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Data Report of ROSA/LSTF Experiment TR-LF-07

— Loss-of-feedwater Transient with Primary Feed-and-bleed Operation —

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An experiment TR-LF-07 was conducted on June 23, 1992 using the Large Scale Test Facility (LSTF) in the Rig of Safety Assessment-IV (ROSA-IV) Program. The ROSA/LSTF experiment TR-LF-07 simulated a loss-of-feedwater transient in a pressurized water reactor (PWR) under assumptions of primary feed-and-bleed operation and total failure of auxiliary feedwater system. A safety injection (SI) signal was generated when steam generator (SG) secondary-side collapsed liquid level decreased to 3 m. Primary depressurization was initiated by fully opening a power-operated relief valve (PORV) of pressurizer (PZR) 30 min after the SI signal. High pressure injection (HPI) system was started in loop with PZR 12 s after the SI signal, while it was initiated in loop without PZR when the primary pressure decreased to 10.7 MPa.

The primary and SG secondary pressures were kept almost constant because of cycle opening of the PZR PORV and SG relief valves. The PZR liquid level began to drop steeply following the PORV full opening, which caused liquid level formation at the hot leg. The PZR and hot leg liquid levels recovered due to the HPI actuation in both loops. The primary pressure became lower than the SG secondary pressure, which resulted in the actuation of accumulator (ACC) system in both loops. The PZR and hot legs became full of liquid again after the ACC actuation. The primary feed-and-bleed operation by use of the PORV, HPI and ACC systems was effective to core cooling because of no core uncover.

The experiment was terminated when the continuous core cooling was confirmed due to the successive coolant injection from the HPI system even after the ACC termination.

The obtained data would be useful to study operator actions and procedures in the PWR multiple fault events which behaviors in the PZR affect.

This report summarizes the test procedures, conditions and major observation in the ROSA/LSTF experiment TR-LF-07.

Keywords: PWR, LSTF, Loss-of-feedwater, Primary Feed-and-bleed, Primary Depressurization, Pressurizer, Power-operated Relief Valve, High Pressure Injection System, Accumulator System, Core Cooling

ROSA/LSTF 実験 TR-LF-07 データレポート
—一次系フィード・アンド・ブリード運転を伴う給水喪失事象—

日本原子力研究開発機構 安全研究・防災支援部門
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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: TR-LF-07) が 1992 年 6 月 23 日に行われた。ROSA/LSTF TR-LF-07 実験では、加圧水型原子炉 (PWR) の給水喪失事象を模擬した。このとき、一次系フィード・アンド・ブリード運転とともに、補助給水系の不作動を仮定した。また、蒸気発生器 (SG) の二次側水位が 3m まで低下した時点で安全注入 (SI) 信号を発信し、その後 30 分で加圧器 (PZR) の逃し弁 (PORV) 開放による一次系減圧を開始した。さらに、SI 信号発信後 12 秒で PZR の有るループの高圧注入系 (HPI) の作動を開始し、一次系圧力が 10.7 MPa まで低下した時点で PZR の無いループの HPI の作動を開始した。

一次系と SG 二次側の圧力は、PZR の PORV と SG の逃し弁の周期的開閉によりほぼ一定に維持された。PORV の開放にしたがい、PZR の水位が大きく低下し始め、高温側配管では水位が形成した。両ループの HPI の作動により、PZR と高温側配管の水位は回復した。一次系圧力は SG 二次側圧力を下回り、両ループの蓄圧注入系 (ACC) が作動した。ACC の作動開始後、PZR と高温側配管は再び満水となった。炉心露出が生じなかったことから、PORV、HPI および ACC を用いた一次系フィード・アンド・ブリード運転は、炉心冷却に有効であった。

ACC の作動終了後も HPI 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。

取得したデータは、PZR 挙動が影響する PWR 多重故障事象時の運転員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 TR-LF-07 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

ACC	Accumulator
ECCS	Emergency Core Cooling System
HPI	High Pressure Injection
LPI	Low Pressure Injection
LSTF	Large Scale Test Facility
PORV	Power-Operated Relief Valve
PWR	Pressurized Water Reactor
PZR	Pressurizer
ROSA	Rig-of-Safety Assessment
RV	Relief Valve
SG	Steam Generator
SI	Safety Injection

1. Introduction

Loss-of-feedwater transient with total failure of auxiliary feedwater system is one of events concerning loss of heat removal functions from steam generator (SG) secondary-side system in a pressurized water reactor (PWR). Primary feed-and-bleed operation needs to cool and depressurize the primary system in such PWR loss-of-feedwater transient. A simulation experiment TR-LF-07 on a PWR loss-of-feedwater transient with primary feed-and-bleed operation and total failure of auxiliary feedwater system was conducted on June 23, 1992 using the Large Scale Test Facility (LSTF) [1][2] 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 experiment, a scram signal was generated at time zero, causing closure of SG main steam stop valve, termination of SG main feedwater and closure of SG main steam isolation valves. The primary feed-and-bleed operation was examined by primary depressurization and primary coolant injection from emergency core cooling system (ECCS). A safety injection (SI) signal was generated when SG secondary-side collapsed liquid level decreased to 3 m. Primary depressurization was initiated by fully opening a power-operated relief valve (PORV) of pressurizer (PZR) 30 min after the SI signal. As for the ECCS conditions, high pressure injection (HPI) system was started in loop with PZR 12 s after the SI signal, while it was initiated in loop without PZR when the primary pressure decreased to 10.7 MPa. Accumulator (ACC) and low pressure injection (LPI) systems are actuated in both loops when the primary pressure decreases to 4.51 and 1.2 MPa, respectively.

