



23  
GE Nuclear Energy

J. E. Quinn, Projects Manager  
LMR and SBWR Programs

General Electric Company  
175 Curtner Avenue, M/C 165 San Jose, CA 95125-1014  
408 925-1005 (phone) 408 925-3991 (facsimile)

October 25, 1995

MFN 245-95  
Docket 52-004

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington DC 20555

Attention: Theodore E. Quay, Director  
Standardization Project Directorate

Subject: **SBWR - PANTHERS/IC Apparent Test Results (ATRs), Phase 1**  
**(Non-Proprietary)**

Reference: 1. Letter from J. E. Quinn (GE) to T. E. Quay (NRC), *SBWR - Updated Status of Test Documentation Submittals*, MFN 125-95, July 24, 1995.

The attachment to this letter supplies the PANTHERS/IC Apparent Test Results (ATRs), Phase 1, which satisfies Item 56 of Reference 1.

Sincerely,

  
James E. Quinn,  
Projects Manager

Attachment: *PANTHERS/IC Apparent Test Results (ATRs) Reports for tests: HSD03, HSD09, HSD10, HSD12, T02, T03, T04, T05, T06, T07\_1, T08, T09, T10, T11, T14, T15, T17\_A, T17\_B, T17\_C, T17\_D, and T17\_E.*

cc:

P. A. Boehnert	(NRC/ACRS)	(2 paper copies w/att. plus E-Mail w/ att.)
I. Catton	(ACRS)	(1 paper copy w/att. plus E-Mail w/ att.)
S. Q. Ninh	(NRC)	(2 paper copies w/att. plus E-Mail w/ att.)
J. H. Wilson	(NRC)	(1 paper copy w/att. plus E-Mail w/ att.)

100000  
9511060104 951025  
PDR ADOCK 05200004  
A PDR

2040



MFN 245-95

bcc: (E-Mail w/ att. except as noted)

N. E. Barclay

J. A. Beard

P. F. Billig

R. H. Buchholz

T. Cook

(DoE)

(2 paper copies w/att. plus E-Mail w/ att.)

J. D. Duncan

R. T. Fernandez

(EPRI)

J. R. Fitch

J. Fox

P. C. Hecht

J. E. Leatherman

J. E. Quinn

T. J. Mulford

(EPRI)

(2 paper copies w/att. plus E-Mail w/ att.)

P. E. Novak

F. A. Ross

(DoE)

B. Shiralkar

R. Srinivasan

(EPRI)

J. E. Torbeck

GE Master File

(1 paper copy w/att. plus E-Mail w/ att.)

SBWR Project File

(1 paper copy w/att. plus E-Mail w/ att.)

Date	Description	Prepared by	Checked by	Approved by	Page	Of
01 Aug. 1995	Issue	R. Silveri	S. Botti	BY LETTER INT. 2543 P. Masoni	1	14

## SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : Shakedown    NUMBER : HSD03    TEST DATE : 06 July 1995

### TEST OBJECTIVE :

Measure the heat losses in the steam inlet line at 4 MPa.

### DATA RECORDING PERIOD

Start : 16:17    Stop : 16:44

### REFERENCE TEST TIME

Start : 16:17    Stop : 16:42

### DATA FILE NAMES

Historic TH values: SH060795.STO  
TH quantities: HSD03.DAT

TM quantities: not recorded  
Vibrations: not recorded

### FAILED OR UNAVAILABLE INSTRUMENTS:

T-N001	T-1001	T-1002	T-2001	T-Q010
T-Q014	T-Q021	F-2001	P-E001	DP004
LDT001	LDT002	LDT003	All accelerometers	

### ZERO NOT IN TOLLERANCE INSTRUMENTS :

DP001	DP006	DP008	DP020	DP021
DP023	DP025	DP028	DP029	DPEFM1
DP-I001	DP-Q005	DP-Q006	F-A001\ a	F-A001\ b
L-H001	L-I001	P-A002\ a	P-F001	

### ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :

DP010	DP012	L-P001	L-Q001	L-Q002
-------	-------	--------	--------	--------

### OVER RANGE SIGNALS : NONE

### DEVIATIONS FROM TEST PROCEDURES : NONE

### PROBLEMS AND DISFUNCTIONS :

Loss of steam on the steam vessel inlet flange. This dose not effect the test results.

