response to U.S. EPR Design Certification Application RAI No. 368, FSAR Ch 6, Supplement 1, Part 3 of 5
Sent Date: 6/9/2010 5:48:40 PM
Received Date: 6/9/2010 5:49:03 PM
From: BRYAN Martin (EXT)

Created By: Martin.Bryan.ext@areva.com

Recipients:

"DELANO Karen V (AREVA NP INC)" <Karen.Delano@areva.com>

Tracking Status: None

"ROMINE Judy (AREVA NP INC)" <Judy.Romine@areva.com>

Tracking Status: None

"BENNETT Kathy A (OFR) (AREVA NP INC)" <Kathy.Bennett@areva.com>

Tracking Status: None

"GUCWA Len T (EXT)" <Len.Gucwa.ext@areva.com>

Tracking Status: None

"Tesfaye, Getachew" <Getachew.Tesfaye@nrc.gov>

Tracking Status: None

Post Office: AUSLYNCMX02.adom.ad.corp

Files	Size	Date & Time
MESSAGE	10822	6/9/2010 5:49:03 PM
RAI 368 Supplement 1 US EPR DC Part 3 of 5.pdf		4556646

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date:

Recipients Received:

Figure 06.02.01-77-44—Temperature in the Lower Equipment Rooms

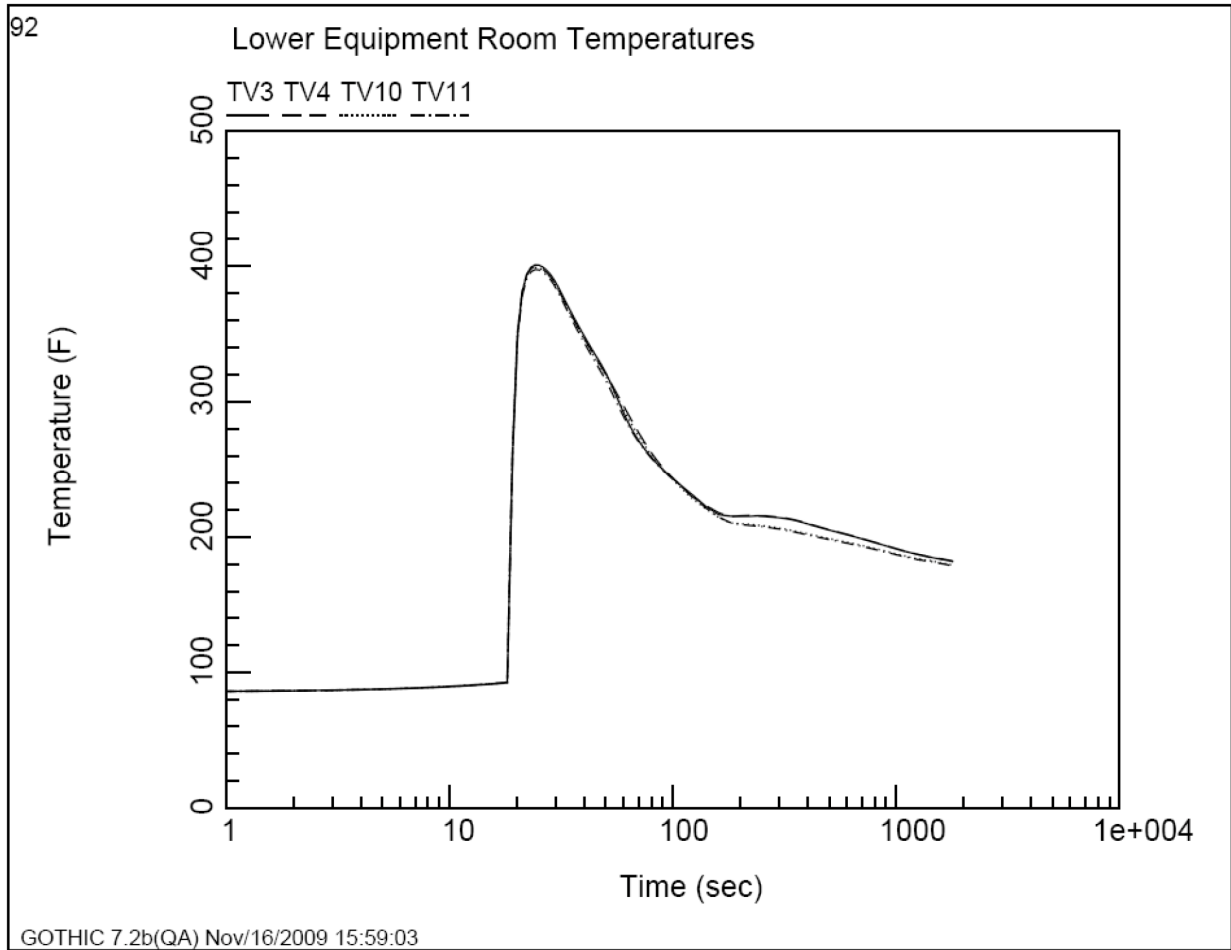


Figure 06.02.01-77-45—Temperature in the Middle Equipment Rooms

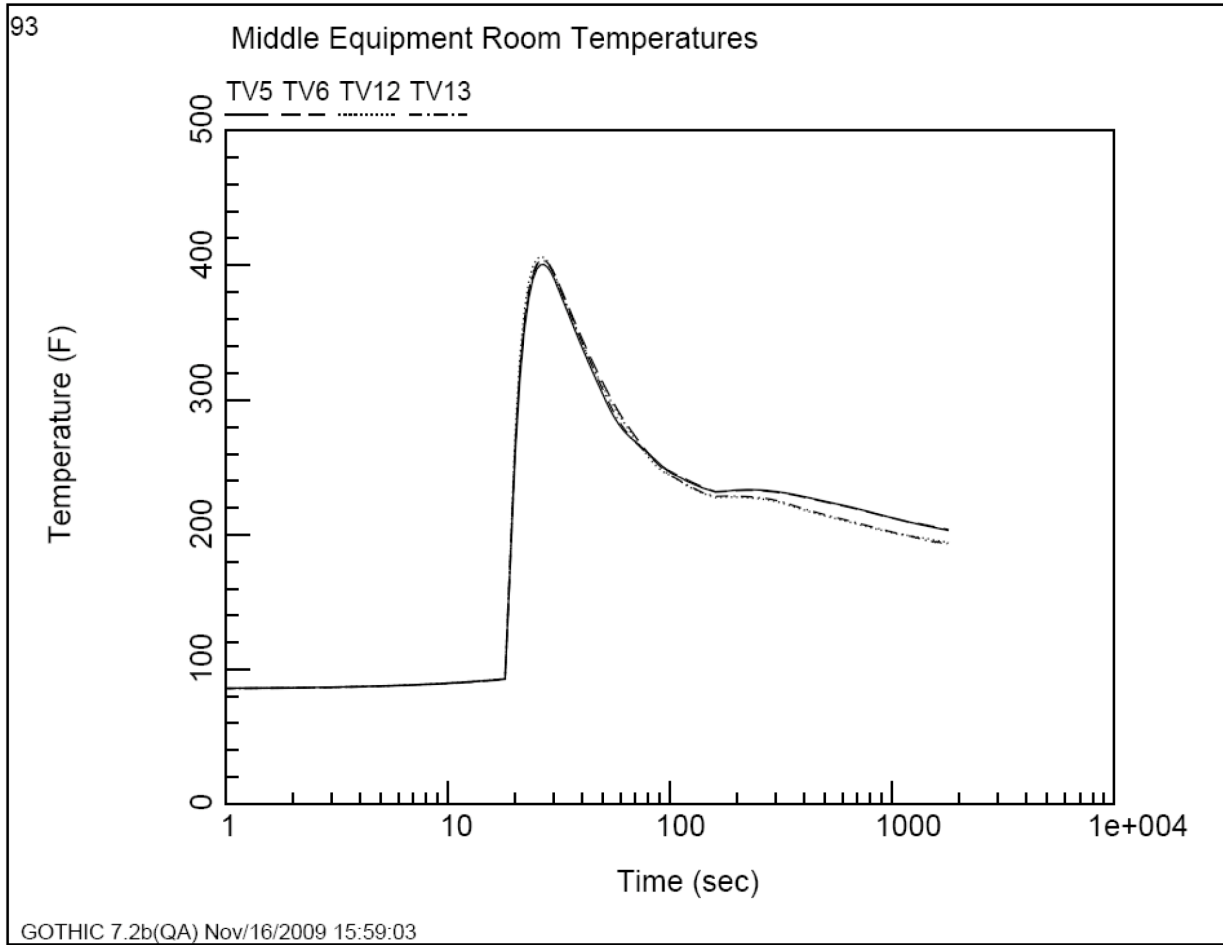


Figure 06.02.01-77-46—Temperature in the Upper Equipment Rooms

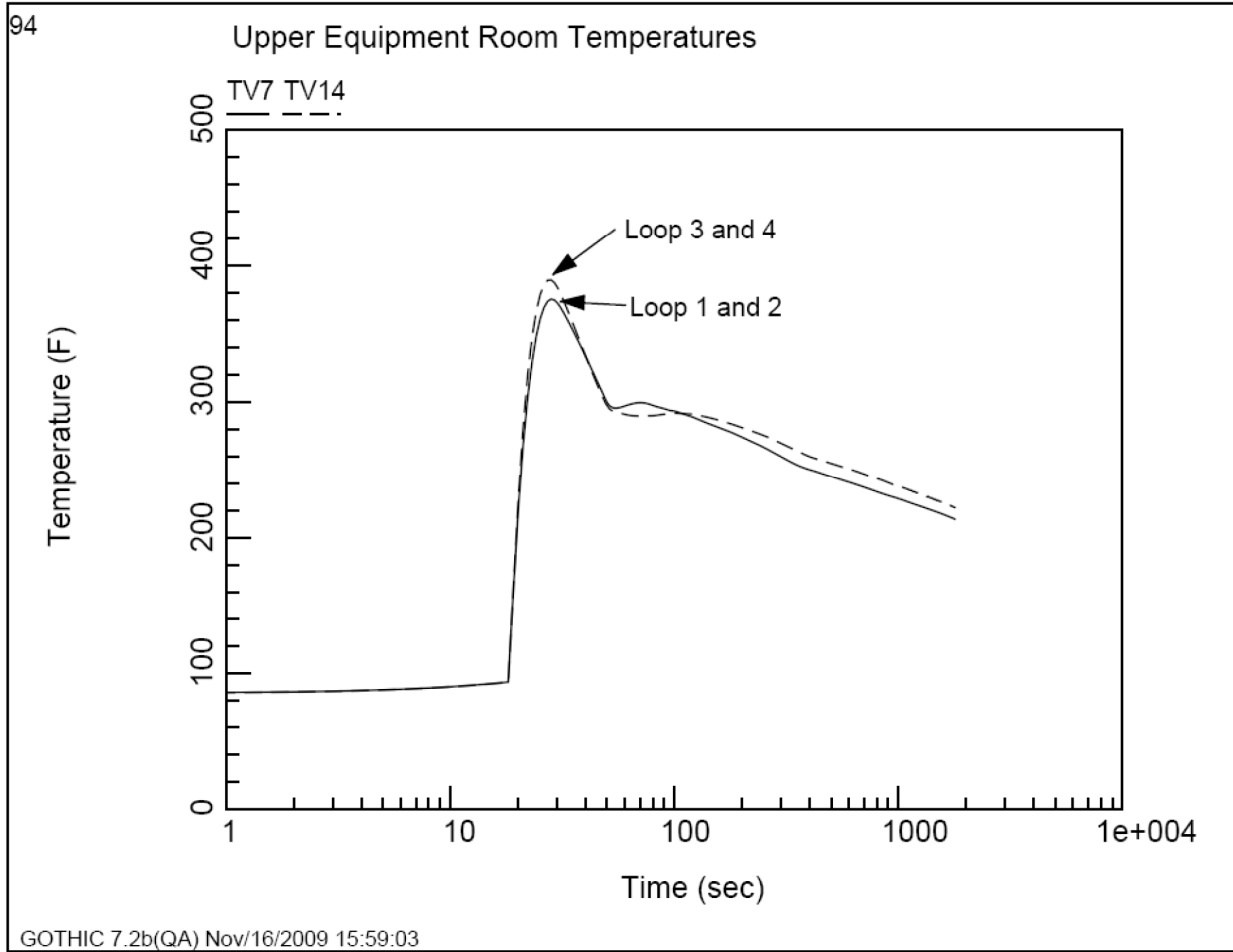


Figure 06.02.01-77-47—Temperature in the Reactor Pressure Vessel Pit and Reactor Cavity

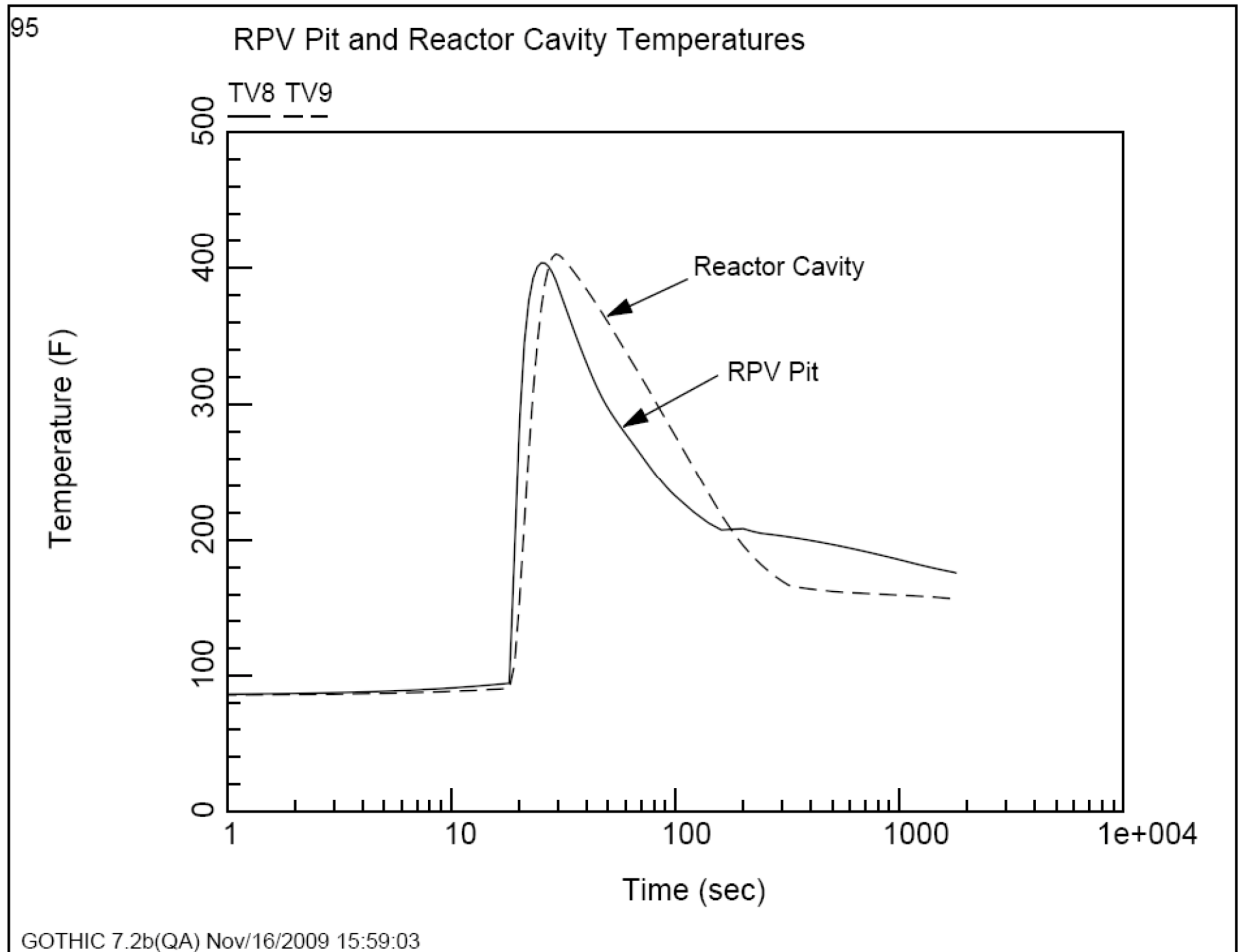
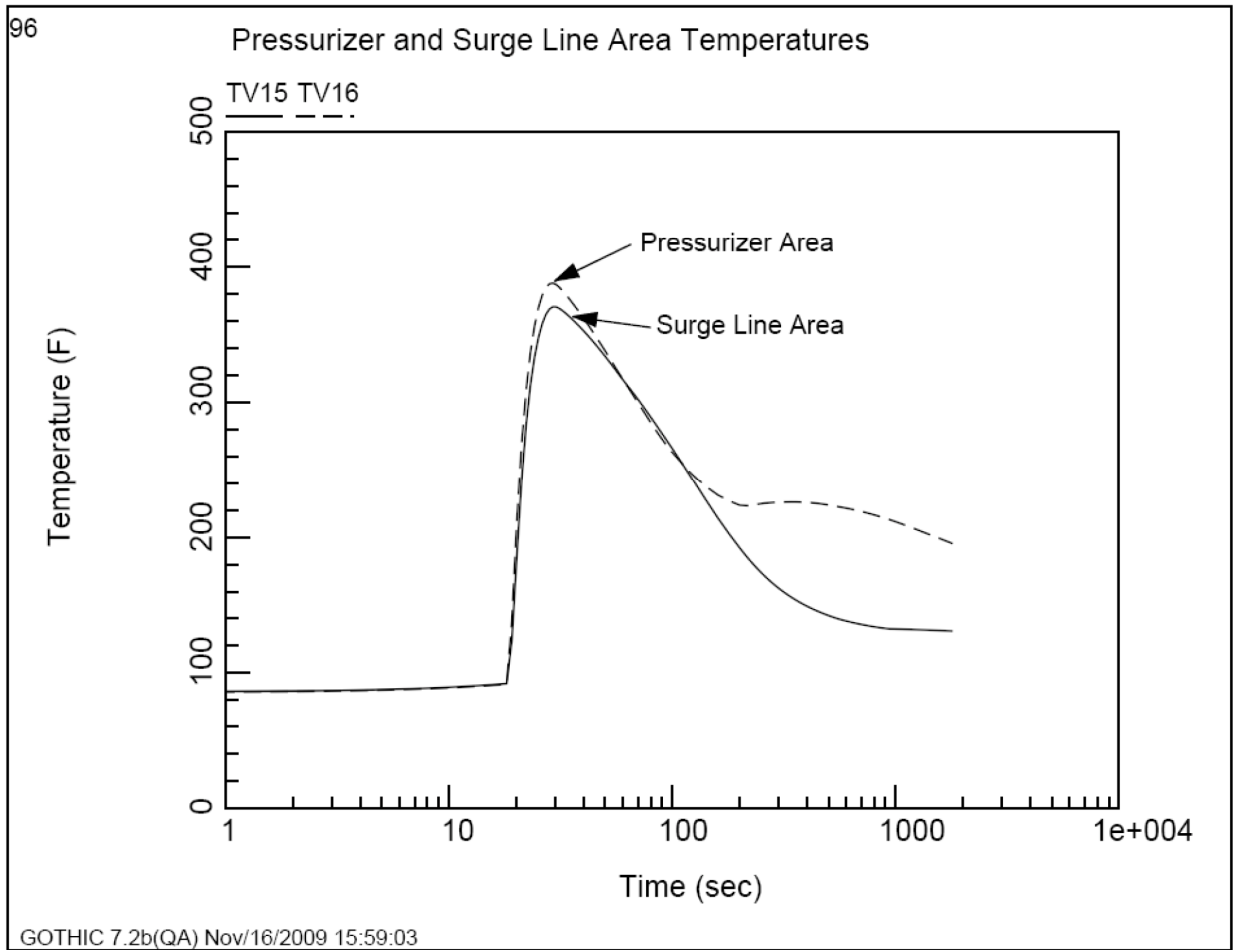