The objectives of ROSA/LSTF experiment TR-LF-07 are to investigate thermal-hydraulic phenomena during loss-of-feedwater transient with primary feed-and-bleed operation and to confirm the effectiveness of the primary feed-and-bleed operation for core cooling, as well as to provide experimental data for the assessment of thermal-hydraulic safety analysis computer codes. The obtained data would be useful to study operator actions and procedures in the PWR multiple fault events which behaviors in the PZR affect.

This report summarizes the test procedures, conditions and major observation in the ROSA/LSTF experiment TR-LF-07. This report also includes more detailed information on the TR-LF-07 experiment than that described in the published paper [3]. 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 [1]. The reference PWR is Tsuruga Unit-2 of Japan Atomic Power Company. 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 [4]. 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. [1]). Six U-tubes are instrumented for each SG. Tubes 1 and 6 are short tubes (Type 1; see p.267 in Ref. [1]), Tubes 3 and 4 are long tubes (Type 9), and Tubes 2 and 5 are medium-long tubes (Type 5). 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. [1]) and the hot leg nozzle leakage. The spray nozzles allow bypass flow that amounts to 0.3% of the total core flow rate during 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. [2]). The angle of the PZR surge line to the hot leg is 45°. All the types of ECCS furnished to the reference PWR are equipped in the LSTF.

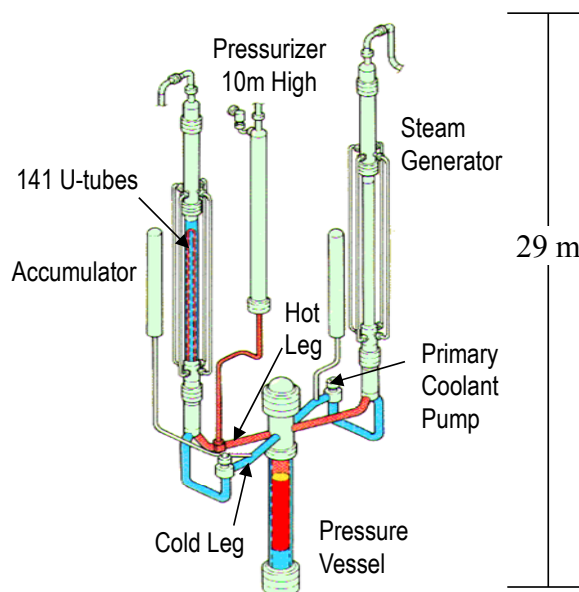


Fig. 2-1 Schematic view of the Large Scale Test Facility (LSTF)

3. Test Conditions and Procedures

Following assumptions were posed to the test conditions;

- 1) Total failure of auxiliary feedwater system
- 2) A scram signal is generated at time zero, causing closure of SG main steam stop valve, termination of SG main feedwater and closure of SG main steam isolation valves.
- 3) A SI signal is generated when SG secondary-side collapsed liquid level decreases to 3 m.
- 4) HPI system is initiated in loop with PZR 12 s after the SI signal.
- 5) Primary depressurization is initiated by fully opening a PZR PORV 30 min after the SI signal, considering a grace period to start an operator action.
- 6) HPI system is initiated in loop without PZR when the primary pressure decreases to 10.7 MPa, considering characteristics of pump for the LSTF HPI system.
- 7) ACC system is initiated in both loops when the primary pressure decreases to 4.51 MPa.
- 8) LPI system is initiated in both loops when the primary pressure decreases to 1.2 MPa.
- 9) HPI, ACC and LPI flow rate is 3:1 to cold legs in loops with and without PZR, respectively. Here, the HPI flow rate of 3:1 is set under the condition that the primary pressure is below 10.7 MPa.
- 10) Coolant injection temperatures in HPI, ACC and LPI systems are 310, 320 and 310 K, respectively.
- 11) Following thresholds of maximum fuel rod surface temperature for the LSTF core protection and power controlling system
908K=75%, 918K=50%, 919K=25%, 920K=10%, 923K=0%, of pre-determined value.

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 15.5 MPa, 598 K and 562 K, respectively, according to the reference PWR conditions.

The LSTF initial core power is limited to 10 MW due to a limitation in the capacity of power supply and corresponds to 14% of the volumetrically-scaled (1/48) PWR nominal core power (3423 MW). 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 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 2.7 m that corresponds to about 65% of the PZR vessel height (see p.41 in Ref. [2]). Initial SG secondary-side collapsed liquid level was 5.4 m that corresponds to about 50% of the SG long tube height.

Coolant injection volume in the ACC tank (see p.145 in Ref. [2]) was 1.68 m³ in loop with PZR and 0.56 m³ in loop without PZR. 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 5.8 and 21.5 kW, respectively, as the initial conditions. Many regions of the LSTF are equipped with trace heaters to mitigate environmental heat losses.

3.2 Test Procedures

Table 3-2 shows the specified control logic, operation set points and conditions. The test was initiated by a scram signal generation at time zero, causing the closure of SG main steam stop valve, the termination of SG main feedwater 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 decreased to zero 250 s after the scram signal.

The core power was pre-determined based on calculations considering delayed neutron fission power and stored heat in PWR fuel rod [5] in addition to heat losses. Radial peaking factors of all high-, mean- and low-power rod bundles are 1.00 in “Case 1” (see p.171 in Ref. [2]), that is, the radial core power profile is flat. Axial core power profile is a 9-step chopped cosine with a peaking factor of 1.495. The core power was maintained at the initial value of 10 MW for 20 s after the scram signal. The LSTF core power started to decay afterwards according to the specified core power.