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES

Date	Description	Prepared by	Checked by	Approved by	Page	Of
01 Aug. 1995	Issue	R. Silverii	S. Boti	By LETTER P. Masoni 1995 2543	1	14

<b>SIET SpA</b>	<b>PANTHERS-IC APPARENT TEST RESULT</b>			
TEST TYPE : Shakedown		NUMBER : HSD09	TEST DATE : 19 July 1995	
TEST OBJECTIVE : Part 1 - Measure the heat loses in the steam inlet line at 8 Mpa Part 2 - Measure the effect of small leakage of Drain Valves F117 and F136				
DATA RECORDING PERIOD Start : 16:53      Stop : 18:14		REFERENCE TEST TIME Part 1 Start : 16:54      Stop : 17:08 Part 2 Start : 17:40      Stop : 18:14		
DATA FILE NAMES Historic TH values: SH190795.STO      TM quantities: HSDTM09.DAT TH quantities: HSD09.DAT      Vibrations: not recorded				
FAILED OR UNAVAILABLE INSTRUMENTS: T-1001      T-1002      T-2001      T-Q010      T-Q014 T-Q021      DP004      LDT001      LDT002      LDT003 All accelerometers				
ZERO NOT IN TOLLERANCE INSTRUMENTS : DP004      DP005      DP006      DP029      DPEFM1 DP-I001      L-A001      L-I001				
ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL : DP010      DP012      L-P001      L-Q001      L-Q002 DP-Q005      DP-Q006				
OVER RANGE SIGNALS : NONE				
DEVIATIONS FROM TEST PROCEDURES : NONE				
PROBLEMS AND DISFUNCTIONS : Valve F131 was out of order and therefore bypassed for this test. Part 2 has been performed with IC pool level lower than requested				
HAS THE TEST OBJECTIVE BEEN REACHED ? Part 1: YES Part 2: NO				
HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES				

Date	Description	Prepared by	Checked by	Approved by	Page	Of
01 Aug. 1995	Issue	R. Silveri	S. Boti	BY LETTER P. Masoni PR. 2543	1	1/3

## SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : Shakedown    NUMBER : HSD10    TEST DATE : 26 July 1995

### TEST OBJECTIVE :

Measure the effect o. small leakage of Drain Valves F117 and F136

### DATA RECORDING PERIOD

Start : 16:37    Stop : 17:04

### REFERENCE TEST TIME

Start : 16:37    Stop : 17:04

### DATA FILE NAMES

Historic TH values: SH260795.STO  
TH quantities: HSD10.DAT

TM quantities: HSDTM10.DAT  
Vibrations tape n. not recorded

### FAILED OR UNAVAILABLE INSTRUMENTS:

F-2001	DP004	L-P001	T-1001	T-1002
T-2001	LDT001	LDT002	LDT003	All accelerometers
T-Q010	T-Q014	T-Q021		

### ZERO NOT IN TOLLERANCE INSTRUMENTS :

DP001    DP006    DP026    DP-I001

### ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :

DP010    DP012    DP-Q005    DP-Q006    L-Q001  
L-Q001    L-I001

### OVER RANGE SIGNALS : NONE

### DEVIATIONS FROM TEST PROCEDURES : NONE

### PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES

Date	Description	Prepared by	Checked by	Approved by	Page	Of
01 Aug. 1995	Issue	R. Silverii	S. Botti	BY LETTER P. Masoni PRO. 2543	1	14

## SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : Shakedown      NUMBER : HSD12      TEST DATE : 26 July 1995

### TEST OBJECTIVE :

Verify the adequacy of the facility for IC start-up tests

### DATA RECORDING PERIOD

Start : 18:27      Stop : 19:43

### REFERENCE TEST TIME

Start : 18:27      Stop : 19:43

### DATA FILE NAMES

Historic TH values: SH260795.STO

TH quantities: HSD12.DAT

TM quantities: HSDTM12.DAT

Vibrations tape n. not recorded

### FAILED OR UNAVAILABLE INSTRUMENTS:

F-2001	DP004	L-P001	T-1001	T-1002
T-2001	LDT001	LDT002	LDT003	All accelerometers
T-Q010	T-Q014	T-Q021		

### ZERO NOT IN TOLLERANCE INSTRUMENTS :

DP001	DP006	DP026	DP-I001
-------	-------	-------	---------

### ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :

DP010	DP012	DP-Q005	DP-Q006	L-Q001
L-Q001	L-I001			

### OVER RANGE SIGNALS : NONE

### DEVIATIONS FROM TEST PROCEDURES : NONE

### PROBLEMS AND DISFUNCTIONS :

Loud booms were heard when the drain valve was opened. This is probably due to a too short valve opening time.

