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Data Report of ROSA/LSTF Experiment SB-SL-01

-Main Steam Line Break Accident-

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－Main Steam Line Break Accident－

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An experiment denoted as SB-SL-01 was conducted on March 27, 1990 using the Large Scale Test Facility (LSTF) in the Rig of Safety Assessment-IV (ROSA-IV) Program. The ROSA/LSTF experiment SB-SL-01 simulated a main steam line break (MSLB) accident in a pressurized water reactor (PWR). The test assumptions were made such as auxiliary feedwater (AFW) injection into secondary-side of both steam generators (SGs) and coolant injection from high pressure injection (HPI) system of emergency core cooling system into cold legs in both loops.

The MSLB led to a fast depressurization of broken SG, which caused a decrease in the broken SG secondary-side wide-range liquid level. The broken SG secondary-side wide-range liquid level recovered because of the AFW injection into the broken SG secondary-side. The primary pressure temporarily decreased a little just after the MSLB, and increased up to 16.1 MPa following the closure of the SG main steam isolation valves. Coolant was manually injected from the HPI system into cold legs in both loops a few minutes after the primary pressure reduced to below 10 MPa. The primary pressure raised due to the HPI coolant injection, but was kept at less than 16.2 MPa by fully opening a power-operated relief valve of pressurizer. The core was filled with subcooled liquid through the experiment. Thermal stratification was seen in intact loop cold leg during the HPI coolant injection owing to the flow stagnation. On the other hand, significant natural circulation prevailed in broken loop.

When the continuous core cooling was ensured by the successive coolant injection from the HPI system, the experiment was terminated.

The experimental data obtained would be useful to consider recovery actions and procedures in the multiple fault accident with the MSLB of PWR.

This report summarizes the test procedures, conditions, and major observations in the ROSA/LSTF experiment SB-SL-01.

Keywords: PWR, LSTF, Main Steam Line Break, Auxiliary Feedwater, Steam Generator, High Pressure Injection System, Natural Circulation, Thermal Stratification, Cold Leg, Core Cooling

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ROSA/LSTF 実験 SB-SL-01 データレポート
－主蒸気管破断事故－

日本原子力研究開発機構　安全研究・防災支援部門
安全研究センター　原子炉安全研究ディビジョン

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ROSA-IV 計画において、大型非定常実験装置(LSTF)を用いた実験(実験番号:SB-SL-01)が 1990 年 3 月 27 日に行われた。ROSA/LSTF SB-SL-01 実験では、加圧水型原子炉(PWR)の主蒸気管破断(MSLB)事故を模擬した。このとき、両ループの蒸気発生器(SG)二次側への補助給水(AFW)とともに、非常用炉心冷却系である高圧注入(HPI)系から両ループの低温側配管内への冷却材注入を仮定した。

MSLB により、破断ループの SG は急減圧し、破断ループの SG 二次側広域水位は低下した。しかし、破断ループの SG 二次側への AFW により、破断ループの SG 二次側広域水位は回復した。一次系圧力は、MSLB 直後一時的に若干低下したが、SG 主蒸気隔離弁の閉止に従い 16.1MPa まで上昇した。一次系圧力が 10MPa 以下に低下した数分後、HPI 系から両ループの低温側配管内へ冷却材を手動注入した。一次系圧力は、HPI 系からの冷却材注入により上昇したが、加圧器逃し弁の開放により 16.2MPa 以下に維持された。実験中、炉心はサブクール水で満たされた。健全ループでは、流れが停滞し、HPI 系からの冷却材注入時に低温側配管での温度成層が観察された。一方、破断ループでは、顕著な自然循環が継続した。

HPI 系からの冷却材の連続注入による継続的な炉心冷却を確認して実験を終了した。

取得した実験データは、PWR の MSLB を伴う多重故障事故時の回復操作および手順の検討に役立てることができる。

本報告書は、ROSA/LSTF SB-SL-01 実験の手順、条件および実験で観察された主な結果をまとめたものである。

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Acronyms and Abbreviations

AFW	Auxiliary Feedwater
ATLAS	Advanced Thermal-hydraulic Test Loop for Accident Simulation
ECCS	Emergency Core Cooling System
HPI	High Pressure Injection
LOBI	Loop Off-normal Behavior Investigations
LSTF	Large Scale Test Facility
MSLB	Main Steam Line Break
PKL	Primärkreisläufe Versuchsanlage
PORV	Power-Operated Relief Valve
PWR	Pressurized Water Reactor
PZR	Pressurizer
ROSA	Rig-of-Safety Assessment
RV	Relief Valve
SG	Steam Generator

1. Introduction

Main steam line break (MSLB) causes a rapid depressurization of broken steam generator (SG) in a pressurized water reactor (PWR), which results in the inflow of highly subcooled coolant into the core by considerably enhanced natural circulation in broken loop. In intact loop(s), flow stagnation may happen with thermal stratification in horizontal legs concerning pressurized thermal shock, especially after coolant is injected from emergency core cooling system (ECCS). Some experimental data have been obtained on such MSLB accident by utilizing integral test facilities (*e.g.*, Semiscale [1], LOBI [2], PKL [3], and ATLAS [4]).

A simulation experiment denoted as SB-SL-01 on a PWR MSLB accident was conducted on March 27, 1990 using the Large Scale Test Facility (LSTF) [5][6] of Rig-of-Safety Assessment-IV (ROSA-IV) Program. The LSTF simulates a Westinghouse-type four-loop 3423 MW (thermal) PWR by a full-height and 1/48 volumetrically-scaled two-loop system. In the SB-SL-01 test, a scram signal was generated at time zero, causing closure of SG main steam stop valve, termination of SG main feedwater injection, and closure of SG main steam isolation valves. When the SG secondary-side narrow-range liquid level dropped close to zero, auxiliary feedwater (AFW) was injected into secondary-side of both SGs. When the intact SG secondary-side narrow-range liquid level exceeded 1 m, the AFW injection into the secondary-side of intact SG was terminated. By contrast, the AFW injection into the secondary-side of broken SG was continued to recover the broken SG secondary-side wide-range liquid level. Coolant was manually injected from high pressure injection (HPI) system of ECCS with PJ (charging) pump into cold leg in intact loop and with PH (high pressure injection) pump into cold leg in broken loop a few minutes after the primary pressure decreased to below 10 MPa, considering characteristics of the HPI system pump for the LSTF. Just after the primary pressure exceeded 10.7 MPa with the HPI coolant injection, switching over from PH to PJ pumps was taken in broken loop. The primary depressurization was performed by fully opening a power-operated relief valve (PORV) of pressurizer (PZR) to keep the primary pressure at less than 16.2 MPa.

The objectives of ROSA/LSTF experiment SB-SL-01 are to investigate thermal-hydraulic phenomena and the HPI coolant injection effects during the MSLB accident, as well as to provide test data for the assessment of the predictive capabilities of thermal-hydraulic safety analysis computer codes. The experimental data obtained would be helpful to consider recovery actions and procedures in the multiple fault accident with the MSLB of PWR.

This report summarizes the test procedures, conditions, and major observations in the ROSA/LSTF experiment SB-SL-01. This report also includes more detailed information on the SB-SL-01 experiment than that described in the published paper [7] and report [8]. All the experimental data were processed carefully and qualified to obtain the best possible accuracy.

2. Overview of LSTF

Figure 2-1 shows a schematic view of the LSTF that simulates a typical 3423 MW (thermal) four-loop Westinghouse-type PWR with a two-loop system model by full height and 1/48 in volume [5]. The reference PWR is Tsuruga Unit-2 of Japan Atomic Power Company. Loops with and without PZR are designated as loop-A and loop-B, respectively. Intact loop and broken loop correspond to loop-A and loop-B, respectively. Hot and cold legs, 207 mm in inner-diameter, are sized to conserve the volumetric scale (2/48) and the ratio of length to square root of pipe diameter to better simulate flow regime transitions in the primary loops [9]. Each loop has an active SG with 141 full-size U-tubes (inner-diameter of 19.6 mm each), inlet and outlet plena, boiler section, steam separator, steam dome, steam dryer, main steam line, four downcomer pipes, and other internals (see pp.260-273 in Ref. [5]). Six U-tubes are instrumented for each SG. Tubes 1 and 6 are short tubes (Type 1; see p.267 in Ref. [5]), Tubes 2 and 5 are medium tubes (Type 5), and Tubes 3 and 4 are long tubes (Type 9). The LSTF represents the reference PWR bypasses including eight upper-head spray nozzles (inner-diameter of 3.4 mm each) (see p.202 in Ref. [5]) and the hot leg nozzle leakage. The spray nozzles allow bypass flow that amounts to 0.3% of the total core flow rate during the initial steady state, while bypass area of the hot leg nozzle is set to allow 0.2% bypass flow for each loop. The LSTF core, 3.66 m in active height, mainly consists of 1064 electrically heater rods to simulate the fuel rod assembly and 104 non-heating tie rods to simulate control rod guide thimble (see p.39 in Ref. [6]). Angle of the PZR surge line to the hot leg is 45°.

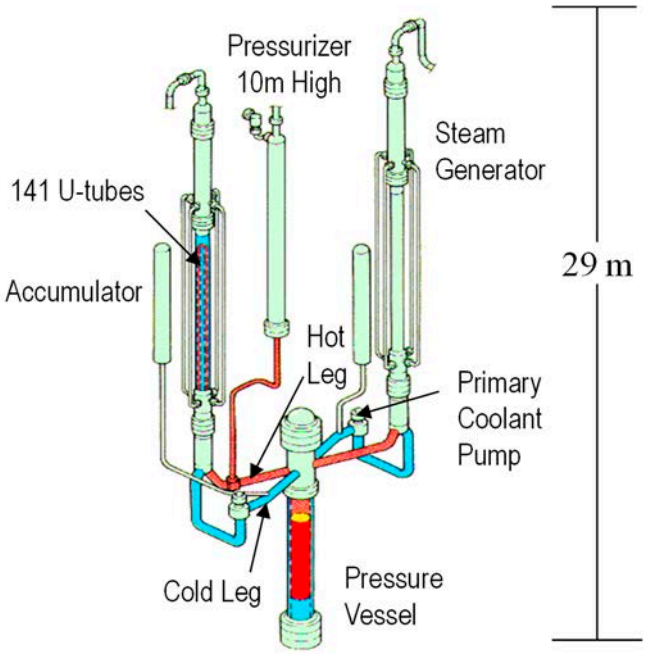

Fig. 2-1 Schematic view of the Large Scale Test Facility (LSTF)

3. Test Conditions and Procedures

Following assumptions were posed to the test conditions;

1) Break size (flow area) corresponds to 12% of the volumetrically-scaled (1/48) cross-sectional area of one main steam tube of the reference PWR. This is also equivalent to 10% of the 1/48-scaled cross-sectional area of the reference PWR cold leg.
2) A scram signal is generated at time zero, causing closure of SG main steam stop valve, termination of SG main feedwater injection, and closure of SG main steam isolation valves.
3) When the SG secondary-side narrow-range liquid level decreases close to zero, the AFW is injected into secondary-side of both SGs. Coolant injection temperature in the AFW system is 310 K.
4) When the intact SG secondary-side narrow-range liquid level exceeds 1 m, the AFW injection into the secondary-side of intact SG is terminated.
5) Coolant is manually injected from the HPI system with PJ pump into cold leg in intact loop and with PH pump into cold leg in broken loop a few minutes after the primary pressure reduces to below 10 MPa, considering features of the HPI system pump for the LSTF.
6) Just after the primary pressure reaches 10.6 MPa with the HPI coolant injection, the manual coolant injection from the HPI system with PH pump into cold leg in broken loop is terminated.
7) Just after the primary pressure exceeds 10.7 MPa, the manual coolant injection from the HPI system with PJ pump into cold leg in broken loop is started.
8) The HPI flow rate ratio of intact loop to broken loop is designed to become 3:1. Coolant injection temperature in the HPI system is 310 K.
9) Primary depressurization by fully opening a PORV of PZR is conducted to maintain the primary pressure at less than 16.2 MPa.
10) Thresholds of maximum fuel rod surface temperature for the LSTF core protection and power controlling system are as follows;
    908K=75%, 918K=50%, 919K=25%, 920K=10%, 923K=0%, of pre-determined value [10].

3.1 Initial Steady State and Boundary Conditions

The specified initial steady state and boundary conditions are listed in **Table 3-1**. Initial steady-state conditions such as PZR pressure, fluid temperatures in hot and cold legs were 15.4 MPa, 599 K, and 564 K, respectively, according to the reference PWR conditions.

The LSTF initial core power is limited to 10 MW on account of a limitation in the capacity of power supply, and corresponds to 14% of the volumetrically-scaled (1/48) PWR nominal core power (3423 MW). Radial peaking factors of high-, mean-, and low-power rod bundles are 1.51, 1.00, and 0.66, respectively, that correspond to “Case 3” shown in **Table 3-1**. Axial core power profile is a 9-step chopped cosine with a peaking factor of 1.495. To attain the prototypical

initial fluid temperatures with this core power, core flow rate was set to 14% of the scaled nominal flow rate. Initial SG secondary-side pressure was raised to 7.3 MPa to limit the primary-to-secondary heat transfer rate to 10 MW, while 6.1 MPa is nominal value in the reference PWR. Initial PZR liquid level was about 2.7 m that corresponds to about 65% of the PZR vessel height (see p.41 in Ref. [6]). Initial SG secondary-side narrow-range liquid level was about 1.1 m. Initial SG secondary-side wide-range liquid level was about 10.2 m that corresponds to the SG medium tube height.

Proportional heaters in the PZR are used to trim the pressure, while backup heaters mitigate system heat losses. Powers to the proportional and backup heaters were 4.6 and 23.8 kW, respectively, as the initial conditions. Many regions of the LSTF are equipped with trace heaters to mitigate environmental heat losses.

The MSLB was simulated by employing a 31.9 mm inner-diameter sharp-edge orifice No.10 (see p.308 in Ref. [5]), which mounted at the downstream of a pipe that was connected to SG main steam line in broken loop. In the reference PWR, inner-diameter of main steam tube is 643 mm, while that of cold leg is 698.5 mm. The MSLB orifice flow area corresponded to 12% of the volumetrically-scaled (1/48) cross-sectional area of one main steam tube of the reference PWR. The MSLB orifice flow area was also equivalent to 10% of the 1/48-scaled cross-sectional area of the reference PWR cold leg. Venturi flow meter (FE-560-BU; see p.303 in Ref. [5]) for high flow rate is installed in the break unit.

The HPI system has two plunger-type pumps; PJ pump primarily up to high-pressure and PH pump mainly for mid- and low-pressure. Coolant was manually injected from the HPI system with PJ pump into cold leg in intact loop and with PH pump into cold leg in broken loop a few minutes after the primary pressure reduced to below 10 MPa. Just after the primary pressure reached 10.6 MPa with the HPI coolant injection, the manual coolant injection from the HPI system with PH pump into cold leg in broken loop was terminated. Just after the primary pressure exceeded 10.7 MPa, the manual coolant injection from the HPI system with PJ pump into cold leg in broken loop was started. Coolant injection temperature in the HPI system is 310 K.

3.2 Test Procedures

Table 3-2 shows the specified control logic, operation set points, and conditions. The experiment was launched by opening a break valve located downstream of the MSLB orifice at time zero. A scram signal was obtained at time zero, causing the closure of SG main steam stop valve, the termination of SG main feedwater injection, and the closure of SG main steam isolation valves.

At the same time, rotation speed of primary coolant pumps was increased up to 1250 rpm in 8 s for better simulation of pressure and temperature transients in the reference PWR. The coastdown of primary coolant pumps was started afterwards. The pump rotation speed was reduced to zero 250 s after the scram signal.

Table 3-3 shows the pre-determined core power decay curve after the scram signal, based on the PWR calculations by use of the RELAP5 code in which delayed neutron fission power was estimated conservatively (see p.27 in Ref. [10]). The core power was maintained at the initial value of 10 MW for 29 s after the scram signal until the scaled PWR core decay power dropped to 10 MW. The LSTF core power began to decay afterwards according to the specified core power.

Set point pressures for opening and closure of the SG relief valves (RVs) are 8.03 and 7.82 MPa respectively, referring to the corresponding values in the reference PWR. The SG RV was simulated by using a 19.4 mm inner-diameter sharp-edge orifice to provide steam flow rate of 2.8 kg/s when the SG secondary-side pressure is 8 MPa.

The AFW is injected monitoring the SG secondary-side narrow-range liquid level [Tag Name; LE440-SGA (for intact loop), LE460-SGB (for broken loop)] (see p.420 in Ref. [5]). When the SG secondary-side narrow-range liquid level dropped close to zero (to be shown in **Fig. 4-8**), the AFW was injected into the secondary-side of both SGs to avoid a significant drop in the SG secondary-side wide-range liquid level [Tag Name; LE430-SGA (for intact loop), LE450-SGB (for broken loop)] (see p.420 in Ref. [5]). When the intact SG secondary-side narrow-range liquid level exceeded 1 m (to be presented in **Fig. 4-8**), the AFW injection into the secondary-side of intact SG was terminated. By contrast, the AFW injection into the secondary-side of broken SG was ended after the termination of the manual HPI coolant injection into cold legs in both loops (to be shown in **Figs. 4-11 and 4-12**). The value of wide-range (0-4 kg/s) feedwater flow meters [Tag Name; FE430-SGA (for intact loop), FE470-SGB (for broken loop)] (see pp.257-258 in Ref. [5]) was employed to evaluate the AFW flow rate in the SB-SL-01 test. This resulted from the incorrect values of narrow-range (0-1 kg/s) feedwater flow meters [Tag Name; FE520B-PAA (for intact loop), FE530B-PAB (for broken loop)] (see pp.257-258 in Ref. [5]) in the SB-SL-01 test. The AFW flow rates in intact loop and broken loop were planned to be about 0.6 and 0.9 kg/s, respectively (to be presented in **Fig. 4-7**). Coolant injection temperature in the AFW system is 310 K.

Set point pressures for opening and closure of the PZR PORV are 16.20 and 16.07 MPa respectively, referring to the corresponding values in the reference PWR. The PORV was simulated by using a 6.83 mm inner-diameter sharp-edge orifice to provide about 45% of the volumetrically-scaled flow capacity of the PORV in the reference PWR.

3.3 Instrumentation

Instruments are equipped in the LSTF to understand and evaluate thermal-hydraulic responses during simulated accidents and transients.

3.3.1 Measured Data

A list of available experimental data is shown in **Table A-1**, which is composed of Sequential No., Function ID., Tag Name, measurement location, range, unit, and uncertainty. The Tag Name is a fixed naming unique to each measurement. The alphabetical prefix in the Function ID. and Tag Name represent the kind of variable or the kind of measurement as follows;

TE, fluid temperature,

DT, differential temperature,

TW, heater rod and structure temperature,

FE, flow rate measured with conventional (differential pressure) flow meters,

PE, pressure,

MI, miscellaneous instrumented-signal (power, pump rotation speed, etc.),

LE, liquid level,

DP, differential pressure,

DE, fluid density measured with gamma-ray densitometer.

After the experiment, data from these measurements are processed to obtain the “secondary” data, such as area-averaged fluid density derived from measurement with three-beam gamma-ray densitometer. These data are stored with Function ID. starting with a prefix of “RC”.

3.3.2 Data Conversion, Reduction, and Calibration

The instrumented-signals are recorded in volts by the data logger of DARWIN system (Yokogawa Electric Co.), and are converted into engineering units utilizing appropriate conversion equations and factors. Some parameters such as flow rate (FE) and liquid level (LE) that employ differential pressure (DP) cell data require the calculation of the single-phase coolant density based on local pressure and fluid temperature data using steam table.

DP cell data for both the differential pressures and liquid levels are corrected based on a similar calibration test for static pressure effect. Three-valve manifold is operated for each of DP cells to obtain zero calibration data for 200 s twice at a little before the break valve opening and at a little after the closure of the break valve.

The applicability of flow rates measured with the conventional flow meters employing venturi, orifice or nozzle and DP cell is limited in principle to either single-phase liquid or vapor flow. In

addition, the accuracy is poor when the readings are below about 20% of the measurement range. This is explained by the fact that the flow rate is proportional to the square root of the measured DP. For example, a zero level drift of 1% in the DP cell output may result in the flow rate reading of 10% of the measurement range especially when the actual flow rate is nearly equal to zero. It is thus good to pay attention when the flow rate is below about 20% of the measurement range even though the data are corrected based on a calibration test for static pressure effect.

Two-phase flow instruments, such as gamma-ray densitometers, use certain conversion equations considering attenuation effects of gamma-ray that goes through coolant flow.

After the data acquisition, some experimental data are calibrated. The high-range pressure data in the PZR and the upper plenum, for example, are corrected based on a zero level shift using the low-range pressure data first, and then all the density data are calibrated at two points with different fluid conditions.

3.3.3 Data Qualification

The experimental data are qualified manually. Thermocouple data are reviewed by employing pre-test ambient temperature data for anomalous readings, and are mutually compared with readings of instruments in the same vicinity. Pressure transducers are checked for zero level drift as well as any other suspicious behaviors. The outputs of conductance probe, power meters, pump speed and vibration meters, and valve position indicators are individually reviewed for inconsistent readings.

The flow meters, DP transducers, gamma-ray densitometers, and drag disk transducers require extensive manual qualification efforts. The validity of the flow meters and differential pressure data mostly depends on whether the reading is in the sensitive range of the measurement or not. The data from these instruments are presented with appropriate corrections based on calibration data for each transducer.

Available experimental data are “Good” defined as follows. “Good” means that the type of data has been reviewed manually, and is presumed to lie within the published span and uncertainty values. Certain measurements, however, may be affected by various extraneous factors such as flow velocity, flow regime, and wall effects. **Table A-1** shows the list of available experimental data qualified as “Good” for LSTF SB-SL-01 (Run ID designated to be BL1).

Table 3-1 Initial steady state and boundary conditions (1/2)

Core	Initial core power	10 MW
	Radial core power profile	Case 3
	Axial core power profile	9-step chopped cosine, peaking factor = 1.495
Primary Loops	Initial hot leg fluid temperature	598.1 K
	Initial cold leg fluid temperature	562.4 K
	Initial mass flow rate	24.3 kg/s / loop
	Initial downcomer-to-hot leg bypass	0.049 kg/s / loop
Pressurizer	Initial pressure	15.5 MPa
	Initial liquid level	2.7 m
	Inner diameter of power-operated relief valve orifice	6.83 mm
	Relief valve open / closure	Primary pressure = 16.20 / 16.07 MPa
	Inner diameter of safety valve orifice	14.5 mm
	Safety valve open / closure	Primary pressure = 17.26 / 17.06 MPa
Steam Generators (SGs)	Initial secondary-side pressure	7.3 MPa
	Initial secondary-side narrow-range liquid level	1.1 m
	Initial secondary-side wide-range liquid level	10.3 m
	Initial main steam flow rate	2.74 kg/s
	Initial main feedwater flow rate	2.74 kg/s
	Main feedwater temperature	495.2 K
	Auxiliary feedwater temperature	310 K
	Inner diameter of relief valve orifice	19.4 mm
	Relief valve open / closure	SG secondary-side pressure = 8.03 / 7.82 MPa
	Inner diameter of safety valve orifice	26.6 mm
	Safety valve open / closure	SG secondary-side pressure = 8.68 / 7.69 MPa

Table 3-1 Initial steady state and boundary conditions (2/2)

Break

Location	SG main steam line in broken loop
Type	Orifice
Inner diameter of orifice	31.9 mm

ECCS (HPI system)

PJ and PH pumps	Fluid temperature	310 K
	Ratio of injection flow rate of intact loop to broken loop	3:1
PJ pump	Initiation of system	A few minutes after primary pressure decreases to below 10 MPa
	Termination of system	Confirmation of continuous core cooling
	Injection location	Cold legs in both loops
PH pump	Initiation of system	A few minutes after primary pressure decreases to below 10 MPa
	Termination of system	Primary pressure reaches 10.6 MPa.
	Injection location	Cold leg in broken loop

LSTF Core Protection System Logic

Control of core power to	Maximum fuel rod surface temperature reaches
75%	908 K
50%	918 K
25%	919 K
10%	920 K
0% (core power trip)	923 K

Table 3-2 Specified control logic, operation set points, and conditions

Event	Condition
Break	Time zero
Generation of scram signal	Time zero
PZR proportional heater power off	Generation of scram signal
Turbine trip (closure of SG main steam stop valve)	Generation of scram signal
Start of core power simulation	Generation of scram signal
Start of simulation of primary coolant pumps rotation speed	Generation of scram signal
Termination of SG main feedwater injection	Generation of scram signal
Closure of SG main steam isolation valves	Generation of scram signal
Initiation of AFW injection into secondary-side of both SGs	SG secondary-side narrow-range liquid level drops close to zero.
Generation of safety injection signal	Broken SG secondary-side pressure lowers to 4.24 MPa.
PZR backup heater power off	PZR liquid level drops to 1 m.
Initiation of manual coolant injection from HPI system into cold legs in both loops	A few minutes after primary pressure decreases to below 10 MPa
Termination of AFW injection into secondary-side of intact SG	Intact SG secondary-side narrow-range liquid level exceeds 1 m.
Termination of manual coolant injection from HPI system with PH pump in broken loop	Primary pressure reaches 10.6 MPa.
Initiation of manual coolant injection from HPI system with PJ pump in broken loop	Primary pressure exceeds 10.7 MPa.
Initiation of primary depressurization by fully opening PZR PORV	Primary pressure reaches 16.2 MPa.
Termination of manual coolant injection from HPI system into cold legs in both loops	Confirmation of continuous core cooling
Termination of AFW injection into secondary-side of broken SG	End of manual coolant injection from HPI system into cold legs in both loops

Table 3-3 Pre-determined core power decay curve after scram signal

Time (s)	Power (MW)	Time (s)	Power (MW)	Time (s)	Power (MW)
0	10	100	5.206	800	1.498
29	10	150	3.637	1000	1.426
40	8.914	200	2.853	1500	1.284
60	7.345	400	1.783	2000	1.212
80	6.133	600	1.569	4000	0.998

4. Experimental Results

4.1 Initial and Boundary Conditions

Initial steady-state conditions achieved in the experiment were in reasonable agreement with the specified values, as shown in **Table 4-1**. The measured values indicated are those averaged for the last 60 s prior to the onset of the break. Initial SG re-circulation ratio estimated from the measured flow rates in the downcomer and SG main steam line was 6.5 in intact loop, and was 6.3 in broken loop. **Table 4-2** shows the chronology of major events until 3680 s at the termination of the AFW injection into the broken SG secondary-side.

4.2 Thermal-hydraulic Responses Concerning Boundary Conditions

As shown in **Fig. 4-1**, the core power began to decay at 33 s. The core power was controlled to the pre-determined value through the experiment because of no core uncovery (to be shown in **Fig. 4-19**). The core power turned off at 3612 s.

Figure 4-2 shows that the power values of the PZR proportional and backup heaters were initially kept constant at about 6.7 and 22.0 kW, respectively. The PZR proportional heater turned off following the scram signal. The PZR backup heater turned off due to low liquid level in the PZR when the PZR liquid level dropped to 1 m, as shown in **Fig. 4-3**. The PZR liquid level temporarily increased up to 2.87 m by around 60 s but lowered afterwards, in response to the primary pressure (to be presented in **Fig. 4-13**). The PZR became empty of liquid by 700 s.

Figures 4-4 and 4-5 show the primary coolant pump rotation speed and the primary loop mass flow rate measured by using a venturi flow meter at each primary coolant pump suction leg, respectively. The pump rotation speed began to increase simultaneously with the scram signal, and reached about 1250 rpm in 8 s. The pump rotation speed reduced thereafter, which caused a decrease in the primary loop mass flow rate.

Figures 4-6 and 4-7 show the SG main steam and feedwater flow rates, respectively. The broken SG main steam flow rate became zero simultaneously with the break because of large break flow rate through the MSLB (to be shown in **Fig. 4-10**) that caused a large drop in the broken SG secondary-side pressure (to be presented in **Fig. 4-13**). The intact SG main steam was terminated by the closure of the SG main steam stop valve (AOV-220) at 2 s following the scram signal, which caused a temporal increase in the intact SG main steam flow rate. The main steam isolation valves of both SGs (AOV-170 and AOV-200) were manually closed at 7 s following the SG main steam stop valve closure. The main feedwater injection into secondary-side of both SGs was terminated at 4 s by the closure of the SG main feedwater line valve (AOV-260) following the scram signal.

Figures 4-8 and 4-9 show the SG secondary-side narrow-range and wide-range liquid levels, respectively. When the intact SG secondary-side narrow-range liquid level decreased close to zero, the AFW was injected into the secondary-side of both SGs at 34 s (**Fig. 4-7**). The intact SG secondary-side narrow-range and wide-range liquid levels fluctuated on account of cycle opening of the intact SG RV (to be shown in **Fig. 4-14**), and then gradually increased. Owing to the MSLB, the broken SG secondary-side narrow-range liquid level temporarily increased and became almost zero while the broken SG secondary-side wide-range liquid level largely lowered. After the intact SG secondary-side narrow-range liquid level exceeded 1 m at 1345 s, the AFW injection into the secondary-side of intact SG was terminated at 1405 s (**Fig. 4-7**). This caused slight decreases in the intact SG secondary-side narrow-range and wide-range liquid levels. The broken SG secondary-side wide-range liquid level turned to increase at around 1650 s by the AFW injection into the broken SG secondary-side (**Fig. 4-7**). After the termination of the manual HPI coolant injection into cold legs in both loops at 3576 s (to be presented in **Figs. 4-11 and 4-12**), the AFW injection into the secondary-side of broken SG was ended at 3680 s (**Fig. 4-7**).

Figure 4-10 shows the break flow rate evaluated from the measured data using venturi flow meter (FE-560-BU). The break flow rate took the peak of 31 kg/s just after the MSLB, and gradually reduced thereafter.

Figures 4-11 and 4-12 show the coolant injection flow rates from the HPI system with PJ pump and PH pump respectively into cold legs. Coolant was manually injected from the HPI system with PJ pump into cold leg in intact loop and with PH pump into cold leg in broken loop at 1156 s that is a few minutes after the primary pressure decreased to below 10 MPa at 1010 s (to be shown in **Fig. 4-13**). Just after the primary pressure reached 10.6 MPa with the HPI coolant injection at 1625 s, the manual coolant injection from the HPI system with PH pump into cold leg in broken loop was terminated at 1648 s. Just after the primary pressure exceeded 10.7 MPa at 1650 s, the manual coolant injection from the HPI system with PJ pump into cold leg in broken loop was started at 1670 s. The manual coolant injection from the HPI system with PJ pump into cold legs in both loops was terminated at 3576 s because the continuous core cooling was confirmed (to be presented in **Figs. 4-18 and 4-19**). The HPI flow rate depends on the pressure at the pressure vessel lower plenum. The HPI flow rate ratio of intact loop to broken loop was approximately 3:1, except during the time period of switching over from PH to PJ pumps in broken loop.

4.3 Transient Thermal-hydraulic Responses

Figure 4-13 shows the primary and secondary pressures. The MSLB resulted in a fast depressurization of broken SG, which led to no cycle opening of the broken SG RV. The intact SG secondary-side pressure rapidly increased up to about 8 MPa after the closure of the SG

main steam isolation valves. The intact SG secondary-side pressure fluctuated between 8.03 and 7.82 MPa by cycle opening of the intact SG RV during the four time periods around 40-57 s, 84-105 s, 132-148 s, and 233-246 s, as presented in **Fig. 4-14**. A gradual decrease appeared in the intact SG secondary-side pressure thereafter. The primary pressure temporarily decreased a little just after the MSLB, and increased up to 16.1 MPa by around 60 s following the closure of the SG main steam isolation valves. The primary pressure, however, decreased to below 10 MPa at 1010 s because of the core power decay and the heat removal through the SGs. Manual coolant injection was performed from the HPI system into cold legs in both loops at 1156 s (**Figs. 4-11 and 4-12**), and thus the primary pressure rose after around 1400 s. As shown in **Fig. 4-15**, cycle opening of the PZR PORV took place during the two time periods around 3312-3316 s and 3546-3550 s because the primary pressure reached 16.20 MPa, which caused loss of primary coolant. Just after the termination of the 1st and 2nd cycle opening of the PZR PORV, the primary pressures reduced greatly but temporarily down to 14.5 and 14.0 MPa, respectively, as presented in **Fig. 4-13**.

4.3.1 Thermal-hydraulic Responses in Pressure Vessel

Liquid level behaviors in upper plenum and core

Figures 4-16 and 4-17 respectively show the collapsed liquid levels in upper plenum and core. The upper plenum and core were filled with liquid through the experiment.

Core exit temperatures and core fluid temperatures

Figure 4-18 shows the core exit temperatures measured at the center [Tag Name; TE-EX040-B22-UCP, -B21-UCP], middle region [TE-EX040-B19-UCP, -B18-UCP], and outer region [TE-EX040-B03-UCP, -B01-UCP] of upper core plate. The core exit temperatures were kept subcooled through the experiment. A gradual decrease appeared in the core exit temperature due to the HPI coolant injection (**Figs. 4-11 and 4-12**).

Figure 4-19 shows the core fluid temperatures in high-power bundle (B20) at Positions 9 through 5 (= respectively at 3.610 through 1.830 m above the core bottom). Positions 9 and 5 correspond to the top and center of the core, respectively. The arrangement of high-, mean-, and low-power bundles is presented in Ref. [5] (p.228). The core fluid temperatures were maintained subcooled through the experiment. The core fluid temperatures gradually decreased owing to the HPI coolant injection (**Figs. 4-11 and 4-12**).

Coolant behaviors in pressure vessel

Figure 4-20 shows the downcomer collapsed liquid level. The downcomer was filled with liquid through the experiment.

Figure 4-21 shows the upper-head collapsed liquid level. A significant drop started in the upper-head liquid level at 940 s. The upper-head collapsed liquid level recovered due to the

HPI coolant injection (**Figs. 4-11 and 4-12**), and reached a certain liquid level by 1340 s. A great but temporal decrease occurred in the upper-head collapsed liquid level during the time period of the primary depressurization by fully opening the PZR PORV (**Fig. 4-15**).

4.3.2 Thermal-hydraulic Responses in Primary Loops

Figure 4-22 shows the primary loop mass flow rate. The value of low-range venturi flow meter [Tag Name; FE020B-LSA] was used to estimate the primary loop mass flow rate in intact loop in this experiment because of higher measuring accuracy than high-range venturi flow meter [Tag Name; FE020A-LSA]. Flow stagnated in intact loop because the circulation flow rate became almost zero after around 2000 s. On the other hand, significant natural circulation prevailed in broken loop where the circulation flow rate was in the range of about 6.5 to 8.5 kg/s after the initiation of the HPI coolant injection (**Figs. 4-11 and 4-12**).

Figure 4-23 shows the PZR liquid level. The PZR liquid level recovered after around 1500 s due to the HPI coolant injection (**Figs. 4-11 and 4-12**), and became full of liquid at around 3200 s. The PZR liquid level lowered greatly but temporarily following the PZR PORV full opening (**Fig. 4-15**).

Figure 4-24 shows the liquid levels in the hot legs estimated from fluid densities measured by a three-beam gamma-ray densitometer. The hot leg was filled with liquid in broken loop through the experiment. By contrast, the hot leg liquid level dropped a little in intact loop after the PZR backup heater turned off. The liquid level clearly decreased in hot leg in intact loop due to steam ingress from the PZR after the PZR became empty of liquid (**Fig. 4-23**). **Figures 4-25 and 4-26** show the hot leg fluid temperatures in intact loop and broken loop, respectively. The hot leg fluid temperatures showed subcooling through the experiment. The fluid temperature at the hot leg top was the same as that at the hot leg bottom in broken loop. On the other hand, the fluid temperature at the hot leg top was largely higher than that at the hot leg bottom in intact loop during the time period of the decrease in the hot leg liquid level because the fluid temperature at the hot leg top became close to the saturation temperature. The fluid temperature at the hot leg top was somewhat higher than that at the hot leg bottom in intact loop thereafter.

Figure 4-27 shows the liquid levels in the cold legs estimated from fluid densities measured by a three-beam gamma-ray densitometer. The cold legs were mostly filled with liquid in both loops through the experiment. **Figures 4-28 and 4-29** show the cold leg fluid temperatures in intact loop and broken loop, respectively. The cold leg fluid temperatures indicated subcooling through the experiment. The fluid temperature at the cold leg top was the same as that at the cold leg bottom in broken loop due to adequate coolant mixing during the HPI coolant injection (**Figs. 4-11 and 4-12**) because of a certain large circulation flow rate (**Fig. 4-22**). On the other

hand, cold water flowed at the cold leg bottom in intact loop on account of insufficient mixing of coolant layers with different fluid temperatures during the HPI coolant injection (**Figs. 4-11 and 4-12**) owing to the flow stagnation (**Fig. 4-22**). This resulted in thermal stratification in the intact loop cold leg. Some oscillation then appeared in the fluid temperature at the cold leg top in intact loop. The maximum difference was about 70 K at around 2200 s in the vertical cold leg fluid temperatures in intact loop.

4.3.3 Thermal-hydraulic Responses of Steam Generators

Figures 4-30 and 4-31 show the collapsed liquid levels in the instrumented U-tube upflow-side of intact SG and broken SG, respectively. The instrumented SG U-tubes designated as Tubes 1 and 6 are short tubes (Type 1; see p.267 in Ref. [5]), Tubes 2 and 5 are medium tubes (Type 5), and Tubes 3 and 4 are long tubes (Type 9). No large drop occurred in the SG U-tube liquid level through the experiment. Liquid level behaviors were almost similar for the same-length instrumented U-tubes of both SGs.

Figures 4-32 and 4-33 show the fluid temperatures in secondary-side of intact SG and broken SG, respectively. Positions 1, 3, 5, 7, and 9 are located at 0.811, 2.101, 3.381, 5.941, and 8.501 m respectively above the SG U-tube bottom. The intact SG secondary-side fluid temperatures at Positions 7 and 9 mostly changed following the saturation temperature, while those at Positons 3 and 5 respectively indicated subcooling after around 1000 and 1150 s. Coolant at Position 1 in intact SG was mostly kept subcooling, being influenced by injecting coolant with low-temperature of 310 K from the AFW system into the intact SG secondary-side (**Fig. 4-7**). The intact SG secondary-side fluid temperature at Position 1 once increased after the termination of the AFW injection into the intact SG secondary-side, and decreased after around 2400 s. The fluid temperature in secondary-side of broken SG mostly changed following the saturation temperature. However, the fluid temperature in secondary-side of broken SG at Position 9 indicated superheating after around 950 s because the broken SG secondary-side wide-range liquid level dropped to a certain low liquid level (**Fig. 4-9**).