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. Flow area of the PORV was simulated by using a 11.83 mm inner-diameter sharp-edge orifice to provide about 135% of the volumetrically-scaled (1/48) flow capacity of the total three PORVs in the reference PWR.

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. Flow area of the RVs was simulated by using a 19.4 mm inner-diameter sharp-edge orifice to provide steam flow rate of 2.8 kg/s when SG secondary pressure is 8 MPa.

HPI system was started in loop with PZR by using a PJ pump (charging pump) 12 s after the SI signal. The HPI flow rate was then based on the flow capacity of the PJ pump depending on the primary pressure. On the other hand, HPI system was initiated in loop without PZR by using a PH pump (high-pressure injection pump) when the primary pressure decreased to 10.7 MPa. ACC and LPI systems are actuated in both loops when the primary pressure decreases to 4.51 and 1.2 MPa, respectively. Coolant injection temperatures in the HPI, ACC and LPI systems are 310, 320 and 310 K, respectively. Regarding the HPI flow rate, coolant flow rates injected into cold legs in loops with and without PZR respectively

correspond to 3/4 and 1/4 of the total flow capacity of the PJ and PH pumps.

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.

Data from these measurements are processed after the experiment 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 using 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 scram signal

generation and at a little after the termination of HPI system.

The applicability of flow rates measured with the conventional flow meters using 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, because 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 using 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 TR-LF-07 (Run ID designated to be LF7).

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

Core	Initial core power	10 MW
	Core power profile	Case 1 (9-step chopped cosine, peaking factor = 1.495)
Primary Loops	Initial hot leg fluid temperatures	598.1 K
	Initial cold leg fluid temperatures	562.4 K
	Initial mass flow rate	24.3 kg/s / loop
	Initial downcomer-to-hot leg bypass	0.049 kg/s / loop
Pressurizer (PZR)	Initial pressure	15.5 MPa
	Initial liquid level	2.7 m
	Inner diameter of power-operated relief valve orifice	11.83 mm
	Relief valve open / closure	Primary pressure = 16.20 / 16.07 MPa
	Inner diameter of safety valve orifice	14.4 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 liquid level	5.4 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
	Inner diameter of relief valve orifice	19.4 mm
	Relief valve open / closure	SG secondary-side pressure = 8.03 / 7.82 MPa
	Safety valve open / closure	SG secondary-side pressure = 8.68 / 7.69 MPa

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

ECCS

High pressure injection (HPI) system	Initiation of system in loop with PZR	12 s after SI signal
	Initiation of system in loop w/o PZR	Primary pressure = 10.7 MPa
	Water temperature	310 K
	Ratio of injection flow rate in loops with / w/o PZR (primary pressure < 10.7 MPa)	3:1
	Injection location	Cold legs in both loops
Accumulator (ACC) system	Initiation of system	Primary pressure = 4.51 MPa
	Water temperature	320 K
	Cross-sectional flow area	0.7085 m ²
	Orifice diameter (d) in loops with / w/o PZR	50.5 mm / 26.0 mm
	Connecting pipe diameter (D) in both loops	97.1 mm
	Contraction ratio (d/D) in loops with / w/o PZR	0.520 / 0.268
	Ratio of injection flow rate in loops with / w/o PZR	3:1
	Injection volume in loops with / w/o PZR	1.68 m ³ / 0.56 m ³
	Injection location	Cold legs in both loops
Low pressure injection (LPI) system	Initiation of system	Primary pressure = 1.2 MPa
	Water temperature	310 K
	Ratio of injection flow rate in loops with / w/o PZR	3:1
	Injection location	Cold legs in both loops

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

Control Logic

Event	Condition
Generation of scram signal	Time zero
Turbine trip (closure of SG main steam stop valve)	Generation of scram signal
Initiation of core power simulation	Generation of scram signal
Initiation of simulation of primary coolant pumps rotation speed	Generation of scram signal
Termination of SG main feedwater	Generation of scram signal
Closure of SG main steam isolation valves	Generation of scram signal
Generation of safety injection (SI) signal	SG secondary-side collapsed liquid level = 3 m
Initiation of HPI system in loop with PZR	12 s after SI signal
Start of primary depressurization by fully opening PZR PORV	30 min after SI signal
Initiation of HPI system in loop without PZR	Primary pressure = 10.7 MPa
Initiation of ACC system in both loops	Primary pressure = 4.51 MPa
Initiation of LPI system in both loops	Primary pressure = 1.2 MPa

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

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 scram signal generation. Initial SG re-circulation ratio estimated from the measured flow rates in the downcomer and SG main steam line was 6.5 in loop with PZR (loop-A) and 6.3 in loop without PZR (loop-B). **Table 4-2** shows the chronology of major events until the termination of HPI system.

4.2 Thermal-hydraulic Responses Concerning Boundary Conditions

As shown in **Fig. 4-1**, the core power started to decay at 20 s. The core power was controlled to the pre-determined value through the experiment because of no core uncover (to be shown in **Fig. 4-20**). The core power turned off at 8470 s.

Figure 4-2 shows that the power values of the PZR proportional and backup heaters were initially kept constant at 5.8 and 21.5 kW, respectively. The proportional heater power fluctuated between zero and 6.6 kW when the PZR pressure became 15.6 and 15.4 MPa, respectively (to be shown in **Fig. 4-15**). The backup heater power fluctuated between 21.5 and 73.0 kW when the PZR pressure became 15.6 and 15.4 MPa, respectively. The PZR proportional and backup heaters were manually controlled to zero and 21.5 kW after 3300 and 3320 s, respectively.