Figure 06.02.01-77-48—Temperature in the Pressurizer and Surge Line Rooms



**Figure 06.02.01-77-49—Temperature in the CVCS and Steam Generator
Blowdown Heat Exchanger Rooms**

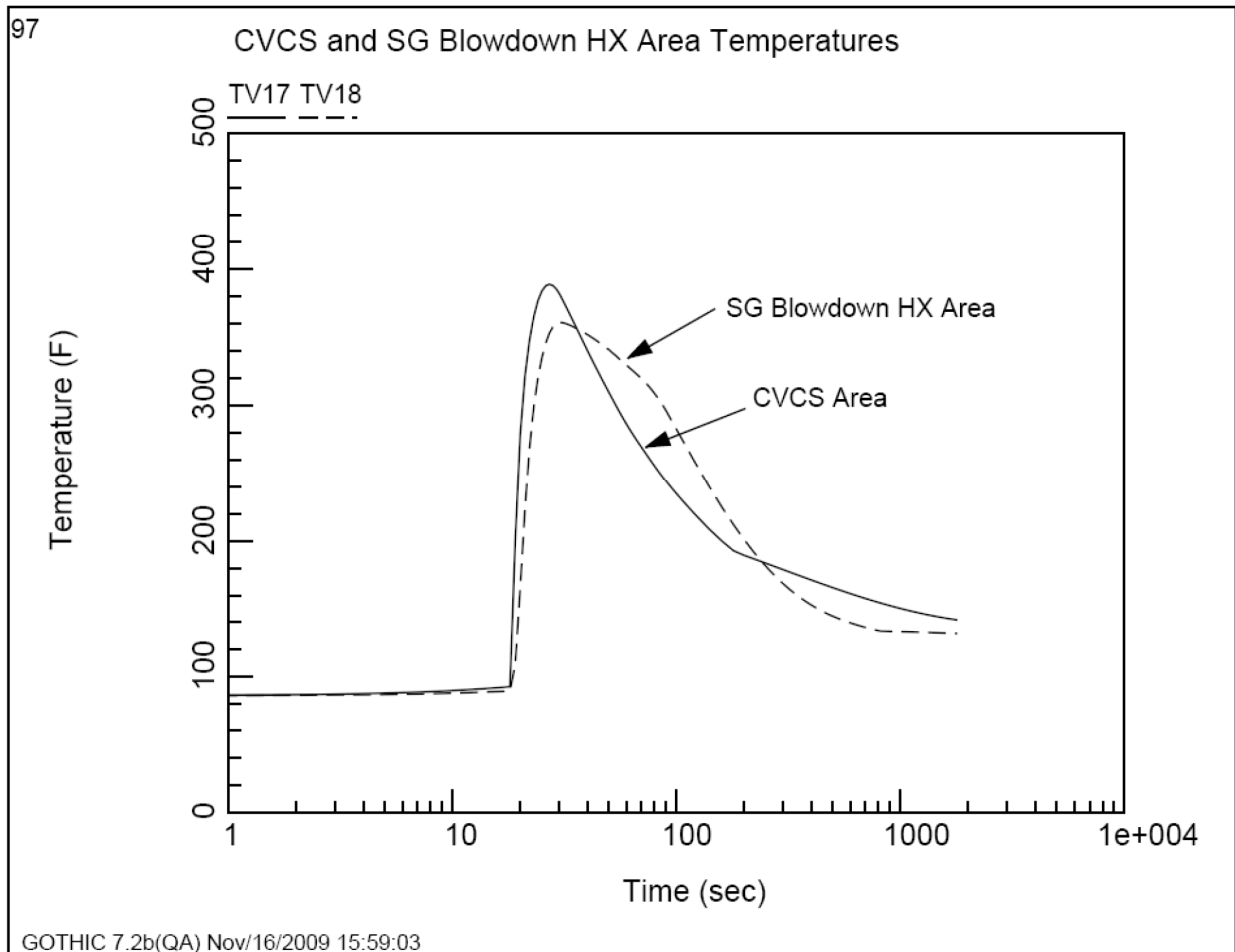


Figure 06.02.01-77-50—Temperature in the Lower Annulus Rooms

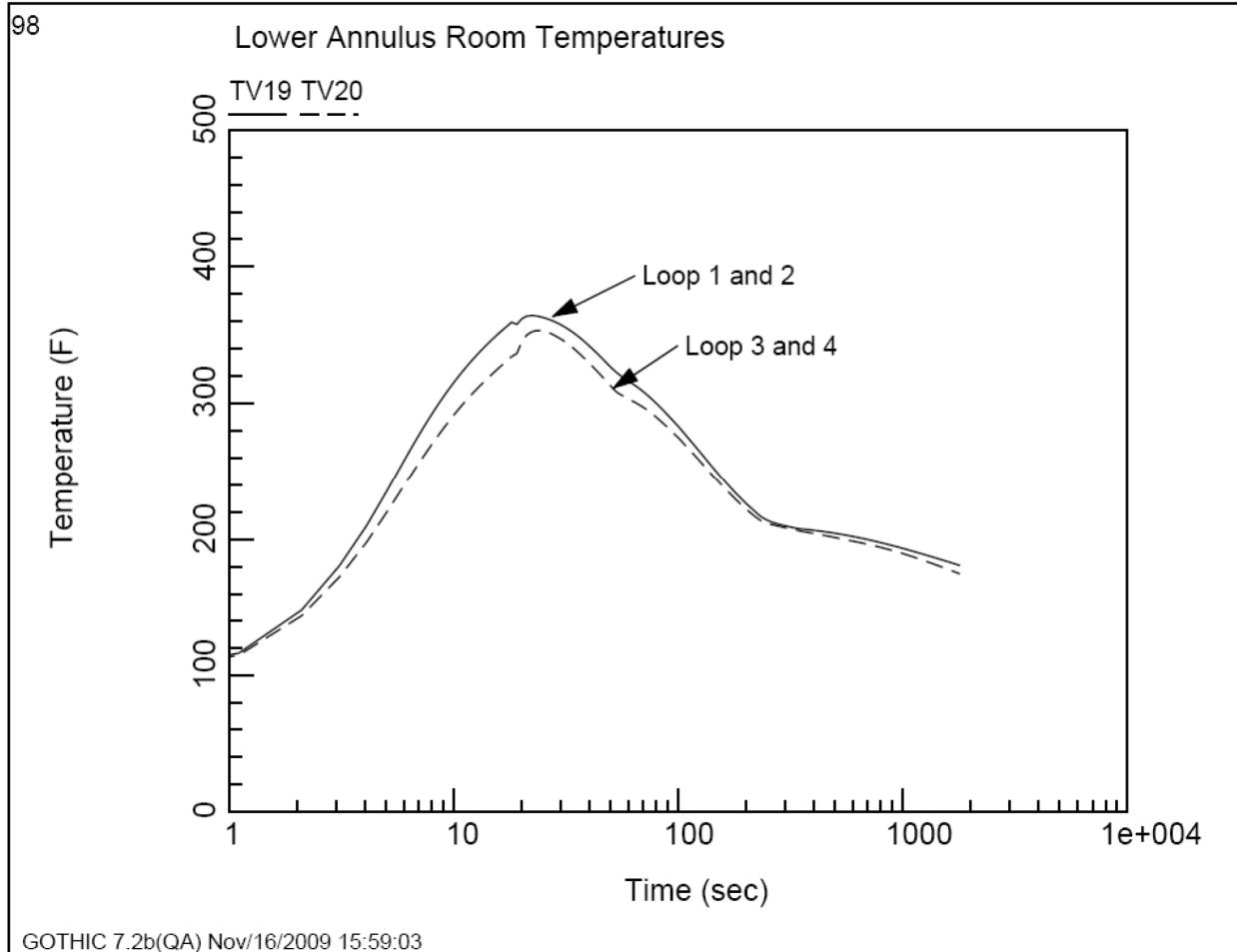


Figure 06.02.01-77-51—Temperature in the Middle Annulus Rooms

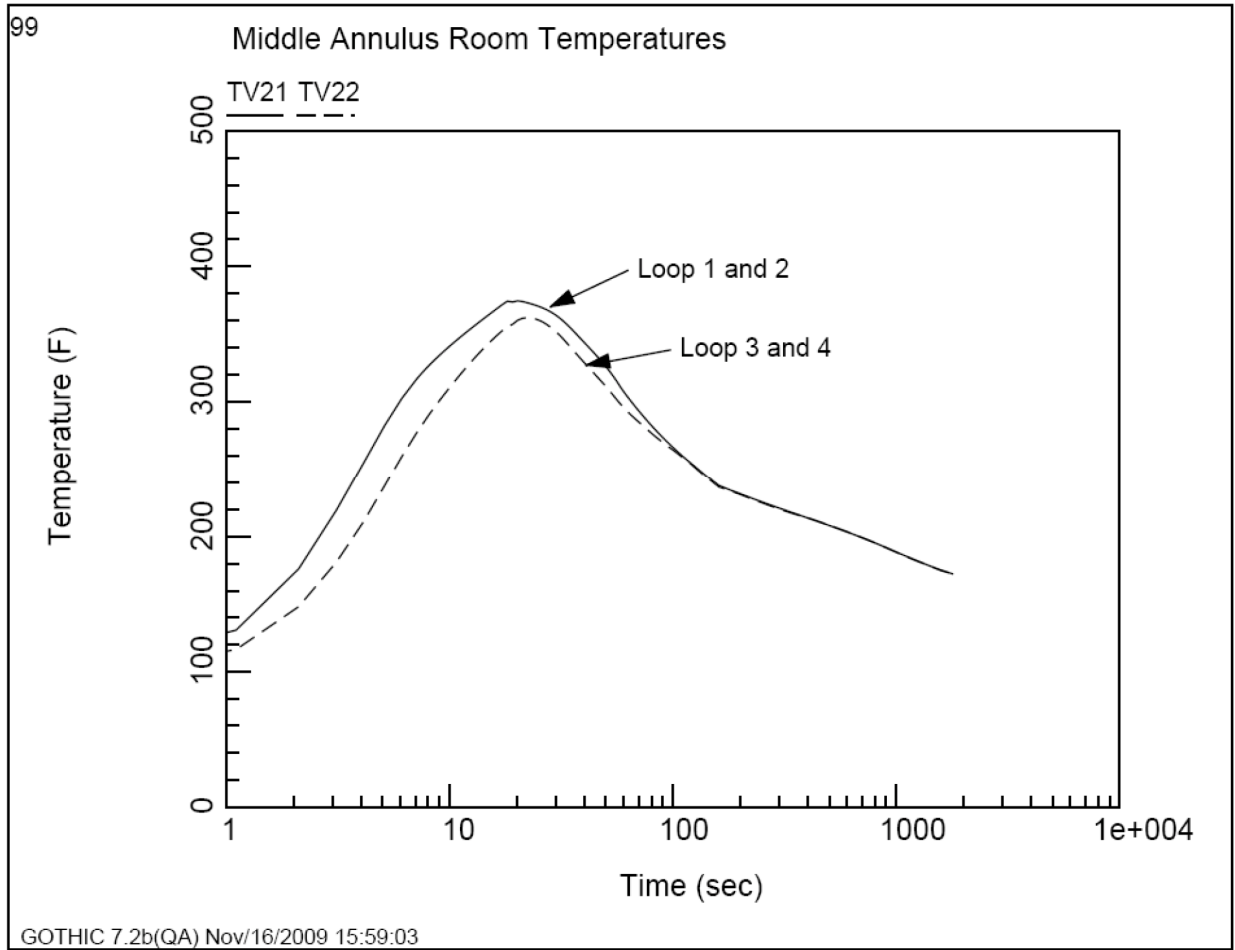


Figure 06.02.01-77-52—Temperature in the Upper Annulus Rooms

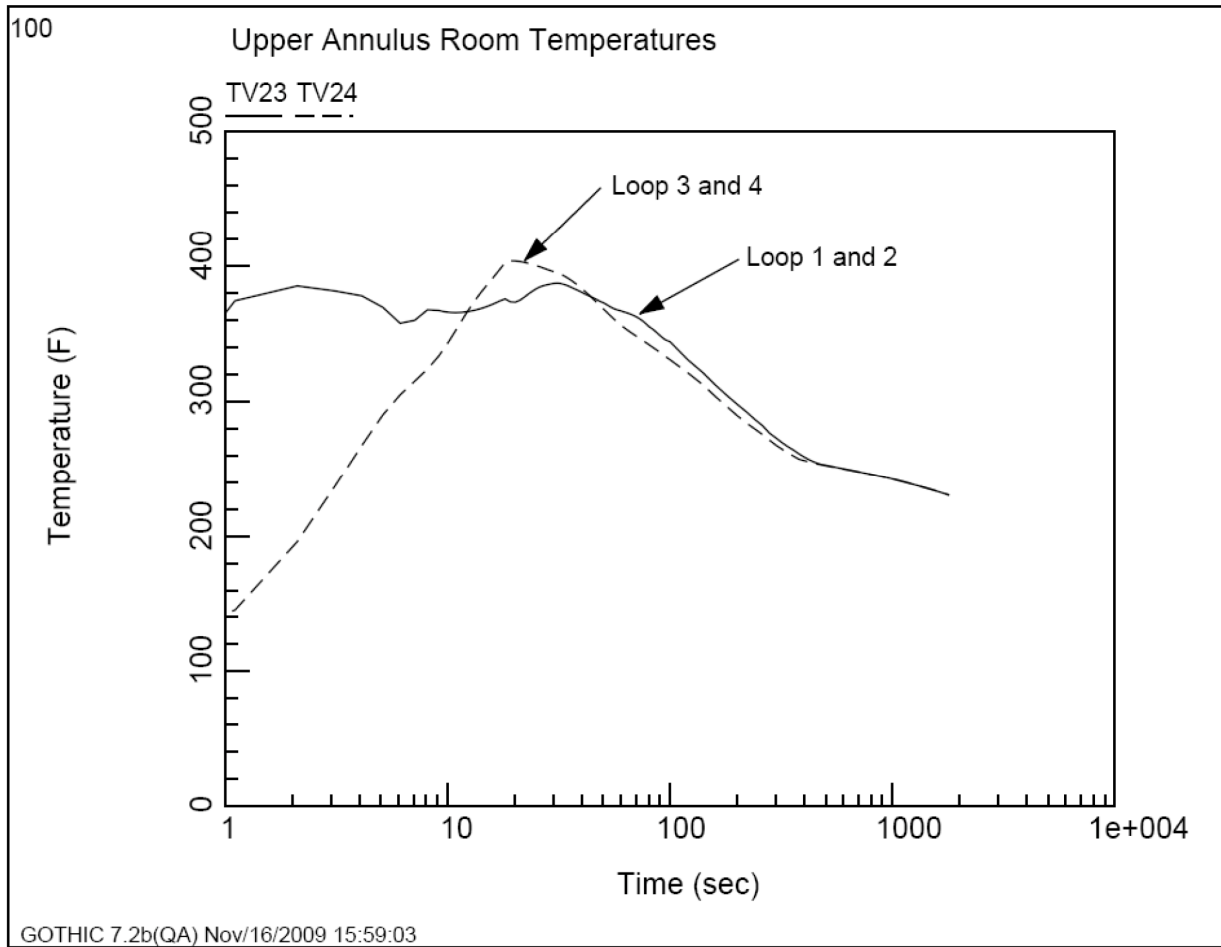


Figure 06.02.01-77-53—Temperature in the Access and Hot Piping Penetration Rooms

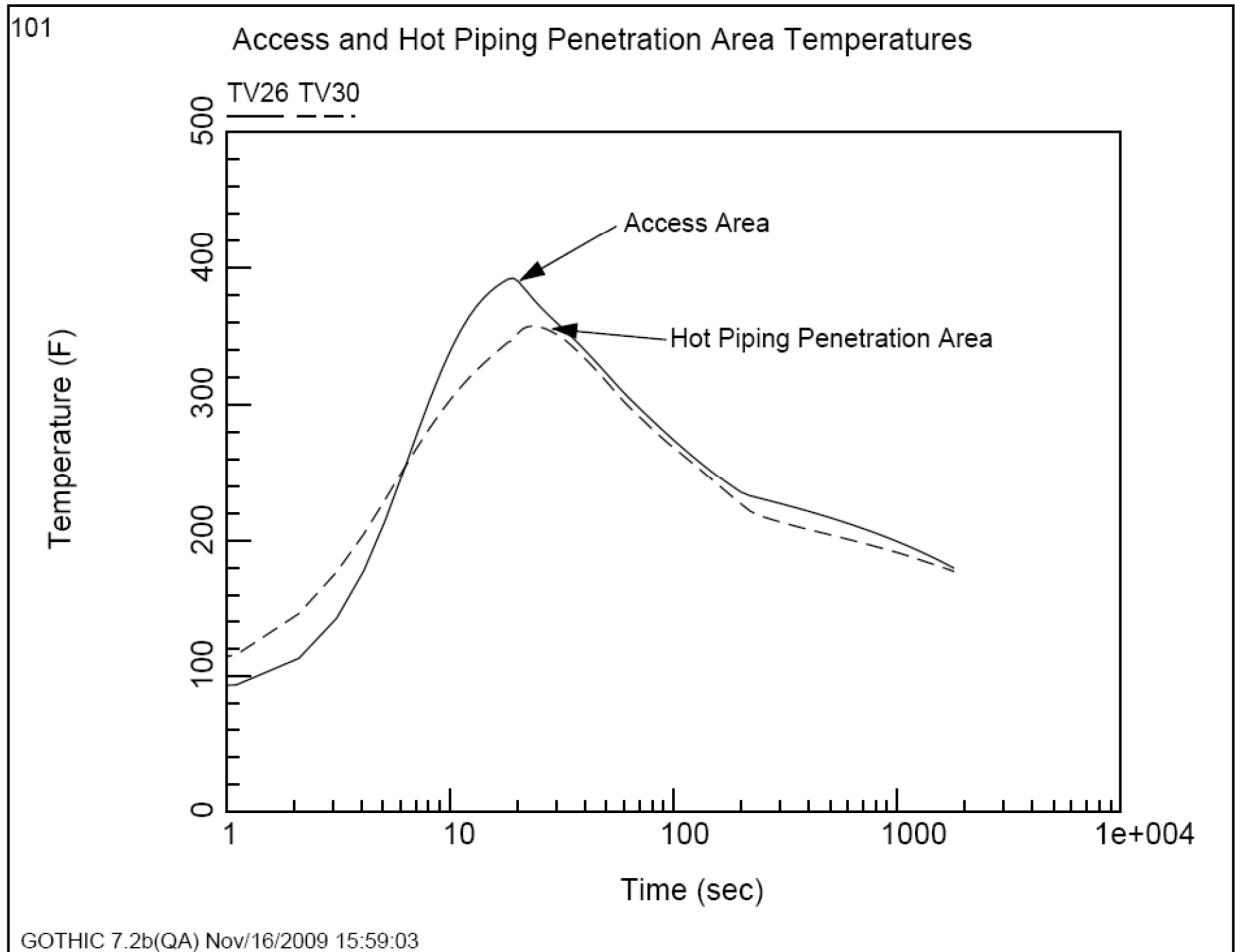


Figure 06.02.01-77-54—Temperature in the North and South Staircases and the Elevator

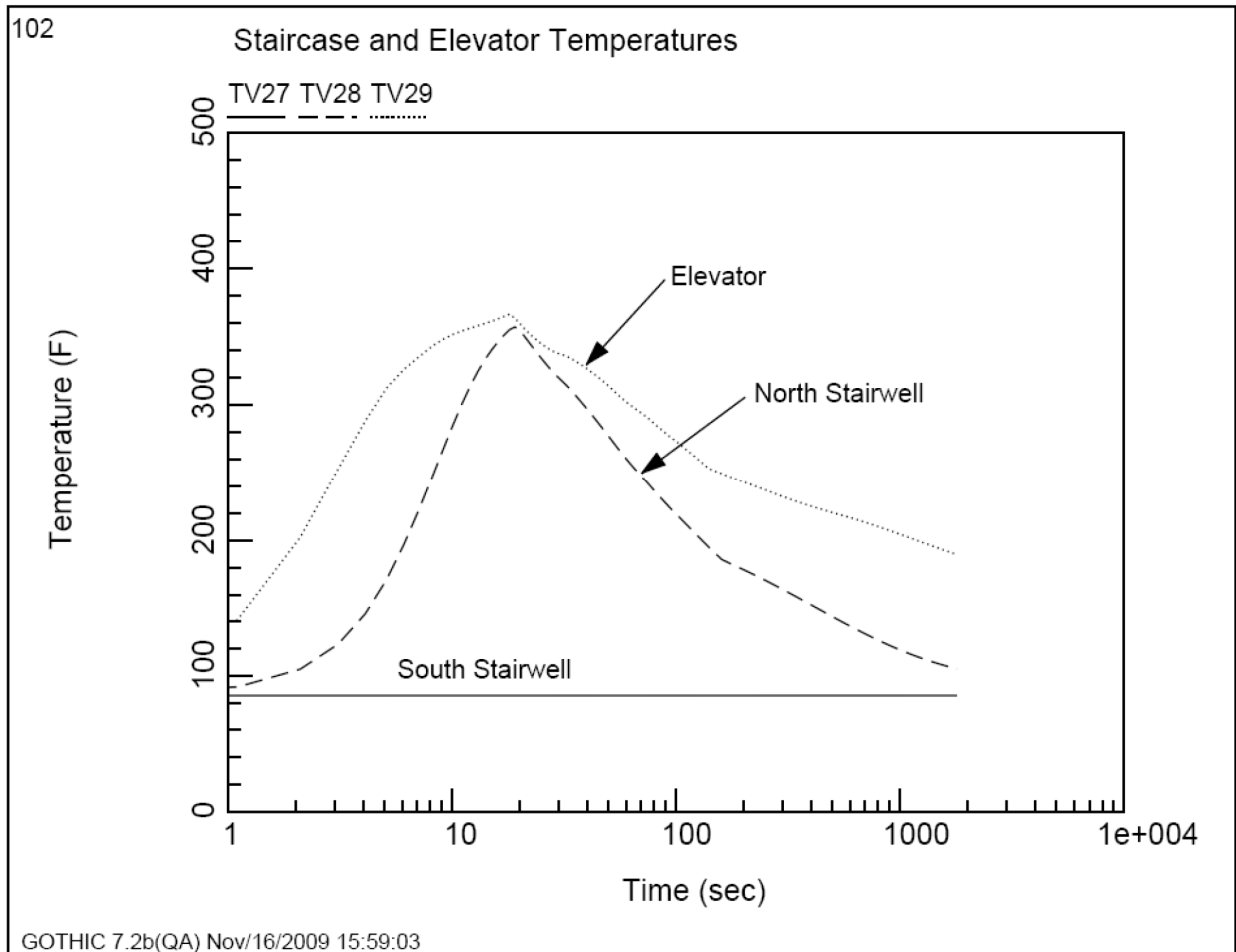


Figure 06.02.01-77-55—Temperature in the Containment Dome between the 63.98 ft and 71.53 ft Elevations