Table 4-1 Initial steady-state conditions

Items	Tag Name (Loops with / w/o PZR)	Specified (Loops with/w/o PZR)	Measured *1 (Loops with/w/o PZR)
Pressure vessel			
Core power (MW)	WE270A-T	10.0±0.12	10.04
Downcomer-to-upper head bypass (%)	None	0.3	Not Measured
Primary loop			
Hot leg fluid temperature (K)	TE020C-HLA /TE160C-HLB	598.1±3.3	598.8 / 598.9
Cold leg fluid temperature (K)	TE070C-CLA /TE210C-CLB	562.4±3.3	564.1 / 564.1
Mass flow rate (kg/s / loop)	FE020A-LSA / FE160A-LSB	24.3±1.01	24.72 / 24.27
Downcomer-to-hot leg bypass (kg/s)	FE010-HLA / FE150-HLB	0.049±0.0065	0.054 / 0.047
Pressurizer			
Pressure (MPa)	PE300A-PR	15.5±0.064	15.37
Liquid level (m)	LE280-PR	2.7±0.016	2.73
Steam generator			
Secondary-side pressure (MPa)	PE430-SGA / PE450-SGB	7.3±0.032	7.37 / 7.39
Secondary-side narrow-range liquid level (m)	LE440-SGA / LE460-SGB	1.1±0.019	1.15 / 1.10
Secondary-side wide-range liquid level (m)	LE430-SGA / LE450-SGB	10.3±0.054	10.25 / 10.24
Steam flow rate (kg/s)	FE440-SGA / FE480-SGB	2.74±0.11	2.63 / 2.61
Main feedwater flow rate (kg/s)	FE430-SGA / FE470-SGB	2.74±0.065	2.70 / 2.64
Main feedwater temperature (K)	TE430-SGA / TE470-SGB	495.2±3.1	496.0 / 496.1
Auxiliary feedwater temperature (K)	TE880-RWST	310±1.9	309.7
High pressure injection system			
Temperature (K)	TE880-RWST	310±1.9	309.7

*1 Averaged for 60 s (-60 to 0 s)

Table 4-2 Chronology of major events until termination of AFW injection

Time (s)	Event
0	Break valve open, scram signal, PZR proportional heater power off, start of primary coolant pumps rotation speed increase (to 1250 rpm in 8 s)
2	Closure of SG main steam stop valve
4	Termination of SG main feedwater injection
7	Closure of SG main steam isolation valves
9	Start of coastdown of primary coolant pumps
33	Start of core power decay
34	Initiation of AFW injection into secondary-side of both SGs
40-57	1st cycle opening of intact SG RV
84-105	2nd cycle opening of intact SG RV
132-148	3rd cycle opening of intact SG RV
190	Safety injection signal (broken SG secondary-side pressure = 4.24 MPa)
233-246	4th cycle opening of intact SG RV
252	Stop of primay coolant pumps in both loops
376	PZR liquid level dropped to 1 m.
378	PZR backup heater power off
700	PZR became empty of liquid.
1010	Primary pressure decreased to below 10 MPa.
1156	Initiation of manual coolant injection from HPI system with PJ pump into cold leg in intact loop and with PH pump into cold leg in broken loop
1345	Intact SG secondary-side narrow-range liquid level exceeded 1 m.
1405	Termination of AFW injection into secondary-side of intact SG
1625	Primary pressure reached 10.6 MPa.
1648	Termination of manual coolant injection from HPI system with PH pump into cold leg in broken loop
1650	Primary pressure exceeded 10.7 MPa.
1670	Initiation of manual coolant injection from HPI system with PJ pump into cold leg in broken loop
3312-3316	1st cycle opening of PZR PORV
3546-3550	2nd cycle opening of PZR PORV
3576	Termination of manual coolant injection from HPI system with PJ pump into cold legs in both loops
3612	Core power off
3621	Break valve closure
3680	Termination of AFW injection into secondary-side of broken SG

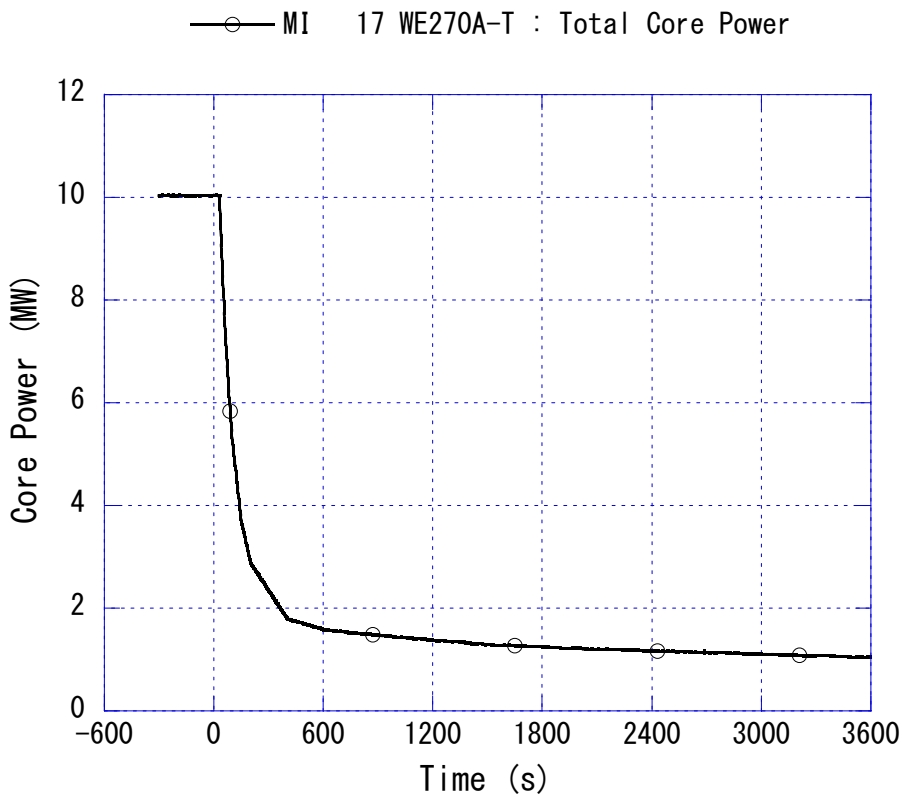

Fig. 4-1 Core power

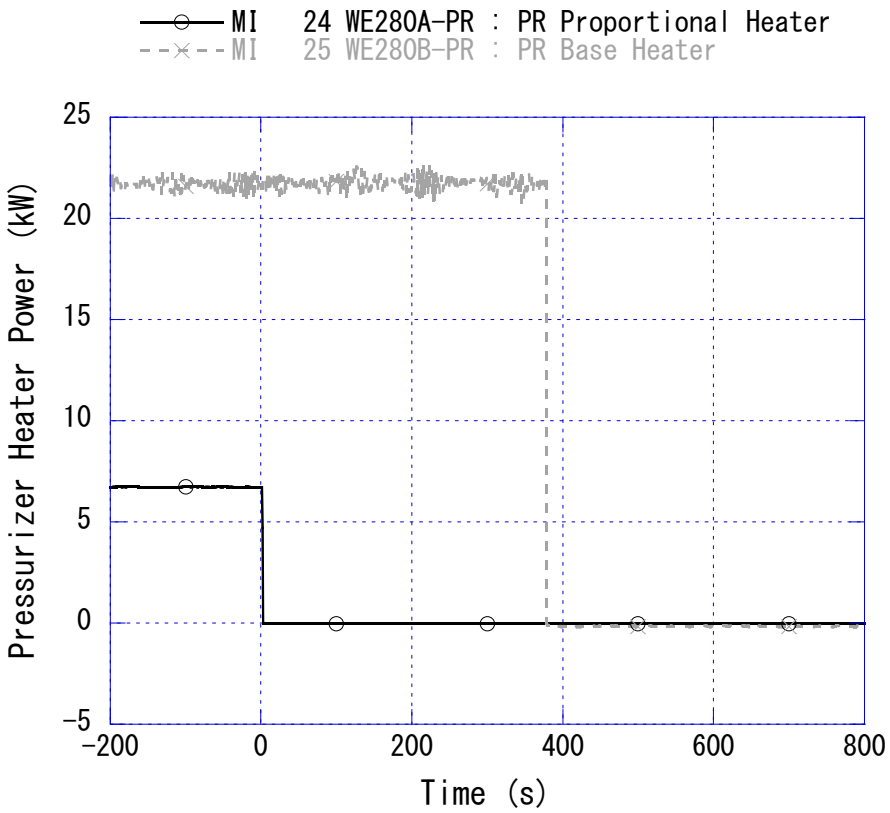

Fig. 4-2 Pressurizer heater power

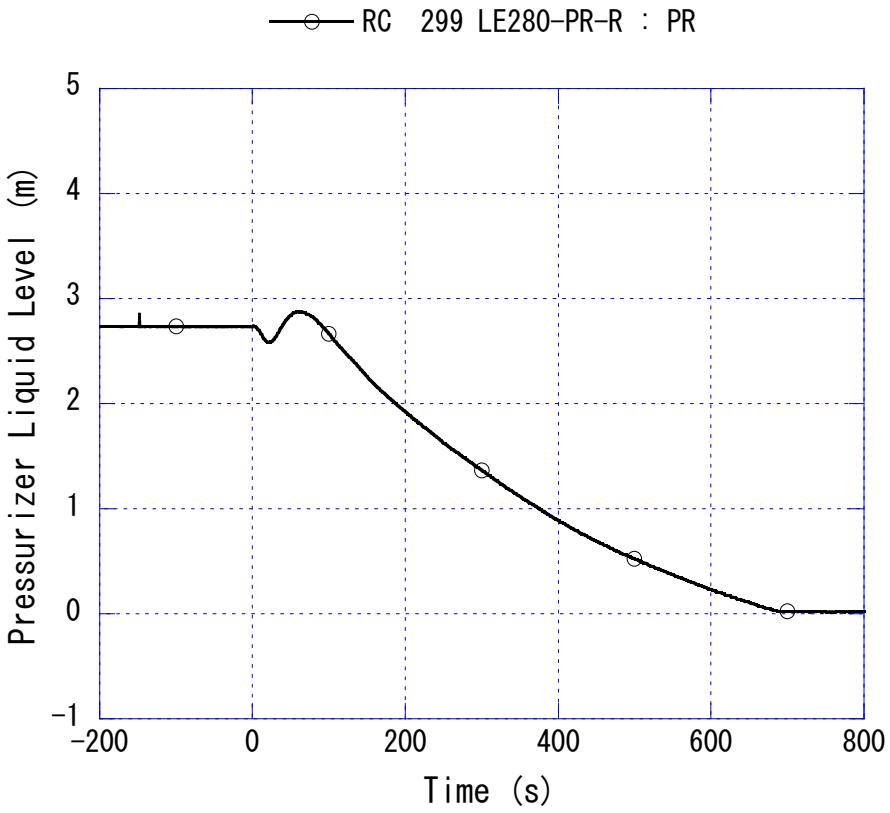

Fig. 4-3 Pressurizer liquid level (-200 to 800 s)

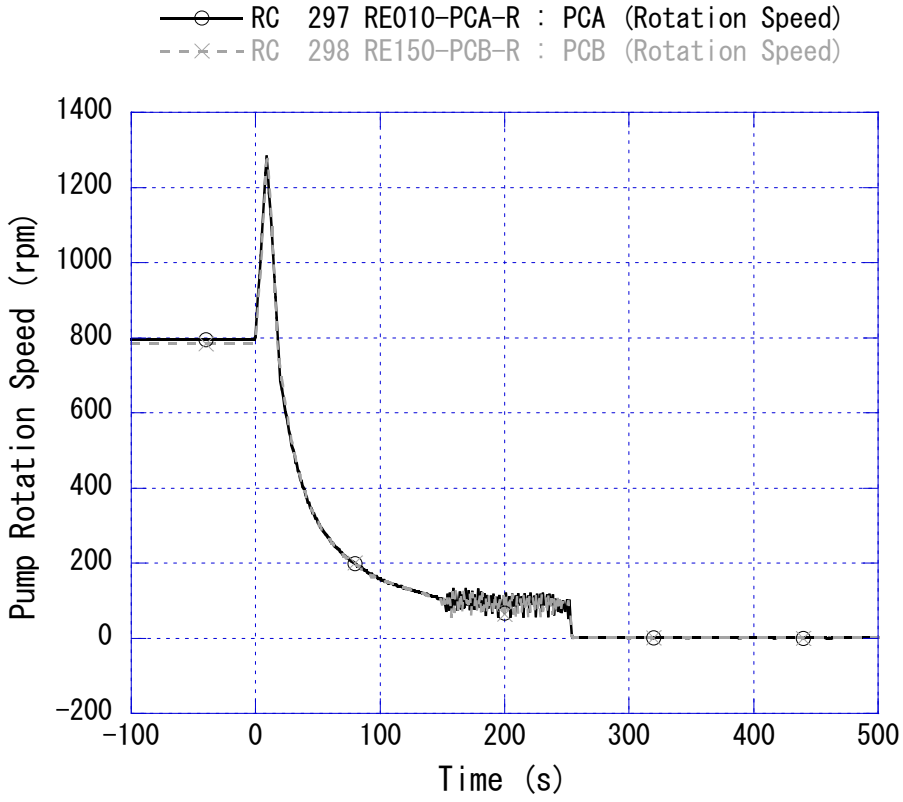

Fig. 4-4 Primary coolant pump rotation speed

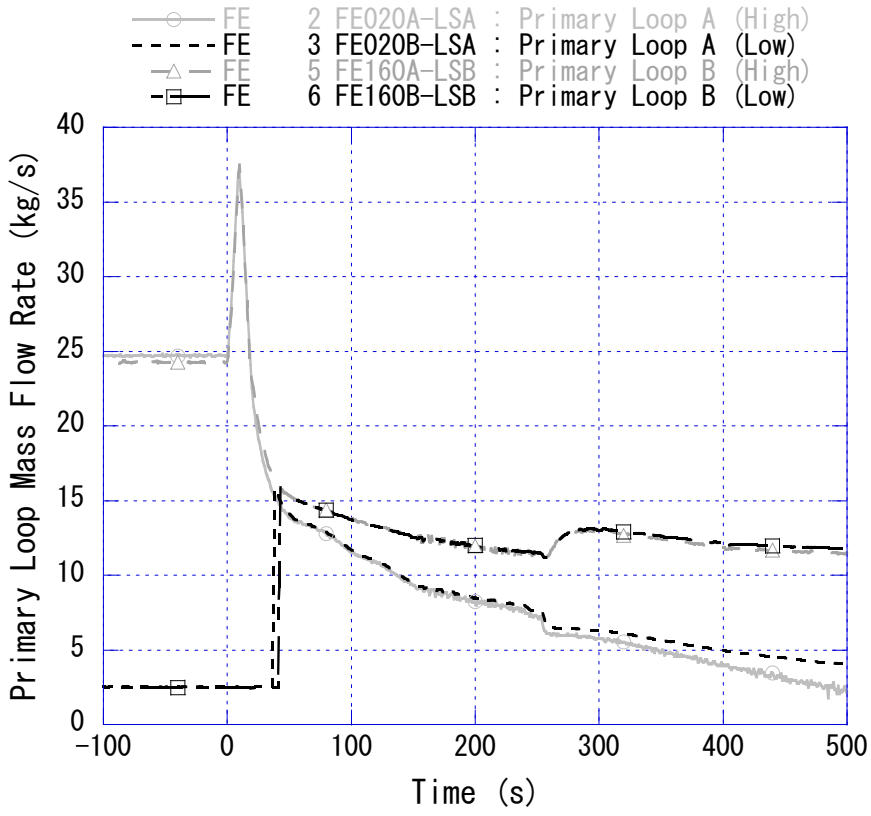

Fig. 4-5 Primary loop mass flow rate (-100 to 500 s)