Figures 4-3 and 4-4 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 started to increase simultaneously with the scram signal, and reached about 1250 rpm in 8 s. The pump rotation speed decreased thereafter, which caused a decrease in the primary loop mass flow rate. Single-phase natural circulation continued until liquid level formed at the hot leg (to be shown in **Fig. 4-23**) after the primary coolant pumps stopped. The primary loop mass flow rate gradually decreased after the voiding started in the SG U-tubes at almost the same time (to be shown in **Figs. 4-29 through 4-32**). Two-phase natural circulation terminated when the primary loop mass flow rate decreased to zero.

Figures 4-5 and 4-6 show the SG main steam and feedwater flow rates, respectively. The SG main steam was terminated by the closure of the SG main steam stop valve (AOV-220) at time zero. The SG main steam isolation valves (AOV-170 and -200) were manually closed at 1 s. The SG main feedwater was terminated at 1 s by the closure of the SG main feedwater line valve (AOV-260).

Figure 4-7 shows the SG secondary-side collapsed liquid level. The SG secondary-side collapsed liquid level gradually decreased with some fluctuation due to cycle opening of the SG RVs (to be shown in **Fig. 4-16**). The SI signal was generated at 640 s: when the SG secondary-side collapsed liquid level decreased to 3 m. The SG secondary-side collapsed liquid level became lost by 3800 s.

Figures 4-8 and 4-9 respectively show the time-integrated discharge flow through the PZR PORV evaluated from liquid level increase in the storage tank connected to the PORV line and the discharge flow rate derived from differential of the integrated discharge flow. The discharge flow rate gradually increased by cycle opening of the PZR PORV, and greatly increased due to the PZR PORV full opening. The discharge flow rate changed in response to the PZR liquid level (to be shown in **Fig. 4-14**) afterwards. The discharge flow rate became larger after the PZR became full of liquid again.

Figures 4-10 and 4-11 show the HPI flow rates in the loop-A and loop-B, respectively. The HPI system was initiated in the loop-A at 655 s: 12 s after the SI signal. The HPI flow rate fluctuated between around 0.25 and 0.60 kg/s due to the primary pressure fluctuation during the PZR PORV cycle opening period. The HPI flow rate greatly increased due to the PZR PORV full opening. The HPI system was initiated in the loop-B at 2520 s: when the primary pressure decreased to 10.7 MPa. The HPI system was terminated in the loop-A and loop-B respectively at 8486 and 8488 s soon after the core power turned off. Flow meter for HPI counts flow rate in the return line from the HPI pump to the refueling water storage tank during the time period except the HPI pump actuation.

The coolant injection flow rate from the ACC tank derived from the liquid level history in the tank in **Fig. 4-12** is shown in **Fig. 4-13**. The ACC system was initiated in both loops at 5582 s: when the primary pressure decreased to 4.51 MPa. The initial water level above the ACC tank bottom was 3.65 and 4.36 m respectively for the loop-A and loop-B, and the final water level above the ACC tank bottom was 1.26 and 3.57 m respectively for the loop-A and loop-B. The ACC system was terminated in the loop-A and loop-B respectively at 7965 and 7418 s.

4.3 Transient Thermal-hydraulic Responses

Figure 4-14 shows the PZR liquid level. The PZR liquid level increased by volumetric expansion of coolant at around 640 s when the SG secondary-side collapsed liquid level decreased to about 3 m (**Fig. 4-7**). The PZR became full of liquid at around 1550 s. The PZR liquid level began to drop steeply at 2465 s following the PZR PORV full opening. The PZR liquid level recovered due to the HPI actuation in both loops, and greatly dropped after the SG inlet plena became empty of liquid (to be shown in **Fig. 4-33**). The PZR liquid level increased with an increase in the HPI flow rate after around 4500 s, and the PZR became full of liquid

again at around 6000 s after the ACC actuation.

Figure 4-15 shows the primary and secondary pressures. The primary pressure decreased a little because of the core power decay. The SG secondary pressure rapidly increased up to about 8 MPa after the closure of the SG main steam isolation valves. The SG secondary pressure fluctuated between 8.03 and 7.82 MPa by cycle opening of the RVs until about 3400 s, as shown in **Fig. 4-16**. The primary pressure turned to increase at around 640 s when the SG secondary-side collapsed liquid level decreased to about 3 m. Cycle opening of the PZR PORV started because the primary pressure reached 16.20 MPa, which caused loss of primary coolant. During the time period around 900-2440 s, the primary pressure fluctuation became larger than the difference in the set point pressures for the PZR PORV cycle opening probably due to influences of steam remained at the PZR top. Primary depressurization was initiated by fully opening the PZR PORV at 2445 s: 30 min after the SI signal, and the depressurization continued thereafter. The primary pressure steeply dropped to about 9.3 MPa until the HPI actuation in both loops after the start of the PZR PORV full opening, and gradually decreased afterwards. The primary pressure became lower than the SG secondary pressure at around 4000 s. The SGs no longer served as the heat sink thereafter. The ACC system was actuated in both loops at 5582 s when the primary pressure decreased to 4.51 MPa. The LPI system, however, was not actuated in both loops by the time the core power turned off because the primary pressure was not below 1.2 MPa.

4.3.1 Thermal-hydraulic Responses in Pressure Vessel

Liquid level behaviors in upper plenum and core

Figures 4-17 and 4-18 respectively show the collapsed liquid levels in upper plenum and core. The upper plenum collapsed liquid level changed in response to the hot leg liquid level (to be shown in **Fig. 4-23**). Liquid levels appeared in the upper plenum and core following the PZR PORV full opening. The upper plenum and core liquid levels recovered due to the HPI actuation in both loops. The upper plenum liquid level greatly increased with a great increase in the ACC flow rate after about 7400 s. The core became full of liquid again by the time the ACC system was actuated in both loops.