### HAS THE TEST OBJECTIVE BEEN REACHED ? YES

### HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES



Date	Description	Prepared by	Checked by	Approved by	Page	Of
27 Sep. 1995	Issue	R. Silverii	S. Botti	BY LETTER P. Masoni FRET. 2543	1	13

## SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : 1      NUMBER : T02      TEST DATE : 27 Sep. 1995

### TEST OBJECTIVE :

Measure the IC performance in steady-state conditions at fixed inlet pressure.

### DATA RECORDING PERIOD

Start : 12:45      Stop : 13:22

### REFERENCE TEST TIME

Start : 12:45      Stop : 13:15

### DATA FILE NAMES

Historic TH values: TH270995.STO  
TH quantities: T02TH2.DAT

TM quantities: T02TM02.DAT  
Vibrations tape n. 001

### FAILED OR UNAVAILABLE INSTRUMENTS:

T-Q010      T-Q014      T-Q021      DX-A009      DX-B015  
DX-BB003

### ZERO NOT IN TOLLERANCE INSTRUMENTS :

The zero check is not significant because all lines, pools and tanks were full or in pressure.

### ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :

The zero check is not significant because all lines, pools and tanks were full or in pressure.

### OVER RANGE SIGNALS :

F-R001

### DEVIATIONS FROM TEST PROCEDURES : NONE

### PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES

Date	Description	Prepared by	Checked by	Approved by	Page	Of
27 Sep. 1995	Issue	R. Silveri	S. Botti	BY LETTER P. Masoni FRT. 2543	1	13

<b>SIET SpA</b>	<b>PANTHERS-IC APPARENT TEST RESULT</b>				
TEST TYPE : 1		NUMBER : T03		TEST DATE : 26 Sep. 1995	
TEST OBJECTIVE : Measure the IC performance in steady-state conditions at fixed inlet pressure.					
DATA RECORDING PERIOD Start : 17:11      Stop : 17:42			REFERENCE TEST TIME Start : 17:11      Stop : 17:42		
DATA FILE NAMES Historic TH values: TH260995.STO      TM quantities: T03TM01.DAT TH quantities: T03TH1.DAT      Vibrations tape n. 001					
FAILED OR UNAVAILABLE INSTRUMENTS: T-Q010      T-Q014      T-Q021      DX-A009      DX-B015 DX-BB003					
ZERO NOT IN TOLLERANCE INSTRUMENTS : DP030      DP-I001      F-M001      L-O001 P-H001					
ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL : DP-Q005      DP-Q006      L-I001      L-P001      L-Q001 L-Q002      DP010      DP011					
OVER RANGE SIGNALS : NONE					
DEVIATIONS FROM TEST PROCEDURES : NONE					
PROBLEMS AND DISFUNCTIONS : NONE					
HAS THE TEST OBJECTIVE BEEN REACHED ? YES					
HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES					



Date	Description	Prepared by	Checked by	Approved by	Page	Of
25 Sep. 1995	Issue	R. Silverii	S. Botti	BY LETTER P. Masoni PCT. 254.3	1	18

## SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : 1      NUMBER : T04      TEST DATE : 20 Sep. 1995

### TEST OBJECTIVE :

Measure the IC performance in steady-state conditions at fixed inlet pressure.

### DATA RECORDING PERIOD

Start : 15:06      Stop : 15:36

### REFERENCE TEST TIME

Start : 15:06      Stop : 15:36

### DATA FILE NAMES

Historic TH values: TH200995.STO  
TH quantities: T04TH1.DAT

TM quantities: T04TM01.DAT  
Vibrations tape n. 001

### FAILED OR UNAVAILABLE INSTRUMENTS:

T-Q010      T-Q014      T-Q021      DX-A009      DX-B015  
DX-BB003

### ZERO NOT IN TOLLERANCE INSTRUMENTS :

The zero check is not significant because all lines, pools and tanks were full or in pressure.

### ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :

The zero check is not significant because all lines, pools and tanks were full or in pressure.

### OVER RANGE SIGNALS :

DP-Q006

### DEVIATIONS FROM TEST PROCEDURES : NONE

### PROBLEMS AND DISFUNCTIONS : NONE

### HAS THE TEST OBJECTIVE BEEN REACHED ? YES

### HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES

Date	Description	Prepared by	Checked by	Approved by	Page	Of
25 Sep. 1995	Issue	R. Silverii	S. Botta	BY LETTER P. Masoni Prot. 2543	1	18