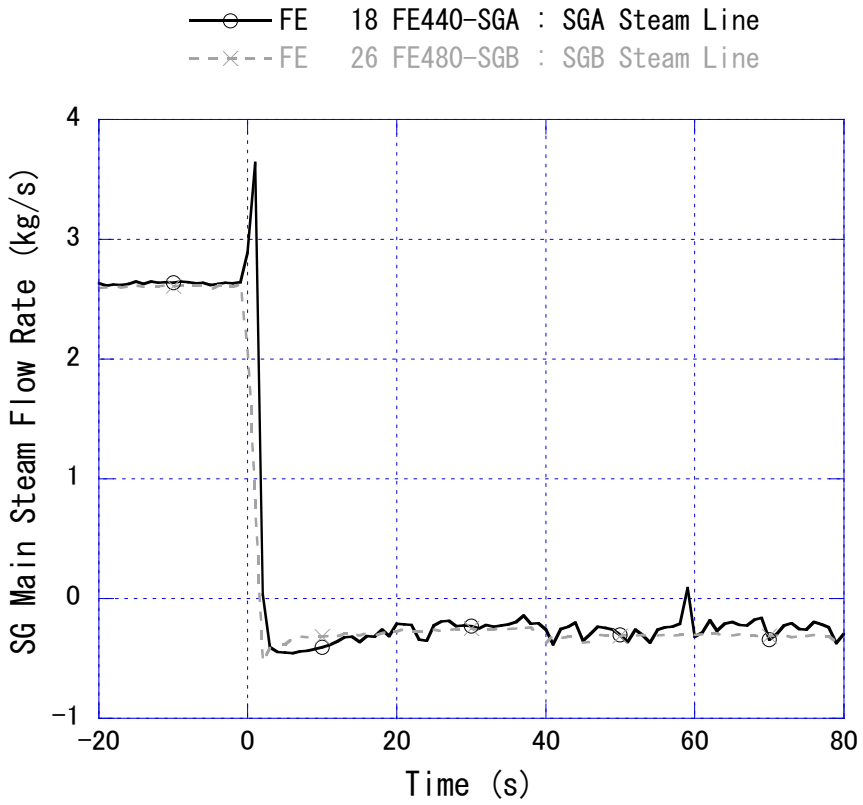

Fig. 4-6 SG main steam flow rate

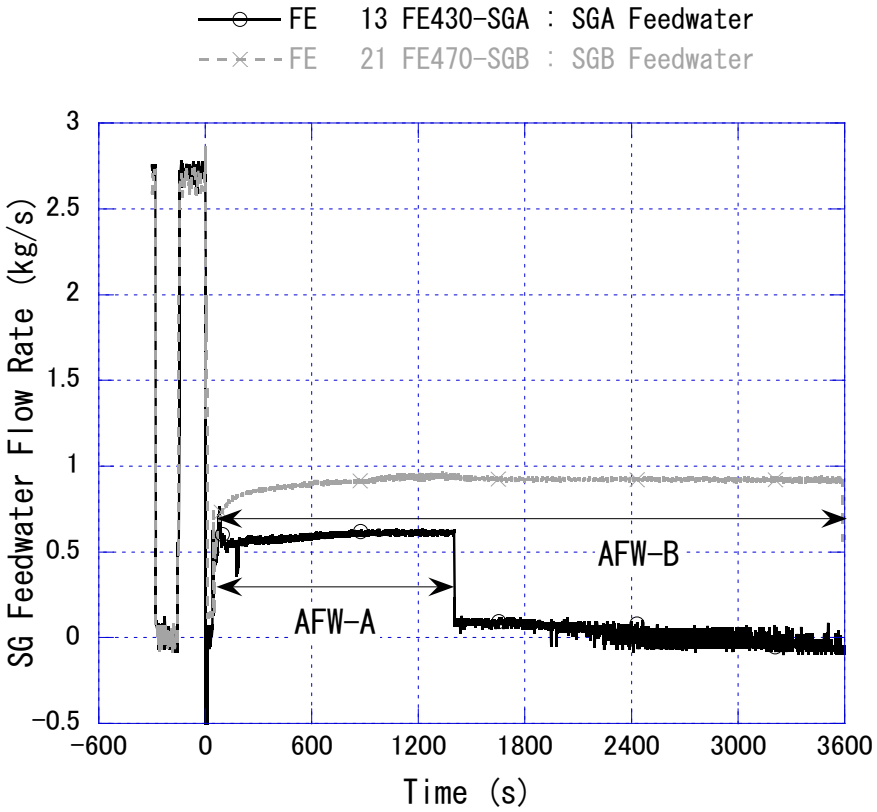

Fig. 4-7 SG feedwater flow rate

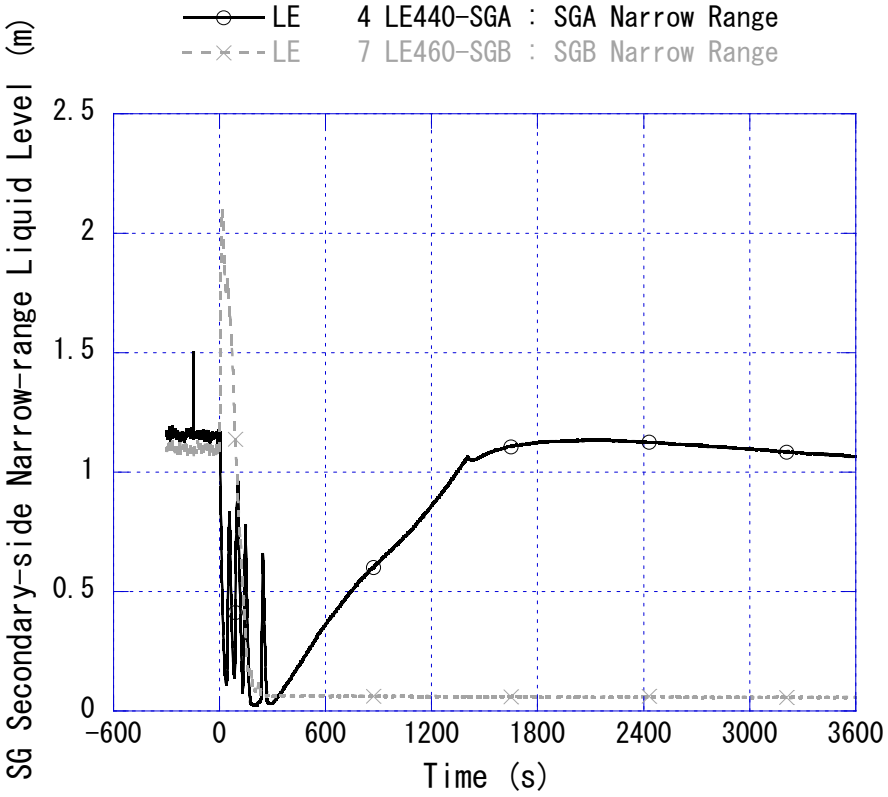

Fig. 4-8 SG secondary-side narrow-range liquid level

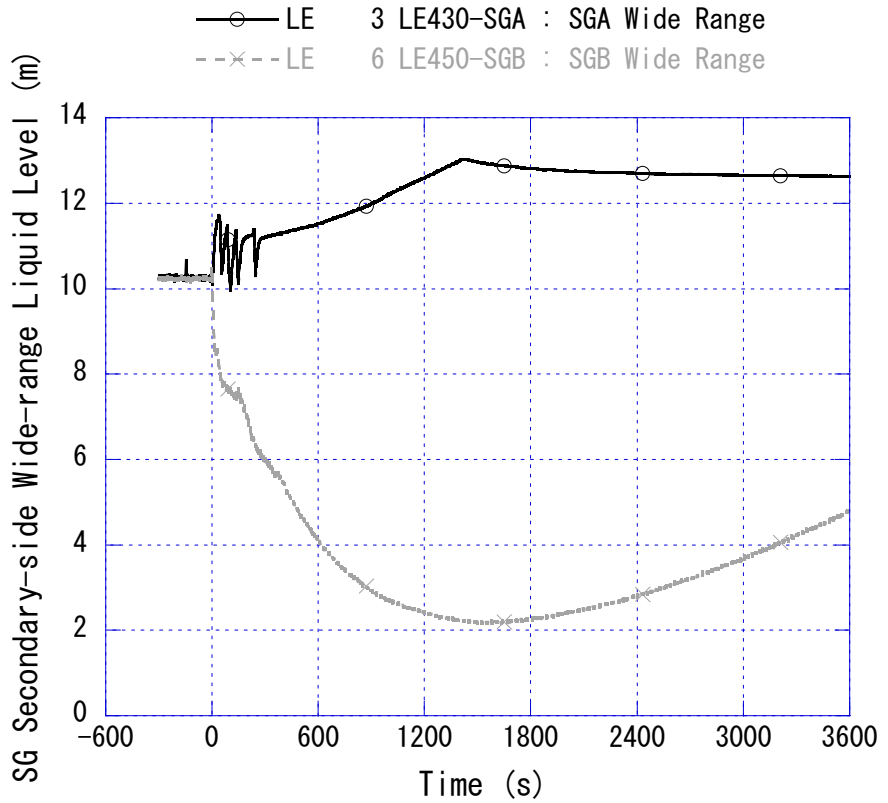

Fig. 4-9 SG secondary-side wide-range liquid level

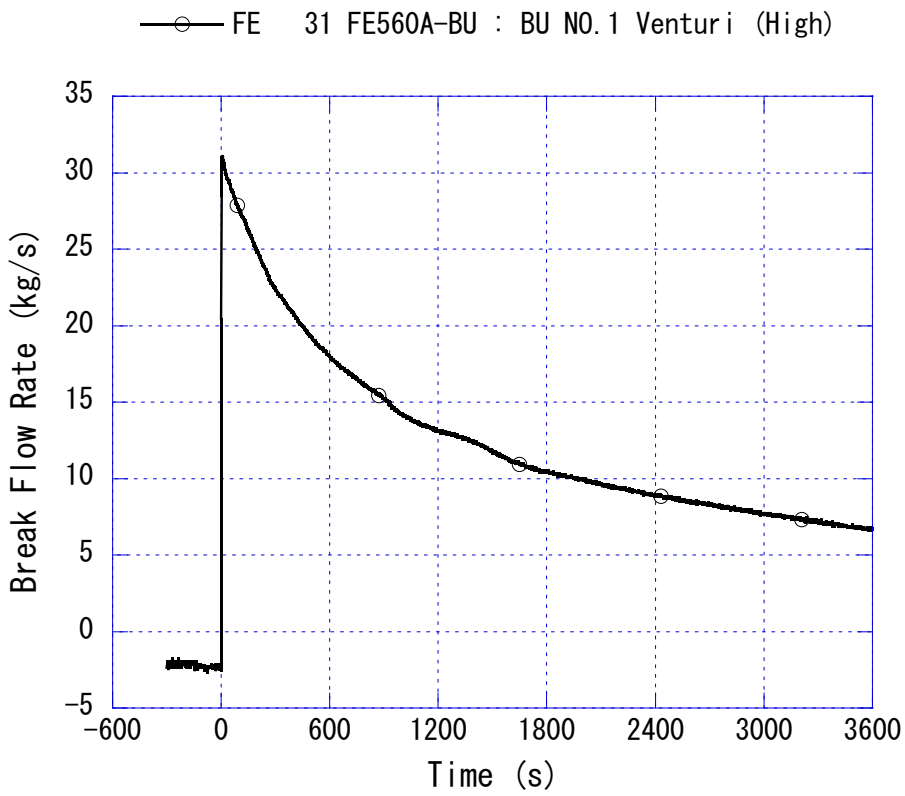

Fig. 4-10 Break flow rate evaluated from venturi data

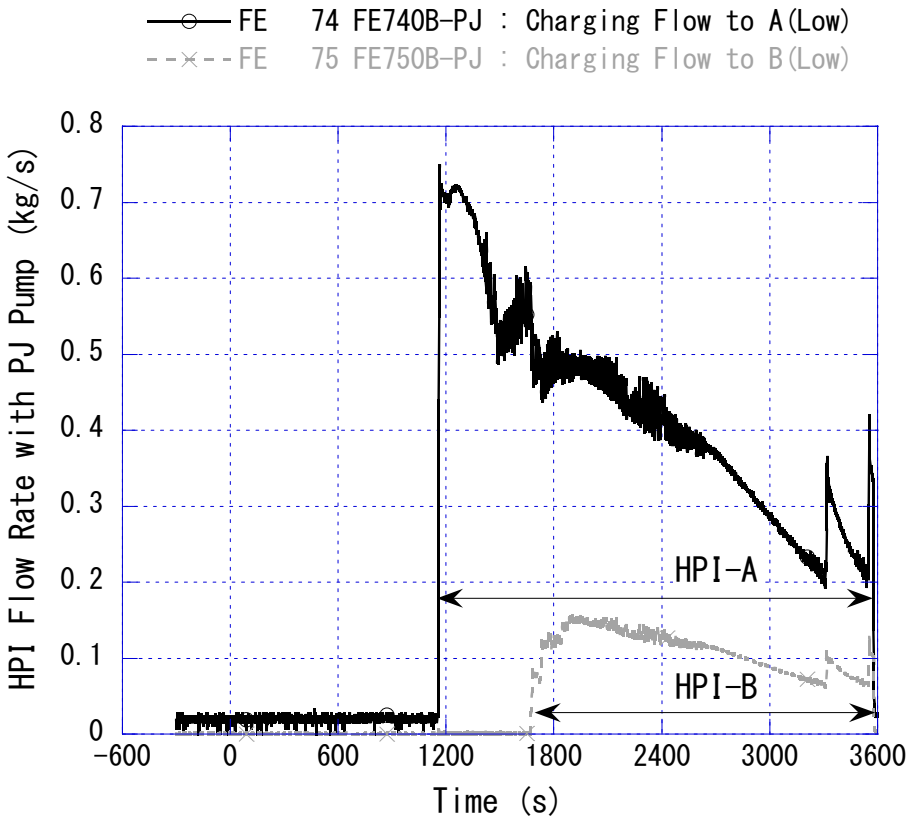

Fig. 4-11 Coolant injection flow rate from HPI system with PJ pump into cold leg

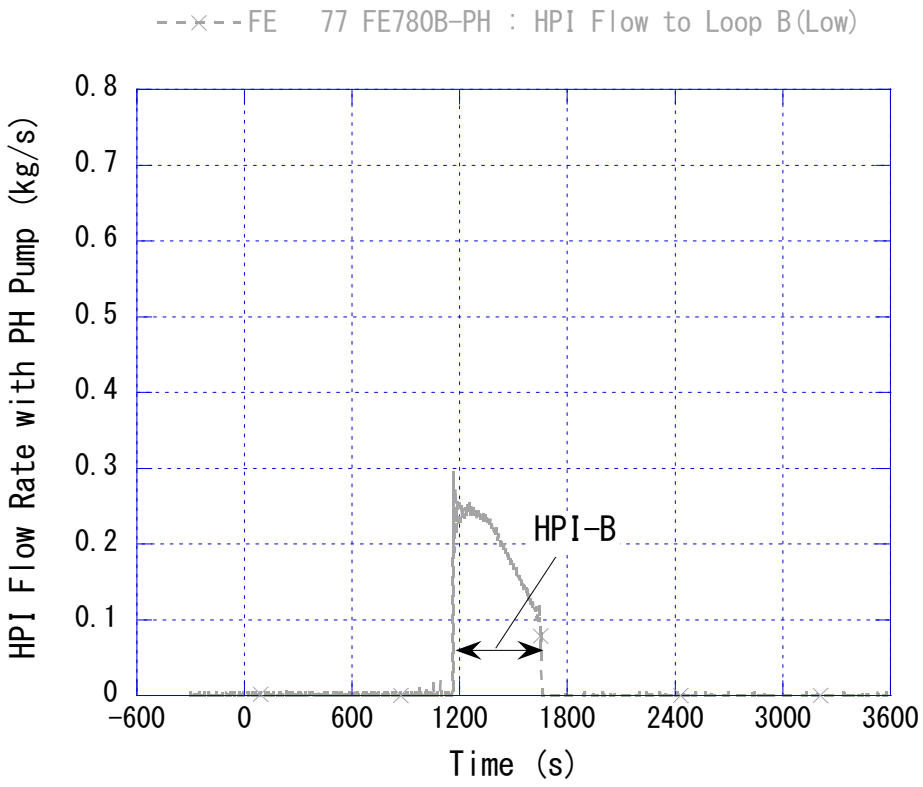

Fig. 4-12 Coolant injection flow rate from HPI system with PH pump into cold leg

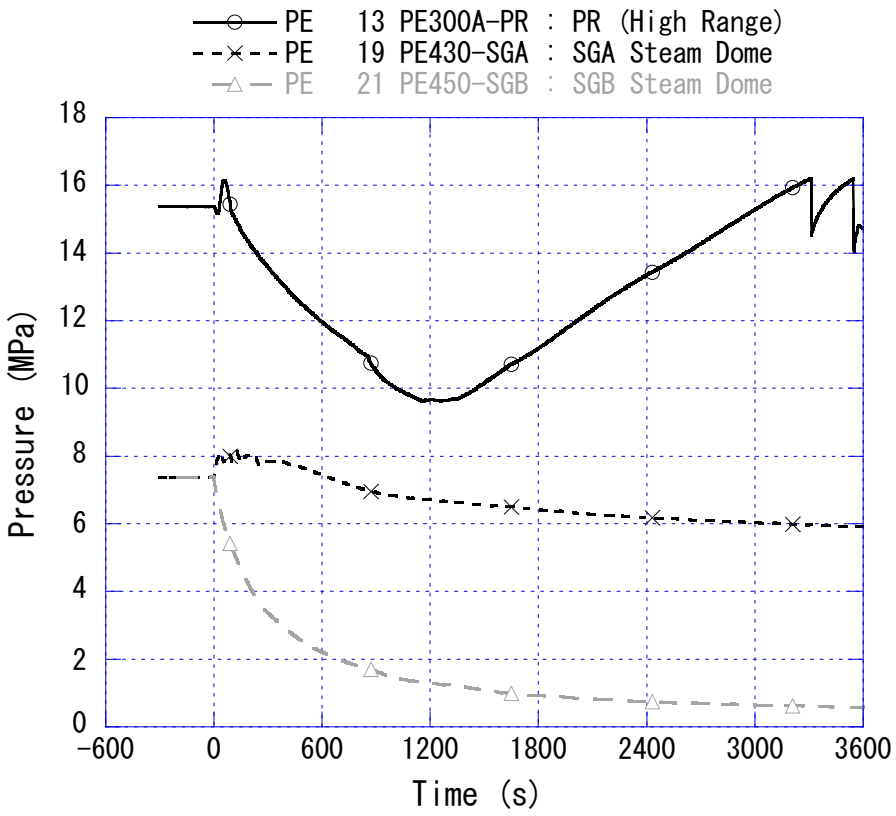

Fig. 4-13 Primary and secondary pressures

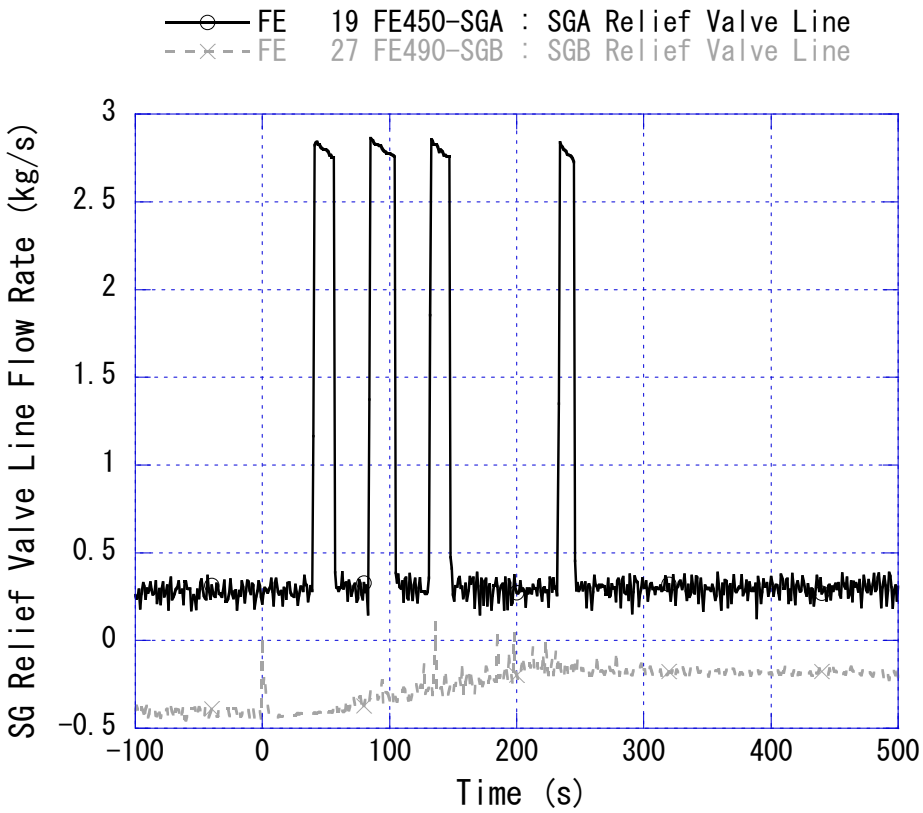

Fig. 4-14 SG relief valve line flow rate

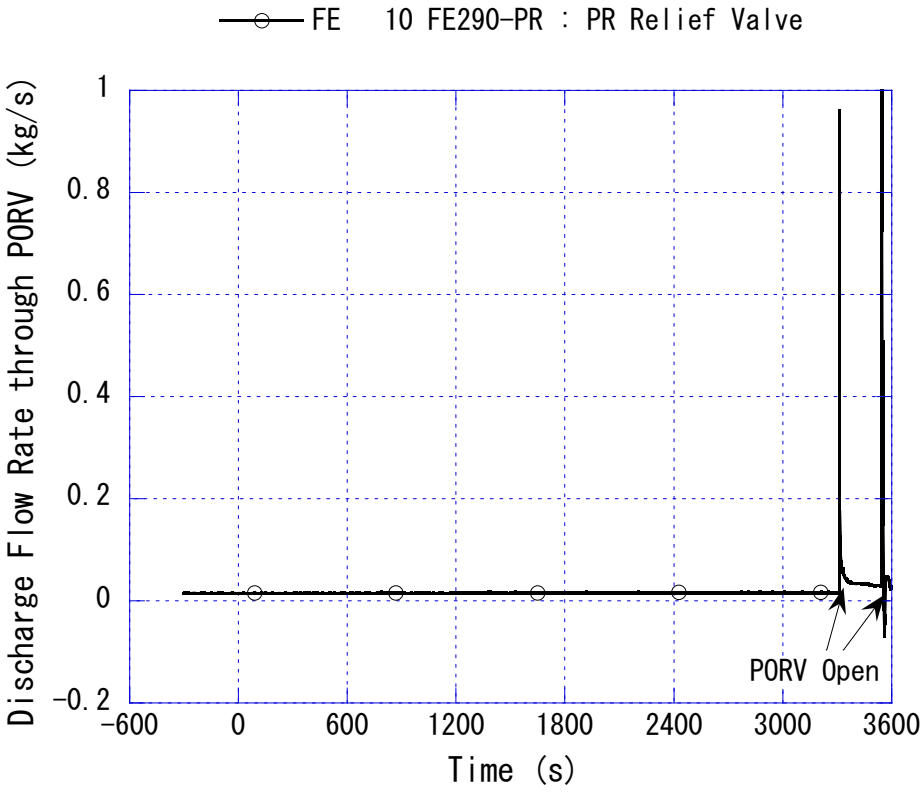

Fig. 4-15 Discharge flow rate through PORV of pressurizer

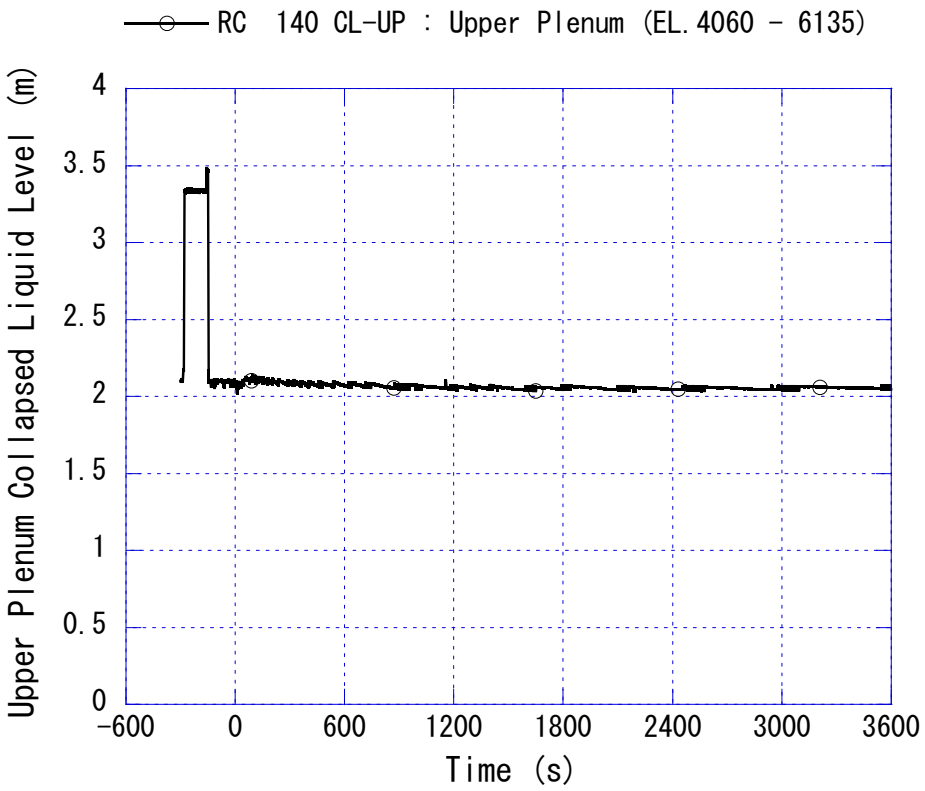

Fig. 4-16 Upper plenum collapsed liquid level

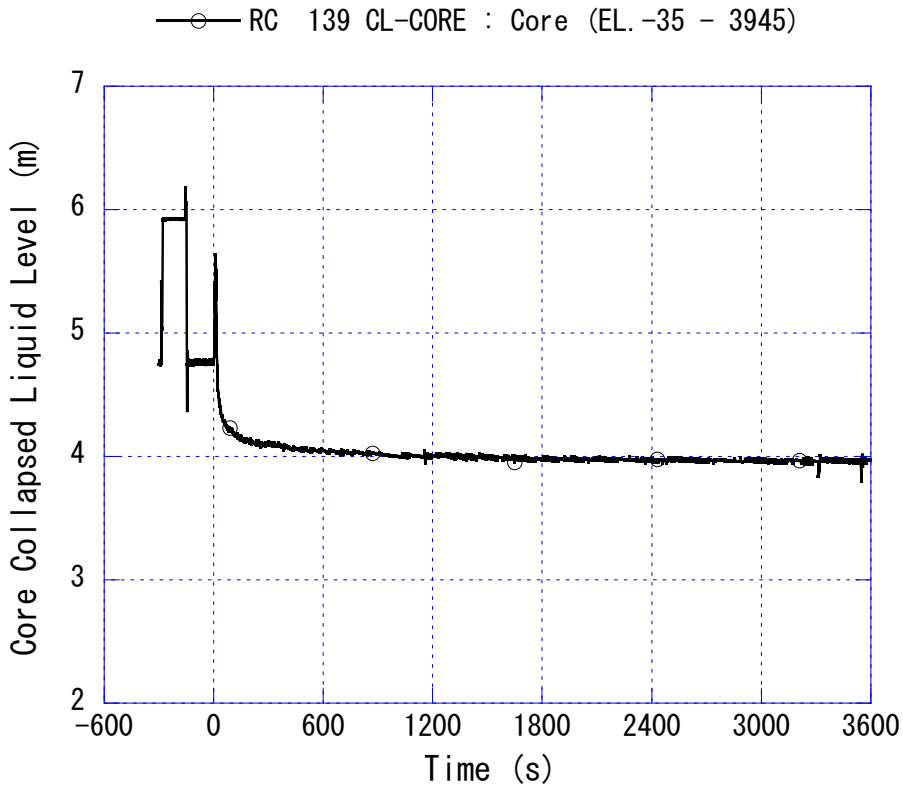

Fig. 4-17 Core collapsed liquid level

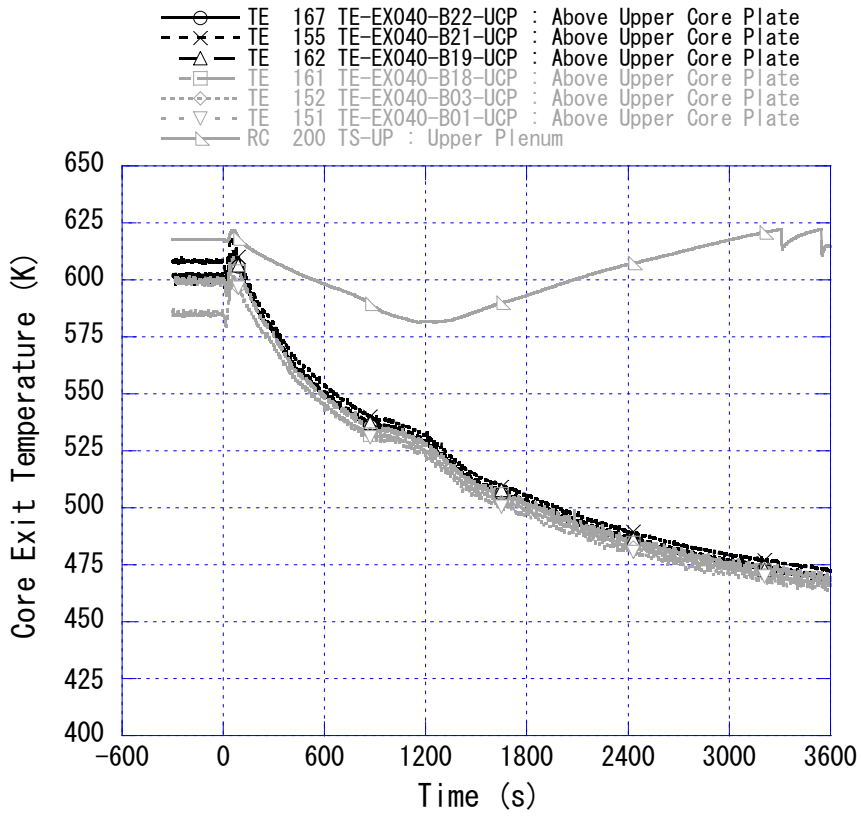

Fig. 4-18 Core exit temperatures

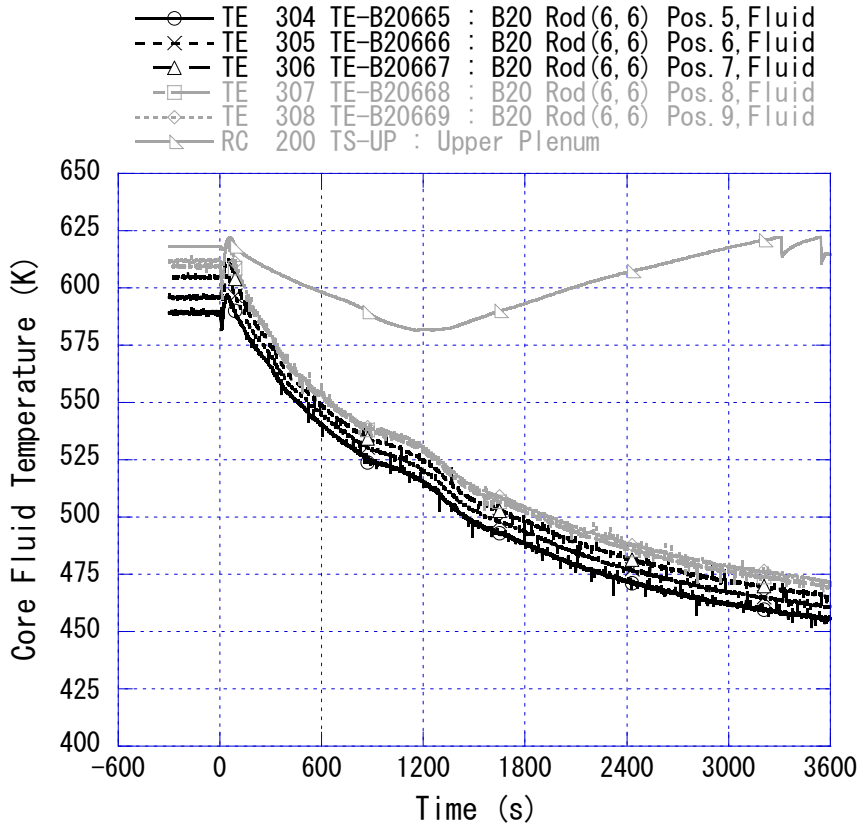

Fig. 4-19 Core fluid temperatures in high-power bundle at Positions 9 through 5

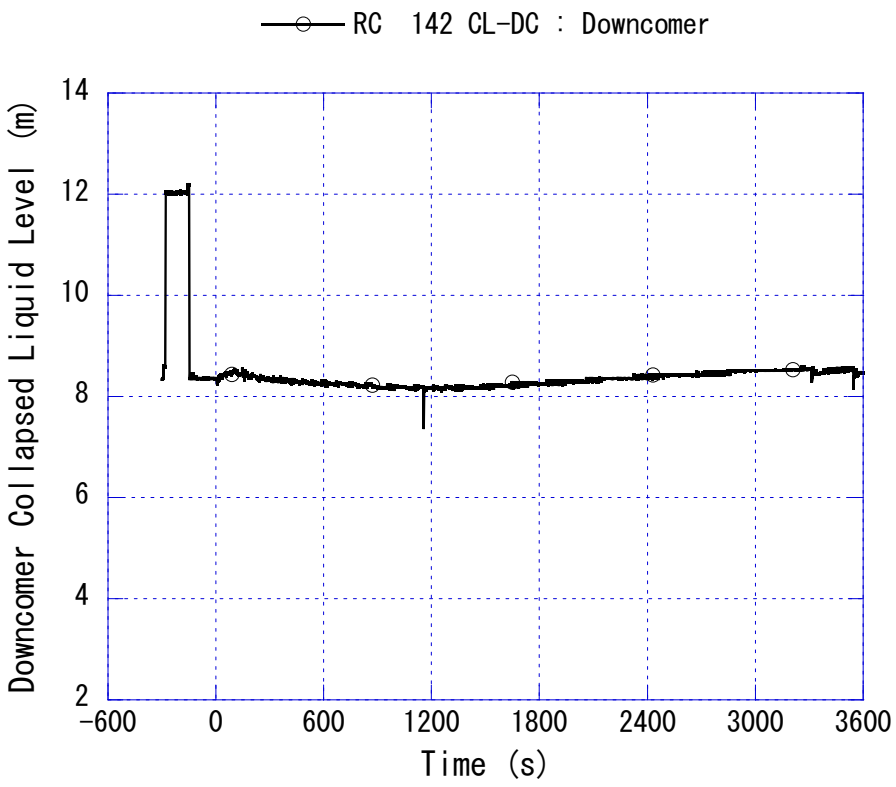

Fig. 4-20 Downcomer collapsed liquid level

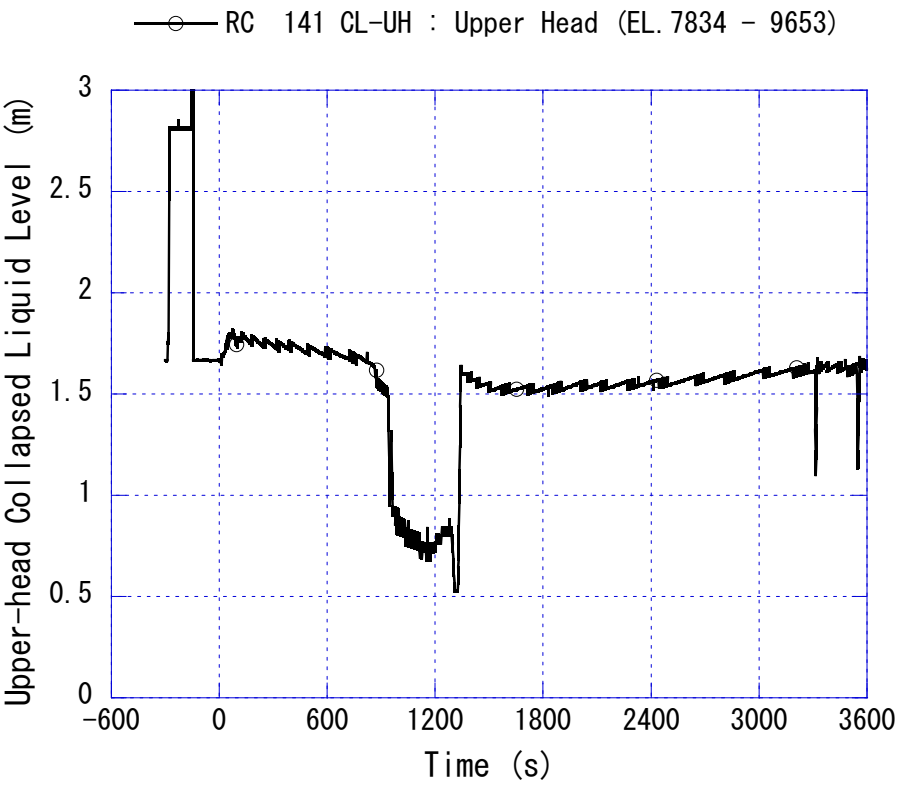

Fig. 4-21 Upper-head collapsed liquid level

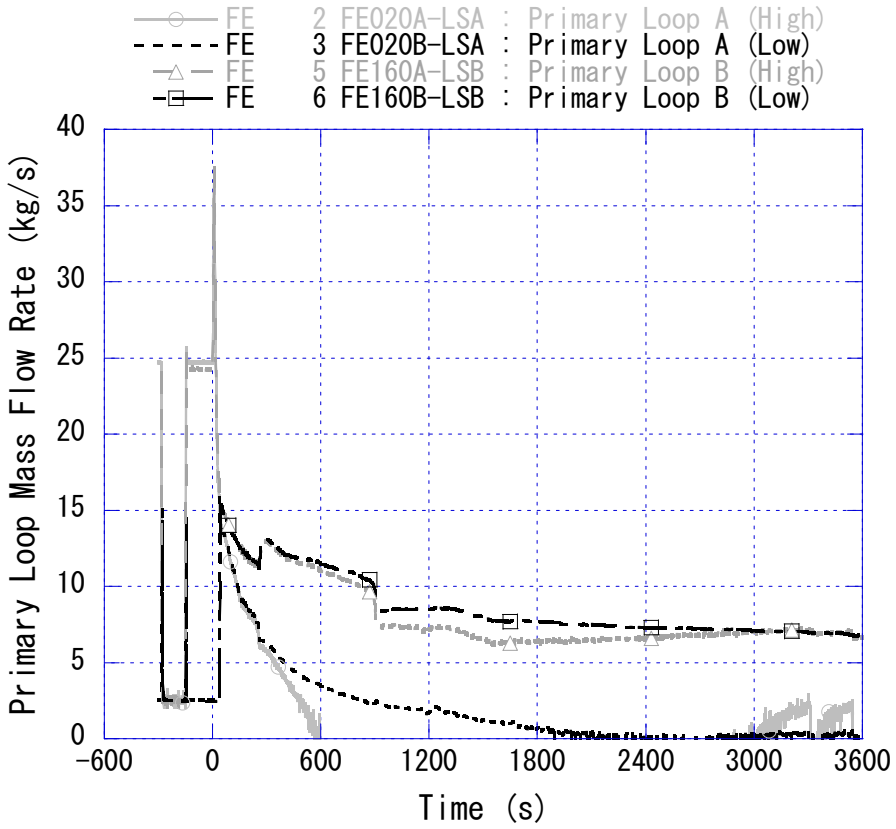

Fig. 4-22 Primary loop mass flow rate (-300 to 3600 s)

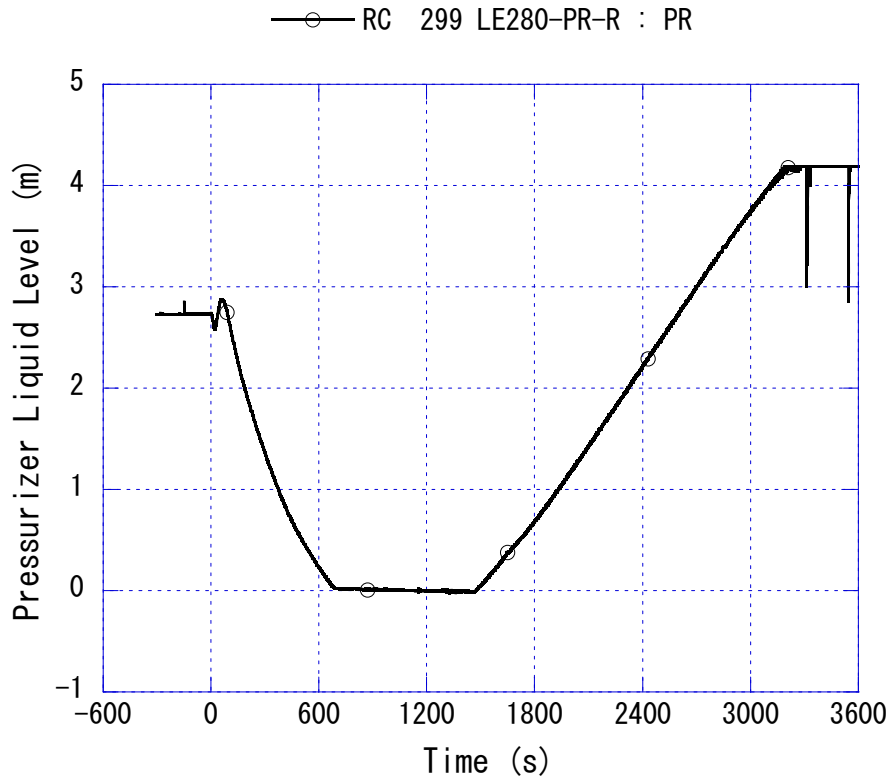

Fig. 4-23 Pressurizer liquid level (-300 to 3600 s)

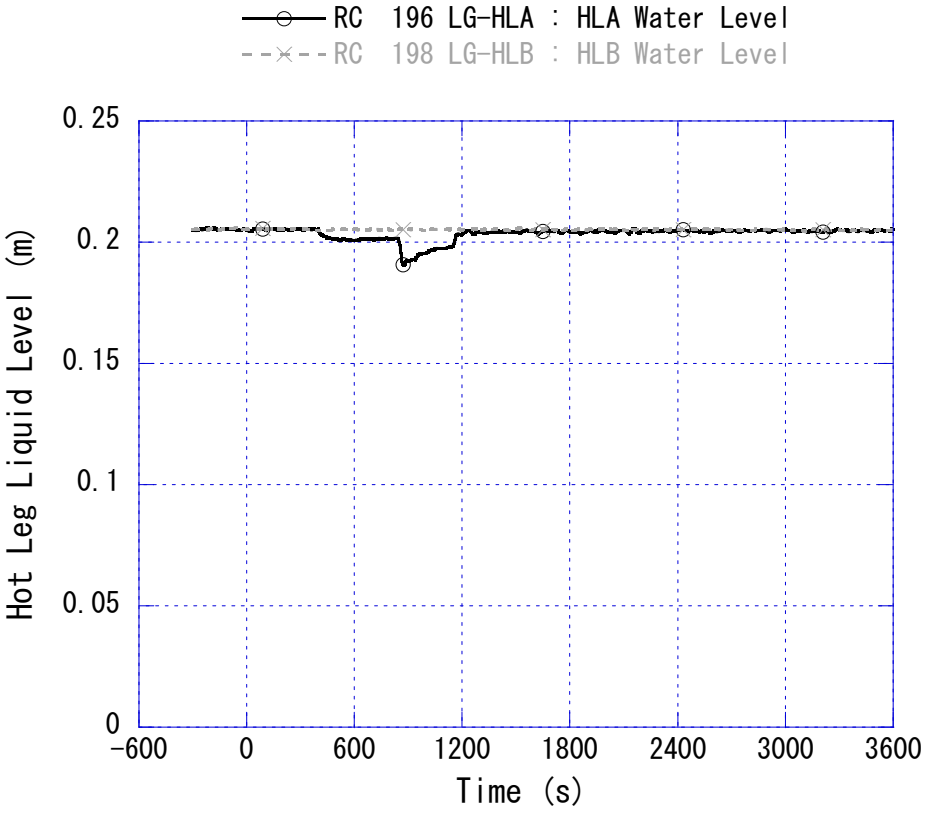

Fig. 4-24 Hot leg liquid level

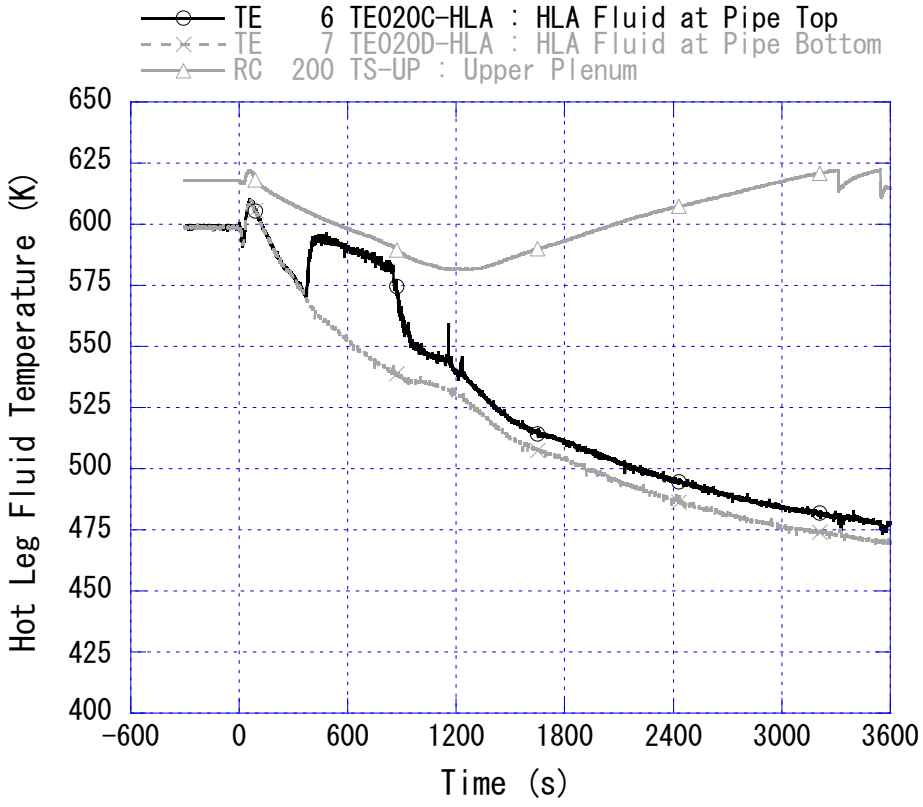

Fig. 4-25 Hot leg fluid temperature in intact loop

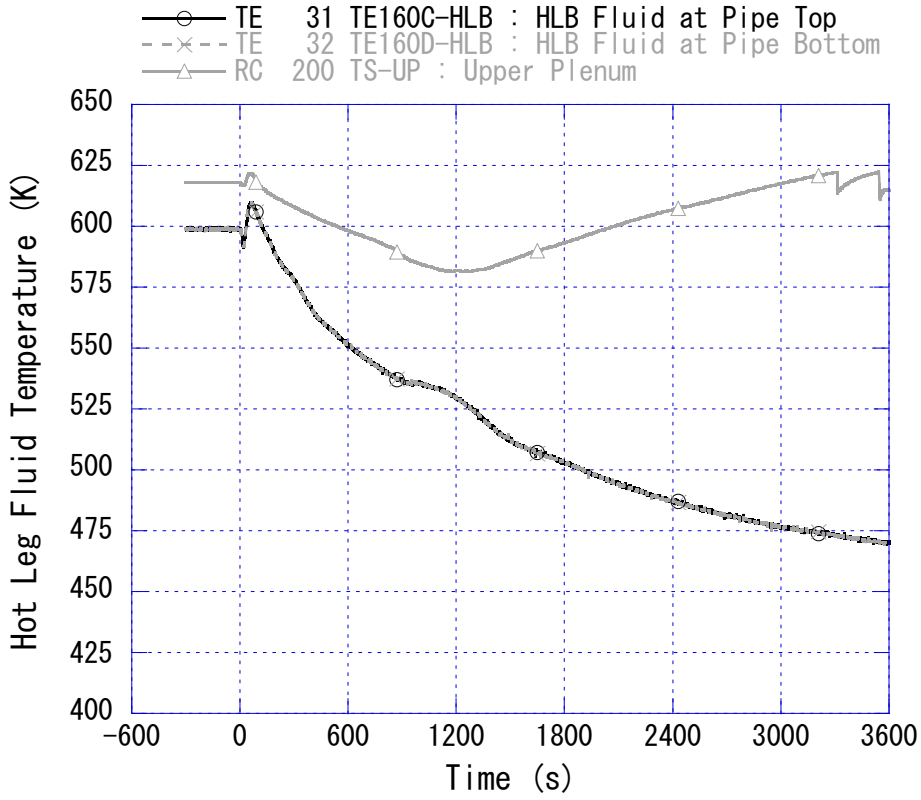

Fig. 4-26 Hot leg fluid temperature in broken loop

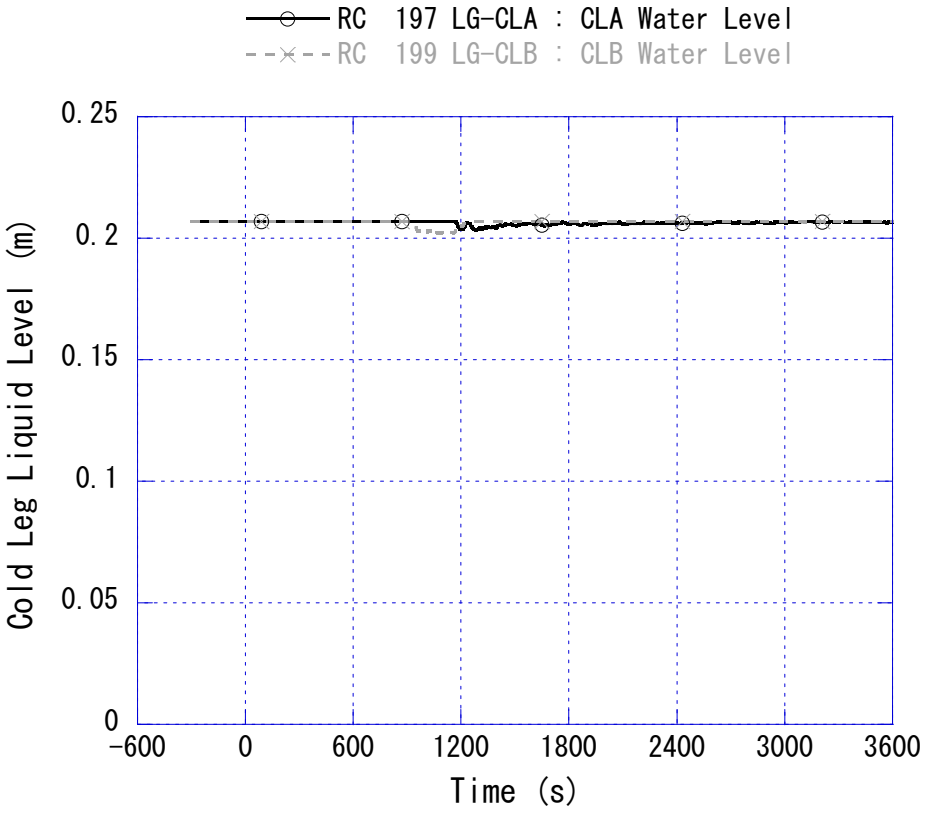

Fig. 4-27 Cold leg liquid level

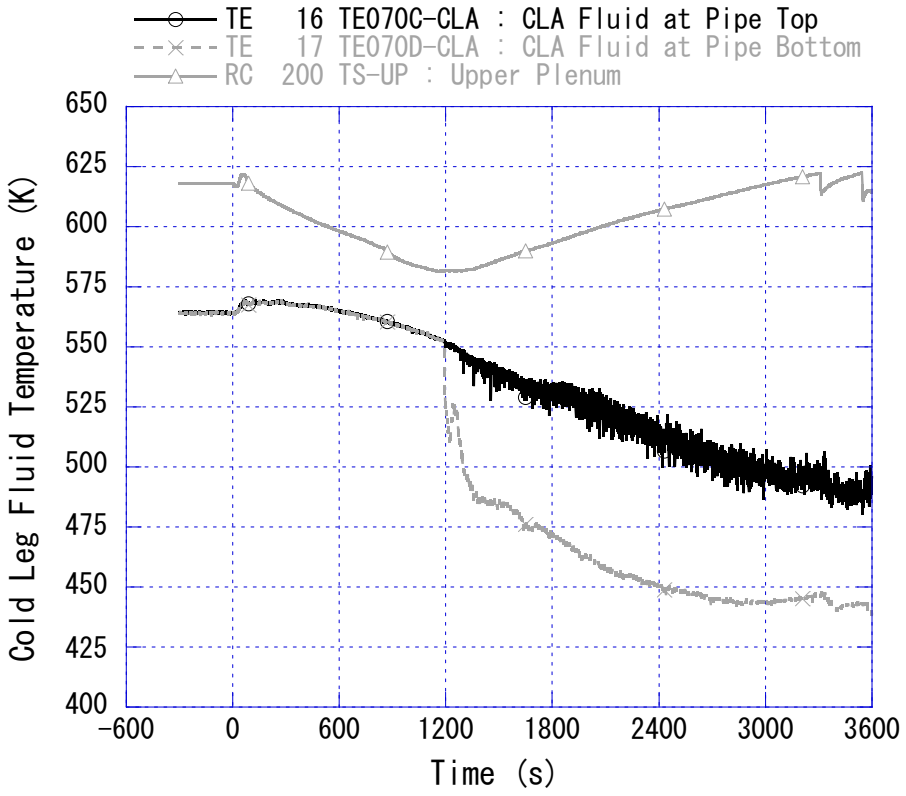

Fig. 4-28 Cold leg fluid temperature in intact loop

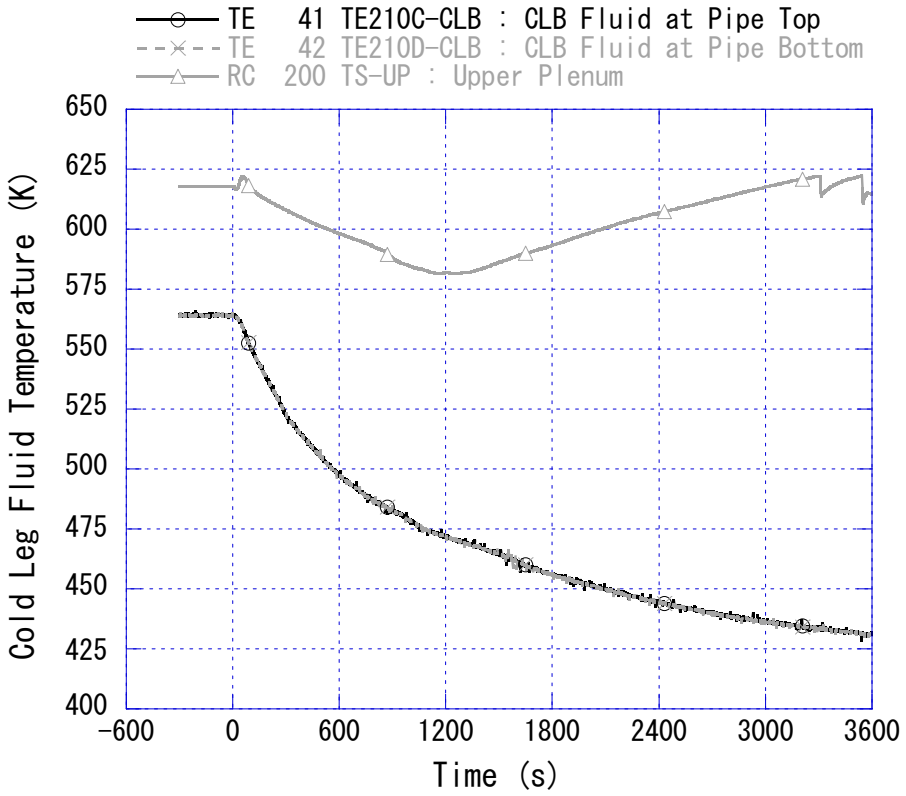

Fig. 4-29 Cold leg fluid temperature in broken loop

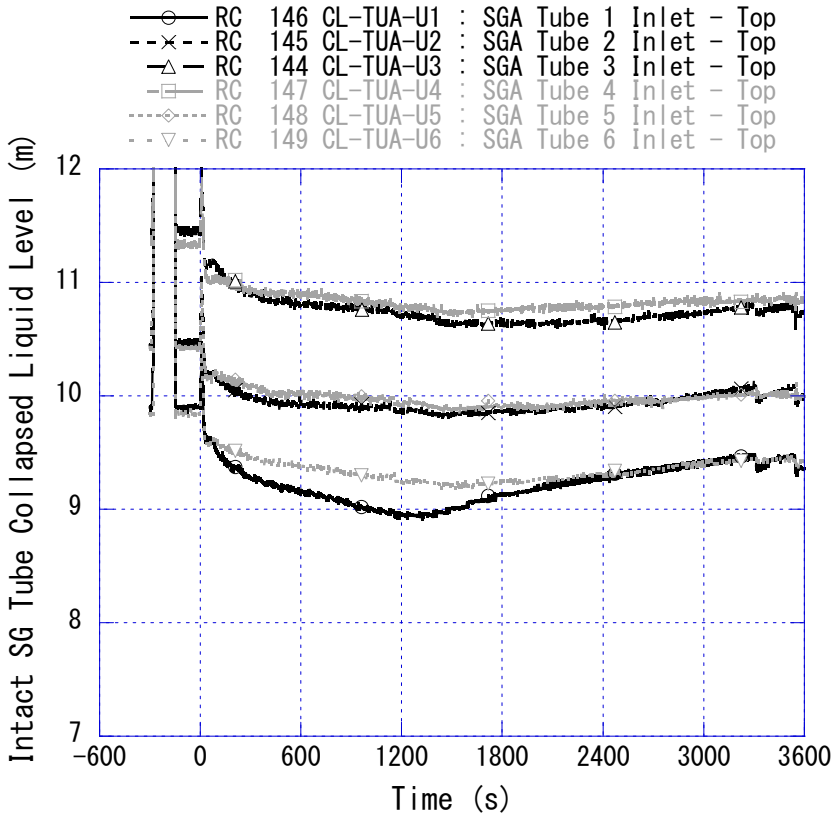

Fig. 4-30 Collapsed liquid level in U-tube upflow-side of intact SG

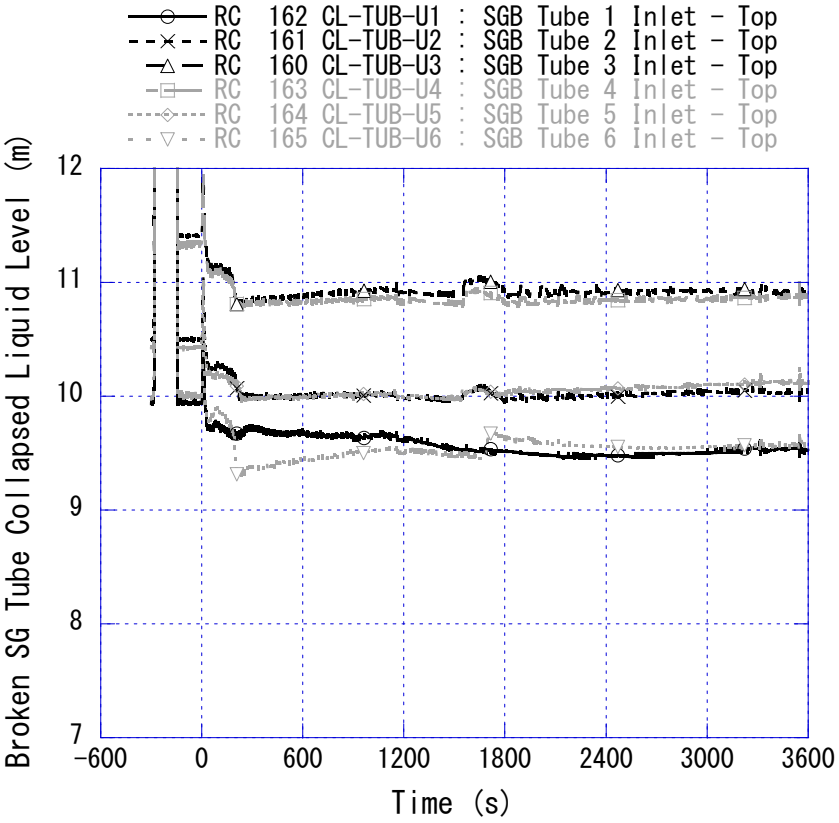

Fig. 4-31 Collapsed liquid level in U-tube upflow-side of broken SG

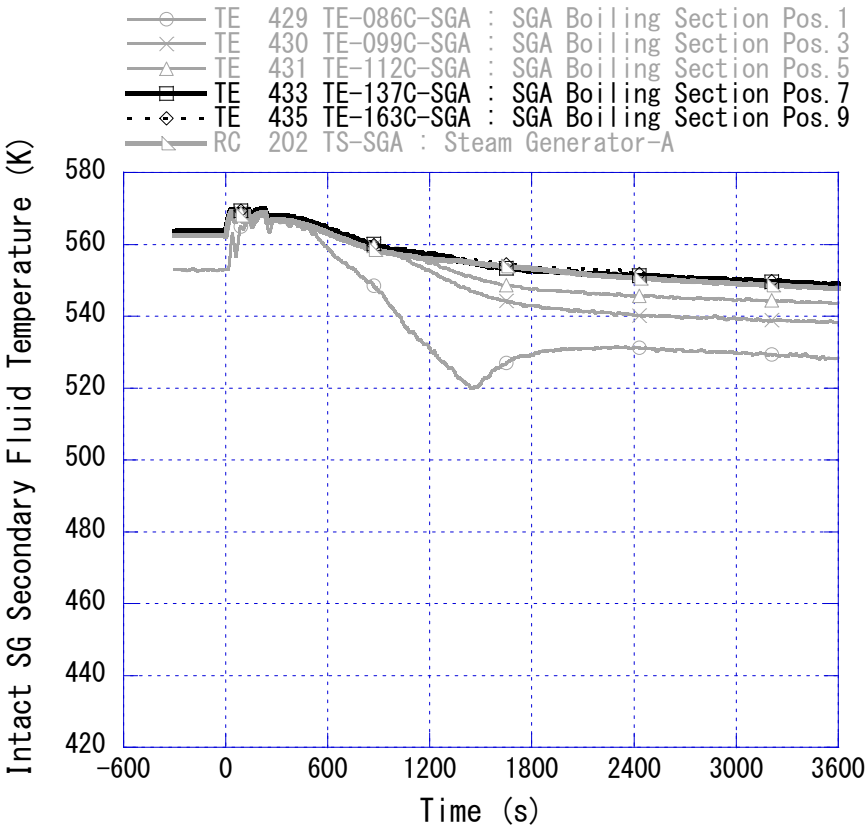

Fig. 4-32 Fluid temperature in secondary-side of intact SG

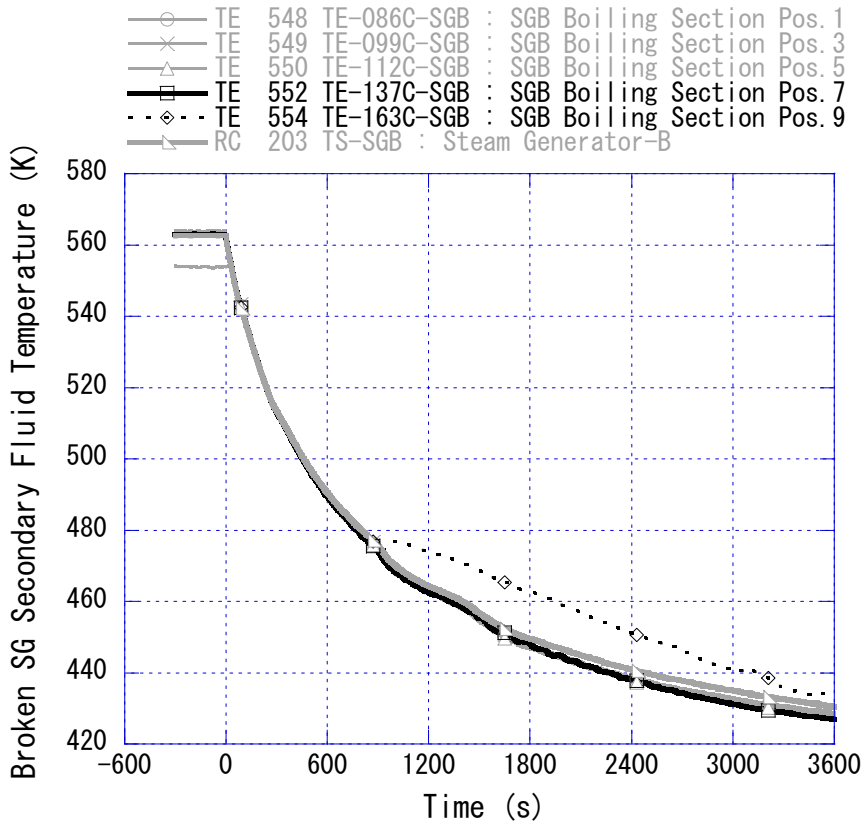

Fig. 4-33 Fluid temperature in secondary-side of broken SG

5. Summary

A ROSA/LSTF experiment denoted as SB-SL-01 was performed on March 27, 1990, which simulated a PWR MSLB accident. The experiment assumed the AFW injection into secondary-side of both SGs and coolant injection from HPI system of ECCS into cold legs in both loops. Major findings are summarized as follows;

(1) A rapid depressurization of broken SG through the MSLB resulted in a decrease in the broken SG secondary-side wide-range liquid level. The recovery of the broken SG secondary-side wide-range liquid level was attributed to the AFW injection into the broken SG secondary-side.