Core exit and fuel rod surface temperature responses

Figure 4-19 shows fluid temperatures at the core exit 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 saturated because the upper plenum liquid level was above 60% of the upper plenum height through the experiment (**Fig. 4-17**).

Figure 4-20 shows the surface temperatures of simulated fuel rods in high-power rod

bundles (B18, see p.171 in Ref. [2]) at Positions 9 through 5 (= respectively at 3.610 through 1.830 m above the core bottom (= 0.0 m EL)). The fuel rod surface temperature mostly followed the primary pressure thus saturation temperature because of no core uncover by the primary feed-and-bleed operation using the PORV, HPI and ACC systems.

Coolant behaviors in pressure vessel

Figure 4-21 shows the downcomer collapsed liquid level. Liquid level appeared in the downcomer following the PZR PORV full opening. The downcomer liquid level started to drop at about 3350 s, and stayed at a certain liquid level after about 3500 s.

Figure 4-22 shows the upper-head differential pressure corresponding to the collapsed liquid level. The upper-head liquid level significantly dropped due to the PZR PORV full opening, and no significant level change occurred in the upper-head after about 3350 s.

4.3.2 Thermal-hydraulic Responses in Primary Loops

Figures 4-23 and 4-24 respectively show liquid levels and fluid temperatures in the hot legs. The hot leg liquid level is estimated from fluid densities measured by a three-beam gamma-ray densitometer. Liquid level appeared in the hot leg following the PZR PORV full opening. The hot leg fluid became saturated almost simultaneously with the liquid level formation at the hot leg. The hot leg liquid level recovered due to the HPI actuation in both loops, and greatly dropped after the SG inlet plena became empty of liquid (to be shown in **Fig. 4-33**). The hot leg liquid level increased with an increase in the HPI flow rate after around 4500 s, and the hot legs became full of liquid again at around 7300 s after the ACC actuation. The hot leg fluid temperature showed subcooling after around 6000 s. The hot leg fluid temperature increased after the ACC termination.

Figure 4-25 and 4-26 respectively show liquid levels and fluid temperatures in the cold legs. The cold leg liquid level is estimated from fluid densities measured by a three-beam gamma-ray densitometer. The cold legs were mostly full of liquid through the experiment. The cold leg fluid temperature mostly showed subcooling. The cold leg fluid temperature in the loop-A was lower than that in the loop-B due to larger flow rates of the HPI and ACC systems after about 6700 s. The cold leg fluid temperature increased after the ACC termination.

Figures 4-27 and 4-28 show the collapsed liquid levels in the crossover leg downflow-side and upflow-side, respectively. The crossover leg downflow-side liquid level started to decrease greatly at about 3500 and 3400 s respectively for the loop-A and loop-B, and began to recover at about 4100 and 4050 s respectively for the loop-A and loop-B. The crossover leg upflow-side was mostly full of liquid through the experiment.

4.3.3 Thermal-hydraulic Responses of Steam Generators

Figures 4-29 through 4-32 show the collapsed liquid levels in all the instrumented SG U-tubes. The instrumented SG U-tubes designated as Tubes 1 and 6 are short tubes (Type 1; see p.267 in Ref. [1]), Tubes 3 and 4 are long tubes (Type 9), and Tubes 2 and 5 are medium-long tubes (Type 5). The liquid level in the upflow-side balanced that in the downflow-side for each instrumented SG U-tube. Difference between the liquid levels in the upflow-side and downflow-side was almost the same for the same-length instrumented U-tubes. Onset timing of significant decrease in the SG U-tube liquid level was almost the same for the loop-A and loop-B. The SG U-tube liquid levels became lost by around 3700 and 3600 s respectively for the loop-A and loop-B. The liquid level decrease in the SG U-tube downflow-side and upflow-side continued down to the crossover leg downflow-side (**Fig. 4-27**) and the SG inlet plenum (**Fig. 4-33**), respectively.

Figure 4-33 shows the SG inlet plenum collapsed liquid level. The SG inlet plenum liquid level started to decrease significantly at about 3700 and 3590 s respectively for the loop-A and loop-B. The SG inlet plenum became empty of liquid at about 4100 and 4040 s respectively for the loop-A and loop-B.

Figures 4-34 and 4-35 show the SG secondary-side fluid temperatures in the loop-A and loop-B, 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 SG secondary-side fluid temperature was dependent on the SG secondary-side collapsed liquid level (**Fig. 4-7**). Initial SG secondary-side collapsed liquid level was 5.4 m. The SG secondary-side fluid temperatures mostly indicated some superheating after the SG secondary-side became empty of liquid.