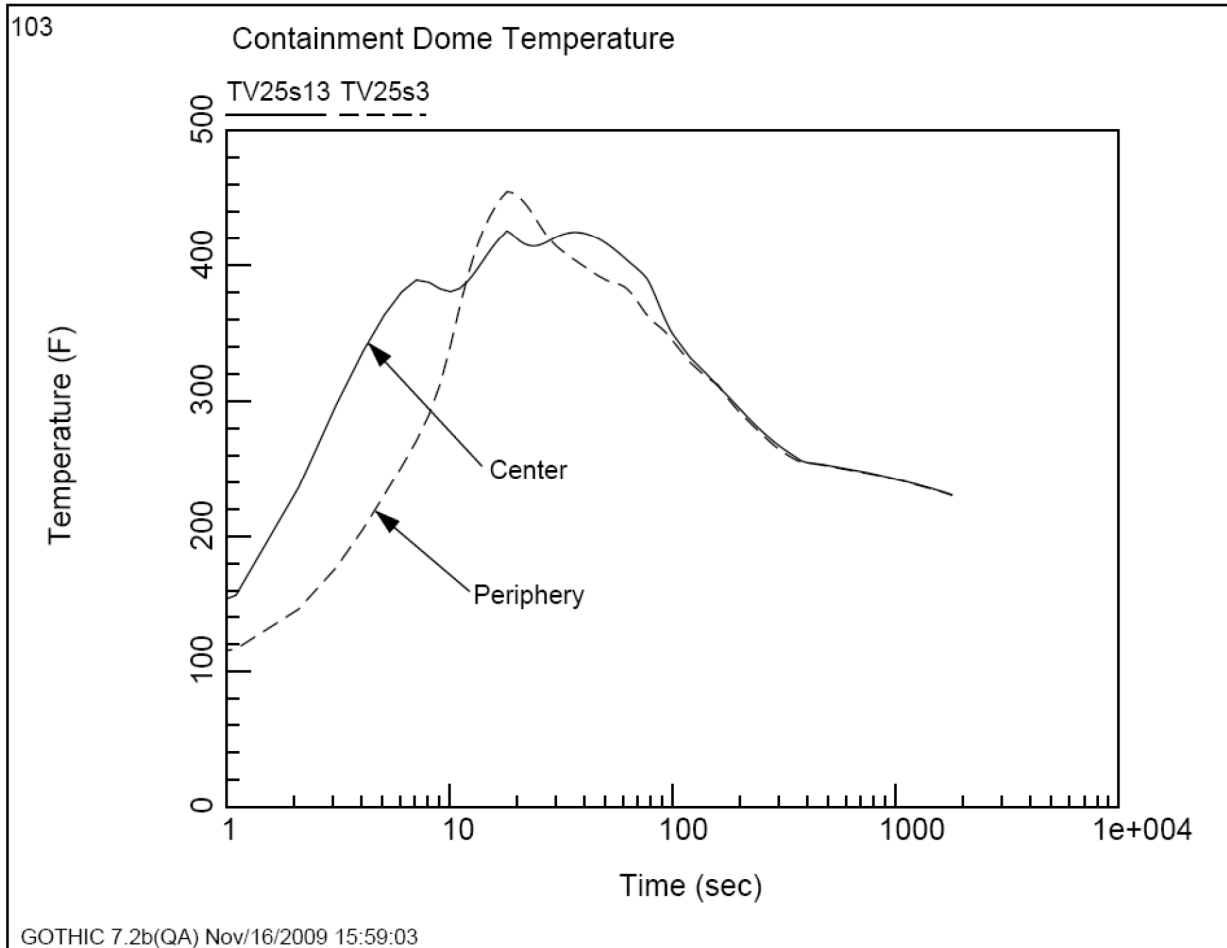
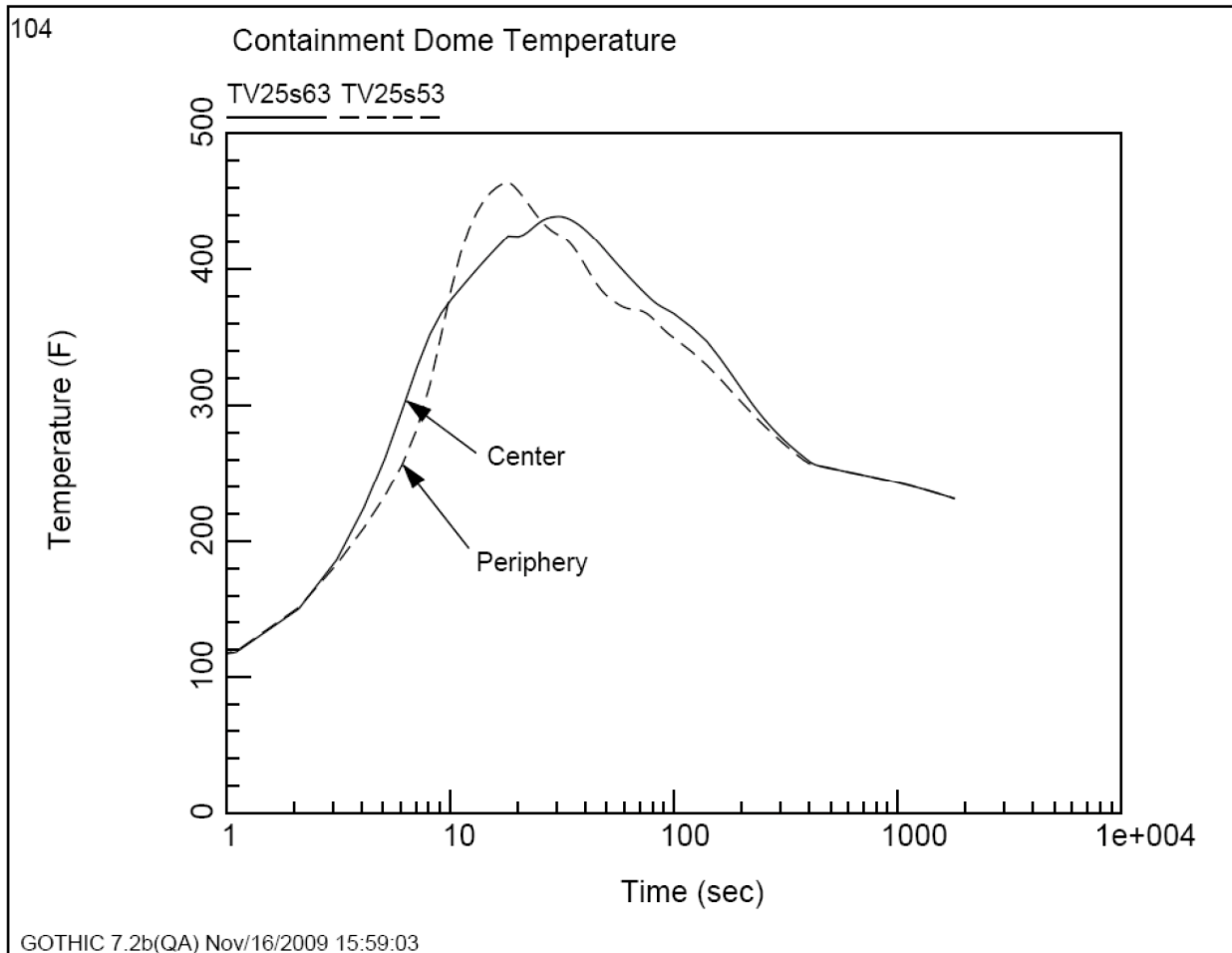


Figure 06.02.01-77-56—Temperature in the Containment Dome between the 79.07 ft and 86.29 ft Elevations



**Figure 06.02.01-77-57—Temperature in the Containment Dome between
93.51 ft and 98.59 ft Elevations**

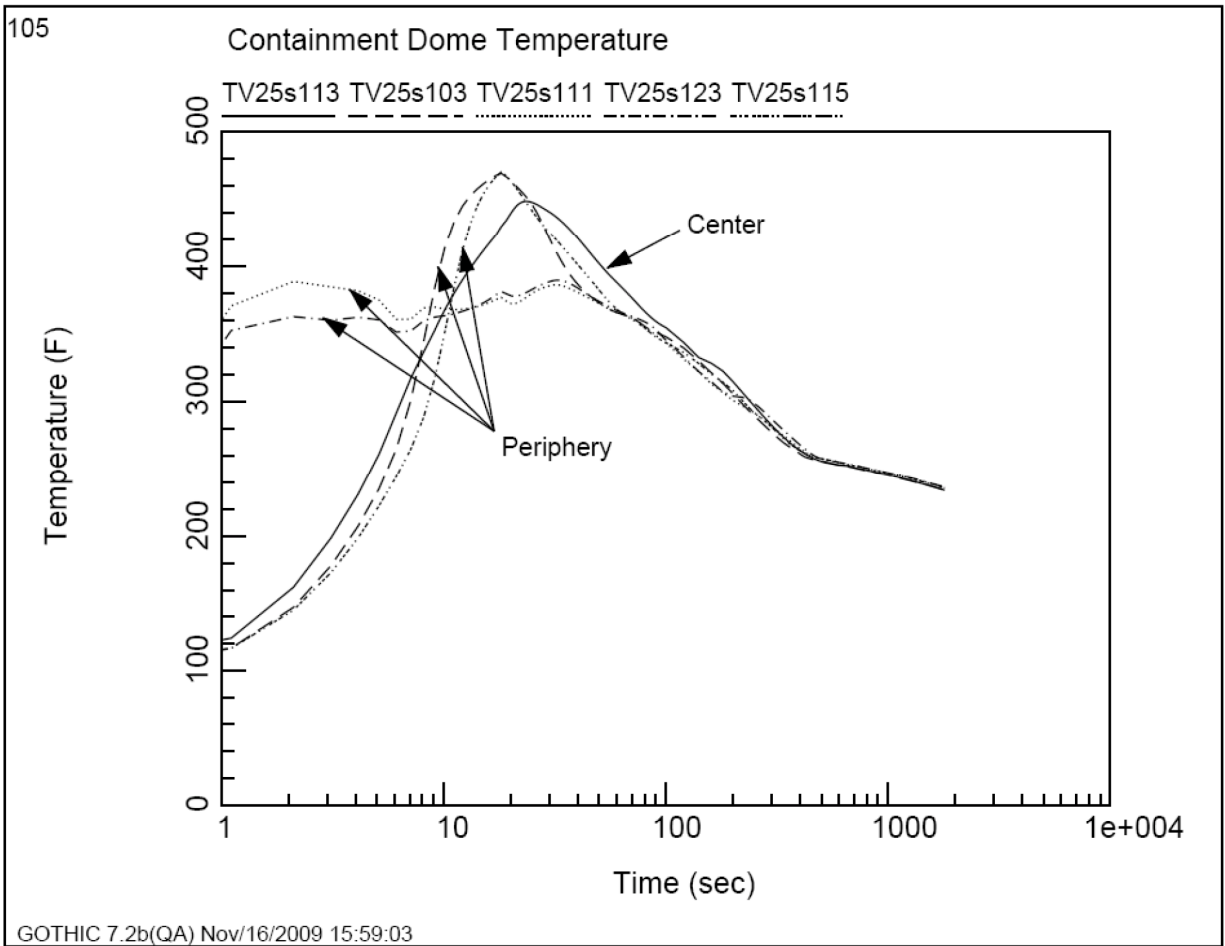


Figure 06.02.01-77-58—Temperature in the Containment Dome between the 103.68 ft and 108.76 ft Elevations

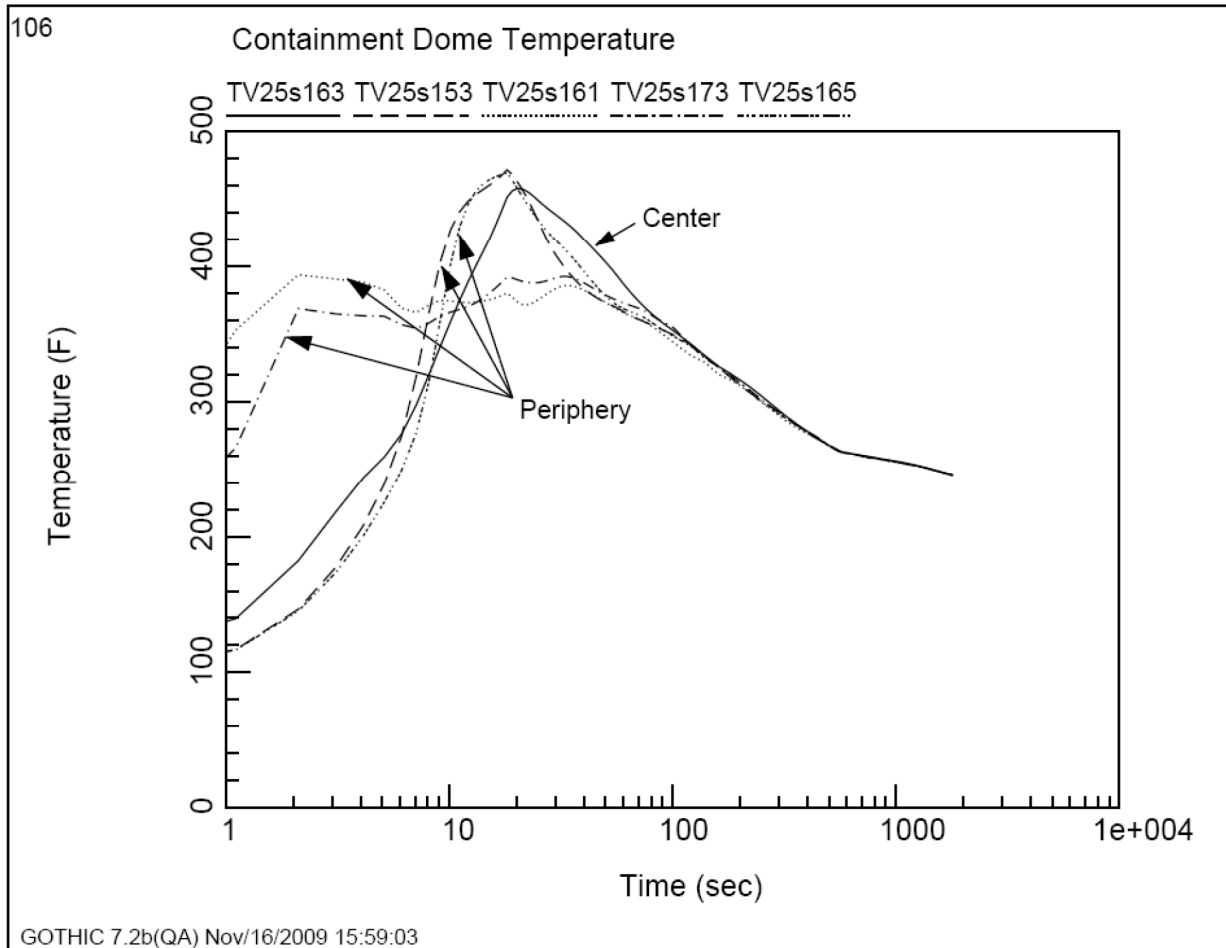


Figure 06.02.01-77-59—Temperature in the Containment Dome between the 113.85 ft and 119.90 ft Elevations

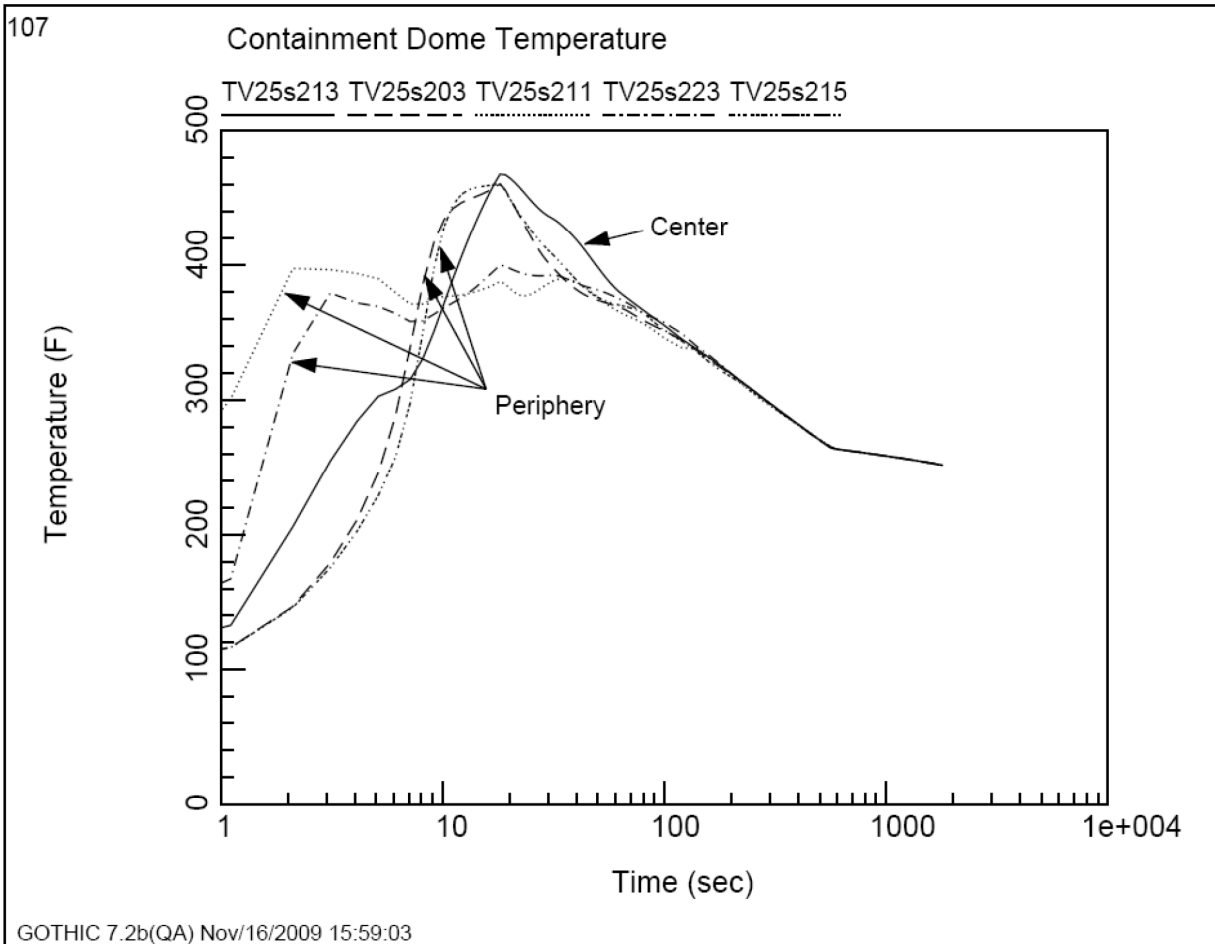


Figure 06.02.01-77-60—Temperature in the Containment Dome between the 125.95 ft and 132.00 ft Elevations

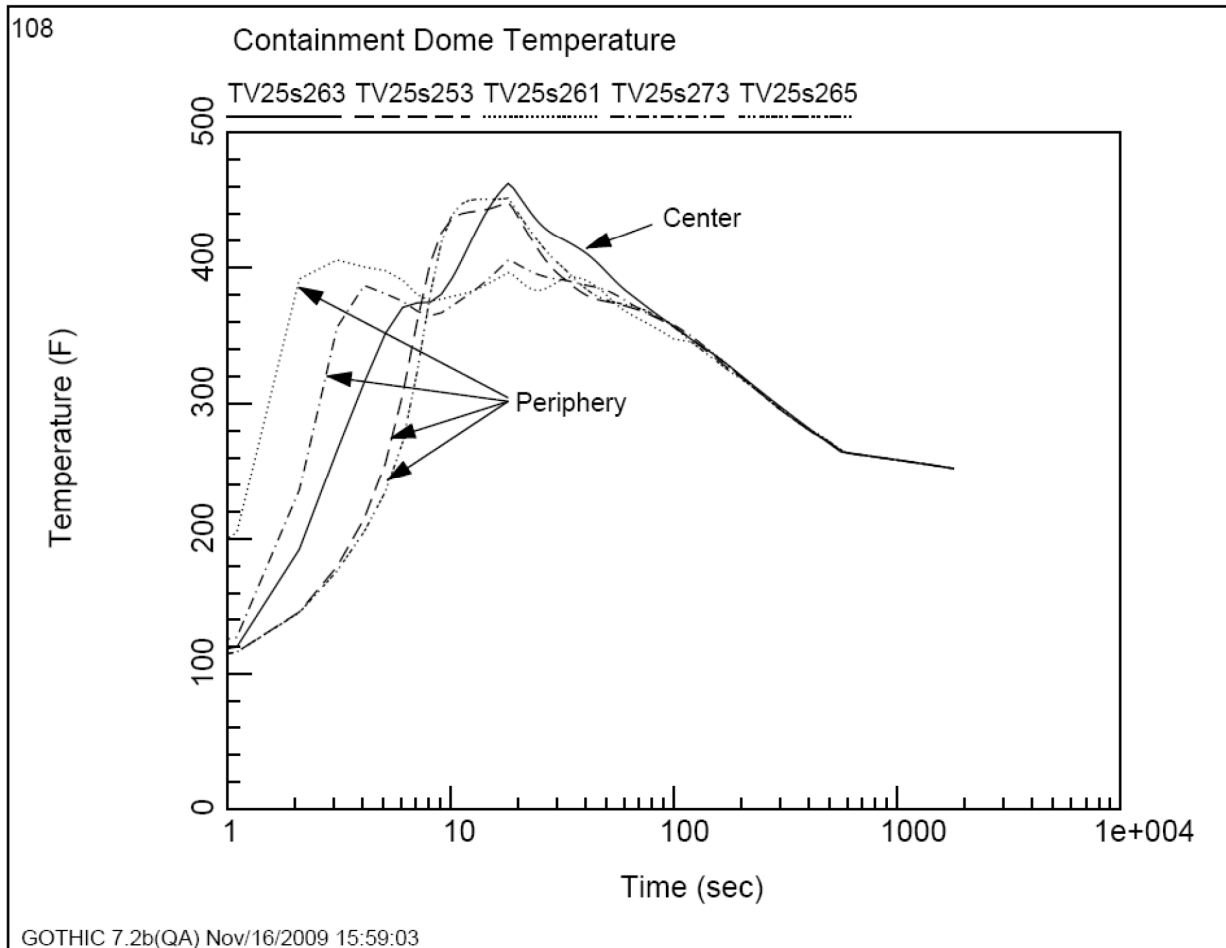


Figure 06.02.01-77-61—Temperature in the Containment Dome between the 138.05 ft and 144.10 ft Elevations