(2) The primary pressure temporarily decreased a little just after the MSLB, and increased up to 16.1 MPa following the closure of the SG main steam isolation valves. Coolant was manually injected from the HPI system into cold legs in both loops a few minutes after the primary pressure reduced to below 10 MPa because of the core power decay and the heat removal through the SGs. This led to the primary pressure increase and the PZR liquid level recovery. The primary pressure was maintained at less than 16.2 MPa by the full opening of a PORV of PZR.

(3) Coolant in the core was kept subcooled through the experiment, while the steam ingress into hot leg occurred from the PZR in intact loop.

(4) Thermal stratification was observed in cold leg in intact loop during the HPI coolant injection on account of the flow stagnation. The maximum difference was about 70 K in the vertical cold leg fluid temperatures in intact loop.

(5) Natural circulation prevailed in broken loop significantly, while the circulation flow rate became almost zero in intact loop.

(6) When the continuous core cooling was ensured owing to the successive HPI coolant injection, the experiment was terminated.

Acknowledgement

The author would like to thank Mr. A. Ohwada of Japan Atomic Energy Agency for his useful comments to improve the manuscript as well as Miss K. Toyoda of Research Organization for Information Science and Technology for manipulating the experimental data.

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Appendix A Available Experimental Data List

Table A-1 shows the list of available experimental data qualified as “Good” for LSTF SB-SL-01 (Run ID designated to be BL1). This table contains Sequential No., Function ID., Tag Name, measurement location, range, unit, and uncertainty. The alphabetical prefix of the Function ID. and Tag Name is explained as follows;

(1) TE, fluid temperature,
(2) DT, differential temperature,
(3) TW, heater rod and structure temperature,
(4) FE, flow rate measured with conventional (differential pressure) flow meters,
(5) PE, pressure,
(6) MI, miscellaneous instrumented-signal (power, pump rotation speed, etc.),
(7) LE, liquid level,
(8) DP, differential pressure,
(9) DE, fluid density measured with gamma-ray densitometer,
(10) RC, two-phase flow data calculated with DE and others.

Table A-1 List of available experimental data for LSTF SB-SL-01

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1	TE 6	TE020C-HLA	HLA Fluid at Pipe Top	270	720	K	3.31	0.74
2	TE 7	TE020D-HLA	HLA Fluid at Pipe Bottom	270	720	K	3.31	0.74
3	TE 15	TE050C-LSA	LSA Fluid	270	720	K	3.31	0.74
4	TE 16	TE070C-CLA	CLA Fluid at Pipe Top	270	720	K	3.31	0.74
5	TE 17	TE070D-CLA	CLA Fluid at Pipe Bottom	270	720	K	3.31	0.74
6	TE 18	TE080C-CLA	CLA Fluid at Pipe Top	270	720	K	3.31	0.74
7	TE 19	TE080D-CLA	CLA Fluid at Pipe Bottom	270	720	K	3.31	0.74
8	TE 20	TE090A-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
9	TE 21	TE090B-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
10	TE 22	TE090C-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
11	TE 23	TE090D-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
12	TE 24	TE090E-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
13	TE 25	TE100-HLA	HLA-CLA Average	270	720	K	3.31	0.74
14	TE 31	TE160C-HLB	HLB Fluid at Pipe Top	270	720	K	3.31	0.74
15	TE 32	TE160D-HLB	HLB Fluid at Pipe Bottom	270	720	K	3.31	0.74
16	TE 33	TE170C-HLB	HLB Fluid at Pipe Top	270	720	K	3.31	0.74
17	TE 34	TE170D-HLB	HLB Fluid at Pipe Bottom	270	720	K	3.31	0.74
18	TE 35	TE180A-HLB	HLB-SG Side CPT	270	720	K	3.31	0.74
19	TE 36	TE180B-HLB	HLB-SG Side CPT	270	720	K	3.31	0.74
20	TE 37	TE180C-HLB	HLB-SG Side CPT	270	720	K	3.31	0.74
21	TE 38	TE180D-HLB	HLB-SG Side CPT	270	720	K	3.31	0.74
22	TE 39	TE180E-HLB	HLB-SG Side CPT	270	720	K	3.31	0.74
23	TE 40	TE190C-LSB	LSB Fluid	270	720	K	3.31	0.74
24	TE 41	TE210C-CLB	CLB Fluid at Pipe Top	270	720	K	3.31	0.74
25	TE 42	TE210D-CLB	CLB Fluid at Pipe Bottom	270	720	K	3.31	0.74
26	TE 43	TE220C-CLB	CLB Fluid at Pipe Top	270	720	K	3.31	0.74
27	TE 44	TE220D-CLB	CLB Fluid at Pipe Bottom	270	720	K	3.31	0.74
28	TE 45	TE230A-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
29	TE 46	TE230B-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
30	TE 47	TE230C-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
31	TE 48	TE230D-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
32	TE 49	TE230E-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
33	TE 50	TE240-HLB	HLB-CLB Average	270	720	K	3.31	0.74
34	TE 51	TE270C-PR	PR Spray Line	270	720	K	3.31	0.74
35	TE 52	TE280C-PR	PR Surge Line	270	720	K	3.31	0.74
36	TE 53	TE290-PR	PR Relief Valve	270	720	K	3.31	0.74
37	TE 55	TE430-SGA	SGA Feedwater Line	270	670	K	3.11	0.78
38	TE 56	TE440-SGA	SGA Main Steam Line	270	670	K	3.11	0.78
39	TE 57	TE450-SGA	SGA Relief Valve Line	270	670	K	3.11	0.78
40	TE 59	TE470-SGB	SGB Feedwater Line	270	670	K	3.11	0.78
41	TE 60	TE480-SGB	SGB Main Steam Line	270	670	K	3.11	0.78
42	TE 61	TE490-SGB	SGB Relief Valve Line	270	670	K	3.11	0.78
43	TE 63	TE510-SH	MSL Steam Header	270	670	K	3.11	0.78
44	TE 64	TE520-JC	JC Hot Water	270	670	K	3.11	0.78
45	TE 65	TE530-JC	PF Suction Line	270	670	K	3.11	0.78
46	TE 66	TE540-JC	JC Spray Water	270	670	K	3.11	0.78
47	TE 67	TE550-JC	JC Steam Vent Line	270	670	K	3.11	0.78
48	TE 68	TE431-SGA	SGA Downcomer A	270	670	K	3.11	0.78
49	TE 69	TE432-SGA	SGA Downcomer B	270	670	K	3.11	0.78
50	TE 70	TE433-SGA	SGA Downcomer C	270	670	K	3.11	0.78
51	TE 71	TE434-SGA	SGA Downcomer D	270	670	K	3.11	0.78
52	TE 72	TE471-SGB	SGB Downcomer A	270	670	K	3.11	0.78
53	TE 73	TE472-SGB	SGB Downcomer B	270	670	K	3.11	0.78
54	TE 74	TE473-SGB	SGB Downcomer C	270	670	K	3.11	0.78
55	TE 75	TE474-SGB	SGB Downcomer D	270	670	K	3.11	0.78
56	TE 84	TE600-ST	ST Inlet Line	270	470	K	2.30	1.15
57	TE 85	TE610-ST	ST Bottom Region	270	470	K	2.30	1.15
58	TE 86	TE620-ST	ST Middle Region	270	470	K	2.30	1.15
59	TE 87	TE630-ST	ST Top Region	270	470	K	2.30	1.15
60	TE 88	TE640-ST	ST Spray Line	270	470	K	2.30	1.15
61	TE 97	TE730-HLA	HLA ECCS Nozzle	270	720	K	3.11	0.78
62	TE 98	TE740-LSA	LSA ECCS Nozzle	270	720	K	3.11	0.78
63	TE 99	TE750-CLA	CLA ECCS Nozzle	270	670	K	3.11	0.78
64	TE 101	TE770-LSB	LSB ECCS Nozzle	270	720	K	3.11	0.78
65	TE 102	TE780-CLB	CLB ECCS Nozzle	270	670	K	3.11	0.78
66	TE 104	TE800-PV	PV Top ECCS Nozzle	270	670	K	3.11	0.78
67	TE 112	TE880-RWST	RWST Tank Lower Region	270	370	K	1.90	1.90
68	TE 113	TE890-RWST	RWST Tank Middle Region	270	370	K	1.90	1.90
69	TE 115	TE-E066F-PV	Upper Head Bottom	270	970	K	4.31	0.62
70	TE 116	TE-W066F-PV	Upper Head Bottom	270	970	K	4.31	0.62
71	TE 117	TE-E075F-PV	Upper Head Middle	270	970	K	4.31	0.62
72	TE 118	TE-W075F-PV	Upper Head Middle	270	970	K	4.31	0.62
73	TE 119	TE-E081F-PV	Upper Head Top	270	970	K	4.31	0.62
74	TE 120	TE-W081F-PV	Upper Head Top	270	970	K	4.31	0.62
75	TE 121	TE-E080H-PV	CR Guide Tube Top	270	970	K	4.31	0.62
76	TE 122	TE-W080H-PV	CR Guide Tube Top	270	970	K	4.31	0.62
77	TE 123	TE-E049F-PV	Upper Plenum Bottom	270	970	K	4.31	0.62
78	TE 124	TE-W049F-PV	Upper Plenum Bottom	270	970	K	4.31	0.62
79	TE 125	TE-E055F-PV	Upper Plenum Middle	270	970	K	4.31	0.62
80	TE 126	TE-W055F-PV	Upper Plenum Middle	270	970	K	4.31	0.62
81	TE 127	TE-E060F-PV	Upper Plenum Top	270	970	K	4.31	0.62
82	TE 128	TE-W060F-PV	Upper Plenum Top	270	970	K	4.31	0.62
83	TE 129	TE-IN038-B09-UCP	Below Upper Core Plate	270	970	K	4.31	0.62

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
84	TE 130	TE-IN038-B11-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
85	TE 131	TE-IN038-B01-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
86	TE 132	TE-IN038-B03-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
87	TE 133	TE-IN038-B05-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
88	TE 134	TE-IN038-B07-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
89	TE 135	TE-IN038-B21-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
90	TE 136	TE-IN038-B23-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
91	TE 137	TE-IN038-B02-UCP	Below Upper core Plate	270	970	K	4.31	0.62
92	TE 138	TE-IN038-B06-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
93	TE 139	TE-IN038-B14-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
94	TE 140	TE-IN038-B15-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
95	TE 141	TE-IN038-B18-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
96	TE 142	TE-IN038-B19-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
97	TE 143	TE-IN038-B10-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
98	TE 144	TE-IN038-B12-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
99	TE 145	TE-IN038-B04-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
100	TE 146	TE-IN038-B08-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
101	TE 147	TE-IN038-B22-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
102	TE 148	TE-IN038-B24-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
103	TE 149	TE-EX040-B09-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
104	TE 150	TE-EX040-B11-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
105	TE 151	TE-EX040-B01-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
106	TE 152	TE-EX040-B03-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
107	TE 153	TE-EX040-B05-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
108	TE 154	TE-EX040-B07-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
109	TE 155	TE-EX040-B21-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
110	TE 156	TE-EX040-B23-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
111	TE 157	TE-EX040-B02-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
112	TE 158	TE-EX040-B06-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
113	TE 159	TE-EX040-B14-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
114	TE 160	TE-EX040-B15-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
115	TE 161	TE-EX040-B18-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
116	TE 162	TE-EX040-B19-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
117	TE 163	TE-EX040-B10-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
118	TE 164	TE-EX040-B12-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
119	TE 165	TE-EX040-B04-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
120	TE 166	TE-EX040-B08-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
121	TE 167	TE-EX040-B22-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
122	TE 168	TE-EX040-B24-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
123	TE 169	TE-IN-002B02-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
124	TE 170	TE-IN-002B03-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
125	TE 171	TE-IN-002B06-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
126	TE 172	TE-IN-002B07-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
127	TE 173	TE-IN-002B09-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
128	TE 174	TE-IN-002B11-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
129	TE 175	TE-IN-002B14-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
130	TE 176	TE-IN-002B16-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
131	TE 177	TE-IN-002B18-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
132	TE 178	TE-IN-002B20-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
133	TE 179	TE-IN-002B21-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
134	TE 180	TE-IN-002B23-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
135	TE 181	TE-EX-000B02-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
136	TE 182	TE-EX-000B03-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
137	TE 183	TE-EX-000B06-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
138	TE 184	TE-EX-000B07-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
139	TE 185	TE-EX-000B09-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
140	TE 186	TE-EX-000B11-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
141	TE 187	TE-EX-000B14-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
142	TE 188	TE-EX-000B16-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
143	TE 189	TE-EX-000B18-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
144	TE 190	TE-EX-000B20-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
145	TE 191	TE-EX-000B21-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
146	TE 192	TE-EX-000B23-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
147	TE 193	TE-N000C-DC	Downcomer EL.0.0m,North	270	720	K	3.31	0.74
148	TE 194	TE-S000C-DC	Downcomer EL.0.0m,South	270	720	K	3.31	0.74
149	TE 195	TE-E000C-DC	Downcomer EL.0.0m,East	270	720	K	3.31	0.74
150	TE 196	TE-W000C-DC	Downcomer EL.0.0m,West	270	720	K	3.31	0.74
151	TE 197	TE-N018C-DC	Downcomer EL.1.8m,North	270	720	K	3.31	0.74
152	TE 198	TE-S018C-DC	Downcomer EL.1.8m,South	270	720	K	3.31	0.74
153	TE 199	TE-E018C-DC	Downcomer EL.1.8m,East	270	720	K	3.31	0.74
154	TE 200	TE-W018C-DC	Downcomer EL.1.8m,West	270	720	K	3.31	0.74
155	TE 201	TE-N036C-DC	Downcomer EL.3.6m,North	270	720	K	3.31	0.74
156	TE 202	TE-S036C-DC	Downcomer EL.3.6m,South	270	720	K	3.31	0.74
157	TE 203	TE-E036C-DC	Downcomer EL.3.6m,East	270	720	K	3.31	0.74
158	TE 204	TE-W036C-DC	Downcomer EL.3.6m,West	270	720	K	3.31	0.74
159	TE 205	TE-N060C-DC	Downcomer EL.6.0m,North	270	720	K	3.31	0.74
160	TE 206	TE-S060C-DC	Downcomer EL.6.0m,South	270	720	K	3.31	0.74
161	TE 207	TE-E060C-DC	Downcomer EL.6.0m,East	270	720	K	3.31	0.74
162	TE 208	TE-W060C-DC	Downcomer EL.6.0m,West	270	720	K	3.31	0.74
163	TE 209	TE-N055C-DC	Downcomer EL.5.5m,North	270	720	K	3.31	0.74
164	TE 210	TE-S055C-DC	Downcomer EL.5.5m,South	270	720	K	3.31	0.74
165	TE 211	TE-C-021-LP	Lower Plenum EL.-2.1m,C	270	720	K	3.31	0.74
166	TE 212	TE-C-018-LP	Lower Plenum EL.-1.8m,C	270	720	K	3.31	0.74

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
167	TE 213	TE-C-015-LP	Lower Plenum EL.-1.5m,C	270	720	K	3.31	0.74
168	TE 214	TE-C-012-LP	Lower Plenum EL.-1.2m,C	270	720	K	3.31	0.74
169	TE 215	TE-C-009-LP	Lower Plenum EL.-0.9m,C	270	720	K	3.31	0.74
170	TE 216	TE-C-006-LP	Lower Plenum EL.-0.6m,C	270	720	K	3.31	0.74
171	TE 217	TE-C-005-LP	Lower Plenum EL.-0.5m,C	270	720	K	3.31	0.74
172	TE 218	TE-C-003-LP	Lower Plenum EL.-0.3m,C	270	720	K	3.31	0.74
173	TE 219	TE-B18621	B18 Rod(6,2) Pos.1,Fluid	270	970	K	4.31	0.62
174	TE 220	TE-B18622	B18 Rod(6,2) Pos.2,Fluid	270	970	K	4.31	0.62
175	TE 221	TE-B18623	B18 Rod(6,2) Pos.3,Fluid	270	970	K	4.31	0.62
176	TE 222	TE-B18624	B18 Rod(6,2) Pos.4,Fluid	270	970	K	4.31	0.62
177	TE 223	TE-B18625	B18 Rod(6,2) Pos.5,Fluid	270	970	K	4.31	0.62
178	TE 224	TE-B18626	B18 Rod(6,2) Pos.6,Fluid	270	970	K	4.31	0.62
179	TE 225	TE-B18627	B18 Rod(6,2) Pos.7,Fluid	270	970	K	4.31	0.62
180	TE 226	TE-B18628	B18 Rod(6,2) Pos.8,Fluid	270	970	K	4.31	0.62
181	TE 227	TE-B18629	B18 Rod(6,2) Pos.9,Fluid	270	970	K	4.31	0.62
182	TE 234	TE-B14262	B14 Rod(2,6) Pos.2,Fluid	270	970	K	4.31	0.62
183	TE 235	TE-B14264	B14 Rod(2,6) Pos.4,Fluid	270	970	K	4.31	0.62
184	TE 236	TE-B14268	B14 Rod(2,6) Pos.8,Fluid	270	970	K	4.31	0.62
185	TE 255	TE-B09661	B09 Rod(6,6) Pos.1,Fluid	270	970	K	4.31	0.62
186	TE 256	TE-B09663	B09 Rod(6,6) Pos.3,Fluid	270	970	K	4.31	0.62
187	TE 257	TE-B09665	B09 Rod(6,6) Pos.5,Fluid	270	970	K	4.31	0.62
188	TE 258	TE-B09666	B09 Rod(6,6) Pos.6,Fluid	270	970	K	4.31	0.62
189	TE 259	TE-B09667	B09 Rod(6,6) Pos.7,Fluid	270	970	K	4.31	0.62
190	TE 260	TE-B09669	B09 Rod(6,6) Pos.9,Fluid	270	970	K	4.31	0.62
191	TE 273	TE-B14261	B14 Rod(2,6) Pos.1,Fluid	270	970	K	4.31	0.62
192	TE 274	TE-B14263	B14 Rod(2,6) Pos.3,Fluid	270	970	K	4.31	0.62
193	TE 275	TE-B14265	B14 Rod(2,6) Pos.5,Fluid	270	970	K	4.31	0.62
194	TE 276	TE-B14266	B14 Rod(2,6) Pos.6,Fluid	270	970	K	4.31	0.62
195	TE 277	TE-B14267	B14 Rod(2,6) Pos.7,Fluid	270	970	K	4.31	0.62
196	TE 278	TE-B14269	B14 Rod(2,6) Pos.9,Fluid	270	970	K	4.31	0.62
197	TE 279	TE-B15261	B15 Rod(2,6) Pos.1,Fluid	270	970	K	4.31	0.62
198	TE 280	TE-B15263	B15 Rod(2,6) Pos.3,Fluid	270	970	K	4.31	0.62
199	TE 281	TE-B15265	B15 Rod(2,6) Pos.5,Fluid	270	970	K	4.31	0.62
200	TE 282	TE-B15266	B15 Rod(2,6) Pos.6,Fluid	270	970	K	4.31	0.62
201	TE 283	TE-B15267	B15 Rod(2,6) Pos.7,Fluid	270	970	K	4.31	0.62
202	TE 284	TE-B15269	B15 Rod(2,6) Pos.9,Fluid	270	970	K	4.31	0.62
203	TE 291	TE-B15262	B15 Rod(2,6) Pos.2,Fluid	270	970	K	4.31	0.62
204	TE 292	TE-B15264	B15 Rod(2,6) Pos.4,Fluid	270	970	K	4.31	0.62
205	TE 293	TE-B15268	B15 Rod(2,6) Pos.8,Fluid	270	970	K	4.31	0.62
206	TE 294	TE-B23221	B23 Rod(2,2) Pos.1,Fluid	270	970	K	4.31	0.62
207	TE 295	TE-B23223	B23 Rod(2,2) Pos.3,Fluid	270	970	K	4.31	0.62
208	TE 296	TE-B23225	B23 Rod(2,2) Pos.5,Fluid	270	970	K	4.31	0.62
209	TE 297	TE-B23226	B23 Rod(2,2) Pos.6,Fluid	270	970	K	4.31	0.62
210	TE 298	TE-B23227	B23 Rod(2,2) Pos.7,Fluid	270	970	K	4.31	0.62
211	TE 299	TE-B23229	B23 Rod(2,2) Pos.9,Fluid	270	970	K	4.31	0.62
212	TE 300	TE-B20661	B20 Rod(6,6) Pos.1,Fluid	270	970	K	4.31	0.62
213	TE 301	TE-B20662	B20 Rod(6,6) Pos.2,Fluid	270	970	K	4.31	0.62
214	TE 302	TE-B20663	B20 Rod(6,6) Pos.3,Fluid	270	970	K	4.31	0.62
215	TE 303	TE-B20664	B20 Rod(6,6) Pos.4,Fluid	270	970	K	4.31	0.62
216	TE 304	TE-B20665	B20 Rod(6,6) Pos.5,Fluid	270	970	K	4.31	0.62
217	TE 305	TE-B20666	B20 Rod(6,6) Pos.6,Fluid	270	970	K	4.31	0.62
218	TE 306	TE-B20667	B20 Rod(6,6) Pos.7,Fluid	270	970	K	4.31	0.62
219	TE 307	TE-B20668	B20 Rod(6,6) Pos.8,Fluid	270	970	K	4.31	0.62
220	TE 308	TE-B20669	B20 Rod(6,6) Pos.9,Fluid	270	970	K	4.31	0.62
221	TE 309	TE-B22661	B22 Rod(6,6) Pos.1,Fluid	270	970	K	4.31	0.62
222	TE 310	TE-B22662	B22 Rod(6,6) Pos.2,Fluid	270	970	K	4.31	0.62
223	TE 311	TE-B22663	B22 Rod(6,6) Pos.3,Fluid	270	970	K	4.31	0.62
224	TE 312	TE-B22664	B22 Rod(6,6) Pos.4,Fluid	270	970	K	4.31	0.62
225	TE 313	TE-B22665	B22 Rod(6,6) Pos.5,Fluid	270	970	K	4.31	0.62
226	TE 314	TE-B22666	B22 Rod(6,6) Pos.6,Fluid	270	970	K	4.31	0.62
227	TE 315	TE-B22667	B22 Rod(6,6) Pos.7,Fluid	270	970	K	4.31	0.62
228	TE 316	TE-B22668	B22 Rod(6,6) Pos.8,Fluid	270	970	K	4.31	0.62
229	TE 317	TE-B22669	B22 Rod(6,6) Pos.9,Fluid	270	970	K	4.31	0.62
230	TE 318	TE-B24621	B24 Rod(6,2) Pos.1,Fluid	270	970	K	4.31	0.62
231	TE 319	TE-B24623	B24 Rod(6,2) Pos.3,Fluid	270	970	K	4.31	0.62
232	TE 320	TE-B24625	B24 Rod(6,2) Pos.5,Fluid	270	970	K	4.31	0.62
233	TE 321	TE-B24626	B24 Rod(6,2) Pos.6,Fluid	270	970	K	4.31	0.62
234	TE 322	TE-B24627	B24 Rod(6,2) Pos.7,Fluid	270	970	K	4.31	0.62
235	TE 323	TE-B24629	B24 Rod(6,2) Pos.9,Fluid	270	970	K	4.31	0.62
236	TE 324	TE-IN0641-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
237	TE 325	TE-IN0642-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
238	TE 326	TE-IN0643-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
239	TE 330	TE-IN0861-SGA	SGA U-Tube(1,IN) Pos.1	270	720	K	3.31	0.74
240	TE 331	TE-IN0862-SGA	SGA U-Tube(2,IN) Pos.1	270	720	K	3.31	0.74
241	TE 332	TE-IN0863-SGA	SGA U-Tube(3,IN) Pos.1	270	720	K	3.31	0.74
242	TE 333	TE-IN0864-SGA	SGA U-Tube(4,IN) Pos.1	270	720	K	3.31	0.74
243	TE 334	TE-IN0865-SGA	SGA U-Tube(5,IN) Pos.1	270	720	K	3.31	0.74
244	TE 335	TE-IN0866-SGA	SGA U-Tube(6,IN) Pos.1	270	720	K	3.31	0.74
245	TE 336	TE-EX0861-SGA	SGA U-Tube(1,EX) Pos.1	270	720	K	3.31	0.74
246	TE 337	TE-EX0862-SGA	SGA U-Tube(2,EX) Pos.1	270	720	K	3.31	0.74
247	TE 338	TE-EX0863-SGA	SGA U-Tube(3,EX) Pos.1	270	720	K	3.31	0.74
248	TE 339	TE-EX0864-SGA	SGA U-Tube(4,EX) Pos.1	270	720	K	3.31	0.74
249	TE 340	TE-EX0865-SGA	SGA U-Tube(5,EX) Pos.1	270	720	K	3.31	0.74

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
250	TE 341	TE-EX0866-SGA	SGA U-Tube(6,EX) Pos.1	270	720	K	3.31	0.74
251	TE 342	TE-IN0931-SGA	SGA U-Tube(1,IN) Pos.2	270	720	K	3.31	0.74
252	TE 343	TE-IN0932-SGA	SGA U-Tube(2,IN) Pos.2	270	720	K	3.31	0.74
253	TE 344	TE-IN0933-SGA	SGA U-Tube(3,IN) Pos.2	270	720	K	3.31	0.74
254	TE 345	TE-IN0934-SGA	SGA U-Tube(4,IN) Pos.2	270	720	K	3.31	0.74
255	TE 346	TE-IN0935-SGA	SGA U-Tube(5,IN) Pos.2	270	720	K	3.31	0.74
256	TE 347	TE-IN0936-SGA	SGA U-Tube(6,IN) Pos.2	270	720	K	3.31	0.74
257	TE 348	TE-IN0991-SGA	SGA U-Tube(1,IN) Pos.3	270	720	K	3.31	0.74
258	TE 349	TE-EX0991-SGA	SGA U-Tube(1,EX) Pos.3	270	720	K	3.31	0.74
259	TE 350	TE-IN0992-SGA	SGA U-Tube(2,IN) Pos.3	270	720	K	3.31	0.74
260	TE 351	TE-EX0992-SGA	SGA U-Tube(2,EX) Pos.3	270	720	K	3.31	0.74
261	TE 352	TE-IN0993-SGA	SGA U-Tube(3,IN) Pos.3	270	720	K	3.31	0.74
262	TE 353	TE-EX0993-SGA	SGA U-Tube(3,EX) Pos.3	270	720	K	3.31	0.74
263	TE 354	TE-IN0994-SGA	SGA U-Tube(4,IN) Pos.3	270	720	K	3.31	0.74
264	TE 355	TE-EX0994-SGA	SGA U-Tube(4,EX) Pos.3	270	720	K	3.31	0.74
265	TE 356	TE-IN0995-SGA	SGA U-Tube(5,IN) Pos.3	270	720	K	3.31	0.74
266	TE 357	TE-EX0995-SGA	SGA U-Tube(5,EX) Pos.3	270	720	K	3.31	0.74
267	TE 358	TE-IN0996-SGA	SGA U-Tube(6,IN) Pos.3	270	720	K	3.31	0.74
268	TE 359	TE-EX0996-SGA	SGA U-Tube(6,EX) Pos.3	270	720	K	3.31	0.74
269	TE 360	TE-IN1051-SGA	SGA U-Tube(1,IN) Pos.4	270	720	K	3.31	0.74
270	TE 361	TE-IN1052-SGA	SGA U-Tube(2,IN) Pos.4	270	720	K	3.31	0.74
271	TE 362	TE-IN1053-SGA	SGA U-Tube(3,IN) Pos.4	270	720	K	3.31	0.74
272	TE 363	TE-IN1054-SGA	SGA U-Tube(4,IN) Pos.4	270	720	K	3.31	0.74
273	TE 364	TE-IN1055-SGA	SGA U-Tube(5,IN) Pos.4	270	720	K	3.31	0.74
274	TE 365	TE-IN1056-SGA	SGA U-Tube(6,IN) Pos.4	270	720	K	3.31	0.74
275	TE 366	TE-IN1121-SGA	SGA U-Tube(1,IN) Pos.5	270	720	K	3.31	0.74
276	TE 367	TE-EX1121-SGA	SGA U-Tube(1,EX) Pos.5	270	720	K	3.31	0.74
277	TE 368	TE-IN1122-SGA	SGA U-Tube(2,IN) Pos.5	270	720	K	3.31	0.74
278	TE 369	TE-EX1122-SGA	SGA U-Tube(2,EX) Pos.5	270	720	K	3.31	0.74
279	TE 370	TE-IN1123-SGA	SGA U-Tube(3,IN) Pos.5	270	720	K	3.31	0.74
280	TE 371	TE-EX1123-SGA	SGA U-Tube(3,EX) Pos.5	270	720	K	3.31	0.74
281	TE 372	TE-IN1124-SGA	SGA U-Tube(4,IN) Pos.5	270	720	K	3.31	0.74
282	TE 373	TE-EX1124-SGA	SGA U-Tbue(4,EX) Pos.5	270	720	K	3.31	0.74
283	TE 374	TE-IN1125-SGA	SGA U-Tube(5,IN) Pos.5	270	720	K	3.31	0.74
284	TE 375	TE-EX1125-SGA	SGA U-Tube(5,EX) Pos.5	270	720	K	3.31	0.74
285	TE 376	TE-IN1126-SGA	SGA U-Tube(6,IN) Pos.5	270	720	K	3.31	0.74
286	TE 377	TE-EX1126-SGA	SGA U-Tube(6,EX) Pos.5	270	720	K	3.31	0.74
287	TE 378	TE-IN1251-SGA	SGA U-Tube(1,IN) Pos.6	270	720	K	3.31	0.74
288	TE 379	TE-EX1251-SGA	SGA U-Tube(1,EX) Pos.6	270	720	K	3.31	0.74
289	TE 380	TE-IN1252-SGA	SGA U-Tube(2,IN) Pos.6	270	720	K	3.31	0.74
290	TE 381	TE-EX1252-SGA	SGA U-Tube(2,EX) Pos.6	270	720	K	3.31	0.74
291	TE 382	TE-IN1253-SGA	SGA U-Tube(3,IN) Pos.6	270	720	K	3.31	0.74
292	TE 383	TE-EX1253-SGA	SGA U-Tube(3,EX) Pos.6	270	720	K	3.31	0.74
293	TE 384	TE-IN1254-SGA	SGA U-Tube(4,IN) Pos.6	270	720	K	3.31	0.74
294	TE 385	TE-EX1254-SGA	SGA U-Tube(4,EX) Pos.6	270	720	K	3.31	0.74
295	TE 386	TE-IN1255-SGA	SGA U-Tube(5,IN) Pos.6	270	720	K	3.31	0.74
296	TE 387	TE-EX1255-SGA	SGA U-Tube(5,EX) Pos.6	270	720	K	3.31	0.74
297	TE 388	TE-IN1256-SGA	SGA U-Tube(6,IN) Pos.6	270	720	K	3.31	0.74
298	TE 389	TE-EX1256-SGA	SGA U-Tube(6,EX) Pos.6	270	720	K	3.31	0.74
299	TE 390	TE-IN1371-SGA	SGA U-Tube(1,IN) Pos.7	270	720	K	3.31	0.74
300	TE 391	TE-EX1371-SGA	SGA U-Tube(1,EX) Pos.7	270	720	K	3.31	0.74
301	TE 392	TE-IN1372-SGA	SGA U-Tube(2,IN) Pos.7	270	720	K	3.31	0.74
302	TE 393	TE-EX1372-SGA	SGA U-Tube(2,EX) Pos.7	270	720	K	3.31	0.74
303	TE 394	TE-IN1373-SGA	SGA U-Tube(3,IN) Pos.7	270	720	K	3.31	0.74
304	TE 395	TE-EX1373-SGA	SGA U-Tube(3,EX) Pos.7	270	720	K	3.31	0.74
305	TE 396	TE-IN1374-SGA	SGA U-Tube(4,IN) Pos.7	270	720	K	3.31	0.74
306	TE 397	TE-EX1374-SGA	SGA U-Tube(4,EX) Pos.7	270	720	K	3.31	0.74
307	TE 398	TE-IN1375-SGA	SGA U-Tube(5,IN) Pos.7	270	720	K	3.31	0.74
308	TE 399	TE-EX1375-SGA	SGA U-Tube(5,EX) Pos.7	270	720	K	3.31	0.74
309	TE 400	TE-IN1376-SGA	SGA U-Tube(6,IN) Pos.7	270	720	K	3.31	0.74
310	TE 401	TE-EX1376-SGA	SGA U-Tube(6,EX) Pos.7	270	720	K	3.31	0.74
311	TE 402	TE-IN1501-SGA	SGA U-Tube(1,IN) Pos.8	270	720	K	3.31	0.74
312	TE 403	TE-EX1501-SGA	SGA U-Tube(1,EX) Pos.8	270	720	K	3.31	0.74
313	TE 404	TE-IN1502-SGA	SGA U-Tube(2,IN) Pos.8	270	720	K	3.31	0.74
314	TE 405	TE-EX1502-SGA	SGA U-Tube(2,EX) Pos.8	270	720	K	3.31	0.74
315	TE 406	TE-IN1503-SGA	SGA U-Tube(3,IN) Pos.8	270	720	K	3.31	0.74
316	TE 407	TE-EX1503-SGA	SGA U-Tube(3,EX) Pos.8	270	720	K	3.31	0.74
317	TE 408	TE-IN1504-SGA	SGA U-Tube(4,IN) Pos.8	270	720	K	3.31	0.74
318	TE 409	TE-EX1504-SGA	SGA U-Tube(4,EX) Pos.8	270	720	K	3.31	0.74
319	TE 410	TE-IN1505-SGA	SGA U-Tube(5,IN) Pos.8	270	720	K	3.31	0.74
320	TE 411	RE-EX1505-SGA	SGA U-Tube(5,EX) Pos.8	270	720	K	3.31	0.74
321	TE 412	TE-IN1506-SGA	SGA U-Tube(6,IN) Pos.8	270	720	K	3.31	0.74
322	TE 413	TE-EX1506-SGA	SGA U-Tube(6,EX) Pos.8	270	720	K	3.31	0.74
323	TE 414	TE-IN1632-SGA	SGA U-Tube(2,IN) Pos.9	270	720	K	3.31	0.74
324	TE 415	TE-EX1632-SGA	SGA U-Tube(2,EX) Pos.9	270	720	K	3.31	0.74
325	TE 416	TE-IN1633-SGA	SGA U-Tube(3,IN) Pos.9	270	720	K	3.31	0.74
326	TE 417	TE-EX1633-SGA	SGA U-Tube(3,EX) Pos.9	270	720	K	3.31	0.74
327	TE 418	TE-IN1634-SGA	SGA U-Tube(4,IN) Pos.9	270	720	K	3.31	0.74
328	TE 419	TE-EX1634-SGA	SGA U-Tube(4,EX) Pos.9	270	720	K	3.31	0.74
329	TE 420	TE-IN1635-SGA	SGA U-Tube(5,IN) Pos.9	270	720	K	3.31	0.74
330	TE 421	TE-EX1635-SGA	SGA U-Tube(5,EX) Pos.9	270	720	K	3.31	0.74
331	TE 422	TE-IN1701-SGA	SGA U-Tube(1,IN) Pos.10	270	720	K	3.31	0.74
332	TE 423	TE-IN1706-SGA	SGA U-Tube(6,IN) Pos.10	270	720	K	3.31	0.74