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	10.14
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	599.4 / 597.7
Cold leg fluid temperature (K)	TE070C-CLA / TE210C-CLB	562.4±3.3	564.5 / 564.4
Mass flow rate (kg/s / loop)	FE020A-LSA / FE160A-LSB	24.3±1.01	24.87 / 24.60
Downcomer-to-hot leg bypass (kg/s)	FE010-HLA / FE150-HLB	0.049±0.0065	0.051 / 0.041
Pressurizer (PZR)			
Pressure (MPa)	PE300A-PR	15.5±0.064	15.45
Liquid level (m)	LE280-PR	2.7±0.016	2.68
Steam generator			
Secondary-side pressure (MPa)	PE430-SGA / PE450-SGB	7.3±0.032	7.33 / 7.34
Secondary-side liquid level (m)	LE430-SGA / LE450-SGB	5.4±0.054	5.41 / 5.40
Steam flow rate (kg/s)	FE440-SGA / FE480-SGB	2.74±0.11	2.65 / 2.59
Main feedwater flow rate (kg/s)	FE430-SGA / FE470-SGB	2.74±0.065	2.71 / 2.62
Main feedwater temperature (K)	TE430-SGA / TE470-SGB	495.2±3.1	495.9 / 495.8
High pressure injection system			
Temperature (K)	TE880-RWST	310±1.9	311.0
Accumulator system			
Pressure (MPa)	PE650-ACC / PE660-ACH	4.51±0.032	4.51 / 4.53
Temperature (K)	TE660-ACC / TE700-ACH	320±2.3 / 2.7	313.3 / 322.0
Water level in loop with PZR (m)	LE650-ACC	3.65±0.016	3.65
Water level in loop w/o PZR (m)	LE660-ACH	4.36±0.016	4.36
Low pressure injection system			
Temperature (K)	TE840-PL	310±3.1	311.9

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

Table 4-2 Chronology of major events until termination of HPI system

Time (s)	Event
0	Scram signal, closure of SG main steam stop valve Start of primary coolant pumps rotation speed increase (to 1250 rpm in 8 s)
1	Termination of SG main feedwater, closure of SG main steam isolation valves
9	Initiation of coastdown of primary coolant pumps
21	Initiation of core power decay
25-3400	Cycle opening of SG RVs
249	Stop of primary coolant pumps in both loops
640	Safety injection signal (SG secondary-side collapsed liquid level = 3 m)
655	Initiation of HPI system in loop-A
900-2440	Cycle opening of PZR PORV
1550	Full PZR
2445	Start of primary depressurization by fully opening PZR PORV
2520	Initiation of HPI system in loop-B
3600	Empty SG U-tube in loop-B
3670	Empty SG U-tube in loop-A
3800	Empty SG secondary-side
4000	Primary pressure lower than SG secondary pressure
4040	Empty SG inlet plenum in loop-B
4100	Empty SG inlet plenum in loop-A
5582	Initiation of ACC system in both loops
6000	Full PZR again
7418	Termination of ACC system in loop-B
7965	Termination of ACC system in loop-A
8470	Core power off
8486	Termination of HPI system in loop-A
8488	Termination of HPI system in loop-B