<b>SIET</b> SpA	<b>PANTHERS-IC APPARENT TEST RESULT</b>				
TEST TYPE : 1		NUMBER : T05		TEST DATE : 20 Sep. 1995	
<b>TEST OBJECTIVE :</b> Measure the IC performance in steady-state conditions at fixed inlet pressure.					
<b>DATA RECORDING PERIOD</b> Start : 13:58      Stop : 14:30			<b>REFERENCE TEST TIME</b> Start : 14:00      Stop : 14:30		
<b>DATA FILE NAMES</b> Historic TH values: TH200995.STO      TM quantities: T05TM01.DAT TH quantities: T05TH1.DAT      Vibrations tape n. 001					
<b>FAILED OR UNAVAILABLE INSTRUMENTS:</b> T-Q010      T-Q014      T-Q021      DX-A009      DX-B015 DX-BB003					
<b>ZERO NOT IN TOLLERANCE INSTRUMENTS :</b> The zero check is not significant because all lines, pools and tanks were full or in pressure.					
<b>ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :</b> The zero check is not significant because all lines, pools and tanks were full or in pressure.					
<b>OVER RANGE SIGNALS :</b> DP-Q006					
<b>DEVIATIONS FROM TEST PROCEDURES : NONE</b>					
<b>PROBLEMS AND DISFUNCTIONS : NONE</b>					
<b>HAS THE TEST OBJECTIVE BEEN REACHED ? YES</b>					
<b>HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES</b>					

Date	Description	Prepared by	Checked by	Approved by	Page	Of
25 Sep. 1995	Issue	R. Silverii	S. Boti	BY LETTER P. Masoni PRG 2543	1	13

<b>GIET</b> SpA	<b>PANTHERS-IC APPARENT TEST RESULT</b>				
TEST TYPE : 1		NUMBER : T06		TEST DATE : 20 Sep. 1995	
<b>TEST OBJECTIVE :</b> Measure the IC performance in steady-state conditions at fixed inlet pressure.					
<b>DATA RECORDING PERIOD</b> Start : 12:59      Stop : 13:29			<b>REFERENCE TEST TIME</b> Start : 12:59      Stop : 13:29		
<b>DATA FILE NAMES</b> Historic TH values: TH200995.STO      TM quantities: T06TM02.DAT TH quantities: T06TH2.DAT      Vibrations tape n. 001					
<b>FAILED OR UNAVAILABLE INSTRUMENTS:</b> T-Q010      T-Q014      T-Q021      DX-A009      DX-B015 DX-BB003					
<b>ZERO NOT IN TOLLERANCE INSTRUMENTS :</b> The zero check is not significant because all lines, pools and tanks were full or in pressure.					
<b>ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :</b> The zero check is not significant because all lines, pools and tanks were full or in pressure.					
<b>OVER RANGE SIGNALS :</b> DP-Q006					
<b>DEVIATIONS FROM TEST PROCEDURES : NONE</b>					
<b>PROBLEMS AND DISFUNCTIONS : NONE</b>					
<b>HAS THE TEST OBJECTIVE BEEN REACHED ? YES</b>					
<b>HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES</b>					

Date	Description	Prepared by	Checked by	Approved by	Page	Of
27 Sep. 1995	Issue	R. Silverii	S. Boti	BY LETTER P. Masoni FRONT 254.3	1	18

<b>SIET SpA</b>		<b>PANTHERS-IC APPARENT TEST RESULT</b>			
TEST TYPE : 1		NUMBER : T07_1		TEST DATE : 26 Sep. 1995	
TEST OBJECTIVE : Repeat Test T07.					
DATA RECORDING PERIOD Start : 14:59      Stop : 15:29			REFERENCE TEST TIME Start : 14:59      Stop : 15:29		
DATA FILE NAMES Historic TH values: TH260995.STO      TM quantities: T07TM04.DAT TH quantities: T07TH4.DAT      Vibrations tape n. 001					
FAILED OR UNAVAILABLE INSTRUMENTS: T-Q010      T-Q014      T-Q021      DX-A009      DX-B015 DX-BB003					
ZERO NOT IN TOLLERANCE INSTRUMENTS : DP030      DP-I001      F-M001      L-O001 P-H001					
ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL : DP-Q005      DP-Q006      L-I001      L-P001      L-Q001 L-Q002      DP010      DP011					
OVER RANGE SIGNALS : DP-Q006					
DEVIATIONS FROM TEST PROCEDURES : NONE					
PROBLEMS AND DISFUNCTIONS : NONE					
HAS THE TEST OBJECTIVE BEEN REACHED ? YES					
HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES					

Date	Description	Prepared by	Checked by	Approved by	Page	Of
07 Aug. 1995	Issue	R. Silvero	S. Bort	P. Masoni 18.2543	1	18

# **SIET SpA PANTHERS-IC APPARENT TEST RESULT**

TEST TYPE : 1      NUMBER : T08      TEST DATE : 02 Aug. 1995

TEST OBJECTIVE :  
Measure the IC performance in steady-state conditions at fixed inlet pressure.