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
333	TE 424	TE-IN1782-SGA	SGA U-Tube(2,IN) Pos.10	270	720	K	3.31	0.74
334	TE 425	TE-IN1785-SGA	SGA U-Tube(5,IN) Pos.10	270	720	K	3.31	0.74
335	TE 426	TE-IN1863-SGA	SGA U-Tube(3,IN) Pos.11	270	720	K	3.31	0.74
336	TE 427	TE-IN1864-SGA	SGA U-Tube(4,IN) Pos.11	270	720	K	3.31	0.74
337	TE 428	TE-223D-SGA	SGA Steam Dome	270	670	K	3.11	0.78
338	TE 429	TE-086C-SGA	SGA Boiling Section Pos.1	270	670	K	3.11	0.78
339	TE 430	TE-099C-SGA	SGA Boiling Section Pos.3	270	670	K	3.11	0.78
340	TE 431	TE-112C-SGA	SGA Boiling Section Pos.5	270	670	K	3.11	0.78
341	TE 432	TE-125C-SGA	SGA Boiling Section Pos.6	270	670	K	3.11	0.78
342	TE 433	TE-137C-SGA	SGA Boiling Section Pos.7	270	670	K	3.11	0.78
343	TE 434	TE-150C-SGA	SGA Boiling Section Pos.8	270	670	K	3.11	0.78
344	TE 435	TE-163C-SGA	SGA Boiling Section Pos.9	270	670	K	3.11	0.78
345	TE 436	TE-178C-SGA	SGA Boiling Section Pos.10	270	670	K	3.11	0.78
346	TE 437	TE-192F-SGA	SGA Boiling Section	270	670	K	3.11	0.78
347	TE 438	TE-208F-SGA	SGA Separator	270	670	K	3.11	0.78
348	TE 439	TE-192C-SGA	SGA Downcomer	270	670	K	3.11	0.78
349	TE 440	TE-208C-SGA	SGA Downcomer	270	670	K	3.11	0.78
350	TE 441	TE-223C-SGA	SGA Steam Dome	270	670	K	3.11	0.78
351	TE 442	TE-245C-SGA	SGA Steam Dome	270	670	K	3.11	0.78
352	TE 443	TE-IN0641-SGB	SGB Inlet Plenum	270	720	K	3.31	0.74
353	TE 444	TE-IN0642-SGB	SGB Inlet Plenum	270	720	K	3.31	0.74
354	TE 445	TE-IN0643-SGB	SGB Inlet Plenum	270	720	K	3.31	0.74
355	TE 449	TE-IN0861-SGB	SGB U-Tube(1,IN) Pos.1	270	720	K	3.31	0.74
356	TE 450	TE-IN0862-SGB	SGB U-Tube(2,IN) Pos.1	270	720	K	3.31	0.74
357	TE 451	TE-IN0863-SGB	SGB U-Tube(3,IN) Pos.1	270	720	K	3.31	0.74
358	TE 452	TE-IN0864-SGB	SGB U-Tube(4,IN) Pos.1	270	720	K	3.31	0.74
359	TE 453	TE-IN0865-SGB	SGB U-Tube(5,IN) Pos.1	270	720	K	3.31	0.74
360	TE 454	TE-IN0866-SGB	SGB U-Tube(6,IN) Pos.1	270	720	K	3.31	0.74
361	TE 455	TE-EX0861-SGB	SGB U-Tube(1,EX) Pos.1	270	720	K	3.31	0.74
362	TE 456	TE-EX0862-SGB	SGB U-Tube(2,EX) Pos.1	270	720	K	3.31	0.74
363	TE 457	TE-EX0863-SGB	SGB U-Tube(3,EX) Pos.1	270	720	K	3.31	0.74
364	TE 458	TE-EX0864-SGB	SGB U-Tube(4,EX) Pos.1	270	720	K	3.31	0.74
365	TE 459	TE-EX0865-SGB	SGB U-Tube(5,EX) Pos.1	270	720	K	3.31	0.74
366	TE 460	TE-EX0866-SGB	SGB U-Tube(6,EX) Pos.1	270	720	K	3.31	0.74
367	TE 461	TE-IN0931-SGB	SGB U-Tube(1,IN) Pos.2	270	720	K	3.31	0.74
368	TE 462	TE-IN0932-SGB	SGB U-Tube(2,IN) Pos.2	270	720	K	3.31	0.74
369	TE 463	TE-IN0933-SGB	SGB U-Tube(3,IN) Pos.2	270	720	K	3.31	0.74
370	TE 464	TE-IN0934-SGB	SGB U-Tube(4,IN) Pos.2	270	720	K	3.31	0.74
371	TE 465	TE-IN0935-SGB	SGB U-Tube(5,IN) Pos.2	270	720	K	3.31	0.74
372	TE 466	TE-IN0936-SGB	SGB U-Tube(6,IN) Pos.2	270	720	K	3.31	0.74
373	TE 467	TE-IN0991-SGB	SGB U-Tube(1,IN) Pos.3	270	720	K	3.31	0.74
374	TE 468	TE-EX0991-SGB	SGB U-Tube(1,EX) Pos.3	270	720	K	3.31	0.74
375	TE 469	TE-IN0992-SGB	SGB U-Tube(2,IN) Pos.3	270	720	K	3.31	0.74
376	TE 470	TE-EX0992-SGB	SGB U-Tube(2,EX) Pos.3	270	720	K	3.31	0.74
377	TE 471	TE-IN0993-SGB	SGB U-Tube(3,IN) Pos.3	270	720	K	3.31	0.74
378	TE 472	TE-EX0993-SGB	SGB U-Tube(3,EX) Pos.3	270	720	K	3.31	0.74
379	TE 473	TE-IN0994-SGB	SGB U-Tube(4,IN) Pos.3	270	720	K	3.31	0.74
380	TE 474	TE-EX0994-SGB	SGB U-Tube(4,EX) Pos.3	270	720	K	3.31	0.74
381	TE 475	TE-IN0995-SGB	SGB U-Tube(5,IN) Pos.3	270	720	K	3.31	0.74
382	TE 476	TE-EX0995-SGB	SGB U-Tube(5,EX) Pos.3	270	720	K	3.31	0.74
383	TE 477	TE-IN0996-SGB	SGB U-Tube(6,IN) Pos.3	270	720	K	3.31	0.74
384	TE 478	TE-EX0996-SGB	SGB U-Tube(6,EX) Pos.3	270	720	K	3.31	0.74
385	TE 479	TE-IN1051-SGB	SGB U-Tube(1,IN) Pos.4	270	720	K	3.31	0.74
386	TE 480	TE-IN1052-SGB	SGB U-Tube(2,IN) Pos.4	270	720	K	3.31	0.74
387	TE 481	TE-IN1053-SGB	SGB U-Tube(3,IN) Pos.4	270	720	K	3.31	0.74
388	TE 482	TE-IN1054-SGB	SGB U-Tube(4,IN) Pos.4	270	720	K	3.31	0.74
389	TE 483	TE-IN1055-SGB	SGB U-Tube(5,IN) Pos.4	270	720	K	3.31	0.74
390	TE 484	TE-IN1056-SGB	SGB U-Tube(6,IN) Pos.4	270	720	K	3.31	0.74
391	TE 485	TE-IN1121-SGB	SGB U-Tube(1,IN) Pos.5	270	720	K	3.31	0.74
392	TE 486	TE-EX1121-SGB	SGB U-Tube(1,EX) Pos.5	270	720	K	3.31	0.74
393	TE 487	TE-IN1122-SGB	SGB U-Tube(2,IN) Pos.5	270	720	K	3.31	0.74
394	TE 488	TE-EX1122-SGB	SGB U-Tube(2,EX) Pos.5	270	720	K	3.31	0.74
395	TE 489	TE-IN1123-SGB	SGB U-Tube(3,IN) Pos.5	270	720	K	3.31	0.74
396	TE 490	TE-EX1123-SGB	SGB U-Tube(3,EX) Pos.5	270	720	K	3.31	0.74
397	TE 491	TE-IN1124-SGB	SGB U-Tube(4,IN) Pos.5	270	720	K	3.31	0.74
398	TE 492	TE-EX1124-SGB	SGB U-Tube(4,EX) Pos.5	270	720	K	3.31	0.74
399	TE 493	TE-IN1125-SGB	SGB U-Tube(5,IN) Pos.5	270	720	K	3.31	0.74
400	TE 494	TE-EX1125-SGB	SGB U-Tube(5,EX) Pos.5	270	720	K	3.31	0.74
401	TE 495	TE-IN1126-SGB	SGB U-Tube(6,IN) Pos.5	270	720	K	3.31	0.74
402	TE 496	TE-EX1126-SGB	SGB U-Tube(6,EX) Pos.5	270	720	K	3.31	0.74
403	TE 497	TE-IN1251-SGB	SGB U-Tube(1,IN) Pos.6	270	720	K	3.31	0.74
404	TE 498	TE-EX1251-SGB	SGB U-Tube(1,EX) Pos.6	270	720	K	3.31	0.74
405	TE 499	TE-IN1252-SGB	SGB U-Tube(2,IN) Pos.6	270	720	K	3.31	0.74
406	TE 500	TE-EX1252-SGB	SGB U-Tube(2,EX) Pos.6	270	720	K	3.31	0.74
407	TE 501	TE-IN1253-SGB	SGB U-Tube(3,IN) Pos.6	270	720	K	3.31	0.74
408	TE 502	TE-EX1253-SGB	SGB U-Tube(3,EX) Pos.6	270	720	K	3.31	0.74
409	TE 503	TE-IN1254-SGB	SGB U-Tube(4,IN) Pos.6	270	720	K	3.31	0.74
410	TE 504	TE-EX1254-SGB	SGB U-Tube(4,EX) Pos.6	270	720	K	3.31	0.74
411	TE 505	TE-IN1255-SGB	SGB U-Tube(5,IN) Pos.6	270	720	K	3.31	0.74
412	TE 506	TE-EX1255-SGB	SGB U-Tube(5,EX) Pos.6	270	720	K	3.31	0.74
413	TE 507	TE-IN1256-SGB	SGB U-Tube(6,IN) Pos.6	270	720	K	3.31	0.74
414	TE 508	TE-EX1256-SGB	SGB U-Tube(6,EX) Pos.6	270	720	K	3.31	0.74
415	TE 509	TE-IN1371-SGB	SGB U-Tube(1,IN) Pos.7	270	720	K	3.31	0.74

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
416	TE 510	TE-EX1371-SGB	SGB U-Tube(1,EX) Pos.7	270	720	K	3.31	0.74
417	TE 511	TE-IN1372-SGB	SGB U-Tube(2,IN) Pos.7	270	720	K	3.31	0.74
418	TE 512	TE-EX1372-SGB	SGB U-Tube(2,EX) Pos.7	270	720	K	3.31	0.74
419	TE 513	TE-IN1373-SGB	SGB U-Tube(3,IN) Pos.7	270	720	K	3.31	0.74
420	TE 514	TE-EX1373-SGB	SGB U-Tube(3,EX) Pos.7	270	720	K	3.31	0.74
421	TE 515	TE-IN1374-SGB	SGB U-Tube(4,IN) Pos.7	270	720	K	3.31	0.74
422	TE 516	TE-EX1374-SGB	SGB U-Tube(4,EX) Pos.7	270	720	K	3.31	0.74
423	TE 517	TE-IN1375-SGB	SGB U-Tube(5,IN) Pos.7	270	720	K	3.31	0.74
424	TE 518	TE-EX1375-SGB	SGB U-Tube(5,EX) Pos.7	270	720	K	3.31	0.74
425	TE 519	TE-IN1376-SGB	SGB U-Tube(6,IN) Pos.7	270	720	K	3.31	0.74
426	TE 520	TE-EX1376-SGB	SGB U-Tube(6,EX) Pos.7	270	720	K	3.31	0.74
427	TE 521	TE-IN1501-SGB	SGB U-Tube(1,IN) Pos.8	270	720	K	3.31	0.74
428	TE 522	TE-EX1501-SGB	SGB U-Tube(1,EX) Pos.8	270	720	K	3.31	0.74
429	TE 523	TE-IN1502-SGB	SGB U-Tube(2,IN) Pos.8	270	720	K	3.31	0.74
430	TE 524	TE-EX1502-SGB	SGB U-Tube(2,EX) Pos.8	270	720	K	3.31	0.74
431	TE 525	TE-IN1503-SGB	SGB U-Tube(3,IN) Pos.8	270	720	K	3.31	0.74
432	TE 526	TE-EX1503-SGB	SGB U-Tube(3,EX) Pos.8	270	720	K	3.31	0.74
433	TE 527	TE-IN1504-SGB	SGB U-Tube(4,IN) Pos.8	270	720	K	3.31	0.74
434	TE 528	TE-EX1504-SGB	SGB U-Tube(4,EX) Pos.8	270	720	K	3.31	0.74
435	TE 529	TE-IN1505-SGB	SGB U-Tube(5,IN) Pos.8	270	720	K	3.31	0.74
436	TE 530	TE-EX1505-SGB	SGB U-Tube(5,EX) Pos.8	270	720	K	3.31	0.74
437	TE 531	TE-IN1506-SGB	SGB U-Tube(6,IN) Pos.8	270	720	K	3.31	0.74
438	TE 532	TE-EX1506-SGB	SGB U-Tube(6,EX) Pos.8	270	720	K	3.31	0.74
439	TE 533	TE-IN1632-SGB	SGB U-Tube(2,IN) Pos.9	270	720	K	3.31	0.74
440	TE 534	TE-EX1632-SGB	SGB U-Tube(2,EX) Pos.9	270	720	K	3.31	0.74
441	TE 535	TE-IN1633-SGB	SGB U-Tube(3,IN) Pos.9	270	720	K	3.31	0.74
442	TE 536	TE-EX1633-SGB	SGB U-Tube(3,EX) Pos.9	270	720	K	3.31	0.74
443	TE 537	TE-IN1634-SGB	SGB U-Tube(4,IN) Pos.9	270	720	K	3.31	0.74
444	TE 538	TE-EX1634-SGB	SGB U-Tube(4,EX) Pos.9	270	720	K	3.31	0.74
445	TE 539	TE-IN1635-SGB	SGB U-Tube(5,IN) Pos.9	270	720	K	3.31	0.74
446	TE 540	TE-EX1635-SGB	SGB U-Tube(5,EX) Pos.9	270	720	K	3.31	0.74
447	TE 541	TE-IN1701-SGB	SGB U-Tube(1,IN) Pos.10	270	720	K	3.31	0.74
448	TE 542	TE-IN1706-SGB	SGB U-Tube(6,IN) Pos.10	270	720	K	3.31	0.74
449	TE 543	TE-IN1782-SGB	SGB U-Tube(2,IN) Pos.10	270	720	K	3.31	0.74
450	TE 544	TE-IN1785-SGB	SGB U-Tube(5,IN) Pos.10	270	720	K	3.31	0.74
451	TE 545	TE-IN1863-SGB	SGB U-Tube(3,IN) Pos.11	270	720	K	3.31	0.74
452	TE 546	TE-IN1864-SGB	SGB U-Tube(4,IN) Pos.11	270	720	K	3.31	0.74
453	TE 547	TE-223D-SGB	SGB Steam Dome	270	670	K	3.11	0.78
454	TE 548	TE-086C-SGB	SGB Boiling Section Pos.1	270	670	K	3.11	0.78
455	TE 549	TE-099C-SGB	SGB Boiling Section Pos.3	270	670	K	3.11	0.78
456	TE 550	TE-112C-SGB	SGB Boiling Section Pos.5	270	670	K	3.11	0.78
457	TE 551	TE-125C-SGB	SGB Boiling Section Pos.6	270	670	K	3.11	0.78
458	TE 552	TE-137C-SGB	SGB Boiling Section Pos.7	270	670	K	3.11	0.78
459	TE 553	TE-150C-SGB	SGB Boiling Section Pos.8	270	670	K	3.11	0.78
460	TE 554	TE-163C-SGB	SGB Boiling Section Pos.9	270	670	K	3.11	0.78
461	TE 555	TE-178C-SGB	SGB Boiling Section Pos.10	270	670	K	3.11	0.78
462	TE 556	TE-192F-SGB	SGB Boiling Section	270	670	K	3.11	0.78
463	TE 557	TE-208F-SGB	SGB Separator	270	670	K	3.11	0.78
464	TE 558	TE-192C-SGB	SGB Downcomer	270	670	K	3.11	0.78
465	TE 559	TE-208C-SGB	SGB Downcomer	270	670	K	3.11	0.78
466	TE 560	TE-223C-SGB	SGB Steam Dome	270	670	K	3.11	0.78
467	TE 561	TE-245C-SGB	SGB Steam Dome	270	670	K	3.11	0.78
468	TE 562	TE-211C-PR	PR Fluid	270	720	K	3.31	0.74
469	TE 563	TE-194C-PR	PR Fluid	270	720	K	3.31	0.74
470	TE 564	TE-177C-PR	PR Fluid	270	720	K	3.31	0.74
471	TE 596	TE-177D-PR	PR Fluid	270	720	K	3.31	0.74
472	TE 597	TE-181D-PR	PR Fluid	270	720	K	3.31	0.74
473	TE 598	TE-185D-PR	PR Fluid	270	720	K	3.31	0.74
474	TE 599	TE-189D-PR	PR Fluid	270	720	K	3.31	0.74
475	TE 600	TE-192D-PR	PR Fluid	270	720	K	3.31	0.74
476	TE 601	TE-196D-PR	PR Fluid	270	720	K	3.31	0.74
477	TE 602	TE-200D-PR	PR Fluid	270	720	K	3.31	0.74
478	TE 603	TE-204D-PR	PR Fluid	270	720	K	3.31	0.74
479	TE 604	TE-207D-PR	PR Fluid	270	720	K	3.31	0.74
480	TE 605	TE-211D-PR	PR Fluid	270	720	K	3.31	0.74
481	TE 606	TE011A-HLA	HLA S.P Top	270	720	K	3.31	0.74
482	TE 607	TE011B-HLA	HLA S.P Side	270	720	K	3.31	0.74
483	TE 608	TE011C-HLA	HLA S.P Bottom	270	720	K	3.31	0.74
484	TE 609	TE012C-HLA	HLA S.P Top	270	720	K	3.31	0.74
485	TE 610	TE012D-HLA	HLA S.P Bottom	270	720	K	3.31	0.74
486	TE 613	TE051C-LSA	LSA S.P West	270	720	K	3.31	0.74
487	TE 614	TE051D-LSA	LSA S.P North	270	720	K	3.31	0.74
488	TE 615	TE052-LSA	LSA S.P	270	720	K	3.31	0.74
489	TE 616	TE071A-CLA	CLA S.P Top	270	720	K	3.31	0.74
490	TE 617	TE071B-CLA	CLA S.P Side	270	720	K	3.31	0.74
491	TE 618	TE071C-CLA	CLA S.P Bottom	270	720	K	3.31	0.74
492	TE 619	TE072C-CLA	CLA S.P Top	270	720	K	3.31	0.74
493	TE 620	TE072D-CLA	CLA S.P Bottom	270	720	K	3.31	0.74
494	TE 622	TE151B-HLB	HLB S.P Side	270	720	K	3.31	0.74
495	TE 623	TE151C-HLB	HLB S.P Bottom	270	720	K	3.31	0.74
496	TE 624	TE152C-HLB	HLB S.P Top	270	720	K	3.31	0.74
497	TE 625	TE152D-HLB	HLB S.P Bottom	270	720	K	3.31	0.74
498	TE 626	TE191A-LSB	LSB S.P West	270	720	K	3.31	0.74

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
499	TE 628	TE191C-LSB	LSB S.P East	270	720	K	3.31	0.74
500	TE 629	TE191D-LSB	LSB S.P South	270	720	K	3.31	0.74
501	TE 630	TE192-LSB	LSB S.P	270	720	K	3.31	0.74
502	TE 631	TE211A-CLB	CLB S.P Top	270	720	K	3.31	0.74
503	TE 634	TE212C-CLB	CLB S.P Top	270	720	K	3.31	0.74
504	TE 635	TE212D-CLB	CLB S.P Bottom	270	720	K	3.31	0.74
505	TE 636	TE291C-PR	PR Relief Valve Line	270	720	K	3.31	0.74
506	TE 637	TE291D-PR	PR Relief Valve Line	270	720	K	3.31	0.74
507	TE 664	TE-E-006-DC	PV Downcomer DTT East	270	720	K	3.31	0.74
508	TE 665	TE-W-006-DC	PV Downcomer DTT West	270	720	K	3.31	0.74
509	TE 670	TE-111A-CDP	PLR-02-1 Fluid EL.-1.18m	270	720	K	3.31	0.74
510	TE 671	TE-111B-CDP	PLR-02-1 Fluid EL. 0.25m	270	720	K	3.31	0.74
511	TE 672	TE-112A-CDP	PLR-01-2 Fluid EL.-1.18m	270	720	K	3.31	0.74
512	TE 673	TE-112B-CDP	PLR-01-2 Fluid EL. 0.61m	270	720	K	3.31	0.74
513	TE 674	TE-113A-CDP	PLR-08-3 Fluid EL.-1.18m	270	720	K	3.31	0.74
514	TE 675	TE-113B-CDP	PLR-08-3 Fluid EL. 1.01m	270	720	K	3.31	0.74
515	TE 676	TE-114A-CDP	PLR-07-4 Fluid EL.-1.18m	270	720	K	3.31	0.74
516	TE 677	TE-114B-CDP	PLR-07-4 Fluid EL. 1.42m	270	720	K	3.31	0.74
517	TE 678	TE-115A-CDP	PLR-06-5 Fluid EL.-1.18m	270	720	K	3.31	0.74
518	TE 679	TE-115B-CDP	PLR-06-5 Fluid EL. 0.21m	270	720	K	3.31	0.74
519	TE 680	TE-115C-CDP	PLR-06-5 Fluid EL. 1.83m	270	720	K	3.31	0.74
520	TE 681	TE-116A-CDP	PLR-05-6 Fluid EL.-1.18m	270	720	K	3.31	0.74
521	TE 682	TE-116B-CDP	PLR-05-6 Fluid EL. 0.21m	270	720	K	3.31	0.74
522	TE 683	TE-116C-CDP	PLR-05-6 Fluid EL. 2.24m	270	720	K	3.31	0.74
523	TE 684	TE-117A-CDP	PLR-04-7 Fluid EL.-1.18m	270	720	K	3.31	0.74
524	TE 685	TE-117B-CDP	PLR-04-7 Fluid EL. 0.21m	270	720	K	3.31	0.74
525	TE 686	TE-117C-CDP	PLR-04-7 Fluid EL. 2.64m	270	720	K	3.31	0.74
526	TE 687	TE-118A-CDP	PLR-03-8 Fluid EL.-1.18m	270	720	K	3.31	0.74
527	TE 688	TE-118B-CDP	PLR-03-8 Fluid EL. 0.21m	270	720	K	3.31	0.74
528	TE 689	TE-118C-CDP	PLR-03-8 Fluid EL. 3.05m	270	720	K	3.31	0.74
529	TE 690	TE-131-CDP	PLR-03-8 Oil EL.-2.0m,In	270	720	K	3.31	0.74
530	TE 691	TE-132-CDP	PLR-03-8 Oil EL. 0.0m,In	270	720	K	3.31	0.74
531	TE 692	TE-133-CDP	PLR-03-8 Oil EL. 1.0m,In	270	720	K	3.31	0.74
532	TE 693	TE-134-CDP	PLR-03-8 Oil EL. 2.0m,In	270	720	K	3.31	0.74
533	TE 694	TE-135-CDP	PLR-03-8 Oil EL. 3.22m,Top	270	720	K	3.31	0.74
534	TE 695	TE-136-CDP	PLR-03-8 Oil EL. 2.0m,Out	270	720	K	3.31	0.74
535	TE 696	TE-137-CDP	PLR-03-8 Oil EL. 1.0m,Out	270	720	K	3.31	0.74
536	TE 697	TE-138-CDP	PLR-03-8 Oil EL. 0.0m,Out	270	720	K	3.31	0.74
537	TE 698	TE-139-CDP	PLR-03-8 Oil EL.-2.0m,Out	270	720	K	3.31	0.74
538	TE 699	TE-111E-CDP	PLR-02-1 Oil Outlet	270	720	K	3.31	0.74
539	TE 700	TE-112E-CDP	PLR-01-2 Oil Outlet	270	720	K	3.31	0.74
540	TE 701	TE-113E-CDP	PLR-08-3 Oil Outlet	270	720	K	3.31	0.74
541	TE 702	TE-114E-CDP	PLR-07-4 Oil Outlet	270	720	K	3.31	0.74
542	TE 703	TE-115E-CDP	PLR-06-5 Oil Outlet	270	720	K	3.31	0.74
543	TE 704	TE-116E-CDP	PLR-05-6 Oil Outlet	270	720	K	3.31	0.74
544	TE 705	TE-117E-CDP	PLR-04-7 Oil Outlet	270	720	K	3.31	0.74
545	TE 706	TE-118E-CDP	PLR-03-8 Oil Outlet	270	720	K	3.31	0.74
546	TE 707	TE-121E-UHDP	PLR-UH-9 Oil Outlet	270	720	K	3.31	0.74
547	TE 708	TE-121A-UHDP	PLR-UH-9 Fluid EL. 6.9m	270	720	K	3.31	0.74
548	TE 709	TE-121B-UHDP	PLR-UH-9 Fluid EL. 7.6m	270	720	K	3.31	0.74
549	TE 710	TE-121C-UHDP	PLR-UH-9 Fluid EL. 8.2m	270	720	K	3.31	0.74
550	TE 711	TE-E071C-DC	Downcomer EL.7.1m,East	270	720	K	3.31	0.74
551	TE 712	TE-W071C-DC	Downcomer EL.7.1m,West	270	720	K	3.31	0.74
552	TE 713	TE-E067C-DC	Downcomer EL.6.7m,East	270	720	K	3.31	0.74
553	TE 714	TE-W067C-DC	Downcomer EL.6.7m,West	270	720	K	3.31	0.74
554	TE 715	TE-951-CS	Oil Inlet-Main	270	720	K	3.31	0.74
555	TE 716	TE-952-CS	Oil Outlet-Main	270	720	K	3.31	0.74
556	TE 717	TE-953-CS	Heat Exchanger Outlet	270	720	K	3.31	0.74
557	TE 718	TE-B05221	B05 Rod(2,2) Pos.1,Fluid	270	970	K	4.31	0.62
558	TE 719	TE-B05223	B05 Rod(2,2) Pos.3,Fluid	270	970	K	4.31	0.62
559	TE 720	TE-B05225	B05 Rod(2,2) Pos.5,Fluid	270	970	K	4.31	0.62
560	TE 721	TE-B05226	B05 Rod(2,2) Pos.6,Fluid	270	970	K	4.31	0.62
561	TE 722	TE-B05227	B05 Rod(2,2) Pos.7,Fluid	270	970	K	4.31	0.62
562	TE 723	TE-B05229	B05 Rod(2,2) Pos.9,Fluid	270	970	K	4.31	0.62
563	TE 724	TE-B07221	B07 Rod(2,2) Pos.1,Fluid	270	970	K	4.31	0.62
564	TE 725	TE-B07223	B07 Rod(2,2) Pos.3,Fluid	270	970	K	4.31	0.62
565	TE 726	TE-B07225	B07 Rod(2,2) Pos.5,Fluid	270	970	K	4.31	0.62
566	TE 727	TE-B07226	B07 Rod(2,2) Pos.6,Fluid	270	970	K	4.31	0.62
567	TE 728	TE-B07227	B07 Rod(2,2) Pos.7,Fluid	270	970	K	4.31	0.62
568	TE 729	TE-B07229	B07 Rod(2,2) Pos.9,Fluid	270	970	K	4.31	0.62
569	TE 730	TE-EX0650-SGA	SGA Outlet Plenum	270	720	K	3.31	0.74
570	TE 731	TE-EX0680-SGA	SGA Outlet Plenum	270	720	K	3.31	0.74
571	TE 732	TE-EX0720-SGA	SGA Outlet Plenum	270	720	K	3.31	0.74
572	TE 733	TE-EX0650-SGB	SGB Outlet Plenum	270	720	K	3.31	0.74
573	TE 734	TE-EX0680-SGB	SGB Outlet Plenum	270	720	K	3.31	0.74
574	TE 735	TE-EX0720-SGB	SGB Outlet Plenum	270	720	K	3.31	0.74
575	DT 1	DTE020A-HLA	HLA Pipe Wall I/O	-150	150	K	6.24	2.08
576	DT 2	DTE020B-HLA	HLA Pipe Wall to Fluid	-150	150	K	6.24	2.08
577	DT 3	DTE030A-HLA	HLA Pipe Wall I/O	-150	150	K	6.24	2.08
578	DT 4	DTE030B-HLA	HLA Pipe Wall to Fluid	-150	150	K	6.24	2.08
579	DT 5	DTE050A-LSA	LSA Pipe Wall I/O	-150	150	K	6.24	2.08
580	DT 6	DTE050B-LSA	LSA Pipe Wall Fluid	-150	150	K	6.24	2.08

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
581	DT 7	DTE060A-PCA	PCA Wall I/O	-150	150	K	6.24	2.08
582	DT 8	DTE070A-CLA	CLA Pipe Wall I/O	-150	150	K	6.24	2.08
583	DT 9	DTE070B-CLA	CLA Pipe Wall to Fluid	-150	150	K	6.24	2.08
584	DT 10	DTE080A-CLA	CLA Pipe Wall I/O	-150	150	K	6.24	2.08
585	DT 11	DTE080B-CLA	CLA Pipe Wall to Fluid	-150	150	K	6.24	2.08
586	DT 12	DTE100-HLA	HLA-CLA	-150	150	K	2.49	0.83
587	DT 13	DTE160A-HLB	HLB Pipe Wall I/O	-150	150	K	6.24	2.08
588	DT 14	DTE160B-HLB	HLB Pipe Wall to Fluid	-150	150	K	6.24	2.08
589	DT 15	DTE170A-HLB	HLB Pipe Wall I/O	-150	150	K	6.24	2.08
590	DT 16	DTE170B-HLB	HLB Pipe Wall to Fluid	-150	150	K	6.24	2.08
591	DT 17	DTE190A-LSB	LSB Pipe Wall I/O	-150	150	K	6.24	2.08
592	DT 18	DTE190B-LSB	LSB Pipe Wall to Fluid	-150	150	K	6.24	2.08
593	DT 19	DTE200A-PCB	PCB Wall I/O	-150	150	K	6.24	2.08
594	DT 20	DTE210A-CLB	CLB Pipe Wall I/O	-150	150	K	6.24	2.08
595	DT 21	DTE210B-CLB	CLB Pipe Wall to Fluid	-150	150	K	6.24	2.08
596	DT 22	DTE220A-CLB	CLB Pipe Wall I/O	-150	150	K	6.24	2.08
597	DT 23	DTE220B-CLB	CLB Pipe Wall to Fluid	-150	150	K	6.24	2.08
598	DT 24	DTE240-HLB	HLB-CLB	-150	150	K	2.49	0.83
599	DT 25	DTE270A-PR	PR Spray Line	-150	150	K	6.24	2.08
600	DT 26	DTE280A-PR	PR Surge Line	-150	150	K	6.24	2.08
601	DT 27	DTE-E-015A-PV	PV Wall I/O-E at L. Plenum	-150	150	K	6.24	2.08
602	DT 28	DTE-W-015A-PV	PV Wall I/O-W at L. Plenum	-150	150	K	6.24	2.08
603	DT 29	DTE-N000A-PV	PV Wall I/O-N at DC Bottom	-150	150	K	6.24	2.08
604	DT 30	DTE-S000A-PV	PV Wall I/O-S at DC Bottom	-150	150	K	6.24	2.08
605	DT 31	DTE-E000A-PV	PV Wall I/O-E at DC Bottom	-150	150	K	6.24	2.08
606	DT 32	DTE-W000A-PV	PV Wall I/O-W at DC Bottom	-150	150	K	6.24	2.08
607	DT 33	DTE-N018A-PV	PV Wall I/O-N at DC Middle	-150	150	K	6.24	2.08
608	DT 34	DTE-S018A-PV	PV Wall I/O-S at DC Middle	-150	150	K	6.24	2.08
609	DT 35	DTE-E018A-PV	PV Wall I/O-E at DC Middle	-150	150	K	6.24	2.08
610	DT 36	DTE-W018A-PV	PV Wall I/O-W at DC Middle	-150	150	K	6.24	2.08
611	DT 37	DTE-N036A-PV	PV Wall I/O-N at Upper DC	-150	150	K	6.24	2.08
612	DT 38	DTE-S036A-PV	PV Wall I/O-S at Upper DC	-150	150	K	6.24	2.08
613	DT 39	DTE-E036A-PV	PV Wall I/O-E at Upper DC	-150	150	K	6.24	2.08
614	DT 40	DTE-W036A-PV	PV Wall I/O-W at Upper DC	-150	150	K	6.24	2.08
615	DT 41	DTE-N060A-PV	PV Wall I/O-N at DC Top	-150	150	K	6.24	2.08
616	DT 42	DTE-S060A-PV	PV Wall I/O-S at DC Top	-150	150	K	6.24	2.08
617	DT 43	DTE-E060A-PV	PV Wall I/O-E at DC Top	-150	150	K	6.24	2.08
618	DT 44	DTE-W060A-PV	PV Wall I/O-W at DC Top	-150	150	K	6.24	2.08
619	DT 45	DTE-E080A-PV	PV Wall I/O-E at DC Head	-150	150	K	6.24	2.08
620	DT 46	DTE-W080A-PV	PV Wall I/O-W at DC Head	-150	150	K	6.24	2.08
621	DT 47	DTE-N000B-PV	PV/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
622	DT 48	DTE-S000B-PV	PV/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
623	DT 49	DTE-E000B-PV	PV/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
624	DT 50	DTE-W000B-PV	PV/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
625	DT 51	DTE-N018B-PV	PV/DC Fluid at DC Middle	-150	150	K	6.24	2.08
626	DT 52	DTE-S018B-PV	PV/DC Fluid at DC Middle	-150	150	K	6.24	2.08
627	DT 53	DTE-E018B-PV	PV/DC Fluid at DC Middle	-150	150	K	6.24	2.08
628	DT 54	DTE-W018B-PV	PV/DC Fluid at DC Middle	-150	150	K	6.24	2.08
629	DT 55	DTE-N036B-PV	PV/DC Fluid at Upper DC	-150	150	K	6.24	2.08
630	DT 56	DTE-S036B-PV	PV/DC Fluid at Upper DC	-150	150	K	6.24	2.08
631	DT 57	DTE-E036B-PV	PV/DC Fluid at Upper DC	-150	150	K	6.24	2.08
632	DT 58	DTE-W036B-PV	PV/DC Fluid at Upper DC	-150	150	K	6.24	2.08
633	DT 59	DTE-N060B-PV	PV/DC Fluid at DC Top	-150	150	K	6.24	2.08
634	DT 60	DTE-S060B-PV	PV/DC Fluid at DC Top	-150	150	K	6.24	2.08
635	DT 61	DTE-E060B-PV	PV/DC Fluid at DC Top	-150	150	K	6.24	2.08
636	DT 62	DTE-W060B-PV	PV/DC Fluid at DC Top	-150	150	K	6.24	2.08
637	DT 63	DTE-N000C-PV	CB/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
638	DT 64	DTE-S000C-PV	CB/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
639	DT 65	DTE-E000C-PV	CB/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
640	DT 66	DTE-W000C-PV	CB/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
641	DT 67	DTE-N018C-PV	CB/DC Fluid at DC Middle	-150	150	K	6.24	2.08
642	DT 68	DTE-S018C-PV	CB/DC Fluid at DC Middle	-150	150	K	6.24	2.08
643	DT 69	DTE-E018C-PV	CB/DC Fluid at DC Middle	-150	150	K	6.24	2.08
644	DT 70	DTE-W018C-PV	CB/DC Fluid at DC Middle	-150	150	K	6.24	2.08
645	DT 71	DTE-N036C-PV	CB/DC Fluid at Upper DC	-150	150	K	6.24	2.08
646	DT 72	DTE-S036C-PV	CB/DC Fluid at Upper DC	-150	150	K	6.24	2.08
647	DT 73	DTE-E036C-PV	CB/DC Fluid at Upper DC	-150	150	K	6.24	2.08
648	DT 74	DTE-W036C-PV	CB/DC Fluid at Upper DC	-150	150	K	6.24	2.08
649	DT 75	DTE-N060C-PV	CB/DC Fluid at DC Top	-150	150	K	6.24	2.08
650	DT 76	DTE-S060C-PV	CB/DC Fluid at DC Top	-150	150	K	6.24	2.08
651	DT 77	DTE-E060C-PV	CB/DC Fluid at DC Top	-150	150	K	6.24	2.08
652	DT 78	DTE-W060C-PV	CB/DC Fluid at DC Top	-150	150	K	6.24	2.08
653	DT 79	DTE-N000E-PV	CB Wall I/O at DC Bottom	-150	150	K	6.24	2.08
654	DT 80	DTE-S000E-PV	CB Wall I/O at DC Bottom	-150	150	K	6.24	2.08
655	DT 81	DTE-E000E-PV	CB Wall I/O at DC Bottom	-150	150	K	6.24	2.08
656	DT 82	DTE-W000E-PV	CB Wall I/O at DC Bottom	-150	150	K	6.24	2.08
657	DT 83	DTE-N010E-PV	CB Wall I/O at Lower DC	-150	150	K	6.24	2.08
658	DT 84	DTE-S010E-PV	CB Wall I/O at Lower DC	-150	150	K	6.24	2.08
659	DT 85	DTE-E010E-PV	CB Wall I/O at Lower DC	-150	150	K	6.24	2.08
660	DT 86	DTE-W010E-PV	CB Wall I/O at Lower DC	-150	150	K	6.24	2.08
661	DT 87	DTE-N018E-PV	CB Wall I/O at DC Middle	-150	150	K	6.24	2.08
662	DT 88	DTE-S018E-PV	CB Wall I/O at DC Middle	-150	150	K	6.24	2.08
663	DT 89	DTE-E018E-PV	CB Wall I/O at DC Middle	-150	150	K	6.24	2.08