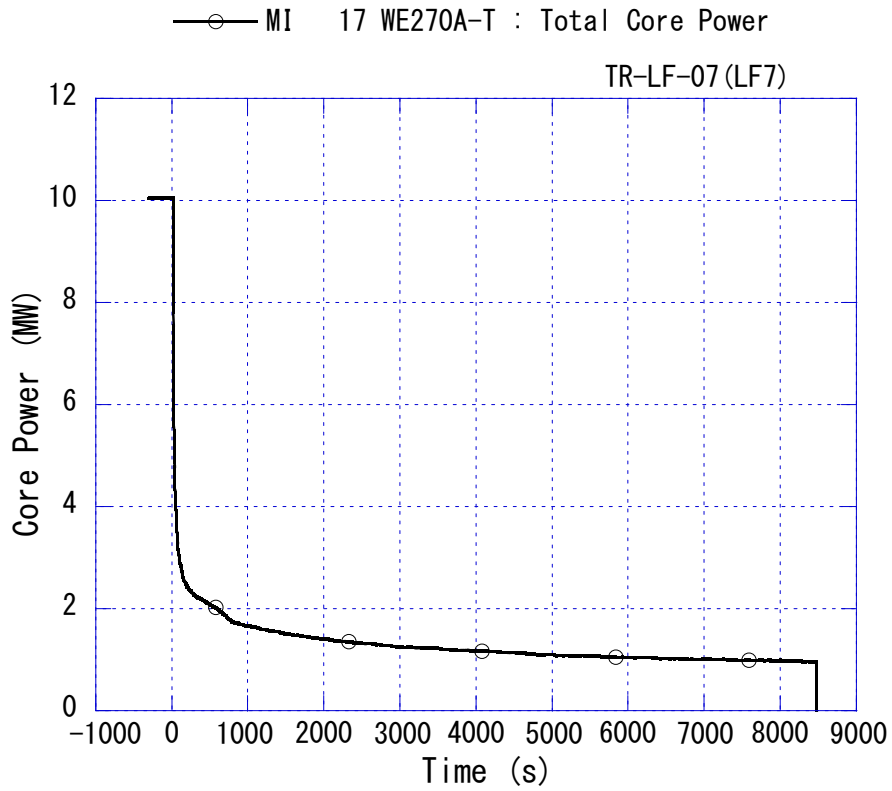


Fig. 4-1 Core power

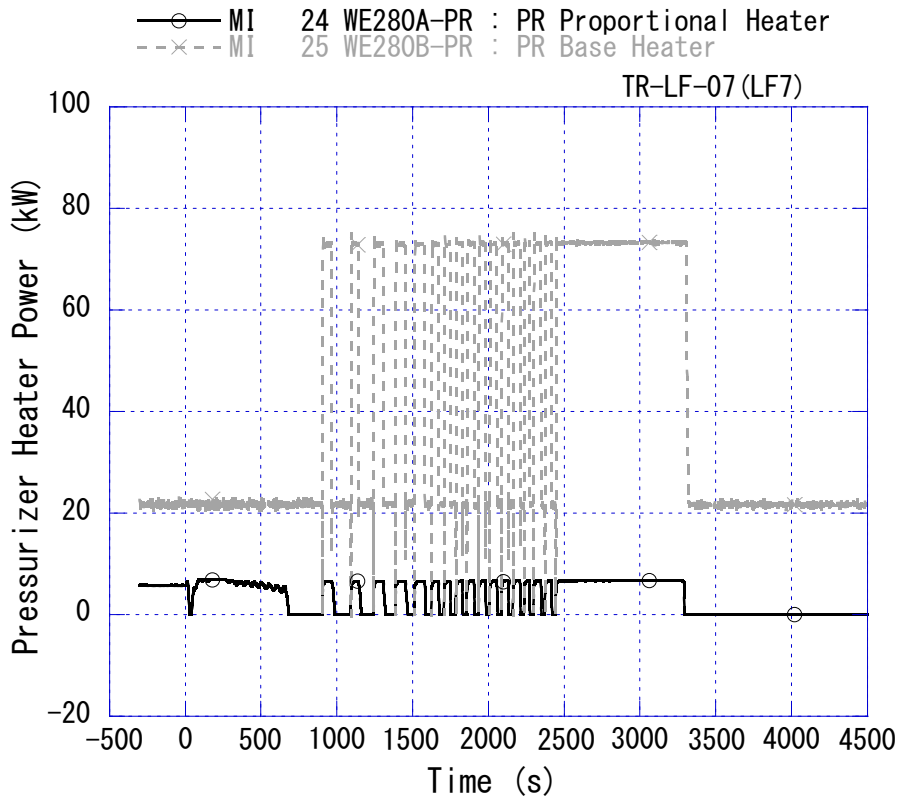


Fig. 4-2 Pressurizer heater power

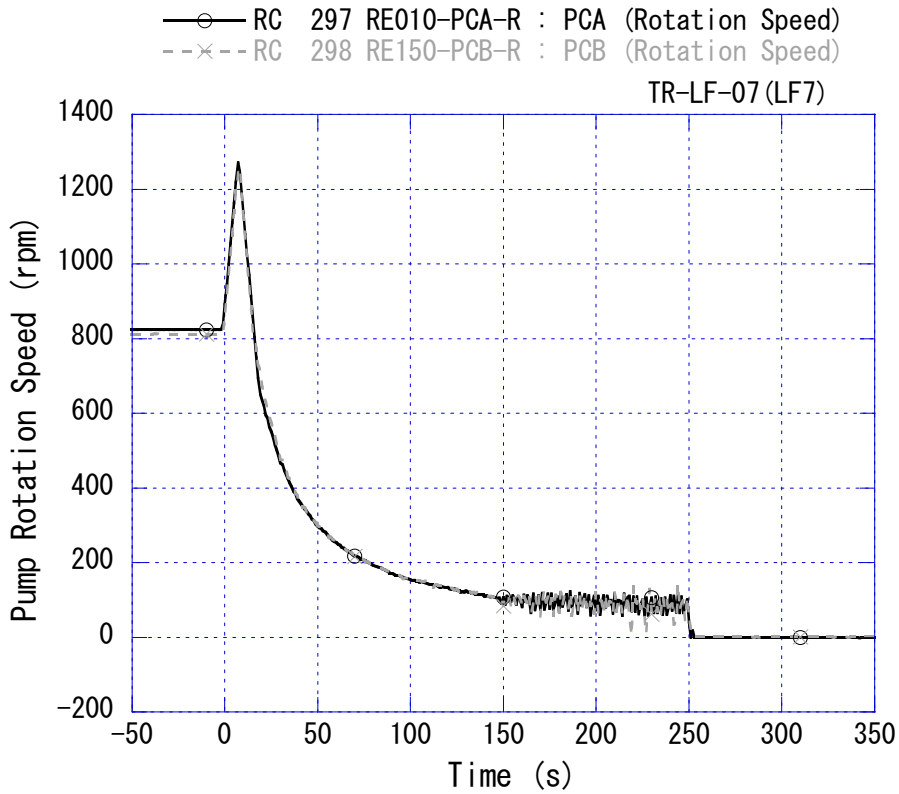


Fig. 4-3 Primary coolant pump rotation speed