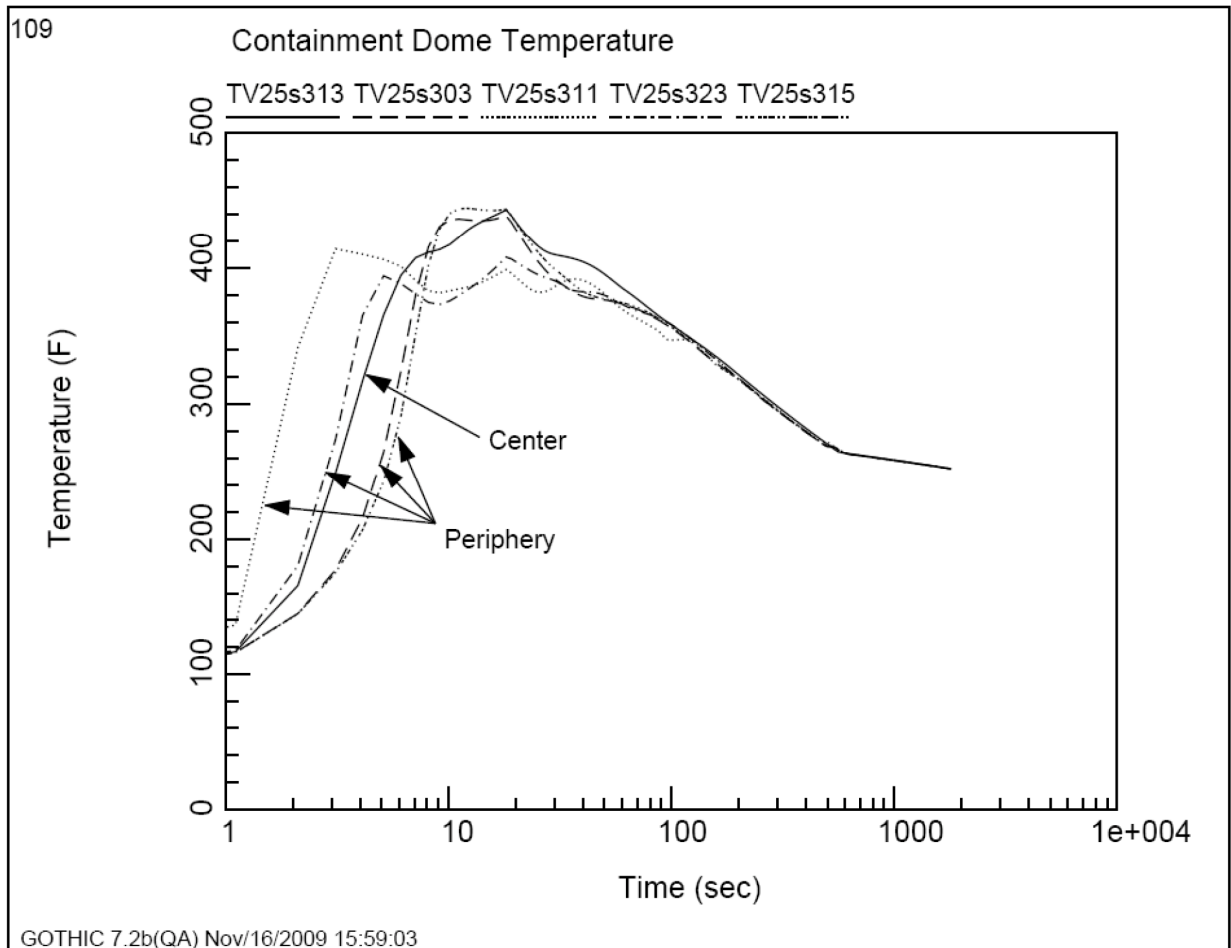


Figure 06.02.01-77-62—Temperature in the Containment Dome between the 151.12 ft and 158.14 ft Elevations

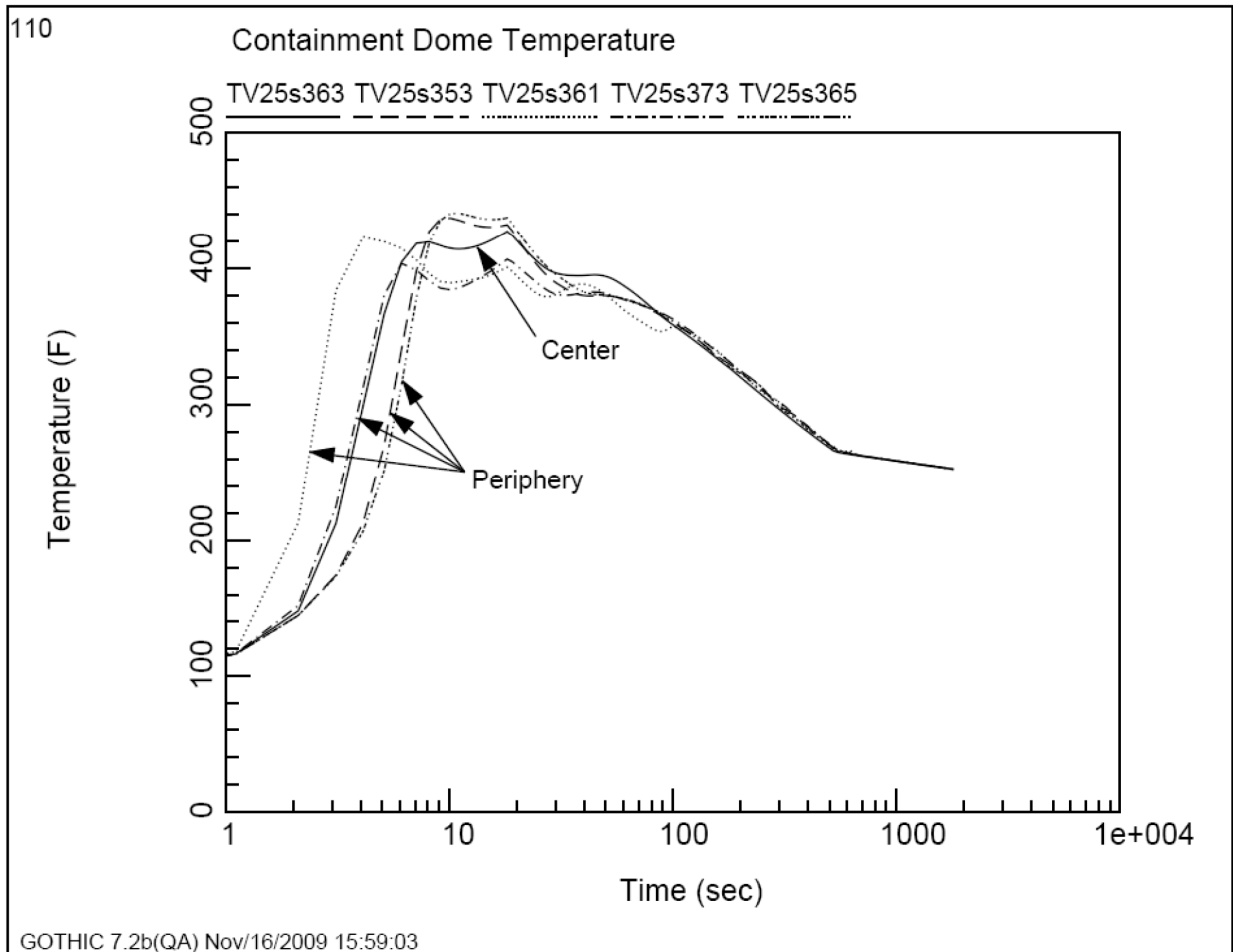


Figure 06.02.01-77-63—Temperature in the Containment Dome between the 165.16 ft and 172.99 ft Elevations

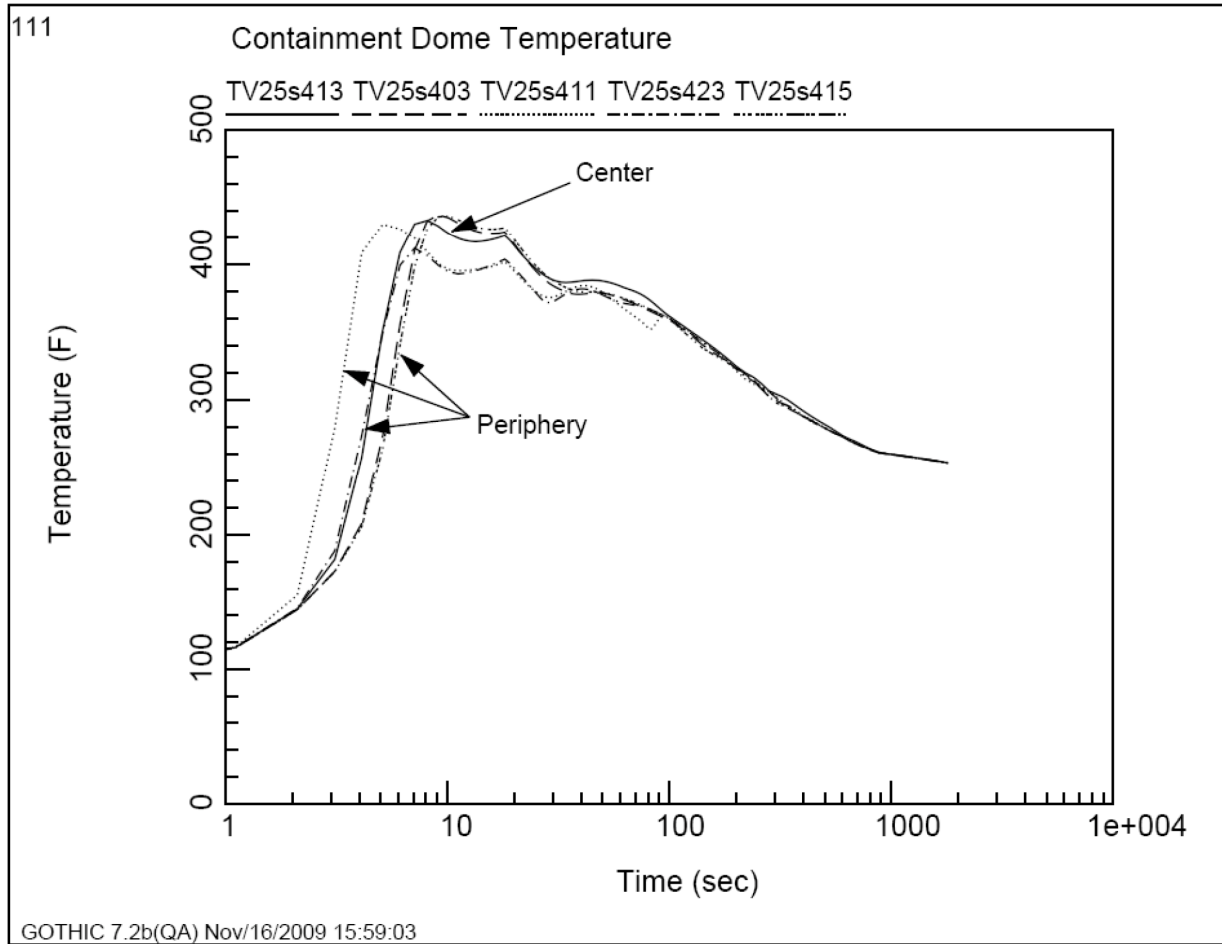


Figure 06.02.01-77-64—Temperature in the Containment Dome between the 180.82 ft and 188.65 ft Elevations

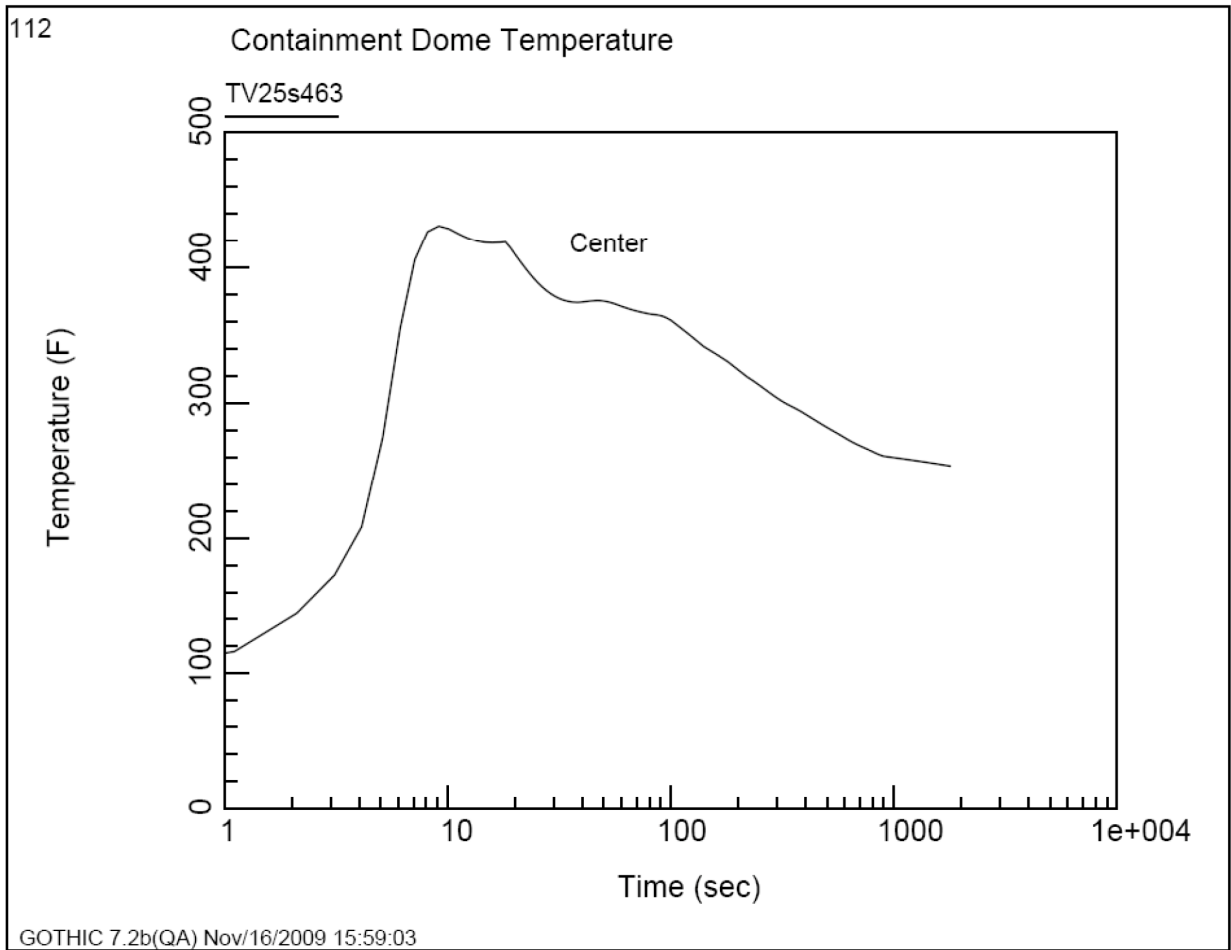


Figure 06.02.01-77-65—Temperature in the Center of the Containment Dome between the 63.98 ft and 119.90 ft Elevations

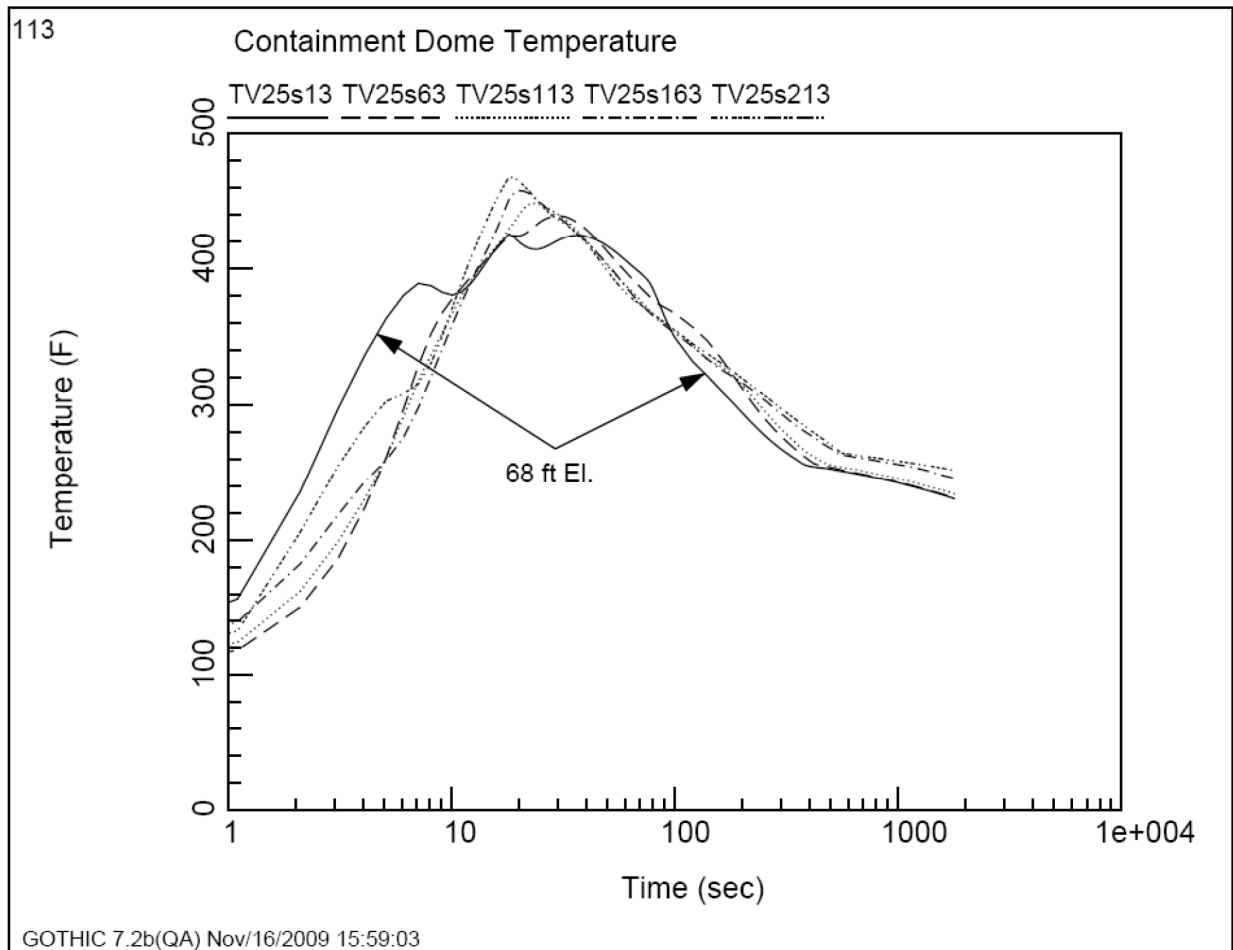


Figure 06.02.01-77-66—Temperature in the Center of the Containment Dome between the 125.95 ft and 188.65 ft Elevations