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
664	DT 90	DTE-W018E-PV	CB Wall I/O at DC Middle	-150	150	K	6.24	2.08
665	DT 91	DTE-N026E-PV	CB Wall I/O at DC Center	-150	150	K	6.24	2.08
666	DT 92	DTE-S026E-PV	CB Wall I/O at DC Center	-150	150	K	6.24	2.08
667	DT 93	DTE-E026E-PV	CB Wall I/O at DC Center	-150	150	K	6.24	2.08
668	DT 94	DTE-W026E-PV	CB Wall I/O at DC Center	-150	150	K	6.24	2.08
669	DT 95	DTE-N036E-PV	CB Wall I/O at Upper DC	-150	150	K	6.24	2.08
670	DT 96	DTE-S036E-PV	CB Wall I/O at Upper DC	-150	150	K	6.24	2.08
671	DT 97	DTE-E036E-PV	CB Wall I/O at Upper DC	-150	150	K	6.24	2.08
672	DT 98	DTE-W036E-PV	CB Wall I/O at Upper DC	-150	150	K	6.24	2.08
673	DT 99	DTE-N049E-PV	CB Wall I/O below Nozzle	-150	150	K	6.24	2.08
674	DT 100	DTE-S049E-PV	CB Wall I/O below Nozzle	-150	150	K	6.24	2.08
675	DT 101	DTE-E049E-PV	CB Wall I/O below Nozzle	-150	150	K	6.24	2.08
676	DT 102	DTE-W049E-PV	CB Wall I/O below Nozzle	-150	150	K	6.24	2.08
677	DT 103	DTE-N060E-PV	CB Wall I/O at DC Top	-150	150	K	6.24	2.08
678	DT 104	DTE-S060E-PV	CB Wall I/O at DC Top	-150	150	K	6.24	2.08
679	DT 105	DTE-E060E-PV	CB Wall I/O at DC Top	-150	150	K	6.24	2.08
680	DT 106	DTE-W060E-PV	CB Wall I/O at DC Top	-150	150	K	6.24	2.08
681	DT 107	DTE-040-B09-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
682	DT 108	DTE-040-B11-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
683	DT 109	DTE-040-B01-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
684	DT 110	DTE-040-B03-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
685	DT 111	DTE-040-B05-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
686	DT 112	DTE-040-B07-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
687	DT 113	DTE-040-B21-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
688	DT 114	DTE-040-B23-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
689	DT 115	DTE-040-B02-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
690	DT 116	DTE-040-B15-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
691	DT 117	DTE-040-B06-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
692	DT 118	DTE-040-B14-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
693	DT 119	DTE-040-B18-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
694	DT 120	DTE-040-B19-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
695	DT 121	DTE-040-B10-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
696	DT 122	DTE-040-B12-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
697	DT 123	DTE-040-B04-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
698	DT 124	DTE-040-B08-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
699	DT 125	DTE-040-B22-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
700	DT 126	DTE-040-B24-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
701	DT 127	DTE-000-B02-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
702	DT 128	DTE-000-B03-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
703	DT 129	DTE-000-B06-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
704	DT 130	DTE-000-B07-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
705	DT 131	DTE-000-B09-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
706	DT 132	DTE-000-B11-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
707	DT 133	DTE-000-B14-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
708	DT 134	DTE-000-B16-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
709	DT 135	DTE-000-B18-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
710	DT 136	DTE-000-B20-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
711	DT 137	DTE-000-B21-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
712	DT 138	DTE-000-B23-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
713	DT 139	DTE-086A-SGA	SGA Wall I/O Pos.1	-40	40	K	1.66	2.08
714	DT 140	DTE-137A-SGA	SGA Wall I/O Pos.7	-40	40	K	1.66	2.08
715	DT 141	DTE-178A-SGA	SGA Wall I/O Pos.10	-40	40	K	1.66	2.08
716	DT 142	DTE-223A-SGA	SGA Steam Dome Wall I/O	-40	40	K	1.66	2.08
717	DT 143	DTE-IN0861-SGA	SGA U-Tube(1,IN) Pos.1	-100	100	K	1.66	0.83
718	DT 144	DTE-EX0861-SGA	SGA U-Tube(1,EX) Pos.1	-100	100	K	1.66	0.83
719	DT 145	DTE-IN0862-SGA	SGA U-Tube(2,IN) Pos.1	-100	100	K	1.66	0.83
720	DT 146	DTE-EX0862-SGA	SGA U-Tube(2,EX) Pos.1	-100	100	K	1.66	0.83
721	DT 147	DTE-IN0863-SGA	SGA U-Tube(3,IN) Pos.1	-100	100	K	1.66	0.83
722	DT 148	DTE-EX0863-SGA	SGA U-Tube(3,EX) Pos.1	-100	100	K	1.66	0.83
723	DT 149	DTE-IN0991-SGA	SGA U-Tube(1,IN) Pos.3	-100	100	K	1.66	0.83
724	DT 150	DTE-EX0991-SGA	SGA U-Tube(1,EX) Pos.3	-100	100	K	1.66	0.83
725	DT 151	DTE-IN0992-SGA	SGA U-Tube(2,IN) Pos.3	-100	100	K	1.66	0.83
726	DT 152	DTE-EX0992-SGA	SGA U-Tube(2,EX) Pos.3	-100	100	K	1.66	0.83
727	DT 153	DTE-IN0993-SGA	SGA U-Tube(3,IN) Pos.3	-100	100	K	1.66	0.83
728	DT 154	DTE-EX0993-SGA	SGA U-Tube(3,EX) Pos.3	-100	100	K	1.66	0.83
729	DT 155	DTE-IN1121-SGA	SGA U-Tube(1,IN) Pos.5	-100	100	K	1.66	0.83
730	DT 156	DTE-EX1121-SGA	SGA U-Tube(1,EX) Pos.5	-100	100	K	1.66	0.83
731	DT 157	DTE-IN1122-SGA	SGA U-Tube(2,IN) Pos.5	-100	100	K	1.66	0.83
732	DT 158	DTE-EX1122-SGA	SGA U-Tube(2,EX) Pos.5	-100	100	K	1.66	0.83
733	DT 159	DTE-IN1123-SGA	SGA U-Tube(3,IN) Pos.5	-100	100	K	1.66	0.83
734	DT 160	DTE-EX1123-SGA	SGA U-Tube(3,EX) Pos.5	-100	100	K	1.66	0.83
735	DT 161	DTE-IN1371-SGA	SGA U-Tube(1,IN) Pos.7	-100	100	K	1.66	0.83
736	DT 162	DTE-EX1371-SGA	SGA U-Tube(1,EX) Pos.7	-100	100	K	1.66	0.83
737	DT 163	DTE-IN1372-SGA	SGA U-Tube(2,IN) Pos.7	-100	100	K	1.66	0.83
738	DT 164	DTE-EX1372-SGA	SGA U-Tube(2,EX) Pos.7	-100	100	K	1.66	0.83
739	DT 165	DTE-IN1373-SGA	SGA U-Tube(3,IN) Pos.7	-100	100	K	1.66	0.83
740	DT 166	DTE-EX1373-SGA	SGA U-Tube(3,EX) Pos.7	-100	100	K	1.66	0.83
741	DT 167	DTE-IN1632-SGA	SGA U-Tube(2,IN) Pos.9	-100	100	K	1.66	0.83
742	DT 168	DTE-EX1632-SGA	SGA U-Tube(2,EX) Pos.9	-100	100	K	1.66	0.83
743	DT 169	DTE-IN1633-SGA	SGA U-Tube(3,IN) Pos.9	-100	100	K	1.66	0.83
744	DT 170	DTE-EX1633-SGA	SGA U-Tube(3,EX) Pos.9	-100	100	K	1.66	0.83
745	DT 171	DTE-IN1701-SGA	SGA U-Tube(1,IN) Pos.10	-100	100	K	1.66	0.83
746	DT 172	DTE-IN1782-SGA	SGA U-Tube(2,IN) Pos.10	-100	100	K	1.66	0.83

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
747	DT 173	DTE-IN1863-SGA	SGA U-Tube(3,IN) Pos.11	-100	100	K	1.66	0.83
748	DT 174	DTE-O86A-SGB	SGB Wall I/O Pos.1	-40	40	K	1.66	2.08
749	DT 175	DTE-137A-SGB	SGB Wall I/O Pos.7	-40	40	K	1.66	2.08
750	DT 176	DTE-178A-SGB	SGB Wall I/O Pos.10	-40	40	K	1.66	2.08
751	DT 177	DTE-223A-SGB	SGB Steam Dome Wall I/O	-40	40	K	1.66	2.08
752	DT 178	DTE-IN0861-SGB	SGB U-Tube(1,IN) Pos.1	-100	100	K	1.66	0.83
753	DT 179	DTE-EX0861-SGB	SGB U-Tube(1,EX) Pos.1	-100	100	K	1.66	0.83
754	DT 180	DTE-IN0862-SGB	SGB U-Tube(2,IN) Pos.1	-100	100	K	1.66	0.83
755	DT 181	DTE-EX0862-SGB	SGB U-Tube(2,EX) Pos.1	-100	100	K	1.66	0.83
756	DT 182	DTE-IN0863-SGB	SGB U-Tube(3,IN) Pos.1	-100	100	K	1.66	0.83
757	DT 183	DTE-EX0863-SGB	SGB U-Tube(3,EX) Pos.1	-100	100	K	1.66	0.83
758	DT 184	DTE-IN0991-SGB	SGB U-Tube(1,IN) Pos.3	-100	100	K	1.66	0.83
759	DT 185	DTE-EX0991-SGB	SGB U-Tube(1,EX) Pos.3	-100	100	K	1.66	0.83
760	DT 186	DTE-IN0992-SGB	SGB U-Tube(2,IN) Pos.3	-100	100	K	1.66	0.83
761	DT 187	DTE-EX0992-SGB	SGB U-Tube(2,EX) Pos.3	-100	100	K	1.66	0.83
762	DT 188	DTE-IN0993-SGB	SGB U-Tube(3,IN) Pos.3	-100	100	K	1.66	0.83
763	DT 189	DTE-EX0993-SGB	SGB U-Tube(3,EX) Pos.3	-100	100	K	1.66	0.83
764	DT 190	DTE-IN1121-SGB	SGB U-Tube(1,IN) Pos.5	-100	100	K	1.66	0.83
765	DT 191	DTE-EX1121-SGB	SGB U-Tube(1,EX) Pos.5	-100	100	K	1.66	0.83
766	DT 192	DTE-IN1122-SGB	SGB U-Tube(2,IN) Pos.5	-100	100	K	1.66	0.83
767	DT 193	DTE-EX1122-SGB	SGB U-Tube(2,EX) Pos.5	-100	100	K	1.66	0.83
768	DT 194	DTE-IN1123-SGB	SGB U-Tube(3,IN) Pos.5	-100	100	K	1.66	0.83
769	DT 195	DTE-EX1123-SGB	SGB U-Tube(3,EX) Pos.5	-100	100	K	1.66	0.83
770	DT 196	DTE-IN1371-SGB	SGB U-Tube(1,IN) Pos.7	-100	100	K	1.66	0.83
771	DT 197	DTE-EX1371-SGB	SGB U-Tube(1,EX) Pos.7	-100	100	K	1.66	0.83
772	DT 198	DTE-IN1372-SGB	SGB U-Tube(2,IN) Pos.7	-100	100	K	1.66	0.83
773	DT 199	DTE-EX1372-SGB	SGB U-Tube(2,EX) Pos.7	-100	100	K	1.66	0.83
774	DT 200	DTE-IN1373-SGB	SGB U-Tube(3,IN) Pos.7	-100	100	K	1.66	0.83
775	DT 201	DTE-EX1373-SGB	SGB U-Tube(3,EX) Pos.7	-100	100	K	1.66	0.83
776	DT 202	DTE-IN1632-SGB	SGB U-Tube(2,IN) Pos.9	-100	100	K	1.66	0.83
777	DT 203	DTE-EX1632-SGB	SGB U-Tube(2,EX) Pos.9	-100	100	K	1.66	0.83
778	DT 204	DTE-IN1633-SGB	SGB U-Tube(3,IN) Pos.9	-100	100	K	1.66	0.83
779	DT 205	DTE-EX1633-SGB	SGB U-Tube(3,EX) Pos.9	-100	100	K	1.66	0.83
780	DT 206	DTE-IN1701-SGB	SGB U-Tube(1,IN) Pos.10	-100	100	K	1.66	0.83
781	DT 207	DTE-IN1782-SGB	SGB U-Tube(2,IN) Pos.10	-100	100	K	1.66	0.83
782	DT 208	DTE-IN1863-SGB	SGB U-Tube(3,IN) Pos.11	-100	100	K	1.66	0.83
783	TW 1	TWE020B-HLA	HLA Pipe Inner Wall	270	720	K	3.31	0.74
784	TW 2	TWE030B-HLA	HLA Pipe Inner Wall	270	720	K	3.31	0.74
785	TW 3	TWE050B-LSA	LSA Pipe Inner Wall	270	720	K	3.31	0.74
786	TW 4	TWE060B-PCA	PCA Inner Wall	270	720	K	3.31	0.74
787	TW 5	TWE070B-CLA	CLA Pipe Inner Wall	270	720	K	3.31	0.74
788	TW 6	TWE080B-CLA	CLA Pipe Inner Wall	270	720	K	3.31	0.74
789	TW 7	TWE160B-HLB	HLB Pipe Inner Wall	270	720	K	3.31	0.74
790	TW 8	TWE170B-HLB	HLB Pipe Inner Wall	270	720	K	3.31	0.74
791	TW 9	TWE190B-LSB	LSB Pipe Inner Wall	270	720	K	3.31	0.74
792	TW 10	TWE200B-PCB	PCB Inner Wall	270	720	K	3.31	0.74
793	TW 11	TWE210B-CLB	CLB Pipe Inner Wall	270	720	K	3.31	0.74
794	TW 12	TWE220B-CLB	CLB Pipe Inner Wall	270	720	K	3.31	0.74
795	TW 13	TWE280B-PR	PR Surge Line	270	720	K	3.31	0.74
796	TW 14	TWE431A-SGA	SGA Downcomer A Wall	270	670	K	3.11	0.78
797	TW 15	TWE432A-SGA	SGA Downcomer B Wall	270	670	K	3.11	0.78
798	TW 16	TWE433A-SGA	SGA Downcomer C Wall	270	670	K	3.11	0.78
799	TW 17	TWE434A-SGA	SGA Downcomer D Wall	270	670	K	3.11	0.78
800	TW 18	TWE471A-SGB	SGB Downcomer A Wall	270	670	K	3.11	0.78
801	TW 19	TWE472A-SGB	SGB Downcomer B Wall	270	670	K	3.11	0.78
802	TW 20	TWE473A-SGB	SGB Downcomer C Wall	270	670	K	3.11	0.78
803	TW 21	TWE474A-SGB	SGB Downcomer D Wall	270	670	K	3.11	0.78
804	TW 22	TWE-E-015B-PV	PV Inner Wall EL.-1.5m,E	270	720	K	3.31	0.74
805	TW 23	TWE-W-015B-PV	PV Inner Wall EL.-1.5m,W	270	720	K	3.31	0.74
806	TW 24	TWE-N000B-PV	PV Inner Wall EL.0.0m,N	270	720	K	3.31	0.74
807	TW 25	TWE-S000B-PV	PV Inner Wall EL.0.0m,S	270	720	K	3.31	0.74
808	TW 26	TWE-E000B-PV	PV Inner Wall EL.0.0m,E	270	720	K	3.31	0.74
809	TW 27	TWE-W000B-PV	PV Inner Wall EL.0.0m,W	270	720	K	3.31	0.74
810	TW 28	TWE-N018B-PV	PV Inner Wall EL.1.8m,N	270	720	K	3.31	0.74
811	TW 29	TWE-S018B-PV	PV Inner Wall EL.1.8m,S	270	720	K	3.31	0.74
812	TW 30	TWE-E018B-PV	PV Inner Wall EL.1.8m,E	270	720	K	3.31	0.74
813	TW 31	TWE-W018B-PV	PV Inner Wall EL.1.8m,W	270	720	K	3.31	0.74
814	TW 32	TWE-N036B-PV	PV Inner Wall EL.3.6m,N	270	720	K	3.31	0.74
815	TW 33	TWE-S036B-PV	PV Inner Wall EL.3.6m,S	270	720	K	3.31	0.74
816	TW 34	TWE-E036B-PV	PV Inner Wall EL.3.6m,E	270	720	K	3.31	0.74
817	TW 35	TWE-W036B-PV	PV Inner Wall EL.3.6m,W	270	720	K	3.31	0.74
818	TW 36	TWE-N060B-PV	PV Inner Wall EL.6.0m,N	270	720	K	3.31	0.74
819	TW 37	TWE-S060B-PV	PV Inner Wall EL.6.0m,S	270	720	K	3.31	0.74
820	TW 38	TWE-E060B-PV	PV Inner Wall EL.6.0m,E	270	720	K	3.31	0.74
821	TW 39	TWE-W060B-PV	PV Inner Wall EL.6.0m,W	270	720	K	3.31	0.74
822	TW 40	TWE-E080B-PV	PV Inner Wall EL.8.0m,E	270	720	K	3.31	0.74
823	TW 41	TWE-W080B-PV	PV Inner Wall EL.8.0m,W	270	720	K	3.31	0.74
824	TW 42	TWE-N000D-CB	CB Outer Wall EL.0.0m,N	270	970	K	4.31	0.62
825	TW 43	TWE-S000D-CB	CB Outer Wall EL.0.0m,S	270	970	K	4.31	0.62
826	TW 44	TWE-E000D-CB	CB Outer Wall EL.0.0m,E	270	970	K	4.31	0.62
827	TW 45	TWE-W000D-CB	CB Outer Wall EL.0.0m,W	270	970	K	4.31	0.62
828	TW 46	TWE-N010D-CB	CB Outer Wall EL.1.0m,N	270	970	K	4.31	0.62

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
829	TW 47	TWE-S010D-CB	CB Outer Wall EL.1.0m,S	270	970	K	4.31	0.62
830	TW 48	TWE-E010D-CB	CB Outer Wall EL.1.0m,E	270	970	K	4.31	0.62
831	TW 49	TWE-W010D-CB	CB Outer Wall EL.1.0m,W	270	970	K	4.31	0.62
832	TW 50	TWE-N018D-CB	CB Outer Wall EL.1.8m,N	270	970	K	4.31	0.62
833	TW 51	TWE-S018D-CB	CB Outer Wall EL.1.8m,S	270	970	K	4.31	0.62
834	TW 52	TWE-E018D-CB	CB Outer Wall EL.1.8m,E	270	970	K	4.31	0.62
835	TW 53	TWE-W018D-CB	CB Outer Wall EL.1.8m,W	270	970	K	4.31	0.62
836	TW 54	TWE-N026D-CB	CB Outer Wall EL.2.6m,N	270	970	K	4.31	0.62
837	TW 55	TWE-S026D-CB	CB Outer Wall EL.2.6m,S	270	970	K	4.31	0.62
838	TW 56	TWE-E026D-CB	CB Outer Wall EL.2.6m,E	270	970	K	4.31	0.62
839	TW 57	TWE-W026D-CB	CB Outer Wall EL.2.6m,W	270	970	K	4.31	0.62
840	TW 58	TWE-N036D-CB	CB Outer Wall EL.3.6m,N	270	970	K	4.31	0.62
841	TW 59	TWE-S036D-CB	CB Outer Wall EL.3.6m,S	270	970	K	4.31	0.62
842	TW 60	TWE-E036D-CB	CB Outer Wall EL.3.6m,E	270	970	K	4.31	0.62
843	TW 61	TWE-W036D-CB	CB Outer Wall EL.3.6m,W	270	970	K	4.31	0.62
844	TW 62	TWE-N049D-CB	CB Outer Wall EL.4.9m,N	270	970	K	4.31	0.62
845	TW 63	TWE-S049D-CB	CB Outer Wall EL.4.9m,S	270	970	K	4.31	0.62
846	TW 64	TWE-E049D-CB	CB Outer Wall EL.4.9m,E	270	970	K	4.31	0.62
847	TW 65	TWE-W049D-CB	CB Outer Wall EL.4.9m,W	270	970	K	4.31	0.62
848	TW 66	TWE-N060D-CB	CB Outer Wall EL.6.0m,N	270	970	K	4.31	0.62
849	TW 67	TWE-S060D-CB	CB Outer Wall EL.6.0m,S	270	970	K	4.31	0.62
850	TW 68	TWE-E060D-CB	CB Outer Wall EL.6.0m,E	270	970	K	4.31	0.62
851	TW 69	TWE-W060D-CB	CB Outer Wall EL.6.0m,W	270	970	K	4.31	0.62
852	TW 70	TWE-N000E-CB	CB Inner Wall EL.0.0m,N	270	970	K	4.31	0.62
853	TW 71	TWE-S000E-CB	CB Inner Wall EL.0.0m,S	270	970	K	4.31	0.62
854	TW 72	TWE-E000E-CB	CB Inner Wall EL.0.0m,E	270	970	K	4.31	0.62
855	TW 73	TWE-W000E-CB	CB Inner Wall EL.0.0m,W	270	970	K	4.31	0.62
856	TW 74	TWE-N010E-CB	CB Inner Wall EL.1.0m,N	270	970	K	4.31	0.62
857	TW 75	TWE-S010E-CB	CB Inner Wall EL.1.0m,S	270	970	K	4.31	0.62
858	TW 76	TWE-E010E-CB	CB Inner Wall EL.1.0m,E	270	970	K	4.31	0.62
859	TW 77	TWE-W010E-CB	CB Inner Wall EL.1.0m,W	270	970	K	4.31	0.62
860	TW 78	TWE-N018E-CB	CB Inner Wall EL.1.8m,N	270	970	K	4.31	0.62
861	TW 79	TWE-S018E-CB	CB Inner Wall EL.1.8m,S	270	970	K	4.31	0.62
862	TW 80	TWE-E018E-CB	CB Inner Wall EL.1.8m,E	270	970	K	4.31	0.62
863	TW 81	TWE-W018E-CB	CB Inner Wall EL.1.8m,W	270	970	K	4.31	0.62
864	TW 82	TWE-N026E-CB	CB Inner Wall EL.2.6m,N	270	970	K	4.31	0.62
865	TW 83	TWE-S026E-CB	CB Inner Wall EL.2.6m,S	270	970	K	4.31	0.62
866	TW 84	TWE-E026E-CB	CB Inner Wall EL.2.6m,E	270	970	K	4.31	0.62
867	TW 85	TWE-W026E-CB	CB Inner Wall EL.2.6m,W	270	970	K	4.31	0.62
868	TW 86	TWE-N036E-CB	CB Inner Wall EL.3.6m,N	270	970	K	4.31	0.62
869	TW 87	TWE-S036E-CB	CB Inner Wall EL.3.6m,S	270	970	K	4.31	0.62
870	TW 88	TWE-E036E-CB	CB Inner Wall EL.3.6m,E	270	970	K	4.31	0.62
871	TW 89	TWE-W036E-CB	CB Inner Wall EL.3.6m,W	270	970	K	4.31	0.62
872	TW 90	TWE-N049E-CB	CB Inner Wall EL.4.9m,N	270	970	K	4.31	0.62
873	TW 91	TWE-S049E-CB	CB Inner Wall EL.4.9m,S	270	970	K	4.31	0.62
874	TW 92	TWE-E049E-CB	CB Inner Wall EL.4.9m,E	270	970	K	4.31	0.62
875	TW 93	TWE-W049E-CB	CB Inner Wall EL.4.9m,W	270	970	K	4.31	0.62
876	TW 94	TWE-N060E-CB	CB Inner Wall EL.6.0m,N	270	970	K	4.31	0.62
877	TW 95	TWE-S060E-CB	CB Inner Wall EL.6.0m,S	270	970	K	4.31	0.62
878	TW 96	TWE-E060E-CB	CB Inner Wall EL.6.0m,E	270	970	K	4.31	0.62
879	TW 97	TWE-W060E-CB	CB Inner Wall EL.6.0m,W	270	970	K	4.31	0.62
880	TW 98	TWE-IN038B02-UCPP	UCP L.Surf. EL.3.8m,B02	270	970	K	4.31	0.62
881	TW 99	TWE-IN038B04-UCPP	UCP L.Surf. EL.3.8m,B04	270	970	K	4.31	0.62
882	TW 100	TWE-IN038B06-UCPP	UCP L.Surf. EL.3.8m,B06	270	970	K	4.31	0.62
883	TW 101	TWE-IN038B08-UCPP	UCP L.Surf. EL.3.8m,B08	270	970	K	4.31	0.62
884	TW 102	TWE-IN038B21-UCPP	UCP L.Surf. EL.3.8m,C	270	970	K	4.31	0.62
885	TW 103	TWE-EX040B02-UCPP	UCP U.Surf. EL.4.0m,B02	270	970	K	4.31	0.62
886	TW 104	TWE-EX040B04-UCPP	UCP U.Surf. EL.4.0m,B04	270	970	K	4.31	0.62
887	TW 105	TWE-EX040B06-UCPP	UCP U.Surf. EL.4.0m,B06	270	970	K	4.31	0.62
888	TW 106	TWE-EX040B08-UCPP	UCP U.Surf. EL.4.0m,B08	270	970	K	4.31	0.62
889	TW 107	TWE-EX040B21-UCPP	UCP U.Surf. EL.4.0m,C	270	970	K	4.31	0.62
890	TW 108	TWE-063-B09-UCSP	UCSP L.Surf. EL.6.3m,B09	270	970	K	4.31	0.62
891	TW 109	TWE-065-B09-UCSP	UCSP U.Surf. EL.6.5m,B09	270	970	K	4.31	0.62
892	TW 110	TWE-E047G-UP	UP Str. Surf. EL.4.7m,East	270	970	K	4.31	0.62
893	TW 111	TWE-W047G-UP	UP Str. Surf. EL.4.7m,West	270	970	K	4.31	0.62
894	TW 112	TWE-E056G-UP	UP Str. Surf. EL.5.6m,East	270	970	K	4.31	0.62
895	TW 113	TWE-W056G-UP	UP Str. Surf. EL.5.6m,West	270	970	K	4.31	0.62
896	TW 114	TWE-080G-UH	UH Str. Surf. EL.8.0m,C	270	970	K	4.31	0.62
897	TW 115	TWE-B01342	B01 Rod(3,4) Pos.2	270	1470	K	6.44	0.54
898	TW 116	TWE-B01344	B01 Rod(3,4) Pos.4	270	1470	K	6.44	0.54
899	TW 117	TWE-B01345	B01 Rod(3,4) Pos.5	270	1470	K	6.44	0.54
900	TW 118	TWE-B01346	B01 Rod(3,4) Pos.6	270	1470	K	6.44	0.54
901	TW 119	TWE-B01347	B01 Rod(3,4) Pos.7	270	1470	K	6.44	0.54
902	TW 120	TWE-B01348	B01 Rod(3,4) Pos.8	270	1470	K	6.44	0.54
903	TW 121	TWE-B20431	B20 Rod(4,3) Pos.1	270	1470	K	6.44	0.54
904	TW 122	TWE-B20433	B20 Rod(4,3) Pos.3	270	1470	K	6.44	0.54
905	TW 123	TWE-B20435	B20 Rod(4,3) Pos.5	270	1470	K	6.44	0.54
906	TW 124	TWE-B20436	B20 Rod(4,3) Pos.6	270	1470	K	6.44	0.54
907	TW 125	TWE-B20438	B20 Rod(4,3) Pos.8	270	1470	K	6.44	0.54
908	TW 126	TWE-B20439	B20 Rod(4,3) Pos.9	270	1470	K	6.44	0.54
909	TW 127	TWE-B02241	B02 Rod(2,4) Pos.1	270	1470	K	6.44	0.54
910	TW 128	TWE-B02242	B02 Rod(2,4) Pos.2	270	1470	K	6.44	0.54
911	TW 129	TWE-B02244	B02 Rod(2,4) Pos.4	270	1470	K	6.44	0.54

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
912	TW 130	TWE-B02245	B02 Rod(2,4) Pos.5	270	1470	K	6.44	0.54
913	TW 131	TWE-B02247	B02 Rod(2,4) Pos.7	270	1470	K	6.44	0.54
914	TW 132	TWE-B02249	B02 Rod(2,4) Pos.9	270	1470	K	6.44	0.54
915	TW 133	TWE-B02341	B02 Rod(3,4) Pos.1	270	1470	K	6.44	0.54
916	TW 134	TWE-B02343	B02 Rod(3,4) Pos.3	270	1470	K	6.44	0.54
917	TW 135	TWE-B02345	B02 Rod(3,4) Pos.5	270	1470	K	6.44	0.54
918	TW 136	TWE-B02346	B02 Rod(3,4) Pos.6	270	1470	K	6.44	0.54
919	TW 137	TWE-B02348	B02 Rod(3,4) Pos.8	270	1470	K	6.44	0.54
920	TW 138	TWE-B02349	B02 Rod(3,4) Pos.9	270	1470	K	6.44	0.54
921	TW 145	TWE-B03421	B03 Rod(4,2) Pos.1	270	1470	K	6.44	0.54
922	TW 146	TWE-B03422	B03 Rod(4,2) Pos.2	270	1470	K	6.44	0.54
923	TW 147	TWE-B03424	B03 Rod(4,2) Pos.4	270	1470	K	6.44	0.54
924	TW 148	TWE-B03425	B03 Rod(4,2) Pos.5	270	1470	K	6.44	0.54
925	TW 149	TWE-B03427	B03 Rod(4,2) Pos.7	270	1470	K	6.44	0.54
926	TW 150	TWE-B03429	B03 Rod(4,2) Pos.9	270	1470	K	6.44	0.54
927	TW 151	TWE-B03431	B03 Rod(4,3) Pos.1	270	1470	K	6.44	0.54
928	TW 152	TWE-B03433	B03 Rod(4,3) Pos.3	270	1470	K	6.44	0.54
929	TW 153	TWE-B03435	B03 Rod(4,3) Pos.5	270	1470	K	6.44	0.54
930	TW 154	TWE-B03436	B03 Rod(4,3) Pos.6	270	1470	K	6.44	0.54
931	TW 155	TWE-B03438	B03 Rod(4,3) Pos.8	270	1470	K	6.44	0.54
932	TW 156	TWE-B03439	B03 Rod(4,3) Pos.9	270	1470	K	6.44	0.54
933	TW 163	TWE-B04432	B04 Rod(4,3) Pos.2	270	1470	K	6.44	0.54
934	TW 164	TWE-B04434	B04 Rod(4,3) Pos.4	270	1470	K	6.44	0.54
935	TW 165	TWE-B04435	B04 Rod(4,3) Pos.5	270	1470	K	6.44	0.54
936	TW 166	TWE-B04436	B04 Rod(4,3) Pos.6	270	1470	K	6.44	0.54
937	TW 167	TWE-B04437	B04 Rod(4,3) Pos.7	270	1470	K	6.44	0.54
938	TW 168	TWE-B04438	B04 Rod(4,3) Pos.8	270	1470	K	6.44	0.54
939	TW 169	TWE-B05342	B05 Rod(3,4) Pos.2	270	1470	K	6.44	0.54
940	TW 170	TWE-B05344	B05 Rod(3,4) Pos.4	270	1470	K	6.44	0.54
941	TW 171	TWE-B05345	B05 Rod(3,4) Pos.5	270	1470	K	6.44	0.54
942	TW 172	TWE-B05346	B05 Rod(3,4) Pos.6	270	1470	K	6.44	0.54
943	TW 173	TWE-B05347	B05 Rod(3,4) Pos.7	270	1470	K	6.44	0.54
944	TW 174	TWE-B05348	B05 Rod(3,4) Pos.8	270	1470	K	6.44	0.54
945	TW 181	TWE-B06241	B06 Rod(2,4) Pos.1	270	1470	K	6.44	0.54
946	TW 182	TWE-B06242	B06 Rod(2,4) Pos.2	270	1470	K	6.44	0.54
947	TW 183	TWE-B06244	B06 Rod(2,4) Pos.4	270	1470	K	6.44	0.54
948	TW 184	TWE-B06245	B06 Rod(2,4) Pos.5	270	1470	K	6.44	0.54
949	TW 185	TWE-B06247	B06 Rod(2,4) Pos.7	270	1470	K	6.44	0.54
950	TW 186	TWE-B06249	B06 Rod(2,4) Pos.9	270	1470	K	6.44	0.54
951	TW 187	TWE-B06341	B06 Rod(3,4) Pos.1	270	1470	K	6.44	0.54
952	TW 188	TWE-B06343	B06 Rod(3,4) Pos.3	270	1470	K	6.44	0.54
953	TW 189	TWE-B06345	B06 Rod(3,4) Pos.5	270	1470	K	6.44	0.54
954	TW 190	TWE-B06346	B06 Rod(3,4) Pos.6	270	1470	K	6.44	0.54
955	TW 191	TWE-B06348	B06 Rod(3,4) Pos.8	270	1470	K	6.44	0.54
956	TW 192	TWE-B06349	B06 Rod(3,4) Pos.9	270	1470	K	6.44	0.54
957	TW 199	TWE-B07421	B07 Rod(4,2) Pos.1	270	1470	K	6.44	0.54
958	TW 200	TWE-B07422	B07 Rod(4,2) Pos.2	270	1470	K	6.44	0.54
959	TW 201	TWE-B07424	B07 Rod(4,2) Pos.4	270	1470	K	6.44	0.54
960	TW 202	TWE-B07425	B07 Rod(4,2) Pos.5	270	1470	K	6.44	0.54
961	TW 203	TWE-B07427	B07 Rod(4,2) Pos.7	270	1470	K	6.44	0.54
962	TW 204	TWE-B07429	B07 Rod(4,2) Pos.9	270	1470	K	6.44	0.54
963	TW 205	TWE-B07431	B07 Rod(4,3) Pos.1	270	1470	K	6.44	0.54
964	TW 206	TWE-B07433	B07 Rod(4,3) Pos.3	270	1470	K	6.44	0.54
965	TW 207	TWE-B07435	B07 Rod(4,3) Pos.5	270	1470	K	6.44	0.54
966	TW 208	TWE-B07436	B07 Rod(4,3) Pos.6	270	1470	K	6.44	0.54
967	TW 209	TWE-B07438	B07 Rod(4,3) Pos.8	270	1470	K	6.44	0.54
968	TW 210	TWE-B07439	B07 Rod(4,3) Pos.9	270	1470	K	6.44	0.54
969	TW 217	TWE-B08222	B08 Rod(2,2) Pos.2	270	970	K	4.31	0.62
970	TW 218	TWE-B08224	B08 Rod(2,2) Pos.4	270	970	K	4.31	0.62
971	TW 219	TWE-B08225	B08 Rod(2,2) Pos.5	270	970	K	4.31	0.62
972	TW 220	TWE-B08226	B08 Rod(2,2) Pos.6	270	970	K	4.31	0.62
973	TW 221	TWE-B08227	B08 Rod(2,2) Pos.7	270	970	K	4.31	0.62
974	TW 222	TWE-B08228	B08 Rod(2,2) Pos.8	270	970	K	4.31	0.62
975	TW 223	TWE-B08432	B08 Rod(4,3) Pos.2	270	1470	K	6.44	0.54
976	TW 224	TWE-B08434	B08 Rod(4,3) Pos.4	270	1470	K	6.44	0.54
977	TW 225	TWE-B08435	B08 Rod(4,3) Pos.5	270	1470	K	6.44	0.54
978	TW 226	TWE-B08436	B08 Rod(4,3) Pos.6	270	1470	K	6.44	0.54
979	TW 227	TWE-B08437	B08 Rod(4,3) Pos.7	270	1470	K	6.44	0.54
980	TW 228	TWE-B08438	B08 Rod(4,3) Pos.8	270	1470	K	6.44	0.54
981	TW 229	TWE-B09442	B09 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
982	TW 230	TWE-B09444	B09 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
983	TW 231	TWE-B09445	B09 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
984	TW 232	TWE-B09446	B09 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
985	TW 233	TWE-B09447	B09 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
986	TW 234	TWE-B09448	B09 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
987	TW 235	TWE-B10441	B10 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
988	TW 236	TWE-B10442	B10 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
989	TW 237	TWE-B10444	B10 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
990	TW 238	TWE-B10445	B10 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
991	TW 239	TWE-B10447	B10 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
992	TW 240	TWE-B10449	B10 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
993	TW 241	TWE-B10451	B10 Rod(4,5) Pos.1	270	1470	K	6.44	0.54
994	TW 242	TWE-B10453	B10 Rod(4,5) Pos.3	270	1470	K	6.44	0.54

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
995	TW 243	TWE-B10455	B10 Rod(4,5) Pos.5	270	1470	K	6.44	0.54
996	TW 244	TWE-B10456	B10 Rod(4,5) Pos.6	270	1470	K	6.44	0.54
997	TW 245	TWE-B10458	B10 Rod(4,5) Pos.8	270	1470	K	6.44	0.54
998	TW 246	TWE-B10459	B10 Rod(4,5) Pos.9	270	1470	K	6.44	0.54
999	TW 247	TWE-B11442	B11 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
1000	TW 248	TWE-B11444	B11 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1001	TW 249	TWE-B11445	B11 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1002	TW 250	TWE-B11446	B11 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1003	TW 251	TWE-B11447	B11 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1004	TW 252	TWE-B11448	B11 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
1005	TW 253	TWE-B11172	B11 Rod(1,7) Pos.2	270	1470	K	6.44	0.54
1006	TW 254	TWE-B11174	B11 Rod(1,7) Pos.4	270	1470	K	6.44	0.54
1007	TW 255	TWE-B11175	B11 Rod(1,7) Pos.5	270	1470	K	6.44	0.54
1008	TW 256	TWE-B11176	B11 Rod(1,7) Pos.6	270	1470	K	6.44	0.54
1009	TW 257	TWE-B11177	B11 Rod(1,7) Pos.7	270	1470	K	6.44	0.54
1010	TW 258	TWE-B11178	B11 Rod(1,7) Pos.8	270	1470	K	6.44	0.54
1011	TW 259	TWE-B12262	B12 Rod(2,6) Pos.2	270	970	K	4.31	0.62
1012	TW 260	TWE-B12264	B12 Rod(2,6) Pos.4	270	970	K	4.31	0.62
1013	TW 261	TWE-B12265	B12 Rod(2,6) Pos.5	270	970	K	4.31	0.62
1014	TW 262	TWE-B12266	B12 Rod(2,6) Pos.6	270	970	K	4.31	0.62
1015	TW 263	TWE-B12267	B12 Rod(2,6) Pos.7	270	970	K	4.31	0.62
1016	TW 264	TWE-B12268	B12 Rod(2,6) Pos.8	270	970	K	4.31	0.62
1017	TW 265	TWE-B12441	B12 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1018	TW 266	TWE-B12442	B12 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
1019	TW 267	TWE-B12444	B12 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1020	TW 268	TWE-B12445	B12 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1021	TW 269	TWE-B12447	B12 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1022	TW 270	TWE-B12449	B12 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1023	TW 271	TWE-B12431	B12 Rod(4,3) Pos.1	270	1470	K	6.44	0.54
1024	TW 272	TWE-B12433	B12 Rod(4,3) Pos.3	270	1470	K	6.44	0.54
1025	TW 273	TWE-B12435	B12 Rod(4,3) Pos.5	270	1470	K	6.44	0.54
1026	TW 274	TWE-B12436	B12 Rod(4,3) Pos.6	270	1470	K	6.44	0.54
1027	TW 275	TWE-B12438	B12 Rod(4,3) Pos.8	270	1470	K	6.44	0.54
1028	TW 276	TWE-B12439	B12 Rod(4,3) Pos.9	270	1470	K	6.44	0.54
1029	TW 277	TWE-B13662	B13 Rod(6,6) Pos.2	270	970	K	4.31	0.62
1030	TW 278	TWE-B13664	B13 Rod(6,6) Pos.4	270	970	K	4.31	0.62
1031	TW 279	TWE-B13665	B13 Rod(6,6) Pos.5	270	970	K	4.31	0.62
1032	TW 280	TWE-B13666	B13 Rod(6,6) Pos.6	270	970	K	4.31	0.62
1033	TW 281	TWE-B13667	B13 Rod(6,6) Pos.7	270	970	K	4.31	0.62
1034	TW 282	TWE-B13668	B13 Rod(6,6) Pos.8	270	970	K	4.31	0.62
1035	TW 283	TWE-B13442	B13 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
1036	TW 284	TWE-B13444	B13 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1037	TW 285	TWE-B13445	B13 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1038	TW 286	TWE-B13446	B13 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1039	TW 287	TWE-B13447	B13 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1040	TW 288	TWE-B13448	B13 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
1041	TW 289	TWE-B14541	B14 Rod(5,4) Pos.1	270	1470	K	6.44	0.54
1042	TW 290	TWE-B14542	B14 Rod(5,4) Pos.2	270	1470	K	6.44	0.54
1043	TW 291	TWE-B14544	B14 Rod(5,4) Pos.4	270	1470	K	6.44	0.54
1044	TW 292	TWE-B14545	B14 Rod(5,4) Pos.5	270	1470	K	6.44	0.54
1045	TW 293	TWE-B14547	B14 Rod(5,4) Pos.7	270	1470	K	6.44	0.54
1046	TW 294	TWE-B14549	B14 Rod(5,4) Pos.9	270	1470	K	6.44	0.54
1047	TW 295	TWE-B14441	B14 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1048	TW 296	TWE-B14443	B14 Rod(4,4) Pos.3	270	1470	K	6.44	0.54
1049	TW 297	TWE-B14445	B14 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1050	TW 298	TWE-B14446	B14 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1051	TW 299	TWE-B14448	B14 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
1052	TW 300	TWE-B14449	B14 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1053	TW 301	TWE-B14172	B14 Rod(1,7) Pos.2	270	1470	K	6.44	0.54
1054	TW 302	TWE-B14174	B14 Rod(1,7) Pos.4	270	1470	K	6.44	0.54
1055	TW 303	TWE-B14175	B14 Rod(1,7) Pos.5	270	1470	K	6.44	0.54
1056	TW 304	TWE-B14176	B14 Rod(1,7) Pos.6	270	1470	K	6.44	0.54
1057	TW 305	TWE-B14177	B14 Rod(1,7) Pos.7	270	1470	K	6.44	0.54
1058	TW 306	TWE-B14178	B14 Rod(1,7) Pos.8	270	1470	K	6.44	0.54
1059	TW 307	TWE-B15441	B15 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1060	TW 308	TWE-B15442	B15 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
1061	TW 309	TWE-B15444	B15 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1062	TW 310	TWE-B15445	B15 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1063	TW 311	TWE-B15447	B15 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1064	TW 312	TWE-B15449	B15 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1065	TW 313	TWE-B15451	B15 Rod(4,5) Pos.1	270	1470	K	6.44	0.54
1066	TW 314	TWE-B15453	B15 Rod(4,5) Pos.3	270	1470	K	6.44	0.54
1067	TW 315	TWE-B15455	B15 Rod(4,5) Pos.5	270	1470	K	6.44	0.54
1068	TW 316	TWE-B15456	B15 Rod(4,5) Pos.6	270	1470	K	6.44	0.54
1069	TW 317	TWE-B15458	B15 Rod(4,5) Pos.8	270	1470	K	6.44	0.54
1070	TW 318	TWE-B15459	B15 Rod(4,5) Pos.9	270	1470	K	6.44	0.54
1071	TW 319	TWE-B15172	B15 Rod(1,7) Pos.2	270	1470	K	6.44	0.54
1072	TW 320	TWE-B15174	B15 Rod(1,7) Pos.4	270	1470	K	6.44	0.54
1073	TW 321	TWE-B15175	B15 Rod(1,7) Pos.5	270	1470	K	6.44	0.54
1074	TW 322	TWE-B15176	B15 Rod(1,7) Pos.6	270	1470	K	6.44	0.54
1075	TW 323	TWE-B15177	B15 Rod(1,7) Pos.7	270	1470	K	6.44	0.54
1076	TW 324	TWE-B15178	B15 Rod(1,7) Pos.8	270	1470	K	6.44	0.54
1077	TW 325	TWE-B16442	B16 Rod(4,4) Pos.2	270	1470	K	6.44	0.54