DATA RECORDING PERIOD	REFERENCE TEST TIME
Start : 19:26      Stop : 19:57	Start : 19:26      Stop : 19:57

DATA FILE NAMES

Historic TH values:	TH020895.STO	TM quantities:	T08TM01.DAT
TH quantities:	T08TH1.DAT	Vibrations tape n.	001

FAILED OR UNAVAILABLE INSTRUMENTS:

T-1001	T-1002	T-2001	T-Q010	T-Q014
T-Q021	F-2001			

ZERO NOT IN TOLLERANCE INSTRUMENTS :  
DP030

ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :

DP010	DP012	DP-Q001	DP-Q006	L-Q001
L-P001	L-Q001			

OVER RANGE SIGNALS :  
DP001      DP-Q006

DEVIATIONS FROM TEST PROCEDURES : NONE

PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES

Date	Description	Prepared by	Checked by	Approved by	Page	Of
07 Aug. 1995	Issue	R. Silvera	S. Boti	BY LETTER P. Masoni TEST. 2543	1	17

## SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : 1      NUMBER : T09      TEST DATE : 02 Aug. 1995

TEST OBJECTIVE :  
Measure the IC performance in steady-state conditions at fixed inlet pressure.

DATA RECORDING PERIOD	REFERENCE TEST TIME
Start : 18:11      Stop : 18:42	Start : 18:11      Stop : 18:42

DATA FILE NAMES

Historic TH values:	TH020895.STO	TM quantities:	T09TM01.DAT
TH quantities:	T09TH1.DAT	Vibrations tape n.	001

FAILED OR UNAVAILABLE INSTRUMENTS:

T-1001	T-1002	T-2001	T-Q010	T-Q014
T-Q021	F-2001			

ZERO NOT IN TOLLERANCE INSTRUMENTS :  
DP030

ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :

DP010	DP012	DP-Q001	DP-Q006	L-Q001
L-P001	L-Q001			

OVER RANGE SIGNALS :  
DP001      DP-Q006

DEVIATIONS FROM TEST PROCEDURES : NONE

PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES



Date	Description	Prepared by	Checked by	Approved by	Page	Of
07 Aug. 1995	Issue	R. Silveri	S. Bort	BY LETTER P. Masoni ACT. 2543	1	13

<b>SIET SpA</b>	<b>PANTHERS-IC APPARENT TEST RESULT</b>				
TEST TYPE : 1		NUMBER : T10		TEST DATE : 02 Aug. 1995	
<b>TEST OBJECTIVE :</b> Measure the IC performance in steady-state conditions at fixed inlet pressure.					
<b>DATA RECORDING PERIOD</b> Start : 17:05      Stop : 17:35			<b>REFERENCE TEST TIME</b> Start : 17:05      Stop : 17:35		
<b>DATA FILE NAMES</b> Historic TH values: TH020895.STO      TM quantities: T10TM01.DAT TH quantities: T10TH1.DAT      Vibrations tape n. 001					
<b>FAILED OR UNAVAILABLE INSTRUMENTS:</b> T-1001      T-1002      T-2001      T-Q010      T-Q014 T-Q021      F-2061					
<b>ZERO NOT IN TOLLERANCE INSTRUMENTS :</b> DP030					
<b>ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :</b> DP010      DP012      DP-Q001      DP-Q006      L-0001 L-P001      L-Q001					
<b>OVER RANGE SIGNALS :</b> DP-Q006					
<b>DEVIATIONS FROM TEST PROCEDURES : NONE</b>					
<b>PROBLEMS AND DISFUNCTIONS : NONE</b>					
<b>HAS THE TEST OBJECTIVE BEEN REACHED ? YES</b>					
<b>HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES</b>					

Date	Description	Prepared by	Checked by	Approved by	Page	Of
07 Aug. 1995	Issue	R. Silveri	S. Bohn	BY P.T. 2543 P. Masoni	1	18