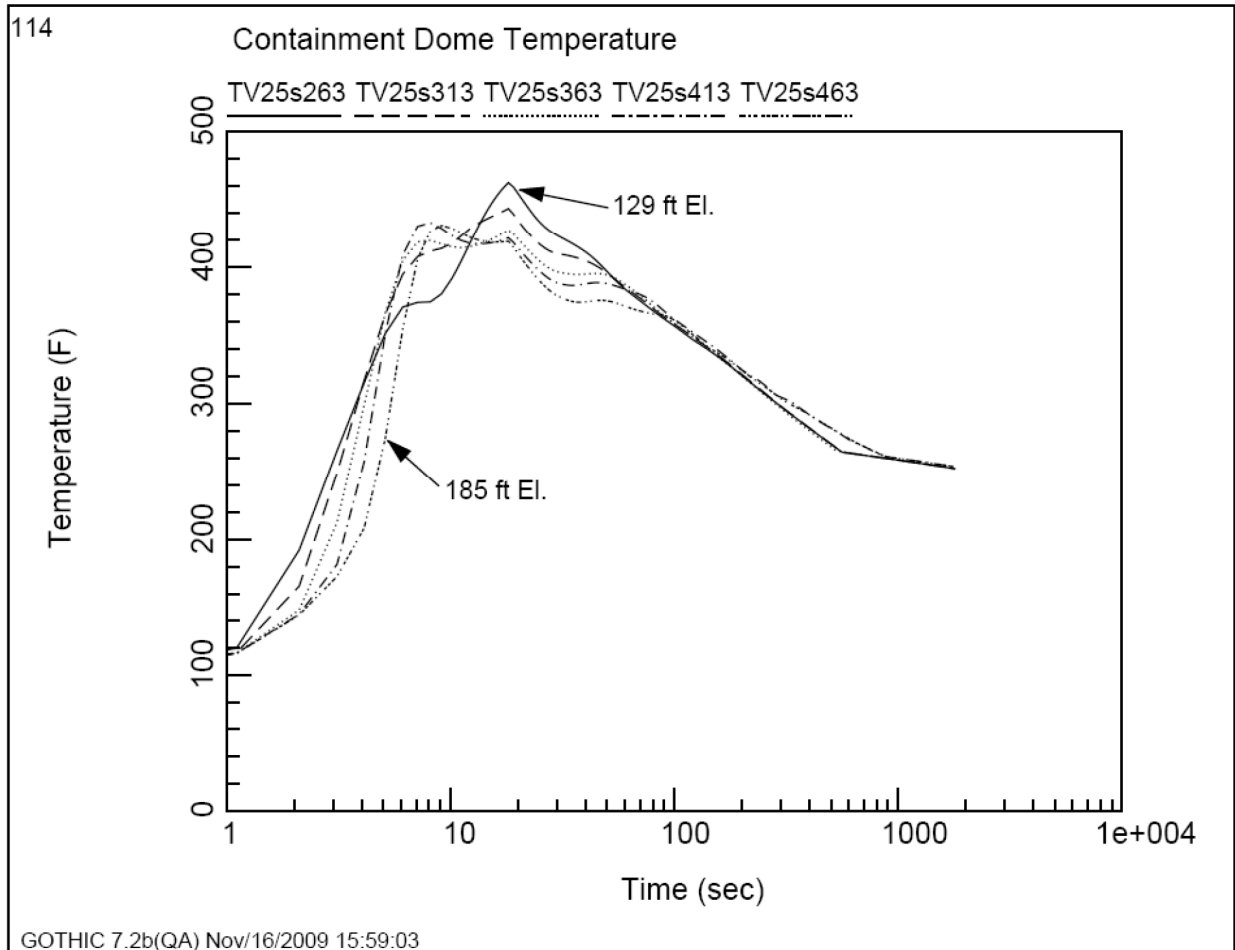


Figure 06.02.01-77-67—Pressure in the Spreading Room and IRWST

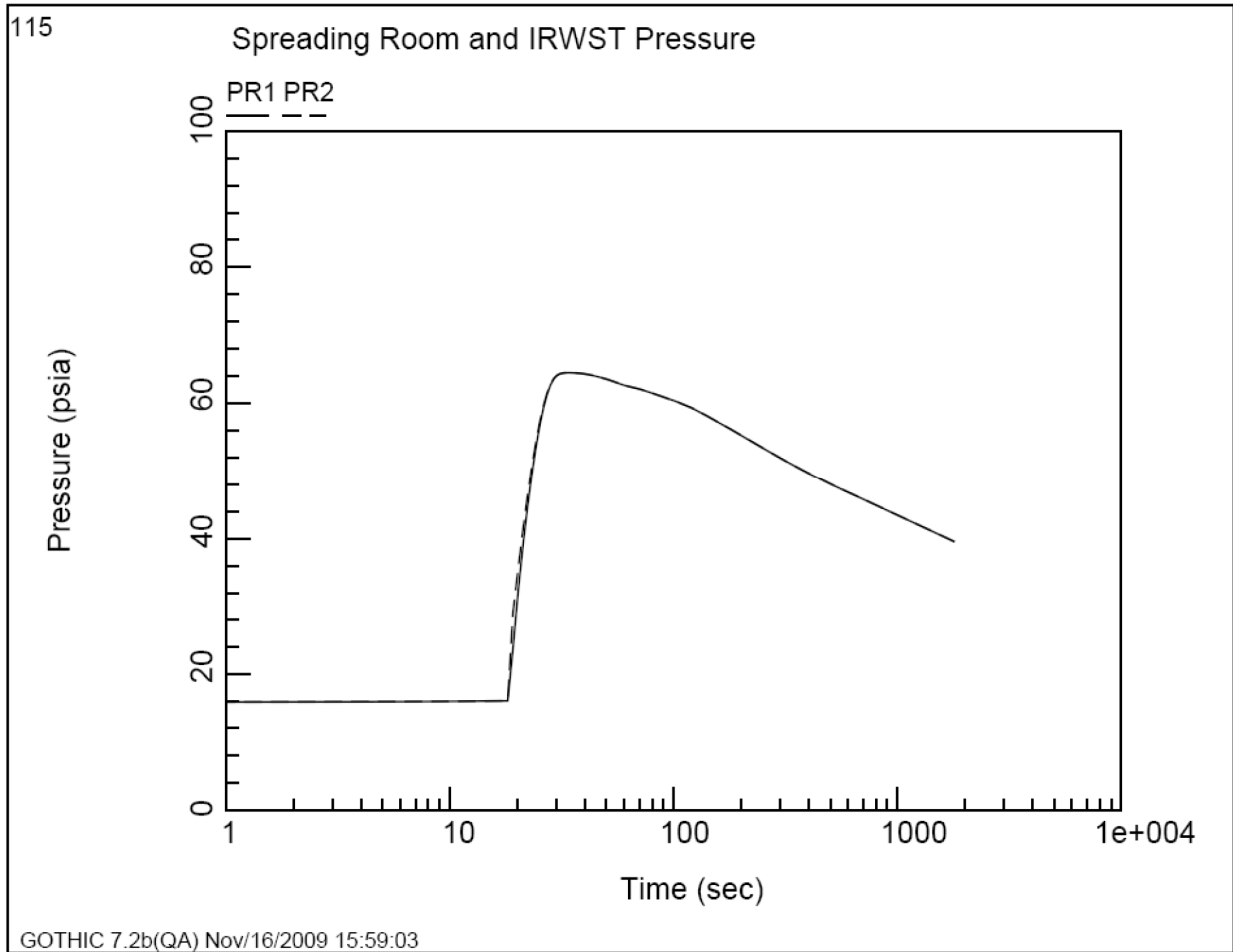


Figure 06.02.01-77-68—Pressure in the Lower Equipment Rooms

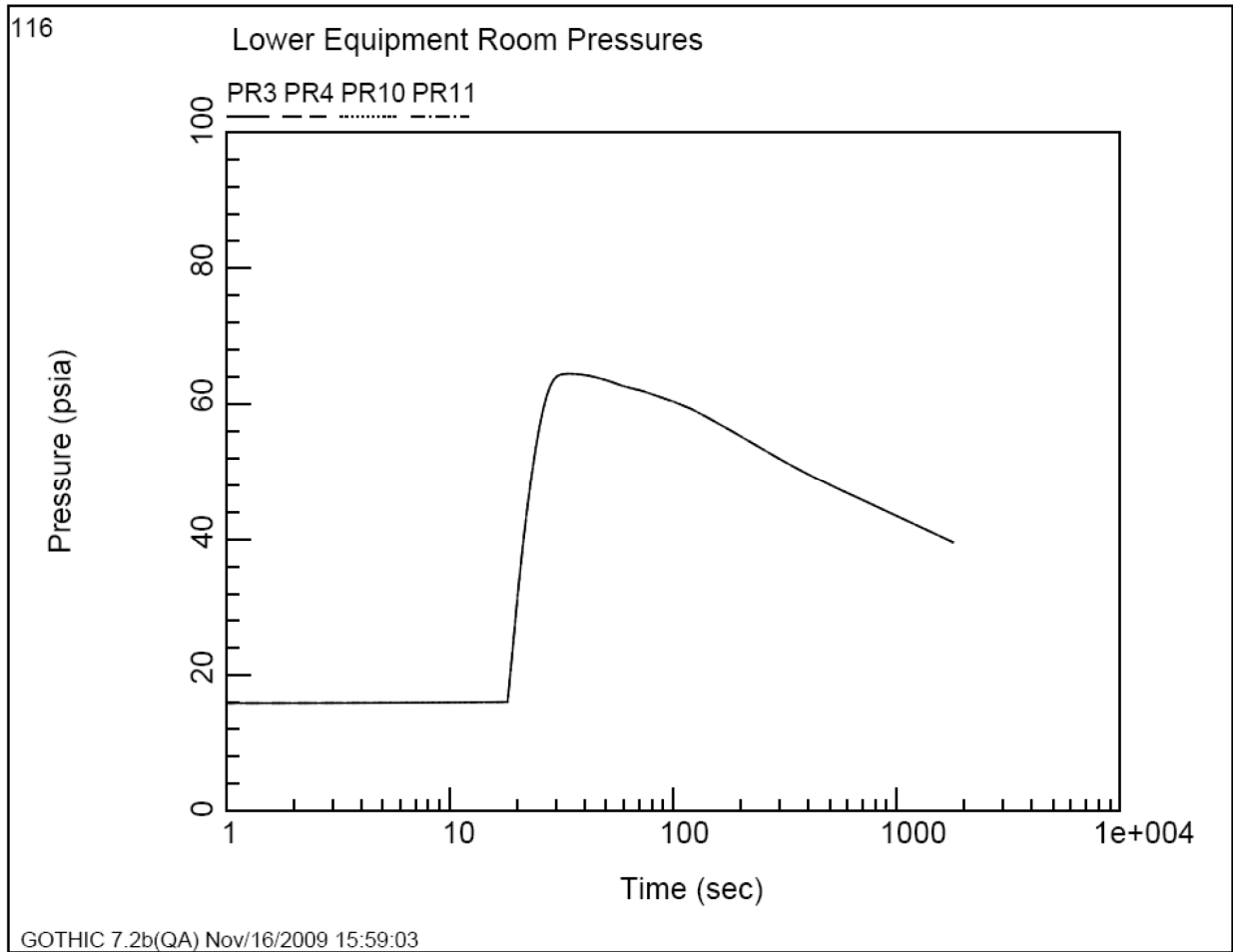


Figure 06.02.01-77-69—Pressure in the Middle Equipment Rooms

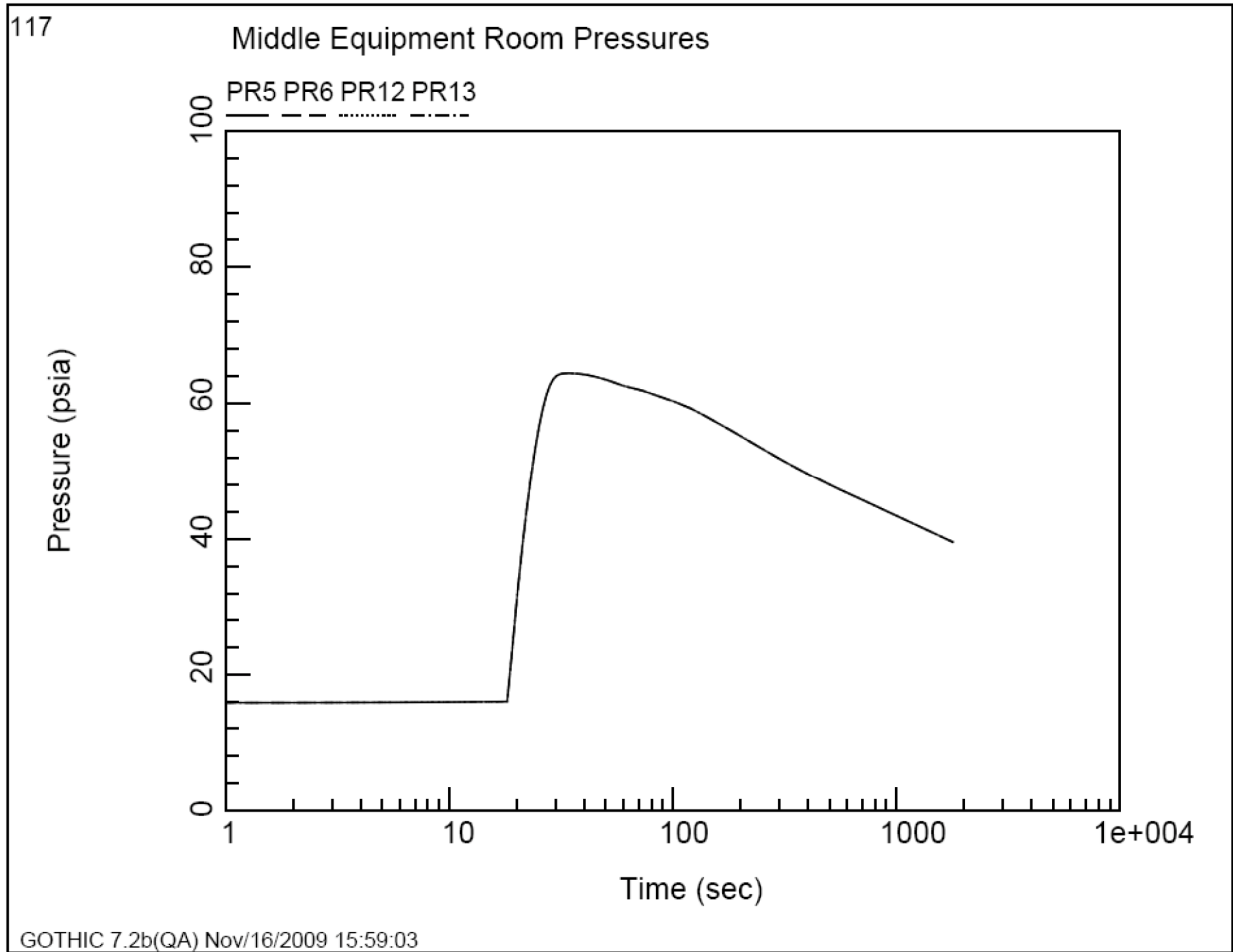


Figure 06.02.01-77-70—Pressure in the Upper Equipment Rooms

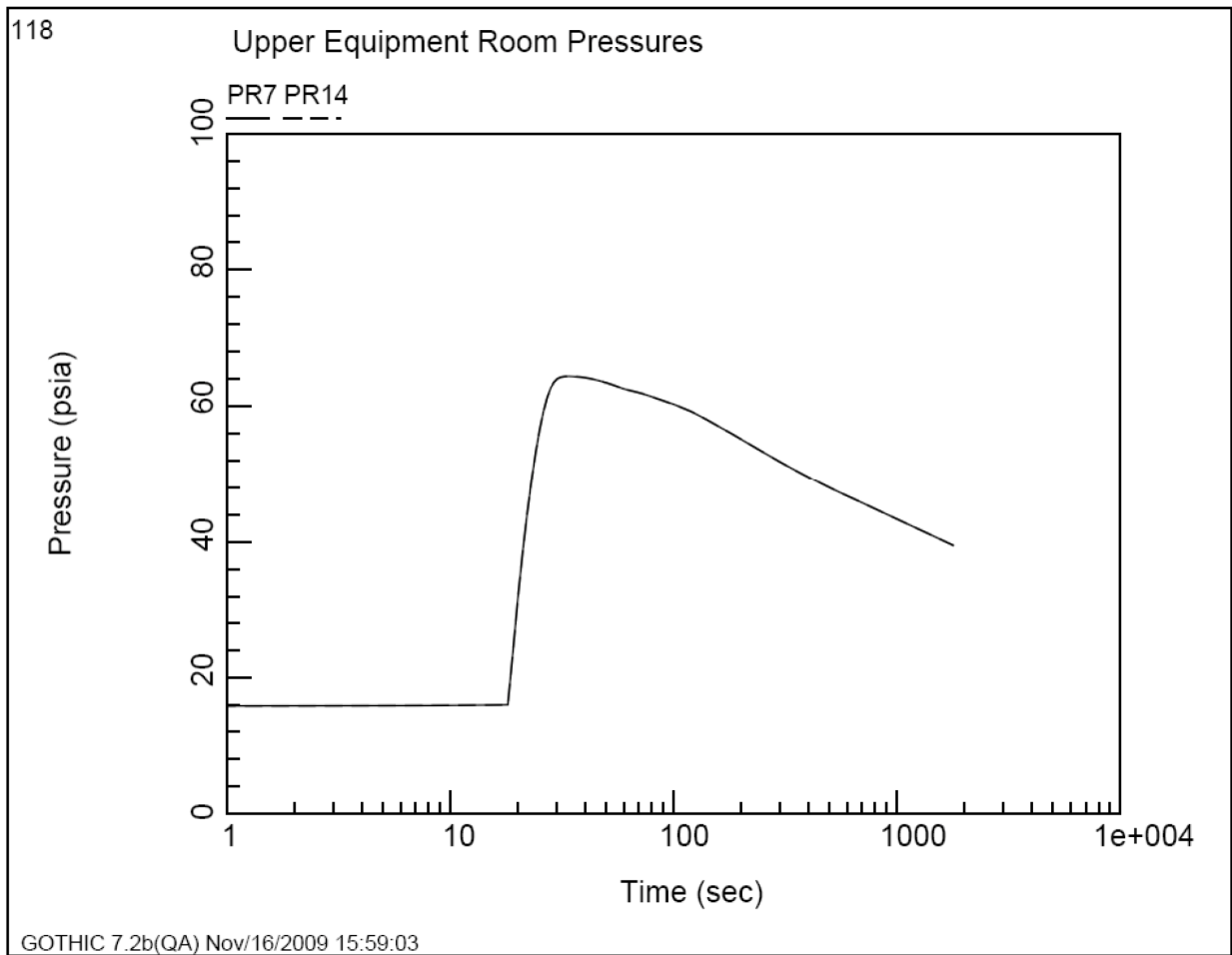


Figure 06.02.01-77-71—Pressure in the Reactor Pressure Vessel Pit and Reactor Cavity