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1078	TW 326	TWE-B16444	B16 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1079	TW 327	TWE-B16445	B16 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1080	TW 328	TWE-B16446	B16 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1081	TW 329	TWE-B16447	B16 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1082	TW 330	TWE-B16448	B16 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
1083	TW 331	TWE-B16172	B16 Rod(1,7) Pos.2	270	1470	K	6.44	0.54
1084	TW 332	TWE-B16174	B16 Rod(1,7) Pos.4	270	1470	K	6.44	0.54
1085	TW 333	TWE-B16175	B16 Rod(1,7) Pos.5	270	1470	K	6.44	0.54
1086	TW 334	TWE-B16176	B16 Rod(1,7) Pos.6	270	1470	K	6.44	0.54
1087	TW 335	TWE-B16177	B16 Rod(1,7) Pos.7	270	1470	K	6.44	0.54
1088	TW 336	TWE-B16178	B16 Roc(1,7) Pos.8	270	1470	K	6.44	0.54
1089	TW 337	TWE-B17442	B17 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
1090	TW 338	TWE-B17444	B17 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1091	TW 339	TWE-B17445	B17 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1092	TW 340	TWE-B17446	B17 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1093	TW 341	TWE-B17447	B17 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1094	TW 342	TWE-B17448	B17 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
1095	TW 343	TWE-B17172	B17 Rod(1,7) Pos.2	270	1470	K	6.44	0.54
1096	TW 344	TWE-B17174	B17 Rod(1,7) Pos.4	270	1470	K	6.44	0.54
1097	TW 345	TWE-B17175	B17 Rod(1,7) Pos.5	270	1470	K	6.44	0.54
1098	TW 346	TWE-B17176	B17 Rod(1,7) Pos.6	270	1470	K	6.44	0.54
1099	TW 347	TWE-B17177	B17 Rod(1,7) Pos.7	270	1470	K	6.44	0.54
1100	TW 348	TWE-B17178	B17 Rod(1,7) Pos.8	270	1470	K	6.44	0.54
1101	TW 349	TWE-B18341	B18 Rod(3,4) Pos.1	270	1470	K	6.44	0.54
1102	TW 350	TWE-B18342	B18 Rod(3,4) Pos.2	270	1470	K	6.44	0.54
1103	TW 351	TWE-B18344	B18 Rod(3,4) Pos.4	270	1470	K	6.44	0.54
1104	TW 352	TWE-B18345	B18 Rod(3,4) Pos.5	270	1470	K	6.44	0.54
1105	TW 353	TWE-B18347	B18 Rod(3,4) Pos.7	270	1470	K	6.44	0.54
1106	TW 354	TWE-B18349	B18 Rod(3,4) Pos.9	270	1470	K	6.44	0.54
1107	TW 355	TWE-B18441	B18 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1108	TW 356	TWE-B18443	B18 Rod(4,4) Pos.3	270	1470	K	6.44	0.54
1109	TW 357	TWE-B18445	B18 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1110	TW 358	TWE-B18446	B18 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1111	TW 359	TWE-B18448	B18 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
1112	TW 360	TWE-B18449	B18 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1113	TW 361	TWE-B19451	B19 Rod(4,5) Pos.1	270	1470	K	6.44	0.54
1114	TW 362	TWE-B19452	B19 Rod(4,5) Pos.2	270	1470	K	6.44	0.54
1115	TW 363	TWE-B19454	B19 Rod(4,5) Pos.4	270	1470	K	6.44	0.54
1116	TW 364	TWE-B19455	B19 Rod(4,5) Pos.5	270	1470	K	6.44	0.54
1117	TW 365	TWE-B19457	B19 Rod(4,5) Pos.7	270	1470	K	6.44	0.54
1118	TW 366	TWE-B19459	B19 Rod(4,5) Pos.9	270	1470	K	6.44	0.54
1119	TW 367	TWE-B19441	B19 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1120	TW 368	TWE-B19443	B19 Rod(4,4) Pos.3	270	1470	K	6.44	0.54
1121	TW 369	TWE-B19445	B19 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1122	TW 370	TWE-B19446	B19 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1123	TW 371	TWE-B19448	B19 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
1124	TW 372	TWE-B19449	B19 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1125	TW 373	TWE-B20441	B20 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1126	TW 374	TWE-B20442	B20 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
1127	TW 375	TWE-B20444	B20 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1128	TW 376	TWE-B20445	B20 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1129	TW 377	TWE-B20447	B20 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1130	TW 378	TWE-B20449	B20 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1131	TW 379	TWE-B21441	B21 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1132	TW 380	TWE-B21442	B21 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
1133	TW 381	TWE-B21444	B21 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1134	TW 382	TWE-B21445	B21 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1135	TW 383	TWE-B21447	B21 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1136	TW 384	TWE-B21449	B21 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1137	TW 385	TWE-B21541	B21 Rod(5,4) Pos.1	270	1470	K	6.44	0.54
1138	TW 386	TWE-B21543	B21 Rod(5,4) Pos.3	270	1470	K	6.44	0.54
1139	TW 387	TWE-B21545	B21 Rod(5,4) Pos.5	270	1470	K	6.44	0.54
1140	TW 388	TWE-B21546	B21 Rod(5,4) Pos.6	270	1470	K	6.44	0.54
1141	TW 389	TWE-B21548	B21 Rod(5,4) Pos.8	270	1470	K	6.44	0.54
1142	TW 390	TWE-B21549	B21 Rod(5,4) Pos.9	270	1470	K	6.44	0.54
1143	TW 391	TWE-B21662	B21 Rod(6,6) Pos.2	270	970	K	4.31	0.62
1144	TW 392	TWE-B21664	B21 Rod(6,6) Pos.4	270	970	K	4.31	0.62
1145	TW 393	TWE-B21665	B21 Rod(6,6) Pos.5	270	970	K	4.31	0.62
1146	TW 394	TWE-B21666	B21 Rod(6,6) Pos.6	270	970	K	4.31	0.62
1147	TW 395	TWE-B21667	B21 Rod(6,6) Pos.7	270	970	K	4.31	0.62
1148	TW 396	TWE-B21668	B21 Rod(6,6) Pos.8	270	970	K	4.31	0.62
1149	TW 397	TWE-B21112	B21 Rod(1,1) Pos.2	270	1470	K	6.44	0.54
1150	TW 398	TWE-B21114	B21 Rod(1,1) Pos.4	270	1470	K	6.44	0.54
1151	TW 399	TWE-B21115	B21 Rod(1,1) Pos.5	270	1470	K	6.44	0.54
1152	TW 400	TWE-B21116	B21 Rod(1,1) Pos.6	270	1470	K	6.44	0.54
1153	TW 401	TWE-B21117	B21 Rod(1,1) Pos.7	270	1470	K	6.44	0.54
1154	TW 402	TWE-B21118	B21 Rod(1,1) Pos.8	270	1470	K	6.44	0.54
1155	TW 403	TWE-B22541	B22 Rod(5,4) Pos.1	270	1470	K	6.44	0.54
1156	TW 404	TWE-B22542	B22 Rod(5,4) Pos.2	270	1470	K	6.44	0.54
1157	TW 405	TWE-B22544	B22 Rod(5,4) Pos.4	270	1470	K	6.44	0.54
1158	TW 406	TWE-B22545	B22 Rod(5,4) Pos.5	270	1470	K	6.44	0.54
1159	TW 407	TWE-B22547	B22 Rod(5,4) Pos.7	270	1470	K	6.44	0.54
1160	TW 408	TWE-B22549	B22 Rod(5,4) Pos.9	270	1470	K	6.44	0.54

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1161	TW 409	TWE-B22441	B22 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1162	TW 410	TWE-B22443	B22 Rod(4,4) Pos.3	270	1470	K	6.44	0.54
1163	TW 411	TWE-B22445	B22 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1164	TW 412	TWE-B22446	B22 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1165	TW 417	TWE-B22175	B22 Rod(1,7) Pos.5	270	1470	K	6.44	0.54
1166	TW 418	TWE-B22176	B22 Rod(1,7) Pos.6	270	1470	K	6.44	0.54
1167	TW 419	TWE-B22177	B22 Rod(1,7) Pos.7	270	1470	K	6.44	0.54
1168	TW 420	TWE-B22178	B22 Rod(1,7) Pos.8	270	1470	K	6.44	0.54
1169	TW 421	TWE-B23441	B23 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1170	TW 422	TWE-B23442	B23 Rod(4,4) Pos.2	270	1470	K	6.44	0.54
1171	TW 423	TWE-B23444	B23 Rod(4,4) Pos.4	270	1470	K	6.44	0.54
1172	TW 424	TWE-B23445	B23 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1173	TW 425	TWE-B23447	B23 Rod(4,4) Pos.7	270	1470	K	6.44	0.54
1174	TW 426	TWE-B23449	B23 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1175	TW 427	TWE-B23451	B23 Rod(4,5) Pos.1	270	1470	K	6.44	0.54
1176	TW 428	TWE-B23453	B23 Rod(4,5) Pos.3	270	1470	K	6.44	0.54
1177	TW 429	TWE-B23455	B23 Rod(4,5) Pos.5	270	1470	K	6.44	0.54
1178	TW 430	TWE-B23456	B23 Rod(4,5) Pos.6	270	1470	K	6.44	0.54
1179	TW 431	TWE-B23458	B23 Rod(4,5) Pos.8	270	1470	K	6.44	0.54
1180	TW 432	TWE-B23459	B23 Rod(4,5) Pos.9	270	1470	K	6.44	0.54
1181	TW 433	TWE-B20112	B20 Rod(1,1) Pos.2	270	1470	K	6.44	0.54
1182	TW 434	TWE-B20114	B20 Rod(1,1) Pos.4	270	1470	K	6.44	0.54
1183	TW 435	TWE-B20115	B20 Rod(1,1) Pos.5	270	1470	K	6.44	0.54
1184	TW 436	TWE-B20116	B20 Rod(1,1) Pos.6	270	1470	K	6.44	0.54
1185	TW 437	TWE-B20117	B20 Rod(1,1) Pos.7	270	1470	K	6.44	0.54
1186	TW 438	TWE-B20118	B20 Rod(1,1) Pos.8	270	1470	K	6.44	0.54
1187	TW 439	TWE-B24341	B24 Rod(3,4) Pos.1	270	1470	K	6.44	0.54
1188	TW 440	TWE-B24342	B24 Rod(3,4) Pos.2	270	1470	K	6.44	0.54
1189	TW 441	TWE-B24344	B24 Rod(3,4) Pos.4	270	1470	K	6.44	0.54
1190	TW 442	TWE-B24345	B24 Rod(3,4) Pos.5	270	1470	K	6.44	0.54
1191	TW 443	TWE-B24347	B24 Rod(3,4) Pos.7	270	1470	K	6.44	0.54
1192	TW 444	TWE-B24349	B24 Rod(3,4) Pos.9	270	1470	K	6.44	0.54
1193	TW 445	TWE-B24441	B24 Rod(4,4) Pos.1	270	1470	K	6.44	0.54
1194	TW 446	TWE-B24443	B24 Rod(4,4) Pos.3	270	1470	K	6.44	0.54
1195	TW 447	TWE-B24445	B24 Rod(4,4) Pos.5	270	1470	K	6.44	0.54
1196	TW 448	TWE-B24446	B24 Rod(4,4) Pos.6	270	1470	K	6.44	0.54
1197	TW 449	TWE-B24448	B24 Rod(4,4) Pos.8	270	1470	K	6.44	0.54
1198	TW 450	TWE-B24449	B24 Rod(4,4) Pos.9	270	1470	K	6.44	0.54
1199	TW 451	TWE-B24712	B24 Rod(7,1) Pos.2	270	1470	K	6.44	0.54
1200	TW 452	TWE-B24714	B24 Rod(7,1) Pos.4	270	1470	K	6.44	0.54
1201	TW 453	TWE-B24715	B24 Rod(7,1) Pos.5	270	1470	K	6.44	0.54
1202	TW 454	TWE-B24716	B24 Rod(7,1) Pos.6	270	1470	K	6.44	0.54
1203	TW 455	TWE-B24717	B24 Rod(7,1) Pos.7	270	1470	K	6.44	0.54
1204	TW 456	TWE-B24718	B24 Rod(7,1) Pos.8	270	1470	K	6.44	0.54
1205	TW 457	TWE-IN0641-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
1206	TW 458	TWE-IN0642-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
1207	TW 459	TWE-IN0643-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
1208	TW 463	TWE-086B-SGA	SGA Inner Wall Pos.1	270	670	K	3.11	0.78
1209	TW 464	TWE-137B-SGA	SGA Inner Wall Pos.7	270	670	K	3.11	0.78
1210	TW 465	TWE-178B-SGA	SGA Inner Wall Pos.10	270	670	K	3.11	0.78
1211	TW 466	TWE-223B-SGA	SGA Inner Wall	270	670	K	3.11	0.78
1212	TW 467	TWE-IN0861-SGA	SGA U-Tube(1,IN) Pos.1	270	720	K	3.31	0.74
1213	TW 468	TWE-EX0861-SGA	SGA U-Tube(1,EX) Pos.1	270	720	K	3.31	0.74
1214	TW 469	TWE-IN0862-SGA	SGA U-Tube(2,IN) Pos.1	270	720	K	3.31	0.74
1215	TW 470	TWE-EX0862-SGA	SGA U-Tube(2,EX) Pos.1	270	720	K	3.31	0.74
1216	TW 471	TWE-IN0863-SGA	SGA U-Tube(3,IN) Pos.1	270	720	K	3.31	0.74
1217	TW 472	TWE-EX0863-SGA	SGA U-Tube(3,EX) Pos.1	270	720	K	3.31	0.74
1218	TW 473	TWE-IN0991-SGA	SGA U-Tube(1,IN) Pos.3	270	720	K	3.31	0.74
1219	TW 474	TWE-EX0991-SGA	SGA U-Tube(1,EX) Pos.3	270	720	K	3.31	0.74
1220	TW 475	TWE-IN0992-SGA	SGA U-Tube(2,IN) Pos.3	270	720	K	3.31	0.74
1221	TW 476	TWE-EX0992-SGA	SGA U-Tube(2,EX) Pos.3	270	720	k	3.31	0.74
1222	TW 477	TWE-IN0993-SGA	SGA U-Tube(3,IN) Pos.3	270	720	K	3.31	0.74
1223	TW 478	TWE-EX0993-SGA	SGA U-Tube(3,EX) Pos.3	270	720	K	3.31	0.74
1224	TW 479	TWE-IN1121-SGA	SGA U-Tube(1,IN) Pos.5	270	720	K	3.31	0.74
1225	TW 480	TWE-EX1121-SGA	SGA U-Tube(1,EX) Pos.5	270	720	K	3.31	0.74
1226	TW 481	TWE-IN1122-SGA	SGA U-Tube(2,IN) Pos.5	270	720	K	3.31	0.74
1227	TW 482	TWE-EX1122-SGA	SGA U-Tube(2,EX) Pos.5	270	720	K	3.31	0.74
1228	TW 483	TWE-IN1123-SGA	SGA U-Tube(3,IN) Pos.5	270	720	K	3.31	0.74
1229	TW 484	TWE-EX1123-SGA	SGA U-Tube(3,EX) Pos.5	270	720	K	3.31	0.74
1230	TW 485	TWE-IN1371-SGA	SGA U-Tube(1,IN) Pos.7	270	720	K	3.31	0.74
1231	TW 486	TWE-EX1371-SGA	SGA U-Tube(1,EX) Pos.7	270	720	K	3.31	0.74
1232	TW 487	TWE-IN1372-SGA	SGA U-Tube(2,IN) Pos.7	270	720	K	3.31	0.74
1233	TW 488	TWE-EX1372-SGA	SGA U-Tube(2,EX) Pos.7	270	720	K	3.31	0.74
1234	TW 489	TWE-IN1373-SGA	SGA U-Tube(3,IN) Pos.7	270	720	K	3.31	0.74
1235	TW 490	TWE-EX1373-SGA	SGA U-Tube(3,EX) Pos.7	270	720	K	3.31	0.74
1236	TW 491	TWE-IN1632-SGA	SGA U-Tube(2,IN) Pos.9	270	720	K	3.31	0.74
1237	TW 492	TWE-EX1632-SGA	SGA U-Tube(2,EX) Pos.9	270	720	K	3.31	0.74
1238	TW 493	TWE-IN1633-SGA	SGA U-Tube(3,IN) Pos.9	270	720	K	3.31	0.74
1239	TW 494	TWE-EX1633-SGA	SGA U-Tube(3,EX) Pos.9	270	720	K	3.31	0.74
1240	TW 495	TWE-IN1701-SGA	SGA U-Tube(1,IN) Pos.10	270	720	K	3.31	0.74
1241	TW 496	TWE-IN1782-SGA	SGA U-Tube(2,IN) Pos.10	270	720	K	3.31	0.74
1242	TW 497	TWE-IN1863-SGA	SGA U-Tube(3,IN) Pos.11	270	720	K	3.31	0.74
1243	TW 498	TWE-IN0641-SGB	SGB Inlet Plenum	270	720	K	3.74	0.83

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1244	TW 500	TWE-IN0643-SGB	SGB Inlet Plenum	270	720	K	3.74	0.83
1245	TW 504	TWE-086B-SGB	SGB Inner Wall Pos.1	270	670	K	3.11	0.78
1246	TW 505	TWE-137B-SGB	SGB Inner Wall Pos.7	270	670	K	3.11	0.78
1247	TW 506	TWE-178B-SGB	SGB Inner Wall Pos.10	270	670	K	3.11	0.78
1248	TW 507	TWE-223B-SGB	SGB Inner Wall	270	670	K	3.11	0.78
1249	TW 508	TWE-IN0861-SGB	SGB U-Tube(1,IN) Pos.1	270	720	K	3.31	0.74
1250	TW 509	TWE-EX0861-SGB	SGB U-Tube(1,EX) Pos.1	270	720	K	3.31	0.74
1251	TW 510	TWE-IN0862-SGB	SGB U-Tube(2,IN) Pos.1	270	720	K	3.31	0.74
1252	TW 511	TWE-EX0862-SGB	SGB U-Tube(2,EX) Pos.1	270	720	K	3.31	0.74
1253	TW 512	TWE-IN0863-SGB	SGB U-Tube(3,IN) Pos.1	270	720	K	3.31	0.74
1254	TW 513	TWE-EX0863-SGB	SGB U-Tube(3,EX) Pos.1	270	720	K	3.31	0.74
1255	TW 514	TWE-IN0991-SGB	SGB U-Tube(1,IN) Pos.3	270	720	K	3.31	0.74
1256	TW 515	TWE-EX0991-SGB	SGB U-Tube(1,EX) Pos.3	270	720	K	3.31	0.74
1257	TW 516	TWE-IN0992-SGB	SGB U-Tube(2,IN) Pos.3	270	720	K	3.31	0.74
1258	TW 517	TWE-EX0992-SGB	SGB U-Tube(2,EX) Pos.3	270	720	K	3.31	0.74
1259	TW 518	TWE-IN0993-SGB	SGB U-Tube(3,IN) Pos.3	270	720	K	3.31	0.74
1260	TW 519	TWE-EX0993-SGB	SGB U-Tube(3,EX) Pos.3	270	720	K	3.31	0.74
1261	TW 520	TWE-IN1121-SGB	SGB U-Tube(1,IN) Pos.5	270	720	K	3.31	0.74
1262	TW 521	TWE-EX1121-SGB	SGB U-Tube(1,EX) Pos.5	270	720	K	3.31	0.74
1263	TW 522	TWE-IN1122-SGB	SGB U-Tube(2,IN) Pos.5	270	720	K	3.31	0.74
1264	TW 523	TWE-EX1122-SGB	SGB U-Tube(2,EX) Pos.5	270	720	K	3.31	0.74
1265	TW 524	TWE-IN1123-SGB	SGB U-Tube(3,IN) Pos.5	270	720	K	3.31	0.74
1266	TW 525	TWE-EX1123-SGB	SGB U-Tube(3,EX) Pos.5	270	720	K	3.31	0.74
1267	TW 526	TWE-IN1371-SGB	SGB U-Tube(1,IN) Pos.7	270	720	K	3.31	0.74
1268	TW 527	TWE-EX1371-SGB	SGB U-Tube(1,EX) Pos.7	270	720	K	3.31	0.74
1269	TW 528	TWE-IN1372-SGB	SGB U-Tube(2,IN) Pos.7	270	720	K	3.31	0.74
1270	TW 529	TWE-EX1372-SGB	SGB U-Tube(2,EX) Pos.7	270	720	K	3.31	0.74
1271	TW 530	TWE-IN1373-SGB	SGB U-Tube(3,IN) Pos.7	270	720	K	3.31	0.74
1272	TW 531	TWE-EX1373-SGB	SGB U-Tube(3,EX) Pos.7	270	720	K	3.31	0.74
1273	TW 532	TWE-IN1632-SGB	SGB U-Tube(2,IN) Pos.9	270	720	K	3.31	0.74
1274	TW 533	TWE-EX1632-SGB	SGB U-Tube(2,EX) Pos.9	270	720	K	3.31	0.74
1275	TW 534	TWE-IN1633-SGB	SGB U-Tube(3,IN) Pos.9	270	720	K	3.31	0.74
1276	TW 535	TWE-EX1633-SGB	SGB U-Tube(3,EX) Pos.9	270	720	K	3.31	0.74
1277	TW 536	TWE-IN1701-SGB	SGB U-Tube(1,IN) Pos.10	270	720	K	3.31	0.74
1278	TW 537	TWE-IN1782-SGB	SGB U-Tube(2,IN) Pos.10	270	720	K	3.31	0.74
1279	TW 538	TWE-IN1863-SGB	SGB U-Tube(3,IN) Pos.11	270	720	K	3.31	0.74
1280	TW 539	TWE-211A-PR	PR Outer Wall	270	720	K	3.31	0.74
1281	TW 540	TWE-211B-PR	PR Inner Wall	270	720	K	3.31	0.74
1282	TW 541	TWE-194A-PR	PR Outer Wall	270	720	K	3.31	0.74
1283	TW 542	TWE-194B-PR	PR Inner Wall	270	720	K	3.31	0.74
1284	TW 543	TWE-177A-PR	PR Outer Wall	270	720	K	3.31	0.74
1285	TW 544	TWE-177B-PR	PR Inner Wall	270	720	K	3.31	0.74
1286	TW 545	TWE270A-PR	PR Spray Line Outer Wall	270	720	K	3.31	0.74
1287	TW 590	TWE-111D-CDP	PLR-02-1 Outer Wall	270	970	K	4.31	0.62
1288	TW 591	TWE-112D-CDP	PLR-01-2 Outer Wall	270	970	K	4.31	0.62
1289	TW 592	TWE-113D-CDP	PLR-08-3 Outer Wall	270	970	K	4.31	0.62
1290	TW 593	TWE-114D-CDP	PLR-07-4 Outer Wall	270	970	K	4.31	0.62
1291	TW 594	TWE-115D-CDP	PLR-06-5 Outer Wall	270	970	K	4.31	0.62
1292	TW 595	TWE-116D-CDP	PLR-05-6 Outer Wall	270	970	K	4.31	0.62
1293	TW 596	TWE-117D-CDP	PLR-04-7 Outer Wall	270	970	K	4.31	0.62
1294	TW 597	TWE-118D-CDP	PLR-03-8 Outer Wall	270	970	K	4.31	0.62
1295	TW 598	TWE-121D-UHDP	PLR-UH-9 Outer Wall	270	970	K	4.31	0.62
1296	TW 599	TWE-B02552	B02 Rod(5,5) Pos.2	270	1470	K	6.32	0.53
1297	TW 600	TWE-B02554	B02 Rod(5,5) Pos.4	270	1470	K	6.32	0.53
1298	TW 601	TWE-B02555	B02 Rod(5,5) Pos.5	270	1470	K	6.32	0.53
1299	TW 602	TWE-B02556	B02 Rod(5,5) Pos.6	270	1470	K	6.32	0.53
1300	TW 603	TWE-B02557	B02 Rod(5,5) Pos.7	270	1470	K	6.32	0.53
1301	TW 604	TWE-B02558	B02 Rod(5,5) Pos.8	270	1470	K	6.32	0.53
1302	TW 605	TWE-B03552	B03 Rod(5,5) Pos.2	270	1470	K	6.32	0.53
1303	TW 606	TWE-B03554	B03 Rod(5,5) Pos.4	270	1470	K	6.32	0.53
1304	TW 607	TWE-B03555	B03 Rod(5,5) Pos.5	270	1470	K	6.32	0.53
1305	TW 608	TWE-B03556	B03 Rod(5,5) Pos.6	270	1470	K	6.32	0.53
1306	TW 609	TWE-B03557	B03 Rod(5,5) Pos.7	270	1470	K	6.32	0.53
1307	TW 610	TWE-B03558	B03 Rod(5,5) Pos.8	270	1470	K	6.32	0.53
1308	TW 611	TWE-B05112	B05 Rod(1,1) Pos.2	270	1470	K	6.32	0.53
1309	TW 612	TWE-B05114	B05 Rod(1,1) Pos.4	270	1470	K	6.32	0.53
1310	TW 613	TWE-B05115	B05 Rod(1,1) Pos.5	270	1470	K	6.32	0.53
1311	TW 614	TWE-B05116	B05 Rod(1,1) Pos.6	270	1470	K	6.32	0.53
1312	TW 615	TWE-B05117	B05 Rod(1,1) Pos.7	270	1470	K	6.32	0.53
1313	TW 616	TWE-B05118	B05 Rod(1,1) Pos.8	270	1470	K	6.32	0.53
1314	TW 617	TWE-B06552	B06 Rod(5,5) Pos.2	270	1470	K	6.32	0.53
1315	TW 618	TWE-B06554	B06 Rod(5,5) Pos.4	270	1470	K	6.32	0.53
1316	TW 619	TWE-B06555	B06 Rod(5,5) Pos.5	270	1470	K	6.32	0.53
1317	TW 620	TWE-B06556	B06 Rod(5,5) Pos.6	270	1470	K	6.32	0.53
1318	TW 621	TWE-B06557	B06 Rod(5,5) Pos.7	270	1470	K	6.32	0.53
1319	TW 622	TWE-B06558	B06 Rod(5,5) Pos.8	270	1470	K	6.32	0.53
1320	TW 623	TWE-B07552	B07 Rod(5,5) Pos.2	270	1470	K	6.32	0.53
1321	TW 624	TWE-B07554	B07 Rod(5,5) Pos.4	270	1470	K	6.32	0.53
1322	TW 625	TWE-B07555	B07 Rod(5,5) Pos.5	270	1470	K	6.32	0.53
1323	TW 626	TWE-B07556	B07 Rod(5,5) Pos.6	270	1470	K	6.32	0.53
1324	TW 627	TWE-B07557	B07 Rod(5,5) Pos.7	270	1470	K	6.32	0.53
1325	TW 628	TWE-B07558	B07 Rod(5,5) Pos.8	270	1470	K	6.32	0.53
1326	TW 629	TWE-B01221	B01 Rod(2,2) Pos.1	270	970	K	4.31	0.62

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1327	TW 630	TWE-B01223	B01 Rod(2,2) Pos.3	270	970	K	4.31	0.62
1328	TW 631	TWE-B01225	B01 Rod(2,2) Pos.5	270	970	K	4.31	0.62
1329	TW 632	TWE-B01226	B01 Rod(2,2) Pos.6	270	970	K	4.31	0.62
1330	TW 633	TWE-B01227	B01 Rod(2,2) Pos.7	270	970	K	4.31	0.62
1331	TW 634	TWE-B01229	B01 Rod(2,2) Pos.9	270	970	K	4.31	0.62
1332	TW 635	TWE-B04221	B04 Rod(2,2) Pos.1	270	970	K	4.31	0.62
1333	TW 636	TWE-B04223	B04 Rod(2,2) Pos.3	270	970	K	4.31	0.62
1334	TW 637	TWE-B04225	B04 Rod(2,2) Pos.5	270	970	K	4.31	0.62
1335	TW 638	TWE-B04226	B04 Rod(2,2) Pos.6	270	970	K	4.31	0.62
1336	TW 639	TWE-B04227	B04 Rod(2,2) Pos.7	270	970	K	4.31	0.62
1337	TW 640	TWE-B04229	B04 Rod(2,2) Pos.9	270	970	K	4.31	0.62
1338	TW 641	TWE-B10621	B10 Rod(6,2) Pos.1	270	970	K	4.31	0.62
1339	TW 642	TWE-B10623	B10 Rod(6,2) Pos.3	270	970	K	4.31	0.62
1340	TW 643	TWE-B10625	B10 Rod(6,2) Pos.5	270	970	K	4.31	0.62
1341	TW 644	TWE-B10626	B10 Rod(6,2) Pos.6	270	970	K	4.31	0.62
1342	TW 645	TWE-B10627	B10 Rod(6,2) Pos.7	270	970	K	4.31	0.62
1343	TW 646	TWE-B10629	B10 Rod(6,2) Pos.9	270	970	K	4.31	0.62
1344	TW 647	TWE-B11221	B11 Rod(2,2) Pos.1	270	970	K	4.31	0.62
1345	TW 648	TWE-B11223	B11 Rod(2,2) Pos.3	270	970	K	4.31	0.62
1346	TW 649	TWE-B11225	B11 Rod(2,2) Pos.5	270	970	K	4.31	0.62
1347	TW 650	TWE-B11226	B11 Rod(2,2) Pos.6	270	970	K	4.31	0.62
1348	TW 651	TWE-B11227	B11 Rod(2,2) Pos.7	270	970	K	4.31	0.62
1349	TW 652	TWE-B11229	B11 Rod(2,2) Pos.9	270	970	K	4.31	0.62
1350	TW 653	TWE-B16221	B16 Rod(2,2) Pos.1	270	970	K	4.31	0.62
1351	TW 654	TWE-B16223	B16 Rod(2,2) Pos.3	270	970	K	4.31	0.62
1352	TW 655	TWE-B16225	B16 Rod(2,2) Pos.5	270	970	K	4.31	0.62
1353	TW 656	TWE-B16226	B16 Rod(2,2) Pos.6	270	970	K	4.31	0.62
1354	TW 657	TWE-B16227	B16 Rod(2,2) Pos.7	270	970	K	4.31	0.62
1355	TW 658	TWE-B16229	B16 Rod(2,2) Pos.9	270	970	K	4.31	0.62
1356	FE 1	FE010-HLA	HLA Leakage(Positive)	0	0.4	kg/s	0.01	1.62
1357	FE 2	FE020A-LSA	Primary Loop A (High)	0	90	kg/s	1.01	1.12
1358	FE 3	FE020B-LSA	Primary Loop A (Low)	0	15.8	kg/s	0.17	1.10
1359	FE 4	FE150-HLB	HLB Leakage(Positive)	0	0.4	kg/s	0.01	1.62
1360	FE 5	FE160A-LSB	Primary Loop B (High)	0	90	kg/s	1.01	1.12
1361	FE 6	FE160B-LSB	Primary Loop B (Low)	0	15.8	kg/s	0.17	1.10
1362	FE 10	FE290-PR	PR Relief Valve	0	3	kg/s	0.05	1.67
1363	FE 13	FE430-SGA	SGA Feedwater	0	4	kg/s	0.06	1.62
1364	FE 14	FE431-SGA	SGA Downcomer	0	7	kg/s	0.11	1.62
1365	FE 15	FE432-SGA	SGA Downcomer	0	7	kg/s	0.11	1.62
1366	FE 16	FE433-SGA	SGA Downcomer	0	7	kg/s	0.11	1.62
1367	FE 17	FE434-SGA	SGA Downcomer	0	7	kg/s	0.11	1.62
1368	FE 18	FE440-SGA	SGA Steam Line	0	5	kg/s	0.11	2.29
1369	FE 19	FE450-SGA	SGA Relief Valve Line	0	4	kg/s	0.09	2.29
1370	FE 21	FE470-SGB	SGB Feedwater	0	4	kg/s	0.06	1.62
1371	FE 22	FE471-SGB	SGB Downcomer	0	7	kg/s	0.11	1.62
1372	FE 23	FE472-SGB	SGB Downcomer	0	7	kg/s	0.11	1.62
1373	FE 24	FE473-SGB	SGB Downcomer	0	7	kg/s	0.11	1.62
1374	FE 25	FE474-SGB	SGB Downcomer	0	7	kg/s	0.11	1.62
1375	FE 26	FE480-SGB	SGB Steam Line	0	5	kg/s	0.11	2.29
1376	FE 27	FE490-SGB	SGB Relief Valve Line	0	4	kg/s	0.09	2.29
1377	FE 29	FE510-SH	Steam Header	0	10	kg/s	0.23	2.29
1378	FE 31	FE560A-BU	BU No.1 Venturi (High)	0	70	kg/s	0.77	1.10
1379	FE 41	FE730-PJ	PJ Delivery(High)	0	2.2	kg/s	0.04	1.61
1380	FE 42	FE740-PJ	Charging Flow to A(High)	0	1.4	kg/s	0.02	1.62
1381	FE 43	FE750-PJ	Charging flow to B(High)	0	0.4	kg/s	0.01	1.62
1382	FE 44	FE760-PH	PH Delivery(High)	0	1.5	kg/s	0.02	1.61
1383	FE 46	FE780-PH	HPI Flow to Loop B(High)	0	0.5	kg/s	0.01	1.67
1384	FE 57	FE783-PH	HPI Flow to CLB	0	3	kg/s	0.05	1.62
1385	FE 62	FE010B-HLA	HLA Leakage(Negative)	0	0.4	kg/s	0.01	0.32
1386	FE 63	FE150B-HLB	HLB Leakage(Negative)	0	0.4	kg/s	0.01	0.32
1387	FE 65	FE440B-SGA	SGA Main Steam Line(Low)	0	1	kg/s	0.01	0.32
1388	FE 67	FE480B-SGB	SGB Main Steam Line(Low)	0	1	kg/s	0.01	0.32
1389	FE 72	FE530B-PAB	Auxiliary Feedwater B(Low)	0	1	kg/s	0.02	1.61
1390	FE 73	FE730B-PJ	PJ Delivery(Low)	0	1.28	kg/s	0.02	1.61
1391	FE 74	FE740B-PJ	Charging Flow to A(Low)	0	1.28	kg/s	0.02	1.61
1392	FE 75	FE750B-PJ	Charging flow to B(Low)	0	0.2	kg/s	0.01	1.61
1393	FE 76	FE760B-PH	PH Delivery(Low)	0	1	kg/s	0.02	1.62
1394	FE 77	FE780B-PH	HPI Flow to Loop B(Low)	0	0.3	kg/s	0.01	1.61
1395	FE 83	FE960-CS	Oil Flow	0	2	kg/s	0.03	1.61
1396	PE 1	PE561-BU	BU No.1 Venturi	0	20	MPa	0.06	0.32
1397	PE 3	PE010-SGA	SGA Inlet Plenum	0	20	MPa	0.06	0.32
1398	PE 4	PE020-LSA	PCA Suction	0	20	MPa	0.06	0.32
1399	PE 5	PE030-CLA	PCA Delivery	0	20	MPa	0.06	0.32
1400	PE 6	PE150-SGB	SGB Inlet Plenum	0	20	MPa	0.06	0.32
1401	PE 7	PE160-LSB	PCB Suction	0	20	MPa	0.06	0.32
1402	PE 8	PE170-CLB	PCB Delivery	0	20	MPa	0.06	0.32
1403	PE 9	PE290-PV	PV Upper Head	0	20	MPa	0.06	0.32
1404	PE 10	PE280A-PV	PV Upper Plenum (High)	0	20	MPa	0.06	0.32
1405	PE 12	PE270-PV	PV Lower Plenum	0	20	MPa	0.06	0.32
1406	PE 13	PE300A-PR	PR (High Range)	0	20	MPa	0.06	0.32
1407	PE 15	PE310-PR	PR RV Venturi Upstream	0	20	MPa	0.06	0.32