<b>SIET SpA</b>	<b>PANTHERS-IC APPARENT TEST RESULT</b>				
TEST TYPE : 1		NUMBER : T11		TEST DATE : 02 Aug. 1995	
<b>TEST OBJECTIVE :</b> Measure the IC performance in steady-state conditions at fixed inlet pressure.					
<b>DATA RECORDING PERIOD</b> Start : 15:37      Stop : 16:07			<b>REFERENCE TEST TIME</b> Start : 15:37      Stop : 16:07		
<b>DATA FILE NAMES</b> Historic TH values: TH020895.STO      TM quantities: T11TM02.DAT TH quantities: T11TH2.DAT      Vibrations tape n. 001					
<b>FAILED OR UNAVAILABLE INSTRUMENTS:</b> T-1001      T-1002      T-2001      T-Q010      T-Q014 T-Q021      F-2001					
<b>ZERO NOT IN TOLLERANCE INSTRUMENTS :</b> DP030					
<b>ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :</b> DP010      DP012      DP-Q001      DP-Q006      L-O001 L-P001      L-Q001					
<b>OVER RANGE SIGNALS : NONE</b>					
<b>DEVIATIONS FROM TEST PROCEDURES : NONE</b>					
<b>PROBLEMS AND DISFUNCTIONS :</b> Displacement signals (LVDT) have been acquired in volts.					
<b>HAS THE TEST OBJECTIVE BEEN REACHED ? YES</b>					
<b>HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES</b>					

Date	Description	Prepared by	Checked by	Approved by	Page	Of
23 Aug. 1995	Issue	R. Silvestri	S. Batti	BY LETTER P. Masoni P. 2543	1	18

# SIET SpA **PANTHERS-IC APPARENT TEST RESULT**

TEST TYPE : 4      NUMBER : T14      TEST DATE : 03 Aug. 1995

TEST OBJECTIVE :  
Measure the effect of pool water level decrease/increase at 0.58 MPa initial pressure.

DATA RECORDING PERIOD	REFERENCE TEST TIME
Start : 11:27      Stop : 19:24	Start : 11:27      Stop : 19:24

DATA FILE NAMES

Historic TH values:	TH030895.STO	TM quantities:	T14TM02÷10.DAT
TH quantities:	T14TH2÷10.DAT	Vibrations tape n.	001

FAILED OR UNAVAILABLE INSTRUMENTS:

T-1001	T-1002	T-2001	T-Q010	T-Q014
T-Q021	F-2001			

ZERO NOT IN TOLLERANCE INSTRUMENTS : NONE

ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :

DP002	DP003	DP004	DP005	DP006
DP008	DP011	DP012	DP010	DP007
DP009	DP020	DP021	DP025	DP027
DP029	DP022	DP023	DP024	DP026
DP028	DP030	DP-Q005	DP-Q006	L-A001
L-H001	L-I001	L-O001	L-P001	L-Q001
L-Q002	P-I002	P-A002\va	P-A002\vb	P-A003\va
P-A003\vb	P-B001\va	P-B001\vb	P-E001	P-I001

OVER RANGE SIGNALS :  
DP001

DEVIATIONS FROM TEST PROCEDURES : NONE

PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES

Date	Description	Prepared by	Checked by	Approved by	Page	Of
23 Aug. 1995	Issue	R. Silveri	S. Botti	BY LETTER P. Masoni TRT. 2543	1	18