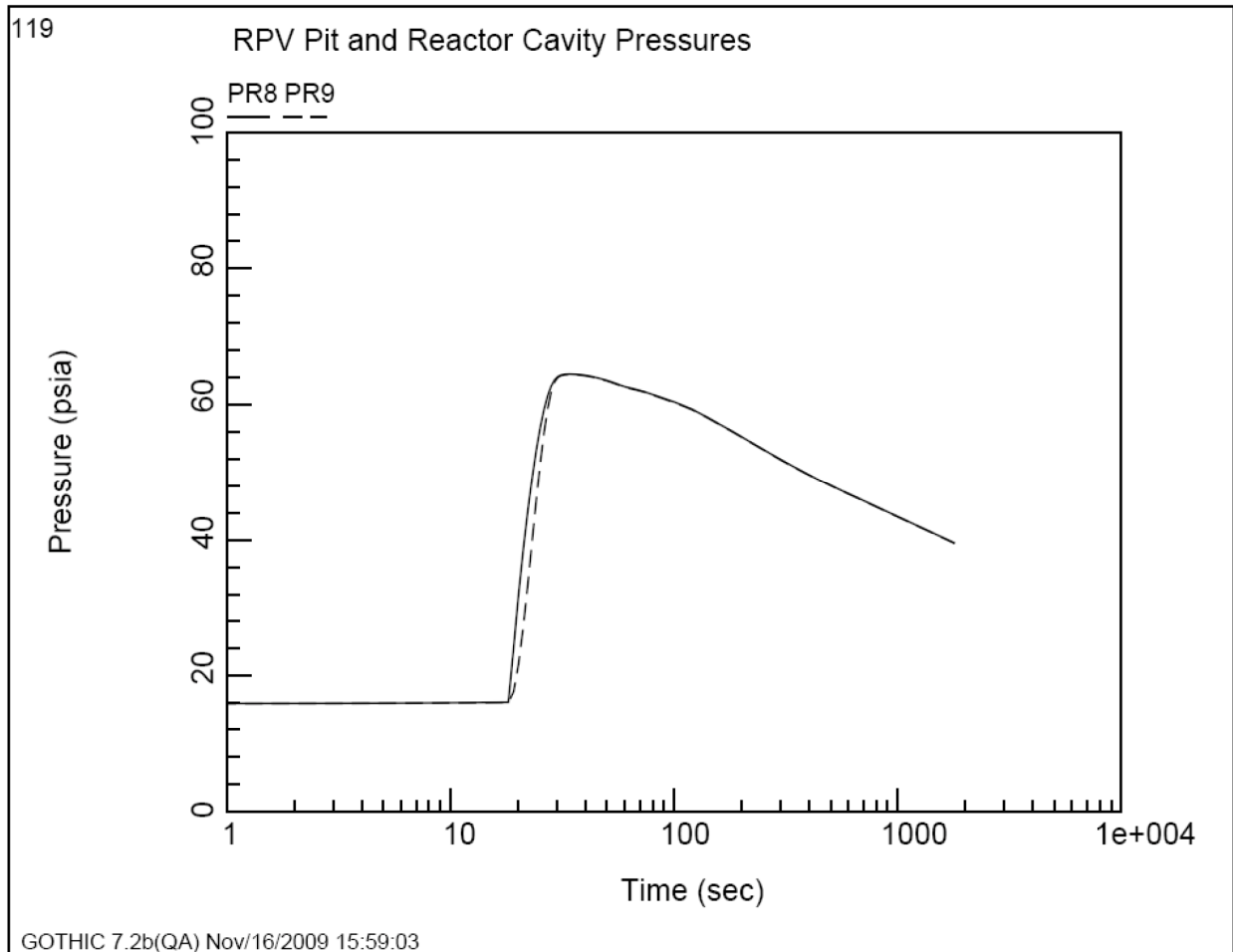
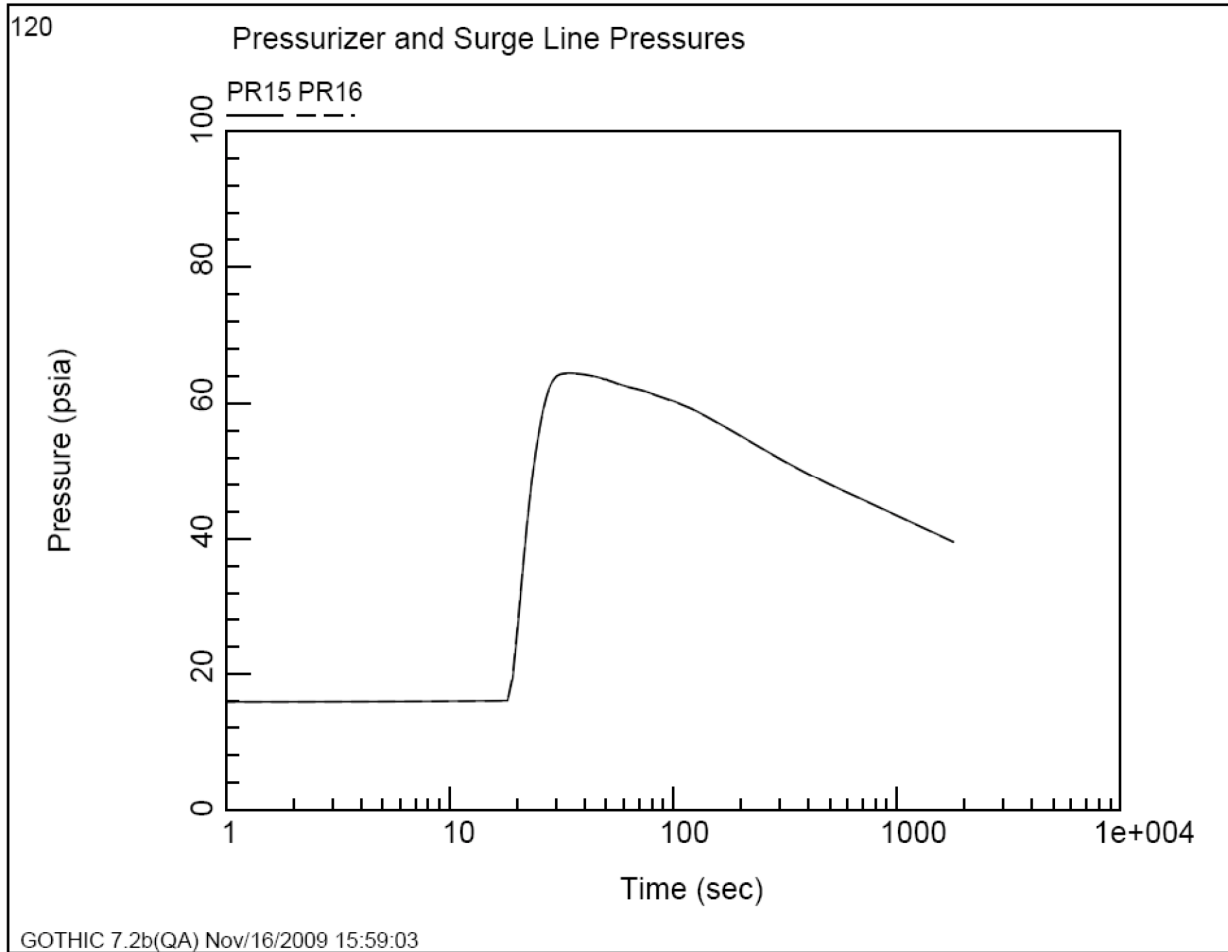


Figure 06.02.01-77-72—Pressure in the Pressurizer and Surge Line Rooms



**Figure 06.02.01-77-73—Pressure in the CVCS and Steam Generator
Blowdown Heat Exchanger Rooms**

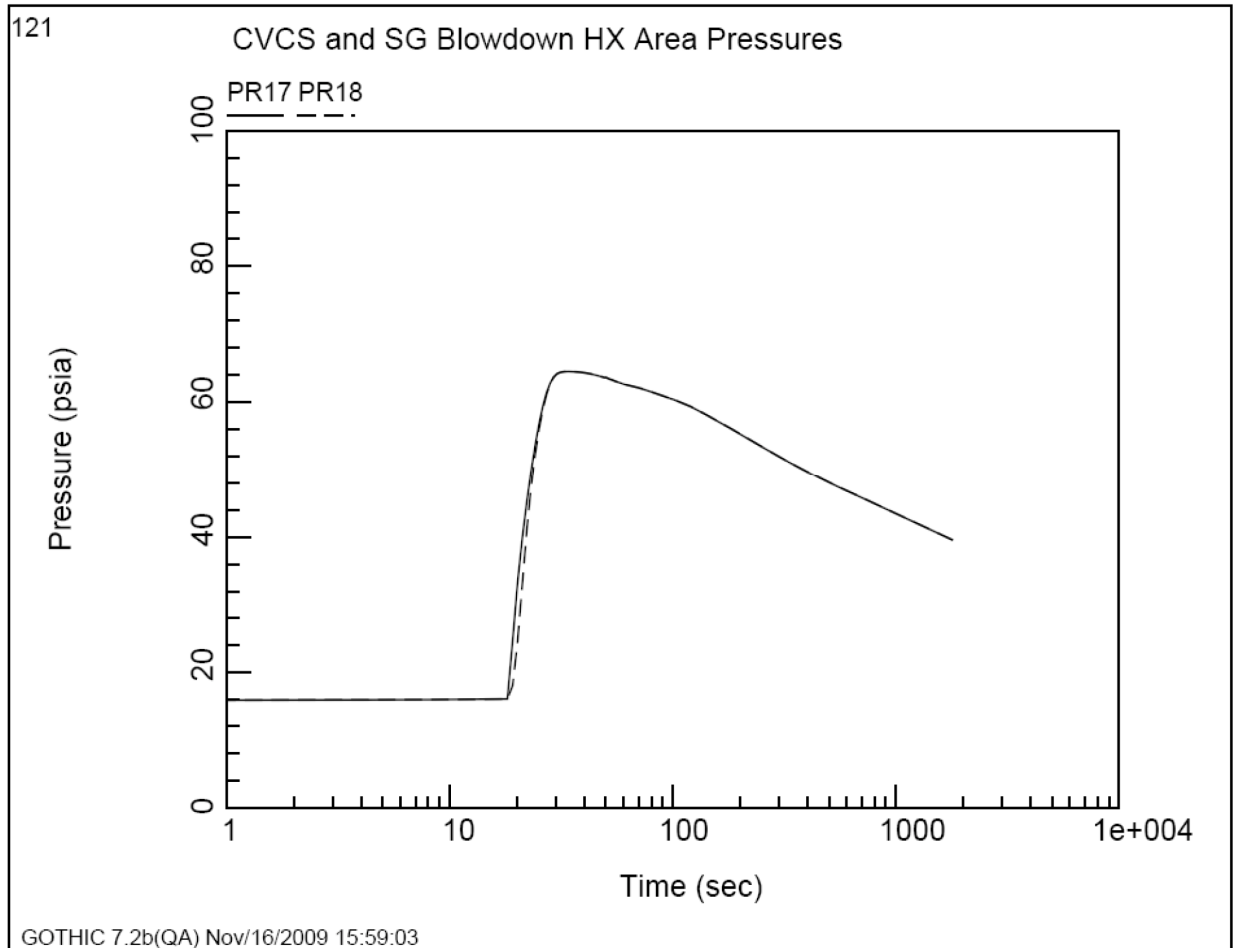


Figure 06.02.01-77-74—Pressure in the Lower Annulus Rooms

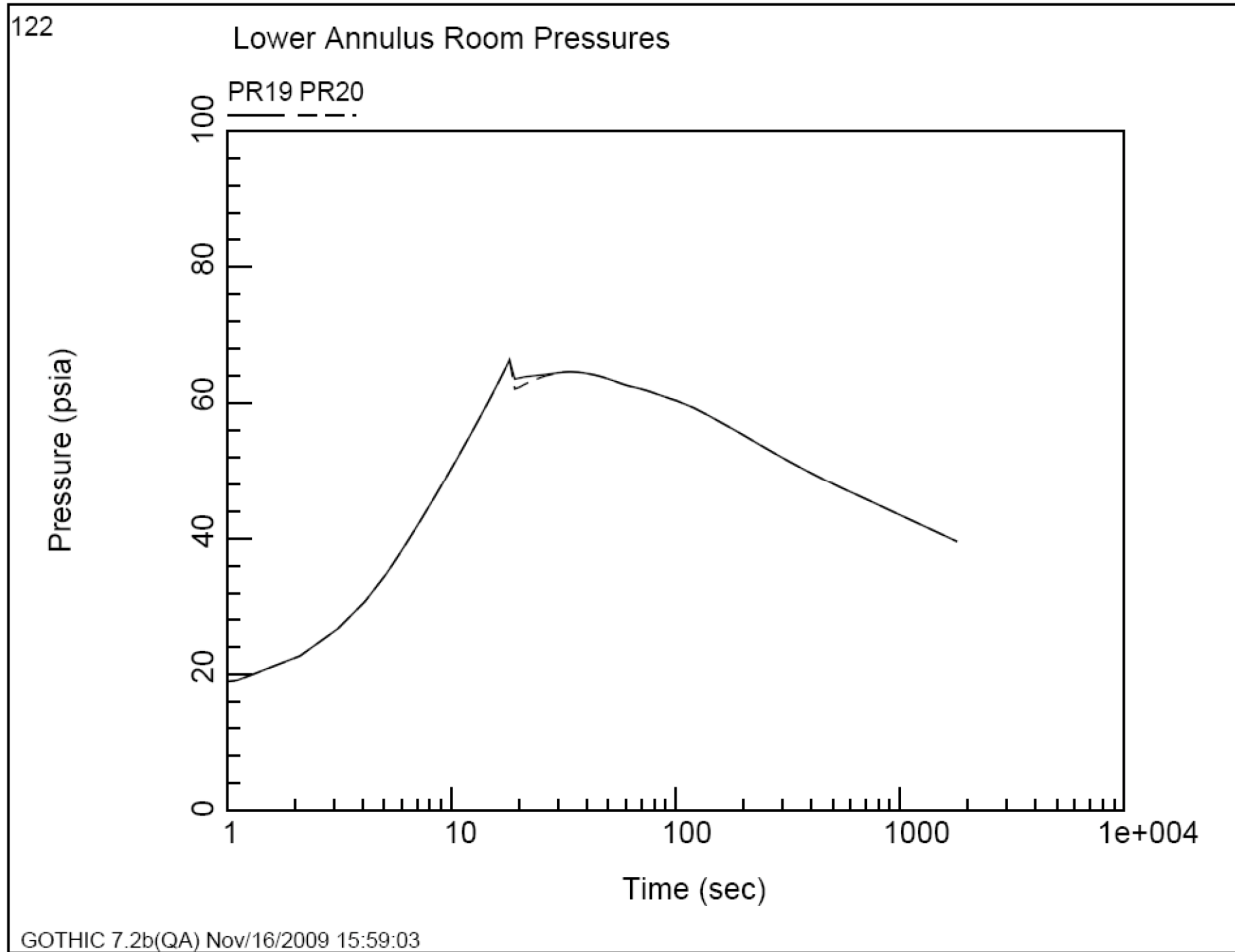


Figure 06.02.01-77-75—Pressure in the Middle Annulus Rooms

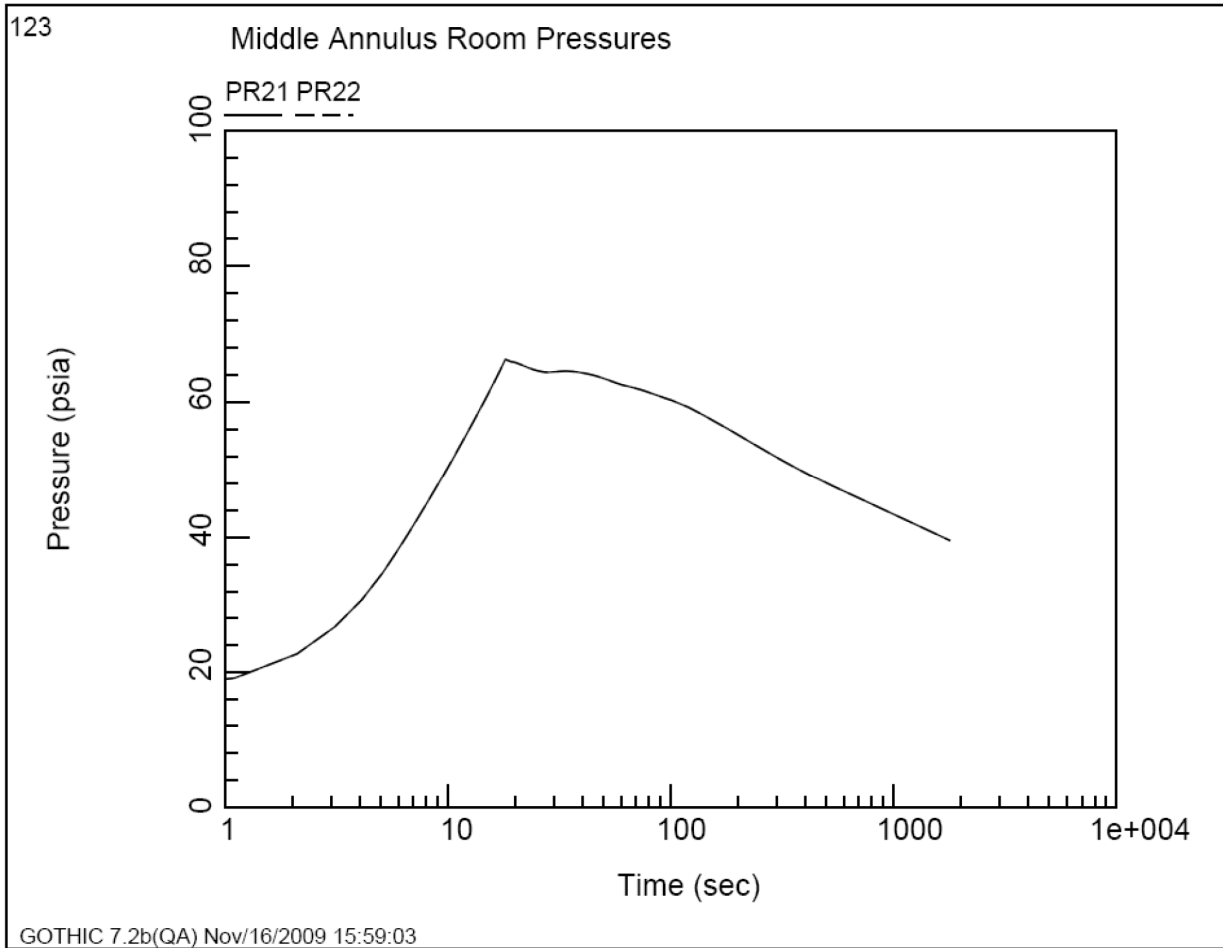


Figure 06.02.01-77-76—Pressure in the Upper Annulus Rooms

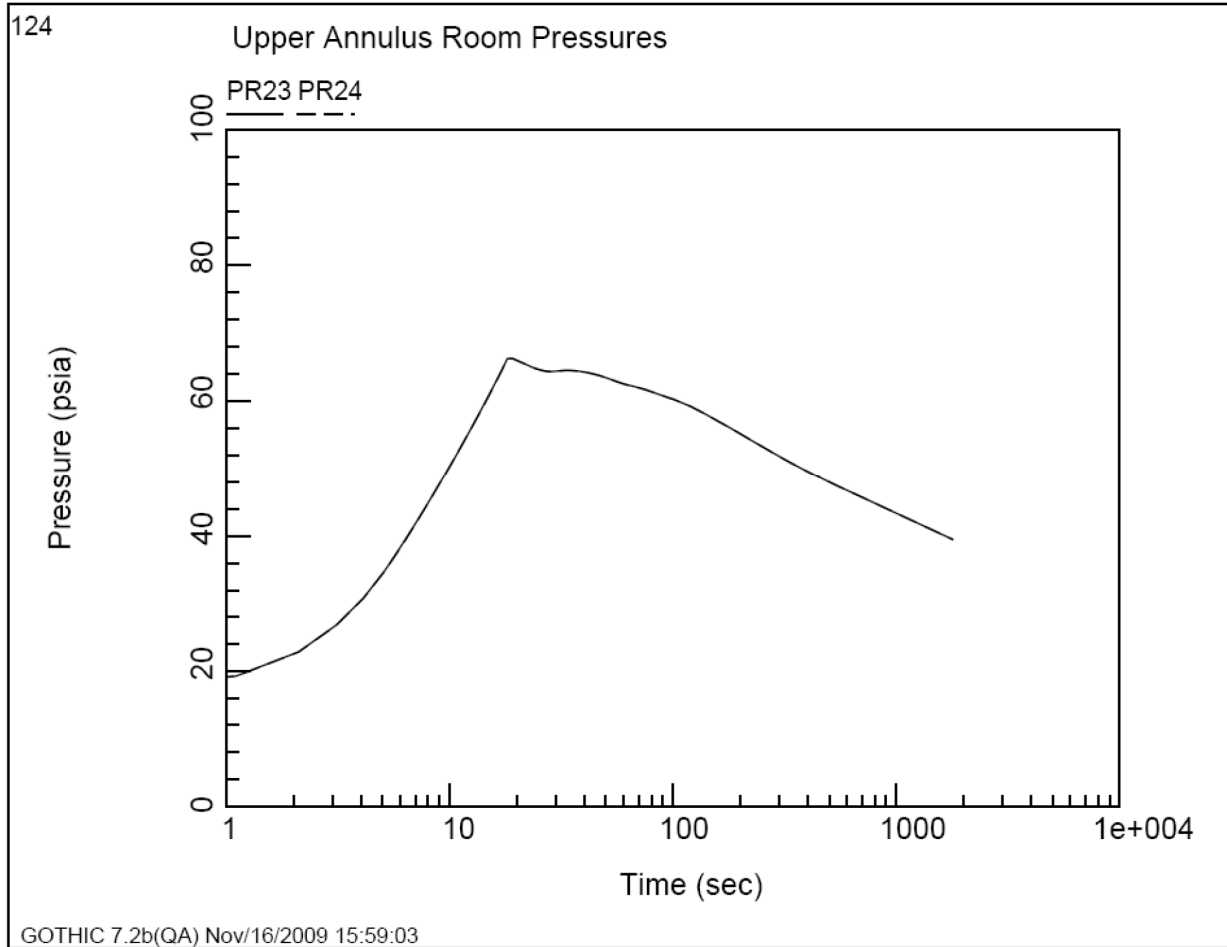


Figure 06.02.01-77-77—Pressure in the Access and Hot Piping Penetration Rooms

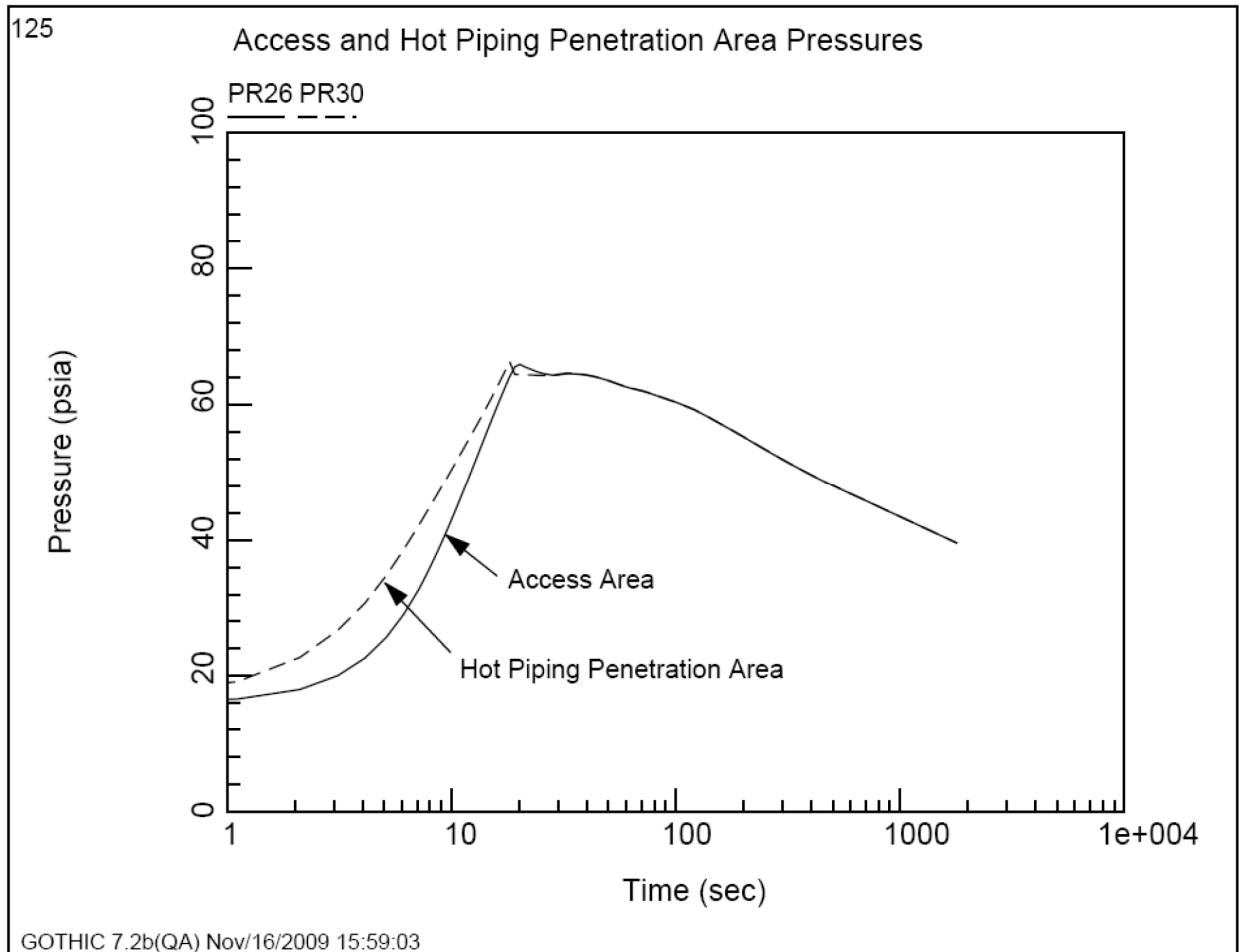


Figure 06.02.01-77-78—Pressure in the North and South Staircases and in the Elevator