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1408	PE 16	PE320-PR	PR RV Venturi Downstream	0	20	MPa	0.06	0.32
1409	PE 19	PE430-SGA	SGA Steam Dome	0	10	MPa	0.03	0.32
1410	PE 20	PE440-SGA	SGA Steam Line	0	10	MPa	0.03	0.32
1411	PE 21	PE450-SGB	SGB Steam Dome	0	10	MPa	0.03	0.32
1412	PE 22	PE460-SGB	SGB Steam Line	0	10	MPa	0.03	0.32
1413	PE 23	PE470-SH	Steam Header	0	10	MPa	0.03	0.32
1414	PE 24	PE480-JC	Jet Condenser	0	10	MPa	0.01	0.32
1415	PE 25	PE610-ST	Suppression Tank	0	1	MPa	0.01	0.32
1416	PE 26	PE560-BU	BU No.1 Orifice Upstream	0	20	MPa	0.06	0.32
1417	PE 27	PE570-BU	BU No.1 Orifice Downdstream	0	20	MPa	0.06	0.32
1418	PE 30	PE600-ST	Blowdown Piping	0	2	MPa	0.01	0.32
1419	PE 35	PE011-HLA	HLA S.P	0	20	MPa	0.06	0.32
1420	PE 36	PE071-CLA	CLA S.P	0	20	MPa	0.06	0.32
1421	PE 37	PE151-HLB	HLB S.P	0	20	MPa	0.06	0.32
1422	PE 38	PE211-CLB	CLB S.P	0	20	MPa	0.06	0.32
1423	PE 39	PE291-PR	PR Relief Valve S.P	0	20	MPa	0.06	0.32
1424	PE 40	PE301-PR	PR Safety Valve Line	0	20	MPa	0.06	0.32
1425	PE 41	PE311-PR	PV-PR Vent Line	0	20	MPa	0.06	0.32
1426	PE 43	PE571-BU	BU No.1 S.P	0	20	MPa	0.06	0.32
1427	MI 1	RE010-PCA	PCA (Rotation Speed)	0	70	Hz	0.38	0.55
1428	MI 2	RE150-PCB	PCB (Rotation Speed)	0	70	Hz	0.38	0.55
1429	MI 3	OPE270-PR	PR Spray (HCV270)	0	100	%	0.54	0.54
1430	MI 5	OPE430-SGA	SGA Feedwater (FCV430)	0	100	%	0.54	0.54
1431	MI 6	OPE470-SGB	SGB Feedwater (FCV470)	0	100	%	0.54	0.54
1432	MI 8	OPE510-SH	Steam Flow (FCV510)	0	100	%	0.54	0.54
1433	MI 11	VBE010-PCA	PCA (Vibration)	0	200	um	1.42	0.71
1434	MI 12	VBE150-PCB	PCB (Vibration)	0	200	um	1.42	0.71
1435	MI 15	AE010-PCA	PCA (Electric Current)	0	150	A	0.75	0,50
1436	MI 16	AE150-PCB	PCB (Electric Current)	0	150	A	0.75	0,50
1437	MI 17	WE270A-T	Total Core Power	0	16	MW	0.12	0.72
1438	MI 18	WE270B-M	Middle Heat Flux Region	0	2	MW	0.01	0.72
1439	MI 19	WE270C-H1	High Heat Flux Region	0	4	MW	0.03	0.72
1440	MI 20	WE270D-H2	High Heat Flux Region	0	3	MW	0.02	0.72
1441	MI 21	WE270E-L1	Low Heat Flux Region	0	2	MW	0.01	0.72
1442	MI 22	WE270F-L2	Low Heat Flux Region	0	2	MW	0.01	0.72
1443	MI 23	WE270G-L3	Low Heat Flux Region	0	2	MW	0.01	0.72
1444	MI 24	WE280A-PR	PR Proportional Heater	0	10	kW	0.15	1.50
1445	MI 25	WE280B-PR	PR Base Heater	0	150	kW	2.25	1.50
1446	MI 26	WE010-PCA	PCA	0	30	kW	0.45	1.50
1447	MI 27	WE150-PCB	PCB	0	30	kW	0.45	1.50
1448	MI 29	WE020-HLA	HLA	0	5	kW	0.08	1.50
1449	MI 30	WE030-LSA	LSA	0	7.5	kW	0.11	1.50
1450	MI 31	WE040-CLA	CLA	0	2	kW	0.03	1.50
1451	MI 32	WE160-HLB	HLB	0	5	kW	0.08	1.50
1452	MI 33	WE170-LSB	LSB	0	7.5	kW	0.11	1.50
1453	MI 34	WE180-CLB	CLB	0	2	kW	0.03	1.50
1454	MI 35	WE271A-PV	PV	0	15	kW	0.23	1.50
1455	MI 36	WE271B-PV	PV	0	15	kW	0.23	1.50
1456	MI 37	WE271C-PV	PV	0	15	kW	0.23	1.50
1457	MI 38	WE271D-PV	PV	0	15	kW	0.23	1.50
1458	MI 39	WE430A-SGA	SGA	0	4	kW	0.06	1.50
1459	MI 40	WE430B-SGA	SGA	0	4	kW	0.06	1.50
1460	MI 41	WE430C-SGA	SGA	0	4	kW	0.06	1.50
1461	MI 42	WE430D-SGA	SGA	0	4	kW	0.06	1.50
1462	MI 43	WE440A-SGA	SGA Downcomer	0	2	kW	0.03	1.50
1463	MI 44	WE440B-SGA	SGA Downcomer	0	2	kW	0.03	1.50
1464	MI 45	WE440C-SGA	SGA Downcomer	0	2	kW	0.03	1.50
1465	MI 46	WE440D-SGA	SGA Downcomer	0	2	kW	0.03	1.50
1466	MI 47	WE290-PR	PR Surge Line	0	4	kW	0.06	1.50
1467	MI 48	WE300-PR	PR Spray Line	0	7.5	kW	0.11	1.50
1468	MI 49	WE450A-SGB	SGB	0	4	kW	0.06	1.50
1469	MI 50	WE450B-SGB	SGB	0	4	kW	0.06	1.50
1470	MI 51	WE450C-SGB	SGB	0	4	kW	0.06	1.50
1471	MI 52	WE450D-SGB	SGB	0	4	kW	0.06	1.50
1472	MI 53	WE460A-SGB	SGB Downcomer	0	2	kW	0.03	1.50
1473	MI 54	WE460B-SGB	SGB Downcomer	0	2	kW	0.03	1.50
1474	MI 55	WE460C-SGB	SGB Downcomer	0	2	kW	0.03	1.50
1475	MI 56	WE460D-SGB	SGB Downcomer	0	2	kW	0.03	1.50
1476	LE 1	LE270-PV	PV	0	11	m	0.04	0.32
1477	LE 2	LE280-PR	PR	0	5	m	0.02	0.32
1478	LE 3	LE430-SGA	SGA Wide Range	0	17	m	0.05	0.32
1479	LE 4	LE440-SGA	SGA Narrow Range	0	6	m	0.02	0.32
1480	LE 5	LE441-SGA	SGA Boiling Section	0	11	m	0.04	0.32
1481	LE 6	LE450-SGB	SGB Wide Range	0	17	m	0.05	0.32
1482	LE 7	LE460-SGB	SGB Narrow Range	0	6	m	0.02	0.32
1483	LE 8	LE461-SGB	SGB Boiling Section	0	11	m	0.04	0.32
1484	LE 9	LE470-JC	JC	0	6	m	0.02	0.32
1485	LE 10	LE560-ST	ST Wide Range	0	12	m	0.04	0.32
1486	LE 11	LE570-ST	ST Low Level	0	4	m	0.01	0.32
1487	LE 12	LE580-ST	ST Middle Level	0	4	m	0.01	0.32
1488	LE 17	LE830-RWST	RWST	0	10	m	0.03	0.32

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1489	LE 18	LE442-SGA	SGA Downcomer	0	12	m	0.04	0.32
1490	LE 19	LE462-SGB	SGB Downcomer	0	12	m	0.04	0.32
1491	LE 20	DLE270-PV	PV	0	108	kPa	0.38	0.35
1492	LE 21	DLE280-PR	PR	0	39	kPa	0.22	0.56
1493	LE 22	DLE430-SGA	SGA Wide Range	0	166	kPa	0.59	0.35
1494	LE 23	DLE440-SGA	SGA Narrow Range	0	59	kPa	0.21	0.35
1495	LE 24	DLE441-SGA	SGA Boiling Section	0	108	kPa	0.38	0.35
1496	LE 25	DLE442-SGA	SGA Downcomer	0	111	kPa	0.39	0.35
1497	LE 26	DLE450-SGB	SGB Wide Range	0	166	kPa	0.59	0.35
1498	LE 27	DLE460-SGB	SGB Narrow Range	0	59	kPa	0.21	0.35
1499	LE 28	DLE461-SGB	SGB Boiling Section	0	108	kPa	0.38	0.35
1500	LE 29	DLE462-SGB	SGB Downcomer	0	111	kPa	0.39	0.35
1501	LE 30	DLE470-JC	JC	0	54	kPa	0.19	0.35
1502	LE 31	DLE560-ST	ST Wide Range	0	117	kPa	0.42	0.35
1503	LE 32	DLE570-ST	ST Low Level	0	39	kPa	0.14	0.35
1504	LE 33	DLE580-ST	ST Middle Level	0	39	kPa	0.14	0.35
1505	LE 34	DLE590-ST	ST High Level	0	39	kPa	0.14	0.35
1506	LE 38	DLE830-RWST	RWST	0	98	kPa	0.35	0.35
1507	DP 1	DPE010-HLA	Upper Plenum - HLA Nozzle	-40	40	kPa	0.26	0.32
1508	DP 2	DPE020-HLA	HLA Nozzle - HLA Break	-40	40	kPa	0.26	0.32
1509	DP 4	DPE040-HLA	HLA Break - SGA Inlet	-40	40	kPa	0.26	0.32
1510	DP 5	DPE050A-SGA	SGA Inlet - Tube 3 Top	-150	50	kPa	0.64	0.32
1511	DP 6	DPE050B-SGA	SGA Inlet - Tube 2 Top	-150	50	kPa	0.64	0.32
1512	DP 7	DPE050C-SGA	SGA Inlet - Tube 1 Top	-150	50	kPa	0.64	0.32
1513	DP 8	DPE050D-SGA	SGA Inlet - Tube 4 Top	-150	50	kPa	0.64	0.32
1514	DP 9	DPE050E-SGA	SGA Inlet - Tube 5 Top	-150	50	kPa	0.64	0.32
1515	DP 10	DPE050F-SGA	SGA Inlet - Tube 6 Top	-150	50	kPa	0.64	0.32
1516	DP 11	DPE060A-SGA	SGA Outlet - Tube 3 Top	-150	50	kPa	0.64	0.32
1517	DP 12	DPE060B-SGA	SGA Outlet - Tube 2 Top	-150	50	kPa	0.64	0.32
1518	DP 13	DPE060C-SGA	SGA Outlet - Tube 1 Top	-150	50	kPa	0.64	0.32
1519	DP 14	DPE060D-SGA	SGA Outlet - Tube 4 Top	-150	50	kPa	0.64	0.32
1520	DP 15	DPE060E-SGA	SGA Outlet - Tube 5 Top	-150	50	kPa	0.64	0.32
1521	DP 16	DPE060F-SGA	SGA Outlet - Tube 6 Top	-150	50	kPa	0.64	0.32
1522	DP 17	DPE070-LSA	SGA Outlet - LSA Bottom	-50	50	kPa	0.32	0.32
1523	DP 18	DPE080-LSA	LSA Bottom - PCA Suction	-50	50	kPa	0.32	0.32
1524	DP 19	DPE090-PCA	PCA Suction - Delivery	-50	50	kPa	0.32	0.32
1525	DP 20	DPE100-CLA	PR Spray Line	-200	200	kPa	1.28	0.32
1526	DP 21	DPE110-CLA	PCA Delivery - CLA Break	-50	50	kPa	0.32	0.32
1527	DP 22	DPE120-CLA	CLA Break - CLA Nozzle	-50	50	kPa	0.32	0.32
1528	DP 23	DPE130-CLA	CLA Nozzle - Downcomer	-50	50	kPa	0.32	0.32
1529	DP 24	DPE140-HLA	Upper Plenum - Downcomer	-20	20	kPa	0.13	0.32
1530	DP 25	DPE150-HLB	Upper Plenum - HLB Nozzle	-30	30	kPa	0.19	0.32
1531	DP 29	DPE190A-SGB	SGB Inlet - Tube 3 Top	-150	50	kPa	0.64	0.32
1532	DP 30	DPE190B-SGB	SGB Inlet - Tube 2 Top	-150	50	kPa	0.64	0.32
1533	DP 31	DPE190C-SGB	SGB Inlet - Tube 1 Top	-150	50	kPa	0.64	0.32
1534	DP 32	DPE190D-SGB	SGB Inlet - Tube 4 Top	-150	50	kPa	0.64	0.32
1535	DP 33	DPE190E-SGB	SGB Inlet - Tube 5 Top	-150	50	kPa	0.64	0.32
1536	DP 34	DPE190F-SGB	SGB Inlet - Tube 6 Top	-150	50	kPa	0.64	0.32
1537	DP 35	DPE200A-SGB	SGB Outlet - Tube 3 Top	-150	50	kPa	0.64	0.32
1538	DP 36	DPE200B-SGB	SGB Outlet - Tube 2 Top	-150	50	kPa	0.64	0.32
1539	DP 37	DPE200C-SGB	SGB Outlet - Tube 1 Top	-150	50	kPa	0.64	0.32
1540	DP 38	DPE200D-SGB	SGB Outlet - Tube 4 Top	-150	50	kPa	0.64	0.32
1541	DP 39	DPE200E-SGB	SGB Outlet - Tube 5 Top	-150	50	kPa	0.64	0.32
1542	DP 40	DPE200F-SGB	SGB Outlet - Tube 6 Top	-150	50	kPa	0.64	0.32
1543	DP 41	DPE210-LSB	SGB Outlet - LSB Bottom	-50	50	kPa	0.32	0.32
1544	DP 42	DPE220-LSB	LSB Bottom - PCB Suction	-50	50	kPa	0.32	0.32
1545	DP 43	DPE230-PCB	PCB Suction - Delivery	-50	50	kPa	0.32	0.32
1546	DP 47	DPE270-PV	PV Bottom - Top	-100	400	kPa	1.60	0.32
1547	DP 48	DPE280-PV	PV Lower Plenum	-50	100	kPa	0.48	0.32
1548	DP 50	DPE300-PV	Core(Elevation -35 - 3945)	-50	100	kPa	0.48	0.32
1549	DP 51	DPE320-PV	Upper Plenum	-50	100	kPa	0.48	0.32
1550	DP 52	DPE330-PV	Upper Head	-50	100	kPa	0.48	0.32
1551	DP 54	DPE350A-PV	Guide Tube Top Orifice	-100	100	kPa	0.64	0.32
1552	DP 55	DPE350B-PV	Guide Tube Top Orifice	-100	100	kPa	0.64	0.32
1553	DP 56	DPE360-PV	PV Downcomer	-100	300	kPa	1.28	0.32
1554	DP 57	DPE370-PV	Lower Downcomer	-50	150	kPa	0.64	0.32
1555	DP 58	DPE380-PV	Upper Downcomer	-50	150	kPa	0.64	0.32
1556	DP 62	DPE332-PV	Upper Head - Downcomer	-100	100	kPa	0.64	0.32
1557	DP 63	DPE331-PV	Upper Head	-100	100	kPa	0.64	0.32
1558	DP 66	DPE570-BU	BU No.1 Venturi	0	500	kPa	1.60	0.32
1559	DP 70	DPE030B-HLA	PR Surge Line (Low)	-300	300	kPa	1.92	0.32
1560	DP 71	DPE072-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1561	DP 72	DPE073-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1562	DP 73	DPE074-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1563	DP 74	DPE075-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1564	DP 75	DPE076-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1565	DP 76	DPE212-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1566	DP 77	DPE213-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1567	DP 78	DPE214-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1568	DP 79	DPE215-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1569	DP 80	DPE216-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1570	DP 81	DPE430-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1571	DP 82	DPE431-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1572	DP 83	DPE432-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1573	DP 84	DPE433-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1574	DP 85	DPE434-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1575	DP 86	DPE435-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1576	DP 87	DPE436-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1577	DP 88	DPE437-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1578	DP 89	DPE438-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1579	DP 90	DPE439-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1580	DP 91	DPE440-SGA	SGA Boiling Section	-40	0	kPa	0.22	0.56
1581	DP 92	DPE450-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1582	DP 93	DPE451-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1583	DP 94	DPE452-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1584	DP 95	DPE453-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1585	DP 96	DPE454-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1586	DP 97	DPE455-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1587	DP 98	DPE456-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1588	DP 99	DPE457-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1589	DP 100	DPE458-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1590	DP 101	DPE459-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1591	DP 102	DPE460-SGB	SGB Boiling Section	-40	0	kPa	0.22	0.56
1592	DP 103	DPE011-HLA	HLA S.P	-10	10	kPa	0.06	0.32
1593	DP 104	DPE071-CLA	CLA S.P	-10	10	kPa	0.06	0.32
1594	DP 105	DPE151-HLB	HLB S.P	-10	10	kPa	0.06	0.32
1595	DP 106	DPE211-CLB	CLB S.P	-10	10	kPa	0.06	0.32
1596	DP 107	DPE571-BU	BU No.1 Spool Piece	0	200	kPa	0.64	0.32
1597	DP 109	DPE041-PR	PR Diff. Press.	0	6	kPa	0.02	0.32
1598	DP 110	DPE042-PR	PR Diff. Press.	0	7	kPa	0.02	0.32
1599	DP 111	DPE043-PR	PR Diff. Press.	0	4	kPa	0.01	0.32
1600	DP 112	DPE044-PR	PR Diff. Press.	0	3.6	kPa	0.01	0.32
1601	DP 113	DPE045-PR	PR Diff. Press.	0	11	kPa	0.04	0.32
1602	DP 114	DPE046-PR	PR Diff. Press.	0	7	kPa	0.02	0.32
1603	DP 115	DPE101-PR	PR-CLB Diff. Press.	-200	200	kPa	1.28	0.32
1604	DP 116	DPE055A-SGA	SGA I.P-O.P (High)	-30	30	kPa	0.19	0.32
1605	DP 117	DPE055B-SGA	SGA I.P-O.P (Low)	-3	3	kPa	0.02	0.32
1606	DP 118	DPE195A-SGB	SGB I.P-O.P (High)	-30	30	kPa	0.19	0.32
1607	DP 119	DPE195B-SGB	SGB I.P-O.P (Low)	-3	3	kPa	0.02	0.32
1608	DP 120	DPE056-SGA	SGA Plenum Diff.Press.	-40	40	kPa	0.26	0.32
1609	DP 122	DPE196-SGB	SGB Plenum Diff.Press.	-40	40	kPa	0.26	0.32
1610	DP 124	DPE301-PV	Core(Elevation-35-+409)	-5	10	kPa	0.04	0.28
1611	DP 125	DPE302-PV	Core(Elevation+409-+815)	-5	5	kPa	0.03	0.28
1612	DP 126	DPE303-PV	Core(Elevation+815-+1221)	-5	5	kPa	0.03	0.28
1613	DP 127	DPE304-PV	Core(Elevation+1221-+1627)	-5	5	KPa	0.03	0.28
1614	DP 128	DPE305-PV	Core(Elevation+1627-+2033)	-5	5	kPa	0.03	0.28
1615	DP 129	DPE306-PV	Core(Elevation+2033-+2439)	-5	5	kPa	0.03	0.28
1616	DP 130	DPE307-PV	Core(Elevation+2439-+2845)	-5	5	kPa	0.03	0.28
1617	DP 131	DPE308-PV	Core(Elevation+2845-+3251)	-5	5	kPa	0.03	0.28
1618	DP 132	DPE309-PV	Core(Elevation+3251-+3945)	-30	0	kPa	0.08	0.28
1619	DP 133	DPE333-PV	UpperH(Elevation6634-8860)	-35	0	kPa	0.23	0.67
1620	DE 1	DE011A-HLA	HLA S.P Beam A	-10	10	V		
1621	DE 2	DE011B-HLA	HLA S.P Beam B	-10	10	V		
1622	DE 3	DE011C-HLA	HLA S.P Beam C	-10	10	V		
1623	DE 4	DE051A-LSA	LSA S.P Beam A	-10	10	V		
1624	DE 5	DE051B-LSA	LSA S.P Beam B	-10	10	V		
1625	DE 6	DE051C-LSA	LSA S.P Beam C	-10	10	V		
1626	DE 7	DE071A-CLA	CLA S.P Beam A	-10	10	V		
1627	DE 8	DE071B-CLA	CLA S.P Beam B	-10	10	V		
1628	DE 9	DE071C-CLA	CLA S.P Beam C	-10	10	V		
1629	DE 11	DE151B-HLB	HLB S.P Beam B	-10	10	V		
1630	DE 12	DE151C-HLB	HLB S.P Beam C	-10	10	V		
1631	DE 13	DE191A-LSB	LSB S.P Beam A	-10	10	V		
1632	DE 14	DE191B-LSB	LSB S.P Beam B	-10	10	V		
1633	DE 15	DE191C-LSB	LSB S.P Beam C	-10	10	V		
1634	DE 16	DE211A-CLB	CLB S.P Beam A	-10	10	V		
1635	DE 17	DE211B-CLB	CLB S.P Beam B	-10	10	V		
1636	DE 18	DE211C-CLB	CLB S.P Beam C	-10	10	V		
1637	DE 19	DE052-LSA	LSA Bottom	-10	10	V		
1638	DE 20	DE192-LSB	PCB Suction	-10	10	V		
1639	DE 21	DE281-PR	PR Surge Line	-10	10	V		
1640	DE 22	DE291-PR	PR Relief Valve Line	-10	10	V		
1641	DE 24	DE311-PR	PV-PR Vent Line	-10	10	V		
1642	DE 25	DE431-SGA	SGA Downcomer	-10	10	V		
1643	DE 26	DE471-SGB	SGB Downcomer	-10	10	V		
1644	RC 31	DE011A-HLA-EU	HLA S.P Beam A			kg/m^3		
1645	RC 32	DE011B-HLA-EU	HLA S.P Beam B			kg/m^3		
1646	RC 33	DE011C-HLA-EU	HLA S.P Beam C			kg/m^3		
1647	RC 34	DE151A-HLB-EU	HLB S.P Beam A			kg/m^3		
1648	RC 35	DE151B-HLB-EU	HLB S.P Beam B			kg/m^3		
1649	RC 36	DE151C-HLB-EU	HLB S.P Beam C			kg/m^3		
1650	RC 37	DE071A-CLA-EU	CLA S.P Beam A			kg/m^3		
1651	RC 38	DE071B-CLA-EU	CLA S.P Beam B			kg/m^3		

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1652	RC 39	DE071C-CLA-EU	CLA S.P Beam C			kg/m³		
1653	RC 40	DE211A-CLB-EU	CLB S.P Beam A			kg/m³		
1654	RC 41	DE211B-CLB-EU	CLB S.P Beam B			kg/m³		
1655	RC 42	DE211C-CLB-EU	CLB S.P Beam C			kg/m³		
1656	RC 47	DAE-011-HLA	Hot Leg A Flow Density			kg/m³		
1657	RC 50	FRE-071-CLA	Cold Leg A Flow Rate			kg/s		
1658	RC 51	FRE-211-CLB	Cold Leg B Flow Rate			kg/s		
1659	RC 52	DAE-071-CLA	Cold Leg A Average Density			kg/m³		
1660	RC 53	DAE-211-CLB	Cold Leg B Average Density			kg/m³		
1661	RC 56	DE051A-LSA-EU	LSA S.P Beam A			kg/m³		
1662	RC 57	DE051B-LSA-EU	LSA S.P Beam B			kg/m³		
1663	RC 58	DE051C-LSA-EU	LSA S.P Beam C			kg/m³		
1664	RC 59	DE191A-LSB-EU	LSB S.P Beam A			kg/m³		
1665	RC 60	DE191B-LSB-EU	LSB S.P Beam B			kg/m³		
1666	RC 61	DE191C-LSB-EU	LSB S.P Beam C			kg/m³		
1667	RC 62	DE052-LSA-EU	LSA Bottom			kg/m³		
1668	RC 63	DE192-LSB-EU	PCB Suction			kg/m³		
1669	RC 64	DE281-PR-EU	PR Surge Line			kg/m³		
1670	RC 65	DE291-PR-EU	PR Relief Valve Line			kg/m³		
1671	RC 67	DE311-PR-EU	PV-PR Vent Line			kg/m³		
1672	RC 68	DE431-SGA-EU	SGA Downcomer			kg/m³		
1673	RC 69	DE471-SGB-EU	SGB Downcomer			kg/m³		
1674	RC 139	CL-CORE	Core (EL.-35 - 3945)			m		
1675	RC 140	CL-UP	Upper Plenum (EL.4060 - 6135)			m		
1676	RC 141	CL-UH	Upper Head (EL.6634 - 8860)			m		
1677	RC 142	CL-DC	Downcomer			m		
1678	RC 144	CL-TUA-U3	SGA Tube 3 Inlet - Top			m		
1679	RC 145	CL-TUA-U2	SGA Tube 2 Inlet - Top			m		
1680	RC 146	CL-TUA-U1	SGA Tube 1 Inlet - Top			m		
1681	RC 147	CL-TUA-U4	SGA Tube 4 Inlet - Top			m		
1682	RC 148	CL-TUA-U5	SGA Tube 5 Inlet - Top			m		
1683	RC 149	CL-TUA-U6	SGA Tube 6 Inlet - Top			m		
1684	RC 150	CL-TUA-D3	SGA Tube 3 Outlet - Top			m		
1685	RC 151	CL-TUA-D2	SGA Tube 2 Outlet - Top			m		
1686	RC 152	CL-TUA-D1	SGA Tube 1 Outlet - Top			m		
1687	RC 153	CL-TUA-D4	SGA Tube 4 Outlet - Top			m		
1688	RC 154	CL-TUA-D5	SGA Tube 5 Outlet - Top			m		
1689	RC 155	CL-TUA-D6	SGA Tube 6 Outlet - Top			m		
1690	RC 156	CL-LSA-D	SGA Out.Plenum - LSA Bottom			m		
1691	RC 157	CL-LSA-U	LSA Bottom - PCA Suction			m		
1692	RC 158	CL-SGA-IPL	SGA Inlet Plenum			m		
1693	RC 160	CL-TUB-U3	SGB Tube 3 Inlet - Top			m		
1694	RC 161	CL-TUB-U2	SGB Tube 2 Inlet - Top			m		
1695	RC 162	CL-TUB-U1	SGB Tube 1 Inlet - Top			m		
1696	RC 163	CL-TUB-U4	SGB Tube 4 Inlet - Top			m		
1697	RC 164	CL-TUB-U5	SGB Tube 5 Inlet - Top			m		
1698	RC 165	CL-TUB-U6	SGB Tube 6 Inlet - Top			m		
1699	RC 166	CL-TUB-D3	SGB Tube 3 Outlet - Top			m		
1700	RC 167	CL-TUB-D2	SGB Tube 2 Outlet - Top			m		
1701	RC 168	CL-TUB-D1	SGB Tube 1 Outlet - Top			m		
1702	RC 169	CL-TUB-D4	SGB Tube 4 Outlet - Top			m		
1703	RC 170	CL-TUB-D5	SGB Tube 5 Outlet - Top			m		
1704	RC 171	CL-TUB-D6	SGB Tube 6 Outlet - Top			m		
1705	RC 172	CL-LSB-D	SGB Out.Plenum - LSB Bottom			m		
1706	RC 173	CL-LSB-U	LSB Bottom - PCB Suction			m		
1707	RC 174	CL-SGB-IPL	SGB Inlet Plenum			m		
1708	RC 196	LG-HLA	HLA Water Level			m		
1709	RC 197	LG-CLA	CLA Water Level			m		
1710	RC 198	LG-HLB	HLB Water Level			m		
1711	RC 199	LG-CLB	CLB Water Level			m		
1712	RC 200	TS-UP	Upper Plenum			K		
1713	RC 201	TS-PR	Pressurizer			K		
1714	RC 202	TS-SGA	Steam Generator-A			K		
1715	RC 203	TS-SGB	Steam Generator-B			K		
1716	RC 297	RE010-PCA-R	PCA (Rotation Speed)			rpm		
1717	RC 298	RE150-PCB-R	PCB (Rotation Speed)			rpm		
1718	RC 299	LE280-PR-R	PR			m		

国際単位系（SI）

表１．SI 基本単位

基本量	SI 基本単位	
	名称	記号
長さ	メートル	m
質量	キログラム	kg
時間	秒	s
電流	アンペア	A
熱力学温度	ケルビン	K
物質量	モル	mol
光度	カンデラ	cd

表２．基本単位を用いて表されるSI組立単位の例

組立量	SI 組立単位	
	名称	記号
面積	平方メートル	m^2
体積	立方メートル	m^3
速さ，速度	メートル毎秒	m/s
加速度	メートル毎秒毎秒	m/s^2
波数	毎メートル	m^{-1}
密度，質量密度	キログラム毎立方メートル	kg/m^3
面積密度	キログラム毎平方メートル	kg/m^2
比体積	立方メートル毎キログラム	m^3/kg
電流密度	アンペア毎平方メートル	A/m^2
磁界の強さ	アンペア毎メートル	A/m
量濃度(a)，濃度	モル毎立方メートル	mol/m^3
質量濃度	キログラム毎立方メートル	kg/m^3
輝度	カンデラ毎平方メートル	cd/m^2
屈折率(b)	（数字の） 1	1
比透磁率(b)	（数字の） 1	1

(a) 量濃度（amount concentration）は臨床化学の分野では物質濃度（substance concentration）ともよばれる。
(b) これらは無次元量あるいは次元１をもつ量であるが、そのことを表す単位記号である数字の１は通常は表記しない。

表３．固有の名称と記号で表されるSI組立単位

組立量	SI 組立単位			
	名称	記号	他のSI単位による表し方	SI基本単位による表し方
平面角	ラジアン(b)	rad	1 (b)	m/m
立体角	ステラジアン(b)	sr(c)	1 (b)	m^2/m^2
周波数	ヘルツ(d)	Hz		s^{-1}
力	ニュートン	N		$m\ kg\ s^{-2}$
圧力，応力	パスカル	Pa	N/m^2	$m^{-1}\ kg\ s^{-2}$
エネルギー，仕事，熱量	ジュール	J	N m	$m^2\ kg\ s^{-2}$
仕事率，工率，放射束	ワット	W	J/s	$m^2\ kg\ s^{-3}$
電荷，電気量	クーロン	C		s A
電位差（電圧），起電力	ボルト	V	W/A	$m^2\ kg\ s^{-3}\ A^{-1}$
静電容量	ファラド	F	C/V	$m^{-2}\ kg^{-1}\ s^4\ A^2$
電気抵抗	オーム	Ω	V/A	$m^2\ kg\ s^{-3}\ A^{-2}$
コンダクタンス	ジーメンス	S	A/V	$m^{-2}\ kg^{-1}\ s^3\ A^2$
磁束	ウエーバ	Wb	Vs	$m^2\ kg\ s^{-2}\ A^{-1}$
磁束密度	テスラ	T	Wb/m^2	$kg\ s^{-2}\ A^{-1}$
インダクタンス	ヘンリー	H	Wb/A	$m^2\ kg\ s^{-2}\ A^{-2}$
セルシウス温度	セルシウス度(e)	℃		K
光束	ルーメン	lm	cd sr(c)	cd
照度	ルクス	lx	lm/m^2	m^{-2} cd
放射性核種の放射能(f)	ベクレル(d)	Bq		s^{-1}
吸収線量，比エネルギー分与，カーマ	グレイ	Gy	J/kg	$m^2\ s^{-2}$
線量当量，周辺線量当量，方向性線量当量，個人線量当量	シーベルト(g)	Sv	J/kg	$m^2\ s^{-2}$
酸素活性	カタール	kat		s^{-1} mol

(a)SI接頭語は固有の名称と記号を持つ組立単位と組み合わせても使用できる。しかし接頭語を付した単位はもはやコヒーレントではない。
(b)ラジアンとステラジアンは数字の１に対する単位の特別な名称で、量についての情報をつたえるために使われる。実際には、使用する時には記号radおよびsrが用いられるが、習慣として組立単位としての記号である数字の１は明示されない。
(c)測光学ではステラジアンという名称と記号srを単位の表し方の中に、そのまま維持している。
(d)ヘルツは周期現象についてのみ、ベクレルは放射性核種の統計的過程についてのみ使用される。
(e)セルシウス度はケルビンの特別な名称で、セルシウス温度を表すために使用される。セルシウス度とケルビンの単位の大きさは同一である。したがって、温度差や温度間隔を表す数値はどちらの単位で表しても同じである。
(f)放射性核種の放射能（activity referred to a radionuclide）は、しばしば誤った用語で"radioactivity"と記される。
(g)単位シーベルト（PV,2002,70,205）についてはCIPM勧告2（CI-2002）を参照。

表４．単位の中に固有の名称と記号を含むSI組立単位の例

組立量	SI 組立単位		
	名称	記号	SI 基本単位による表し方
粘度	パスカル秒	Pa s	$m^{-1}\ kg\ s^{-1}$
力のモーメント	ニュートンメートル	N m	$m^2\ kg\ s^{-2}$
表面張力	ニュートン毎メートル	N/m	$kg\ s^{-2}$
角速度	ラジアン毎秒	rad/s	$m\ m^{-1}\ s^{-1}=s^{-1}$
角加速度	ラジアン毎秒毎秒	rad/s^2	$m\ m^{-1}\ s^{-2}=s^{-2}$
熱流密度，放射照度	ワット毎平方メートル	W/m^2	$kg\ s^{-3}$
熱容量，エントロピー	ジュール毎ケルビン	J/K	$m^2\ kg\ s^{-2}\ K^{-1}$
比熱容量，比エントロピー	ジュール毎キログラム毎ケルビン	J/(kg K)	$m^2\ s^{-2}\ K^{-1}$
比エネルギー	ジュール毎キログラム	J/kg	$m^2\ s^{-2}$
熱伝導率	ワット毎メートル毎ケルビン	W/(m K)	$m\ kg\ s^{-3}\ K^{-1}$
体積エネルギー	ジュール毎立方メートル	J/m^3	$m^{-1}\ kg\ s^{-2}$
電界の強さ	ボルト毎メートル	V/m	$m\ kg\ s^{-3}\ A^{-1}$
電荷密度	クーロン毎立方メートル	C/m^3	m^{-3} s A
表面電荷	クーロン毎平方メートル	C/m^2	m^{-2} s A
電束密度，電気変位	クーロン毎平方メートル	C/m^2	m^{-2} s A
誘電率	ファラド毎メートル	F/m	$m^{-3}\ kg^{-1}\ s^4\ A^2$
透磁率	ヘンリー毎メートル	H/m	$m\ kg\ s^{-2}\ A^{-2}$
モルエネルギー	ジュール毎モル	J/mol	$m^2\ kg\ s^{-2}\ mol^{-1}$
モルエントロピー，モル熱容量	ジュール毎モル毎ケルビン	J/(mol K)	$m^2\ kg\ s^{-2}\ K^{-1}\ mol^{-1}$
照射線量（X線及びγ線）	クーロン毎キログラム	C/kg	kg^{-1} s A
吸収線量率	グレイ毎秒	Gy/s	$m^2\ s^{-3}$
放射強度	ワット毎ステラジアン	W/sr	$m^4\ m^{-2}\ kg\ s^{-3}=m^2\ kg\ s^{-3}$
放射輝度	ワット毎平方メートル毎ステラジアン	$W/(m^2\ sr)$	$m^2\ m^{-2}\ kg\ s^{-3}=kg\ s^{-3}$
酵素活性濃度	カタール毎立方メートル	kat/m^3	$m^{-3}\ s^{-1}$ mol

表５．SI 接頭語

乗数	名称	記号	乗数	名称	記号
10^{24}	ヨタ	Y	10^{-1}	デシ	d
10^{21}	ゼタ	Z	10^{-2}	センチ	c
10^{18}	エクサ	E	10^{-3}	ミリ	m
10^{15}	ペタ	P	10^{-6}	マイクロ	μ
10^{12}	テラ	T	10^{-9}	ナノ	n
10^9	ギガ	G	10^{-12}	ピコ	p
10^6	メガ	M	10^{-15}	フェムト	f
10^3	キロ	k	10^{-18}	アト	a
10^2	ヘクト	h	10^{-21}	ゼプト	z
10^1	デカ	da	10^{-24}	ヨクト	y

表６．SIに属さないが、SIと併用される単位

名称	記号	SI 単位による値
分	min	1 min=60 s
時	h	1 h =60 min=3600 s
日	d	1 d=24 h=86 400 s
度	°	1°=(π/180) rad
分	’	1’=(1/60)°=(π/10 800) rad
秒	”	1”=(1/60)’=(π/648 000) rad
ヘクタール	ha	1 ha=1 $hm^2=10^4m^2$
リットル	L, l	1 L=1 l=1 $dm^3=10^3cm^3=10^{-3}m^3$
トン	t	1 t=10^3 kg

表７．SIに属さないが、SIと併用される単位で、SI単位で表される数値が実験的に得られるもの

名称	記号	SI 単位で表される数値
電子ボルト	eV	1 eV=1.602 176 53(14)×10^{-19}J
ダルトン	Da	1 Da=1.660 538 86(28)×10^{-27}kg
統一原子質量単位	u	1 u=1 Da
天文単位	ua	1 ua=1.495 978 706 91(6)×10^{11}m

表８．SIに属さないが、SIと併用されるその他の単位

名称	記号	SI 単位で表される数値
バール	bar	1 bar=0.1MPa=100 kPa=10^5Pa
水銀柱ミリメートル	mmHg	1 mmHg≈133.322Pa
オングストローム	Å	1 Å=0.1nm=100pm=10^{-10}m
海里	M	1 M=1852m
バーン	b	1 b=100fm^2=$(10^{-12}cm)^2$=$10^{-28}m^2$
ノット	kn	1 kn=(1852/3600)m/s
ネーパ	Np	SI単位との数値的な関係は、対数量の定義に依存。
ベル	B	
デシベル	dB	

表９．固有の名称をもつCGS組立単位

名称	記号	SI 単位で表される数値
エルグ	erg	1 erg=10^{-7} J
ダイン	dyn	1 dyn=10^{-5}N
ポアズ	P	1 P=1 dyn s cm^{-2}=0.1Pa s
ストークス	St	1 St =1$cm^2\ s^{-1}$=$10^{-4}m^2\ s^{-1}$
スチルブ	sb	1 sb =1cd cm^{-2}=10^4cd m^{-2}
フォト	ph	1 ph=1cd sr cm^{-2} =10^4lx
ガル	Gal	1 Gal =1cm s^{-2}=$10^{-2}ms^{-2}$
マクスウエル	Mx	1 Mx = 1G cm^2=10^{-8}Wb
ガウス	G	1 G =1Mx cm^{-2} =10^{-4}T
エルステッド(a)	Oe	1 Oe ≙ $(10^3/4\pi)$A m^{-1}

(a) ３元系のCGS単位系とSIでは直接比較できないため、等号「 ≙ 」は対応関係を示すものである。

表10．SIに属さないその他の単位の例

名称	記号	SI 単位で表される数値
キュリー	Ci	1 Ci=3.7×10^{10}Bq
レントゲン	R	1 R = 2.58×10^{-4}C/kg
ラド	rad	1 rad=1cGy=10^{-2}Gy
レム	rem	1 rem=1 cSv=10^{-2}Sv
ガンマ	γ	1 γ=1 nT=10^{-9}T
フェルミ		1 フェルミ=1 fm=10^{-15}m
メートル系カラット		1 メートル系カラット= 0.2 g = 2×10^{-4}kg
トル	Torr	1 Torr = (101 325/760) Pa
標準大気圧	atm	1 atm = 101 325 Pa
カロリー	cal	1 cal=4.1858J（「15℃」カロリー），4.1868J（「IT」カロリー），4.184J（「熱化学」カロリー）
ミクロン	μ	1 μ =1μm=10^{-6}m

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