<b>SIET SpA</b>	<b>PANTHERS-IC APPARENT TEST RESULT</b>																																											
TEST TYPE : 4		NUMBER : T15	TEST DATE : 04 Aug. 1995																																									
<b>TEST OBJECTIVE :</b> Measure the effect of pool water level decrease/increase at 2.17 MPa initial pressure.																																												
<b>DATA RECORDING PERIOD</b> Start : 10:42      Stop : 17:21			<b>REFERENCE TEST TIME</b> Start : 10:42      Stop : 17:21																																									
<b>DATA FILE NAMES</b> Historic TH values: TH040895.STO      TM quantities: T15TM02÷17.DAT TH quantities: T15TH2÷17.DAT      Vibrations tape n. 001																																												
<b>FAILED OR UNAVAILABLE INSTRUMENTS:</b> T-1001      T-1002      T-2001      T-Q010      T-Q014 T-Q021      F-2001																																												
<b>ZERO NOT IN TOLLERANCE INSTRUMENTS : NONE</b>																																												
<b>ZERO NOT CHECKED BECAUSE OF LINES, TANKS OR POOLS FULL :</b> <table border="0"> <tr> <td>DP002</td><td>DP003</td><td>DP004</td><td>DP005</td><td>DP006</td></tr> <tr> <td>DP008</td><td>DP011</td><td>DP012</td><td>DP010</td><td>DP007</td></tr> <tr> <td>DP009</td><td>DP020</td><td>DP021</td><td>DP025</td><td>DP027</td></tr> <tr> <td>DP029</td><td>DP022</td><td>DP023</td><td>DP024</td><td>DP026</td></tr> <tr> <td>DP028</td><td>DP030</td><td>DP-Q005</td><td>DP-Q006</td><td>L-A001</td></tr> <tr> <td>L-H001</td><td>L-I001</td><td>L-O001</td><td>L-P001</td><td>L-Q001</td></tr> <tr> <td>L-Q002</td><td>P-IG02</td><td>P-A002\va</td><td>P-A002\vb</td><td>P-A003\va</td></tr> <tr> <td>P-A003\vb</td><td>P-B001\va</td><td>P-B001\vb</td><td>P-E001</td><td>P-I001</td></tr> </table>					DP002	DP003	DP004	DP005	DP006	DP008	DP011	DP012	DP010	DP007	DP009	DP020	DP021	DP025	DP027	DP029	DP022	DP023	DP024	DP026	DP028	DP030	DP-Q005	DP-Q006	L-A001	L-H001	L-I001	L-O001	L-P001	L-Q001	L-Q002	P-IG02	P-A002\va	P-A002\vb	P-A003\va	P-A003\vb	P-B001\va	P-B001\vb	P-E001	P-I001
DP002	DP003	DP004	DP005	DP006																																								
DP008	DP011	DP012	DP010	DP007																																								
DP009	DP020	DP021	DP025	DP027																																								
DP029	DP022	DP023	DP024	DP026																																								
DP028	DP030	DP-Q005	DP-Q006	L-A001																																								
L-H001	L-I001	L-O001	L-P001	L-Q001																																								
L-Q002	P-IG02	P-A002\va	P-A002\vb	P-A003\va																																								
P-A003\vb	P-B001\va	P-B001\vb	P-E001	P-I001																																								
<b>OVER RANGE SIGNALS :</b> DP001																																												
<b>DEVIATIONS FROM TEST PROCEDURES : NONE</b>																																												
<b>PROBLEMS AND DISFUNCTIONS :</b> At apprximately 12:28 when the level in the PCC pool was 1.7 m, a high temperature alarm caused an automatic inlet steam shutdown.																																												
<b>HAS THE TEST OBJECTIVE BEEN REACHED ? YES</b>																																												
<b>HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES</b>																																												

Date	Description	Prepared by	Checked by	Approved by	Page	Of
05 Sep. 1995	Issue	R. Silverii	S. Boni	BY LETTER P. Masoni 18.08.2543	1	18

# SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : 6      NUMBER : T17\_A      TEST DATE : 30 Aug. 1995

## TEST OBJECTIVE :

Perform Heatup/Cooldown cycles without IC operation at maximum rate of 100°C/hour and maximum pressure 8720 kPa.

## DATA RECORDING PERIOD

Start : 11:10      Stop : 15:41

## REFERENCE TEST TIME

Start : 11:10      Stop : 15:41

## DATA FILE NAMES

Historic TH values: TH300895.STO

TH quantities: T17THA1÷6.DAT

TM quantities: T17TMA1÷6.DAT

Vibrations tape n. not recorded

## FAILED OR UNAVAILABLE INSTRUMENTS:

T-1001

T-1002

T-2001

T-Q010

T-Q014

T-Q021

F-2001

DX-A009

DX-BB003

DX-B015

## OVER RANGE SIGNALS :

PO-A002

## DEVIATIONS FROM TEST PROCEDURES : NONE

## PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES



Date	Description	Prepared by	Checked by	Approved by	Page	Of
05 Sep. 1995	Issue	R. Silveri	S. Botti	BY LETTER P. Masoni P.T. 2543	1	13

## SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : 6      NUMBER : T17\_B      TEST DATE : 31 Aug. 1995

### TEST OBJECTIVE :

Perform Heatup/Cooldown cycles without IC operation at maximum rate of 100°C/hour and maximum pressure 8720 kPa.

### DATA RECORDING PERIOD

Start : 10:42      Stop : 15:17

### REFERENCE TEST TIME

Start : 10:42      Stop : 15:17

### DATA FILE NAMES

Historic TH values: TH310895.STO

TH quantities: T17THB1+11.DAT

TM quantities: T17TMB1+11.DAT

Vibrations tape n. not recorded

### FAILED OR UNAVAILABLE INSTRUMENTS:

T-1001

T-1002

T-2001

T-Q010

T-Q014

T-Q021

F-2001

DX-A009

DX-BB003

OVER RANGE SIGNALS : NONE

DEVIATIONS FROM TEST PROCEDURES : NONE

PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES



Date	Description	Prepared by	Checked by	Approved by	Page	Of
05 Sep. 1995	Issue	R. Silverii	S. Botta	BY LETTER P. Masoni FACT 2543	1	13

# SIET SpA PANTHERS-IC APPARENT TEST RESULT

TEST TYPE : 6      NUMBER : T17\_C      TEST DATE : 01 Sep. 1995

## TEST OBJECTIVE :

Perform Heatup/Cooldown cycles without IC operation at maximum rate of 100°C/hour and maximum pressure 8720 kPa.