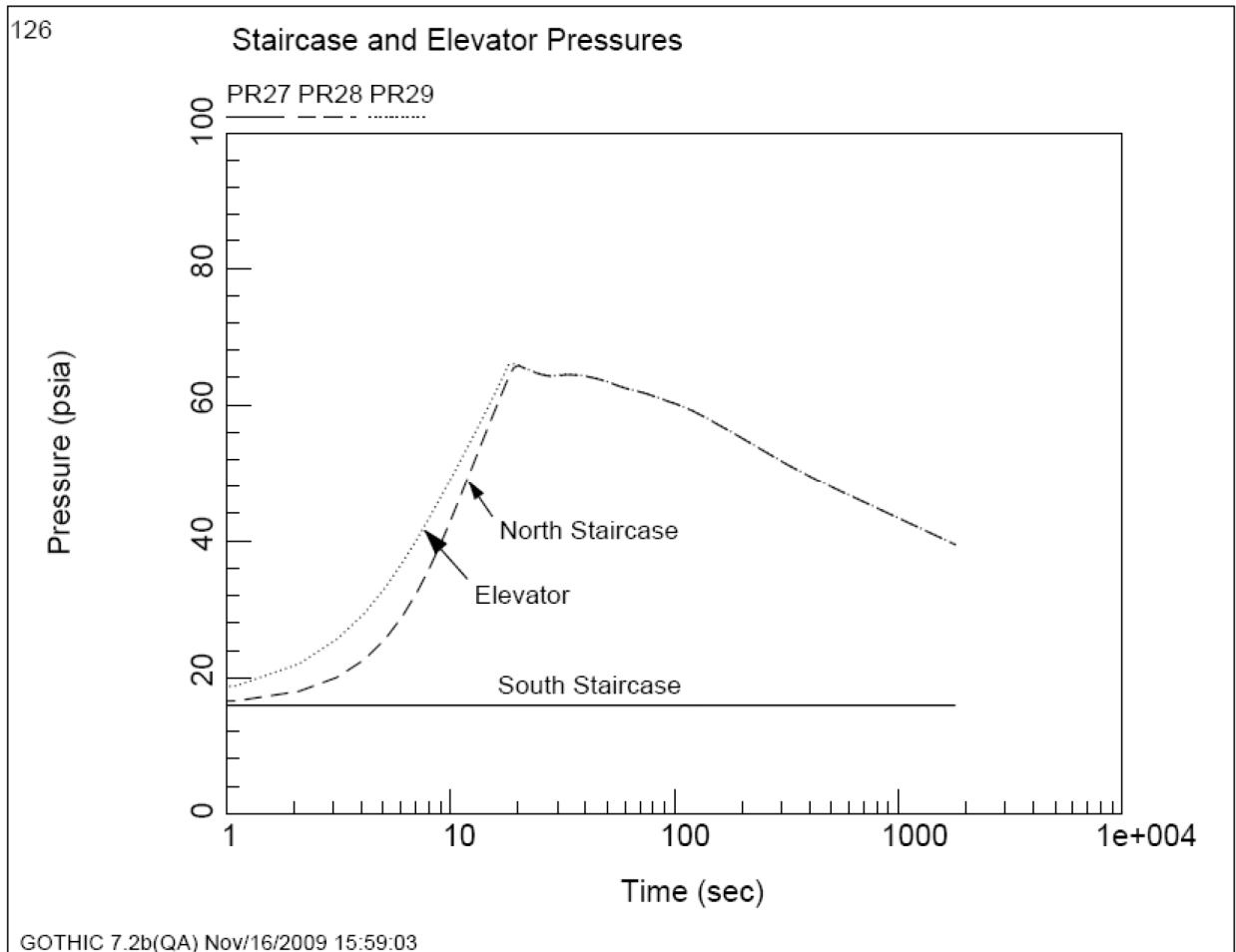


Figure 06.02.01-77-79—Liquid Volume Fraction in the Spreading Room and IRWST

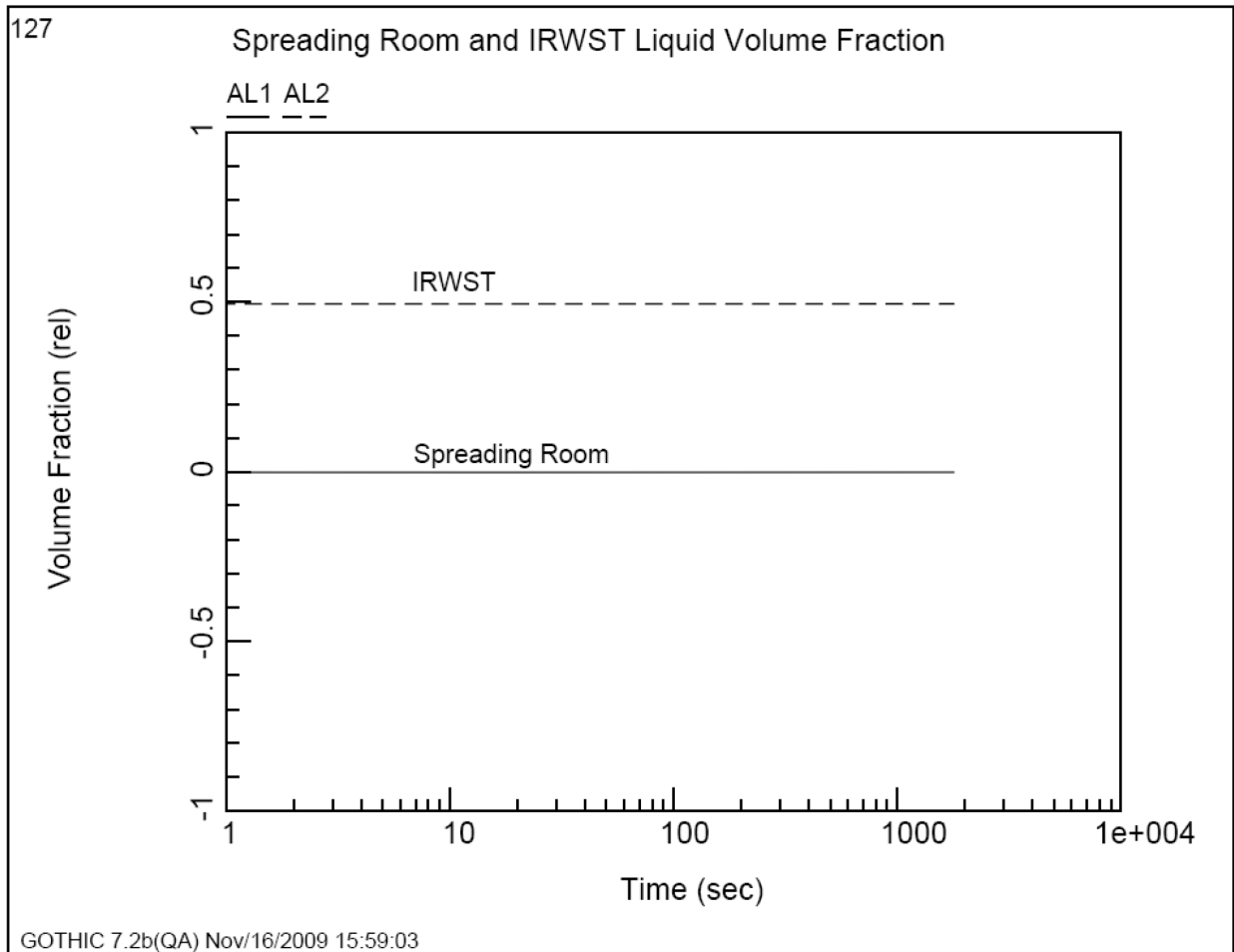


Figure 06.02.01-77-80—Liquid Volume Fraction in the Lower Equipment Rooms

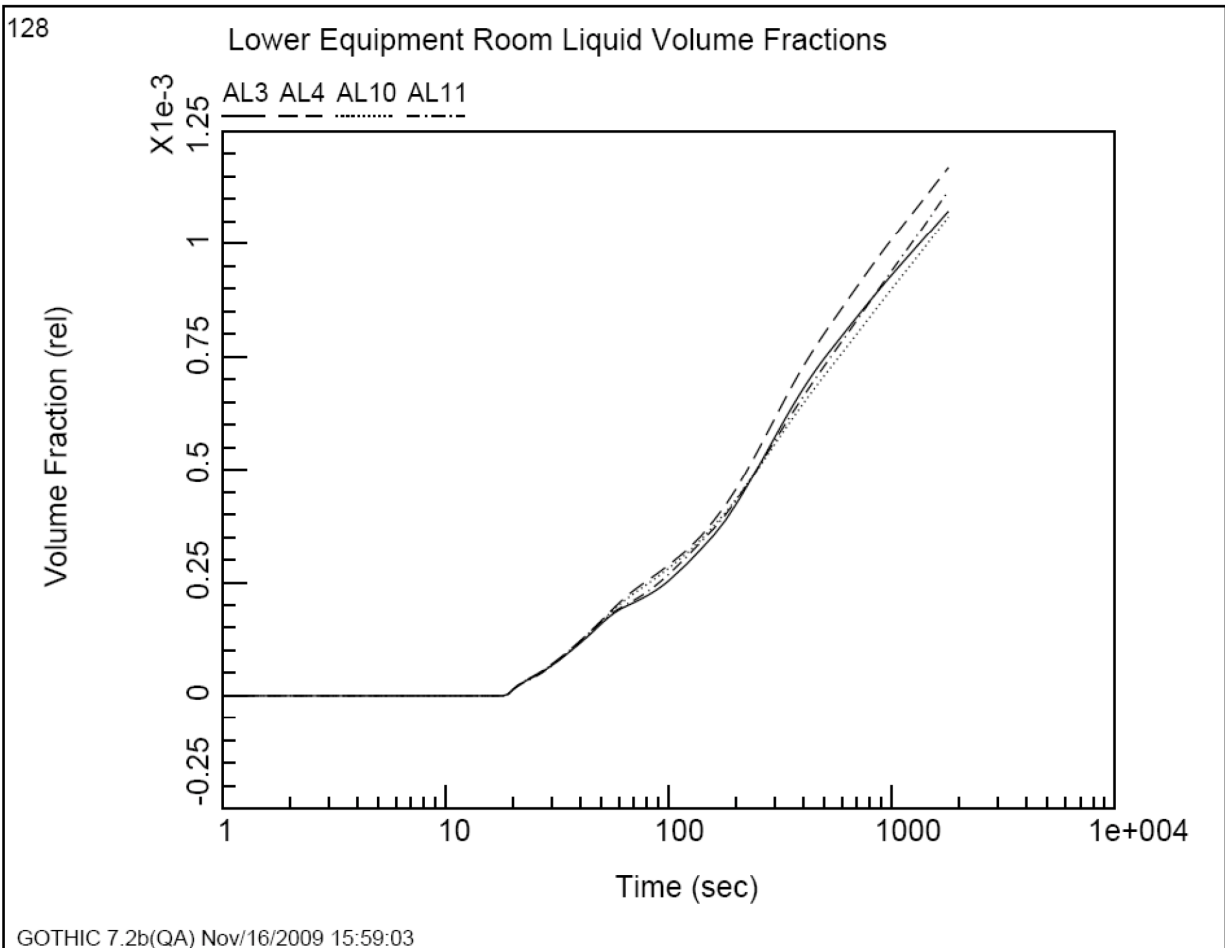


Figure 06.02.01-77-81—Liquid Volume Fraction in the Middle Equipment Rooms

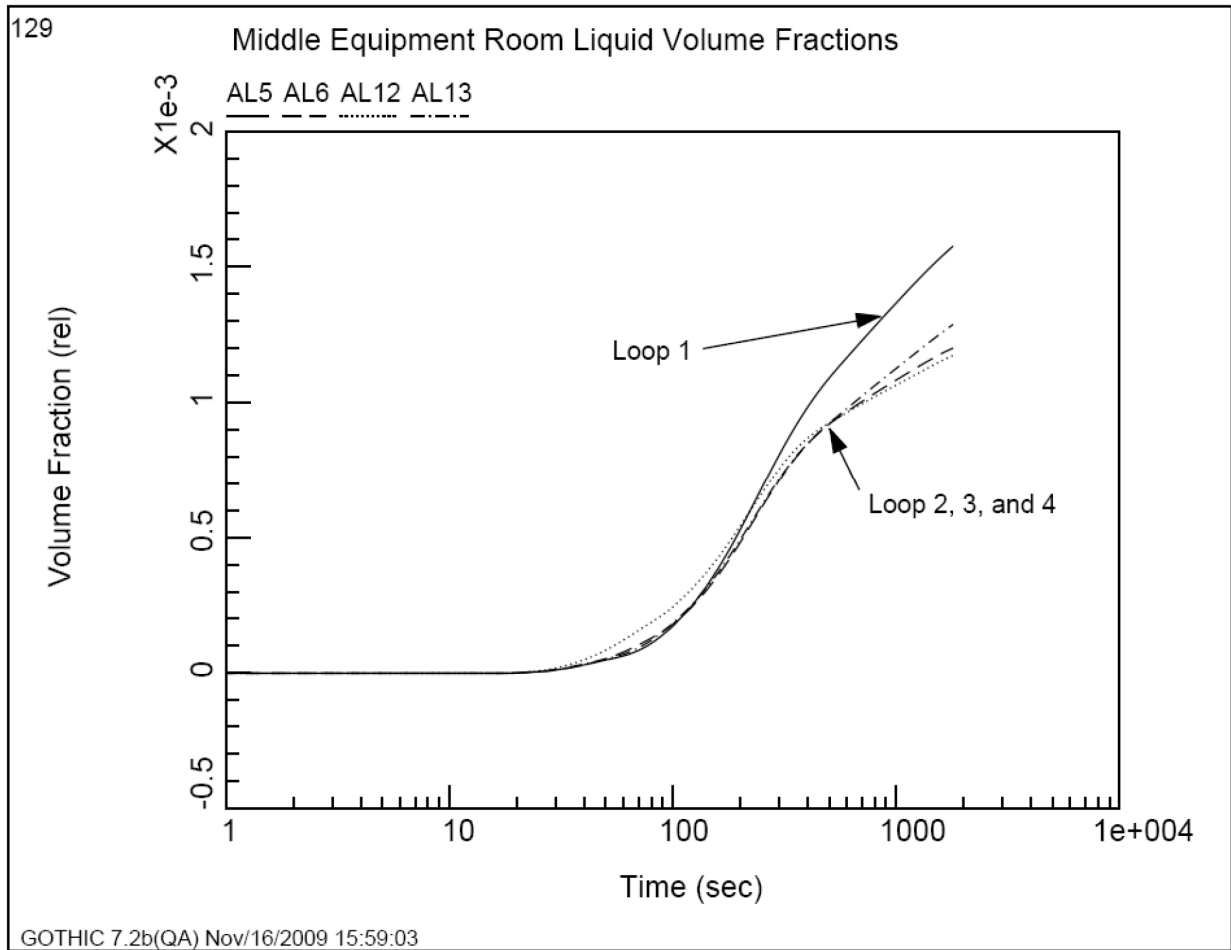


Figure 06.02.01-77-82—Liquid Volume Fraction in the Upper Equipment Rooms

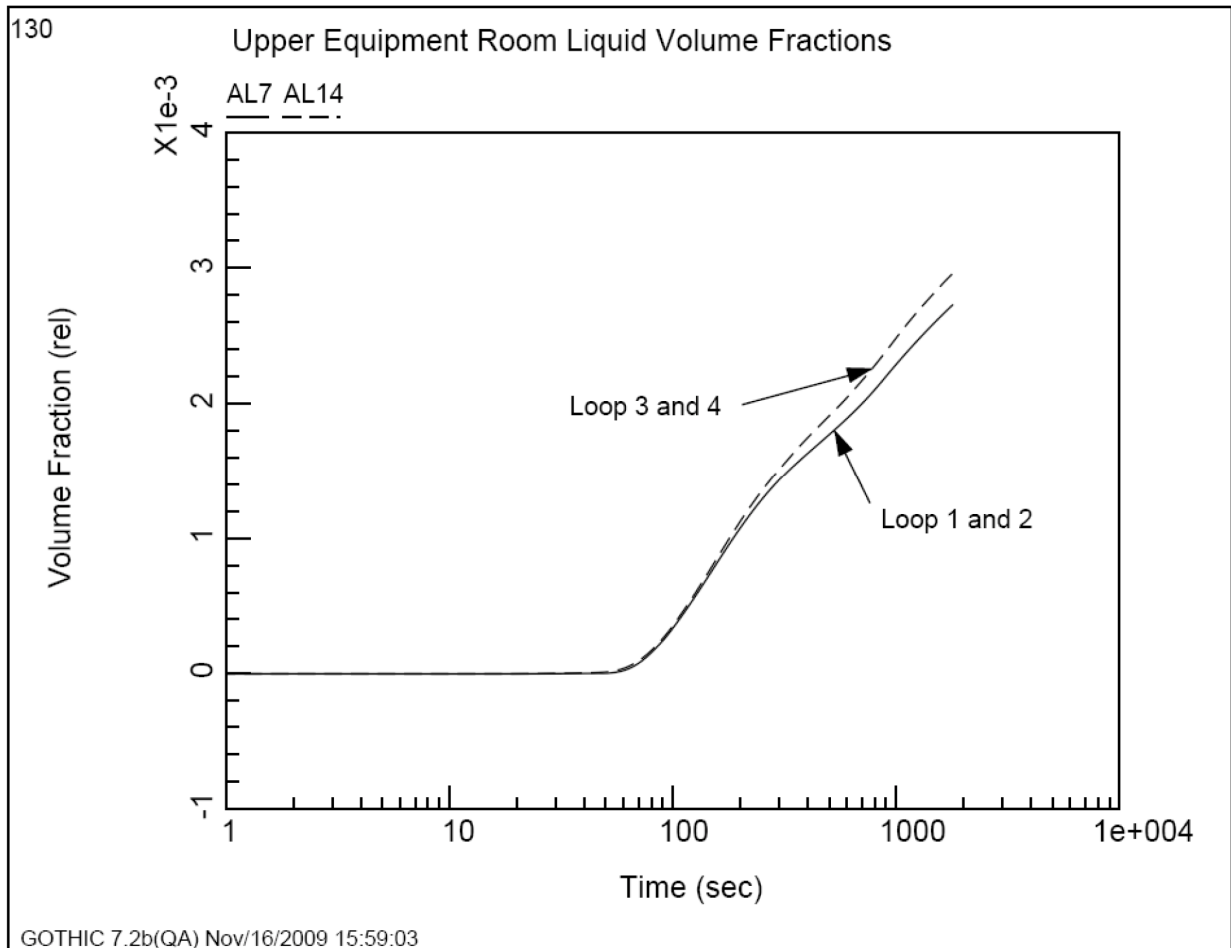


Figure 06.02.01-77-83—Liquid Volume Fraction in the Reactor Pressure Vessel Pit and Reactor Cavity