## DATA RECORDING PERIOD

Start : 10:06      Stop : 15:14

## REFERENCE TEST TIME

Start : 10:06      Stop : 15:14

## DATA FILE NAMES

Historic TH values: TH010995.STO

TH quantities: T17THC1÷7.DAT

TM quantities: T17TMC1÷7.DAT

Vibrations tape n. not recorded

## FAILED OR UNAVAILABLE INSTRUMENTS:

T-1001

T-1002

T-2001

T-Q010

T-Q014

T-Q021

F-2001

DX-A009

DX-BB003

OVER RANGE SIGNALS : NONE

DEVIATIONS FROM TEST PROCEDURES : NONE

PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES

Date	Description	Prepared by *	Checked by	Approved by	Page	Of
05 Sep. 1995	Issue	R. Silverii	S. Botti	BY LETTER P. Masoni P.T. 254.3	1	1/3

<b>SIET SpA</b>	<b>PANTHERS-IC APPARENT TEST RESULT</b>														
TEST TYPE : 6		NUMBER : T17_D		TEST DATE : 04 Sep. 1995											
<b>TEST OBJECTIVE :</b> Perform Heatup/Cooldown cycles without IC operation at maximum rate of 100°C/hour and maximum pressure 8720 kPa.															
<b>DATA RECORDING PERIOD</b> Start : 10:23      Stop : 15:23			<b>REFERENCE TEST TIME</b> Start : 10:23      Stop : 15:23												
<b>DATA FILE NAMES</b> Historic TH values: TH040995.STO      TM quantities: T17TMD1÷5.DAT TH quantities: T17THD1÷5.DAT      Vibrations tape n. not recorded															
<b>FAILED OR UNAVAILABLE INSTRUMENTS:</b> <table> <tr> <td>T-1001</td> <td>T-1002</td> <td>T-2001</td> <td>T-Q010</td> <td>T-Q014</td> </tr> <tr> <td>T-Q021</td> <td>F-2001</td> <td>DX-A009</td> <td>DX-BB003</td> <td></td> </tr> </table>						T-1001	T-1002	T-2001	T-Q010	T-Q014	T-Q021	F-2001	DX-A009	DX-BB003	
T-1001	T-1002	T-2001	T-Q010	T-Q014											
T-Q021	F-2001	DX-A009	DX-BB003												
OVER RANGE SIGNALS : NONE															
DEVIATIONS FROM TEST PROCEDURES : NONE															
PROBLEMS AND DISFUNCTIONS : NONE															
HAS THE TEST OBJECTIVE BEEN REACHED ? YES															
HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES															

Date	Description	Prepared by	Checked by	Approved by	Page	Of
07 Sep. 1995	Issue	R. Silverii	S. Bort	BY LETTER P. Masoni PRG. 2543	1	13

# **SIET SpA PANTHERS-IC APPARENT TEST RESULT**

TEST TYPE : 6      NUMBER : T17\_E      TEST DATE : 05 Sep. 1995

## **TEST OBJECTIVE :**

Perform Heatup/Cooldown cycles without IC operation at maximum rate of 100°C/hour and maximum pressure 8720 kPa.

## **DATA RECORDING PERIOD**

Start : 10:02      Stop : 14:59

## **REFERENCE TEST TIME**

Start : 10:02      Stop : 14:59

## **DATA FILE NAMES**

Historic TH values: TH050995.STO  
TH quantities: T17THE1+5.DAT

TM quantities: T17TME1+5.DAT  
Vibrations tape n. not recorded

## **FAILED OR UNAVAILABLE INSTRUMENTS:**

T-1001  
T-Q021

T-1002  
F-2001

T-2001  
DX-A009

T-Q010  
DX-BB003

T-Q014

OVER RANGE SIGNALS : NONE

DEVIATIONS FROM TEST PROCEDURES : NONE

PROBLEMS AND DISFUNCTIONS : NONE

HAS THE TEST OBJECTIVE BEEN REACHED ? YES

HAVE THE MEASUREMENTS BEEN CORRECTLY RECORDED ? YES