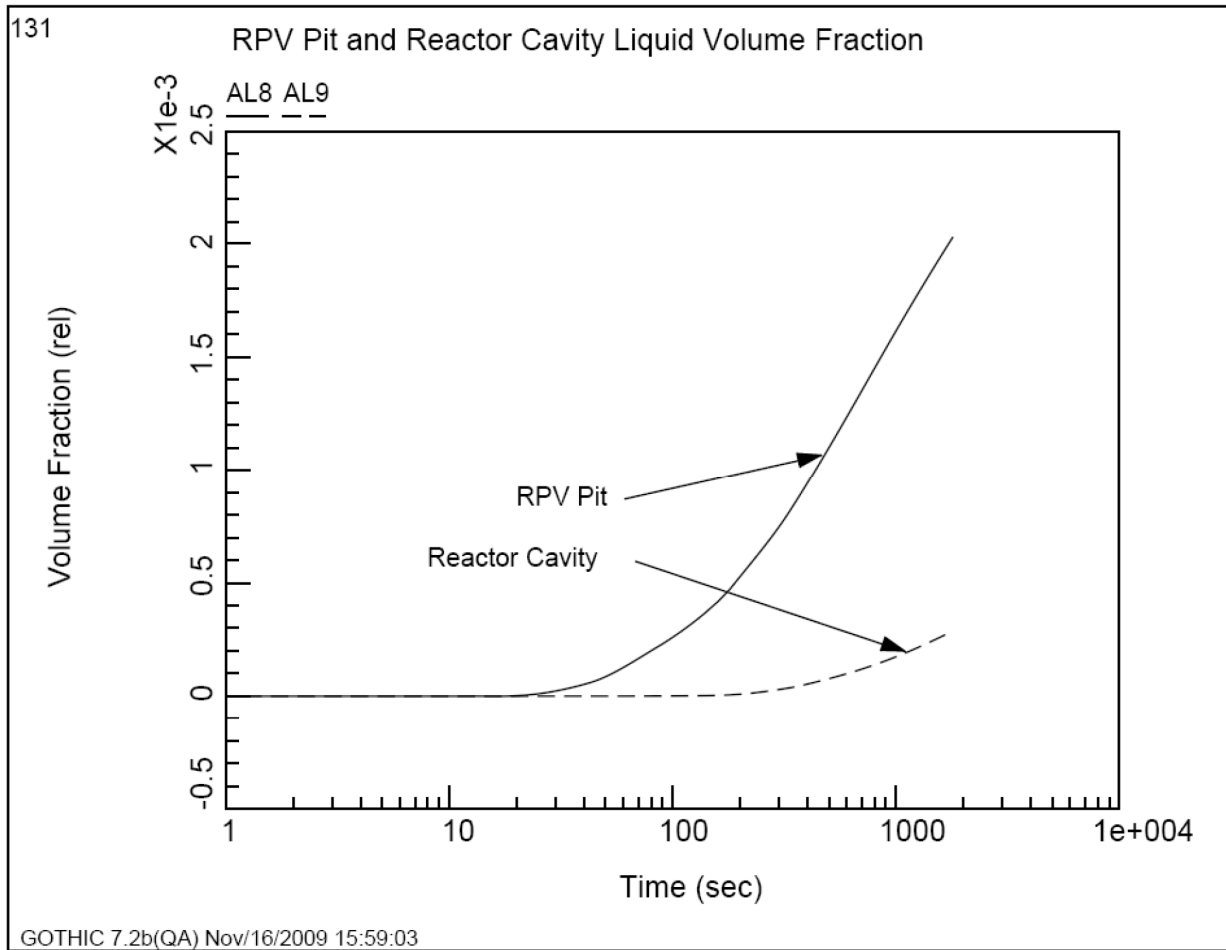


Figure 06.02.01-77-84—Liquid Volume Fraction in the Pressurizer and Surge Line Rooms

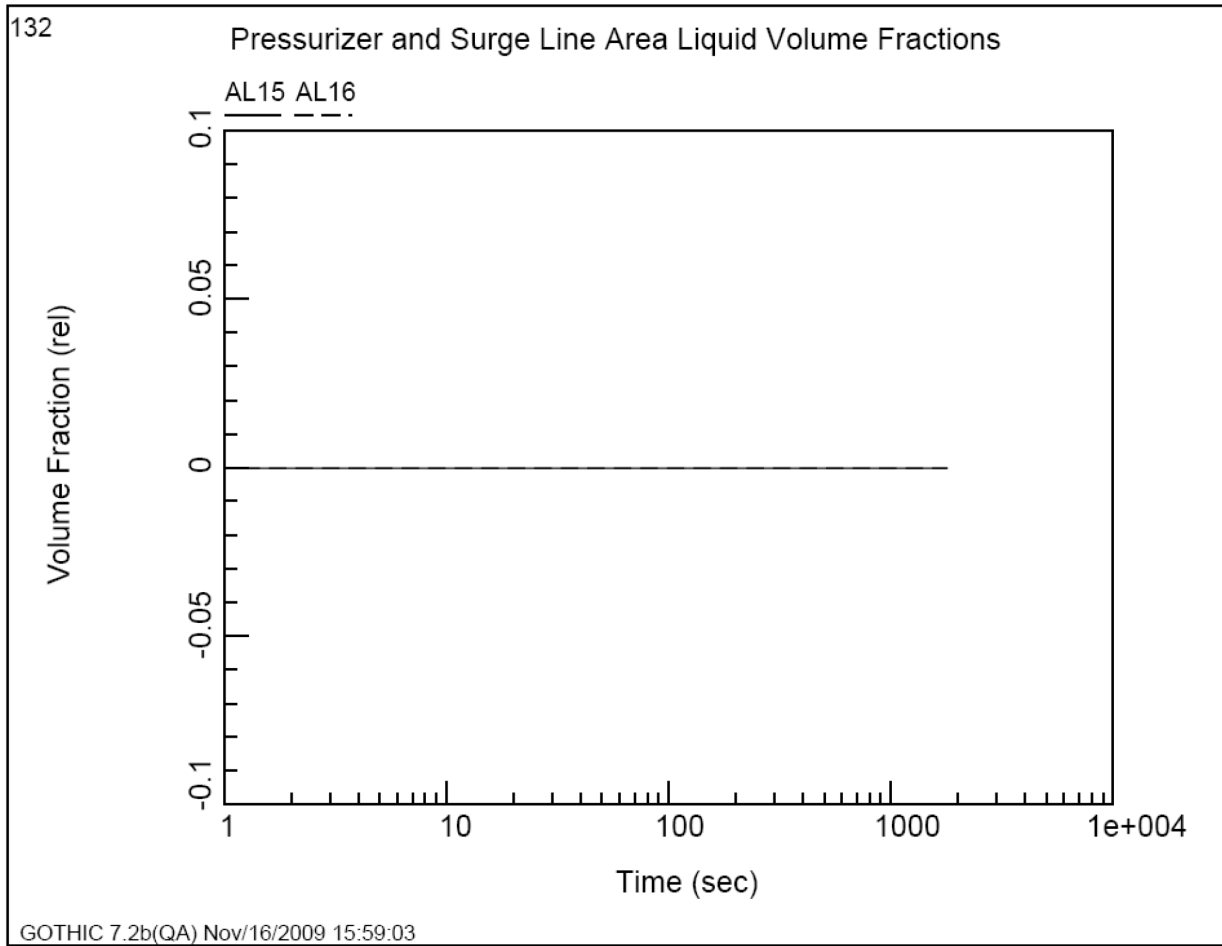
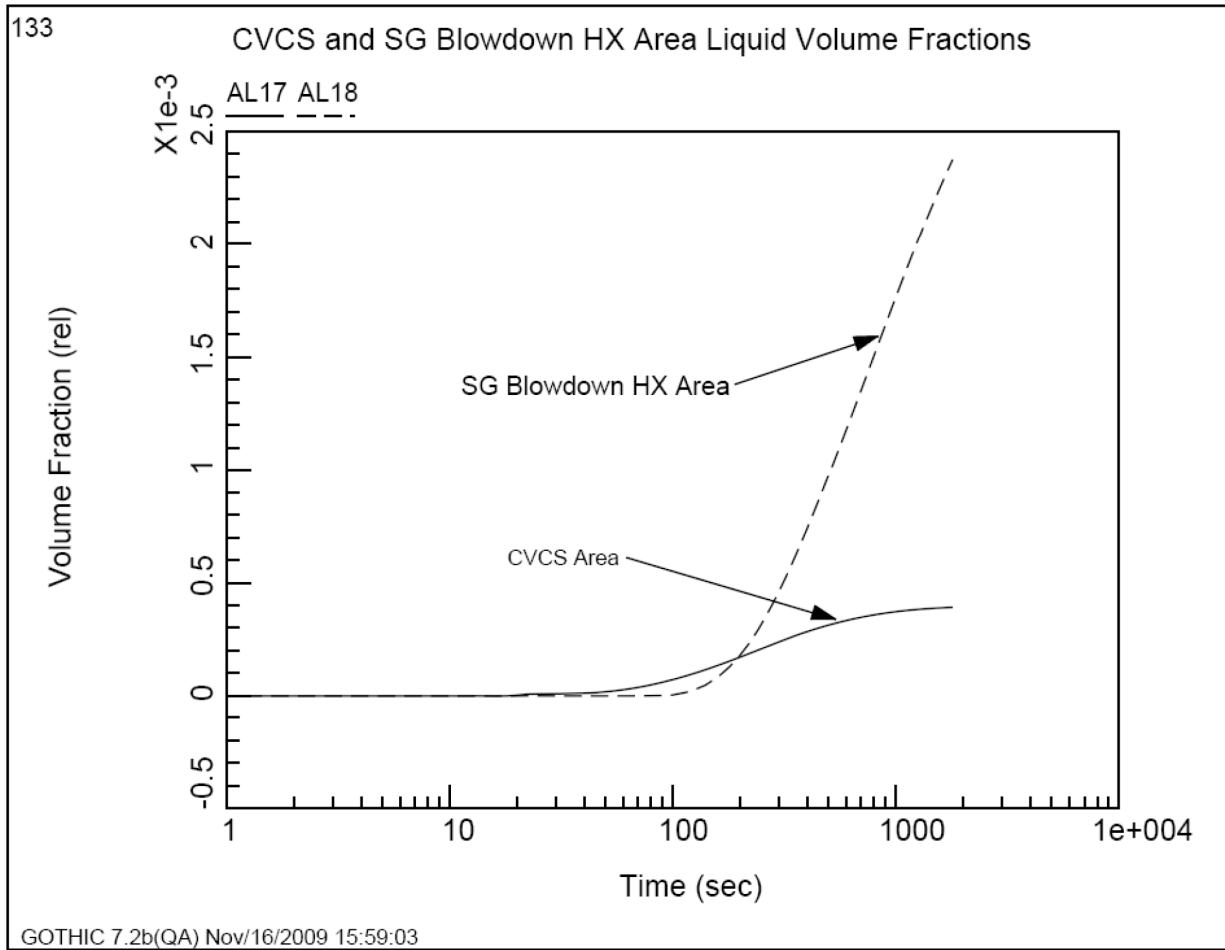


Figure 06.02.01-77-85—Liquid Volume Fraction in the CVCS and Steam Generator Blowdown Heat Exchanger Rooms



Accessible Area

Figure 06.02.01-77-86—Liquid Volume Fraction in the Lower Annulus Rooms

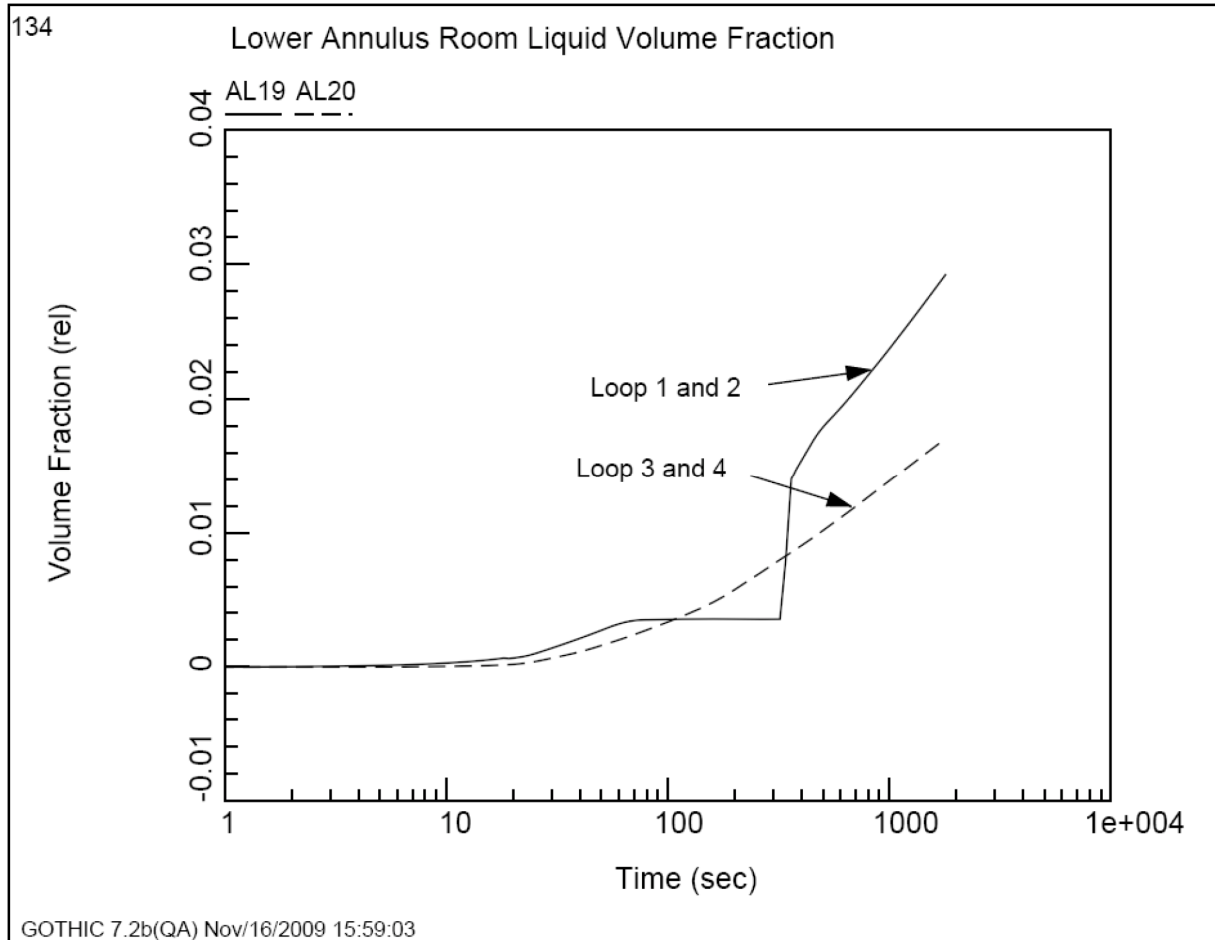


Figure 06.02.01-77-87—Liquid Volume Fraction in the Middle Annulus Rooms

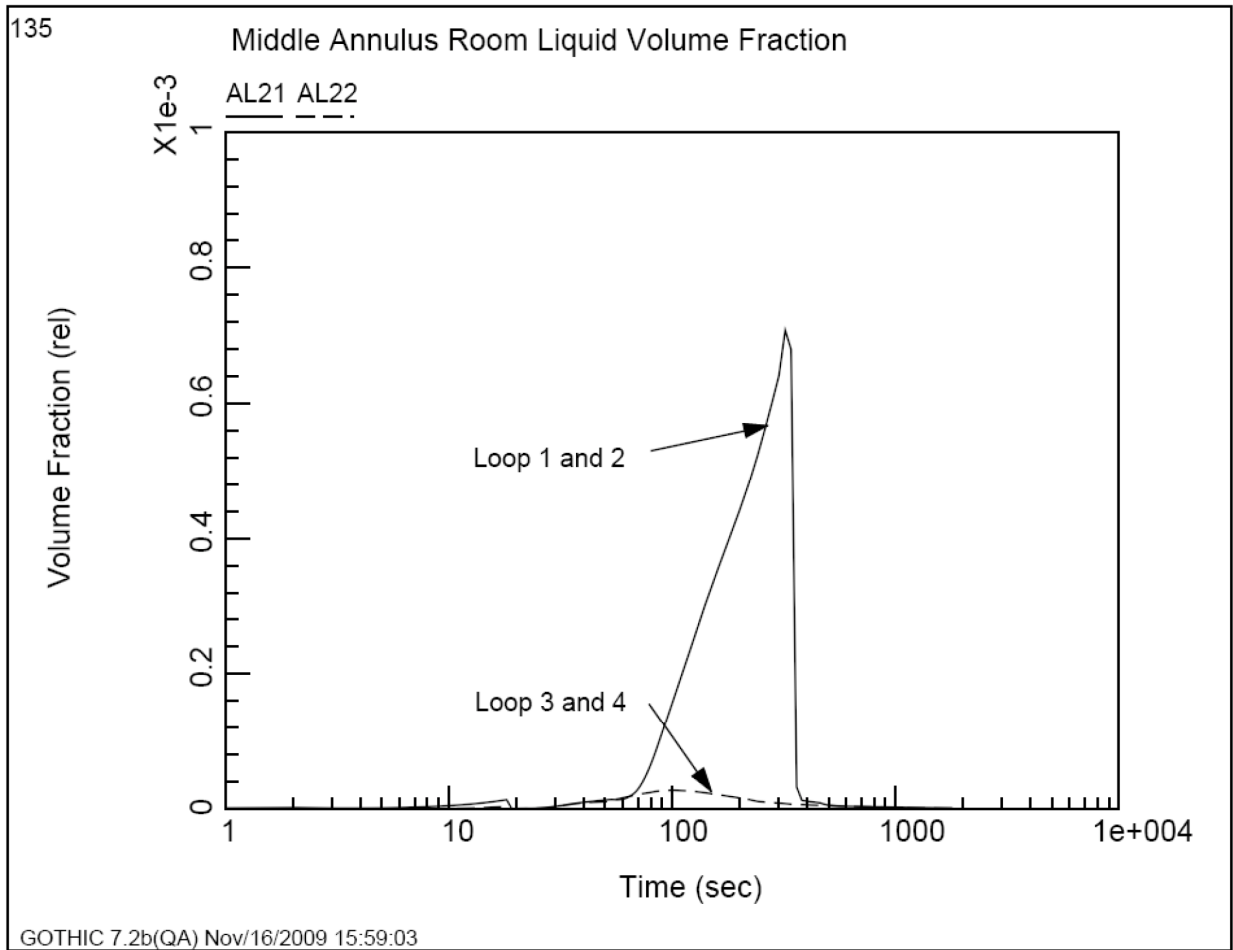


Figure 06.02.01-77-88—Liquid Volume Fraction in the Upper Annulus Rooms

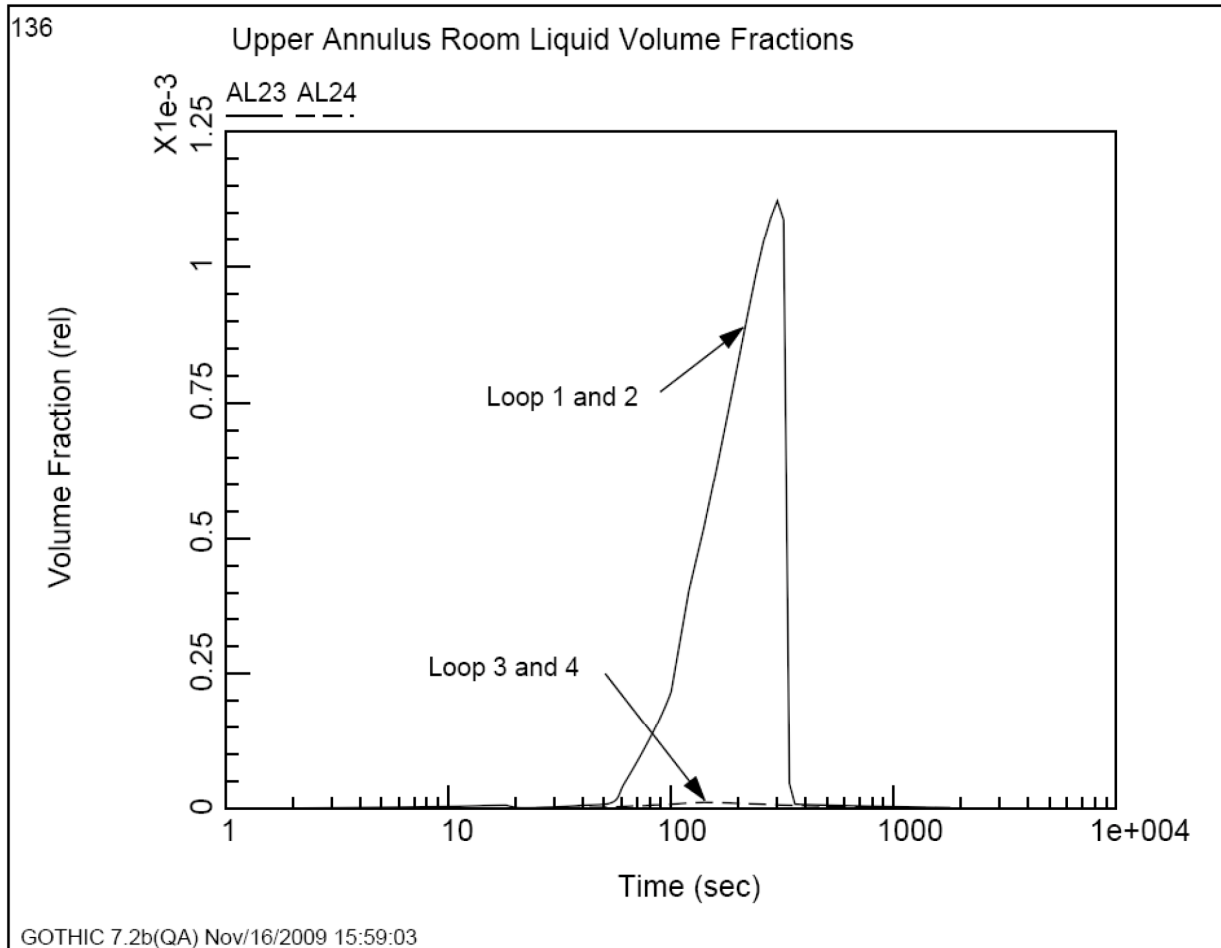


Figure 06.02.01-77-89—Liquid Volume Fraction in the Access and Hot Piping Penetration Rooms