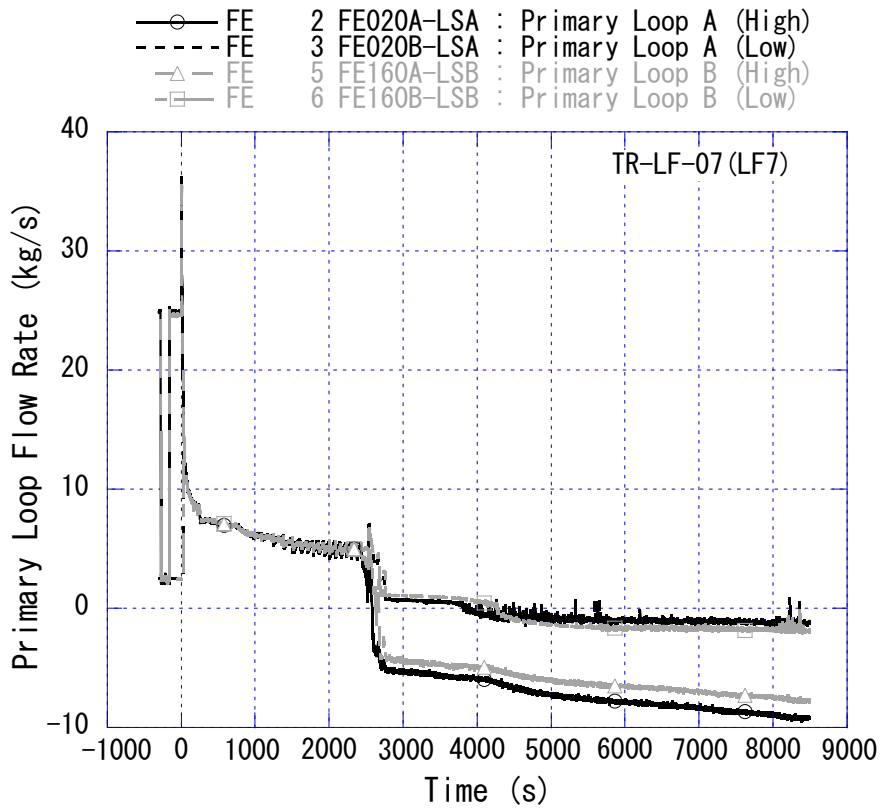


Fig. 4-4 Primary loop mass flow rate

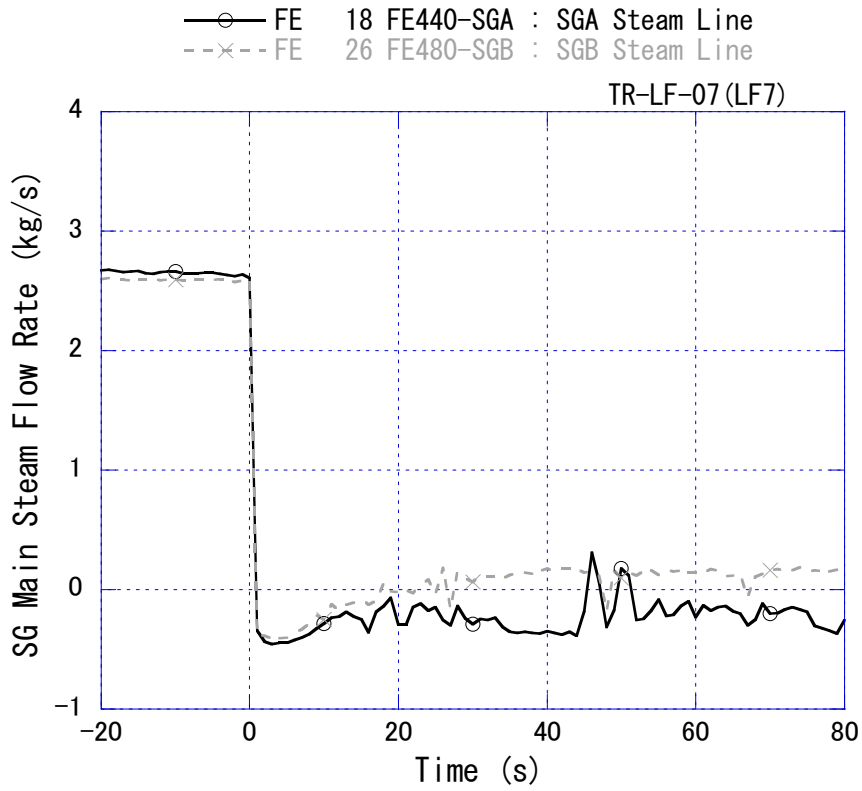


Fig. 4-5 SG main steam flow rate

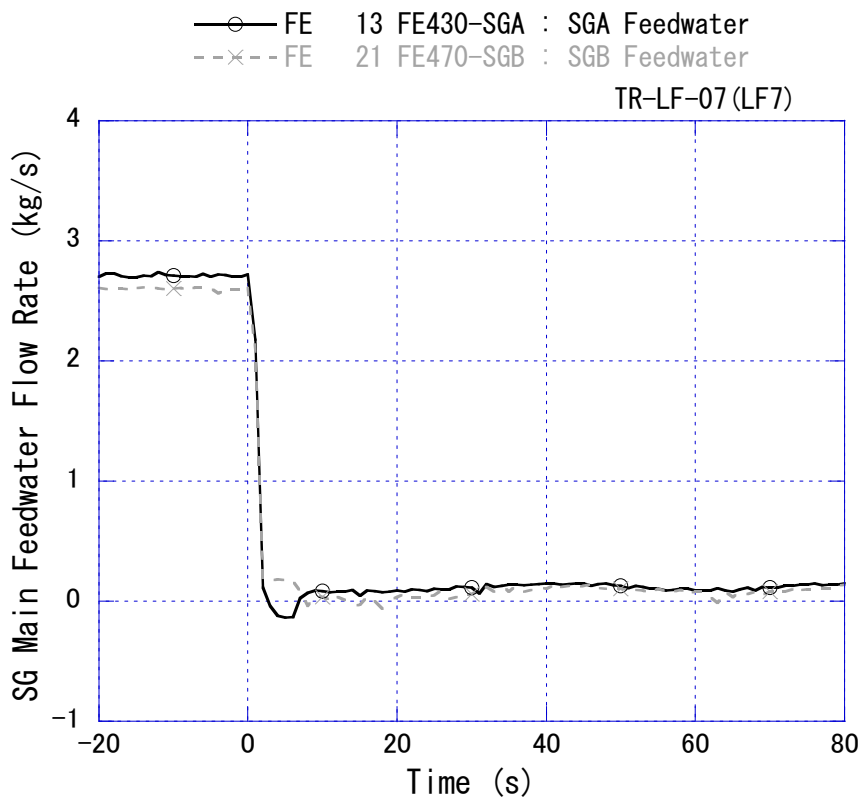


Fig. 4-6 SG main feedwater flow rate

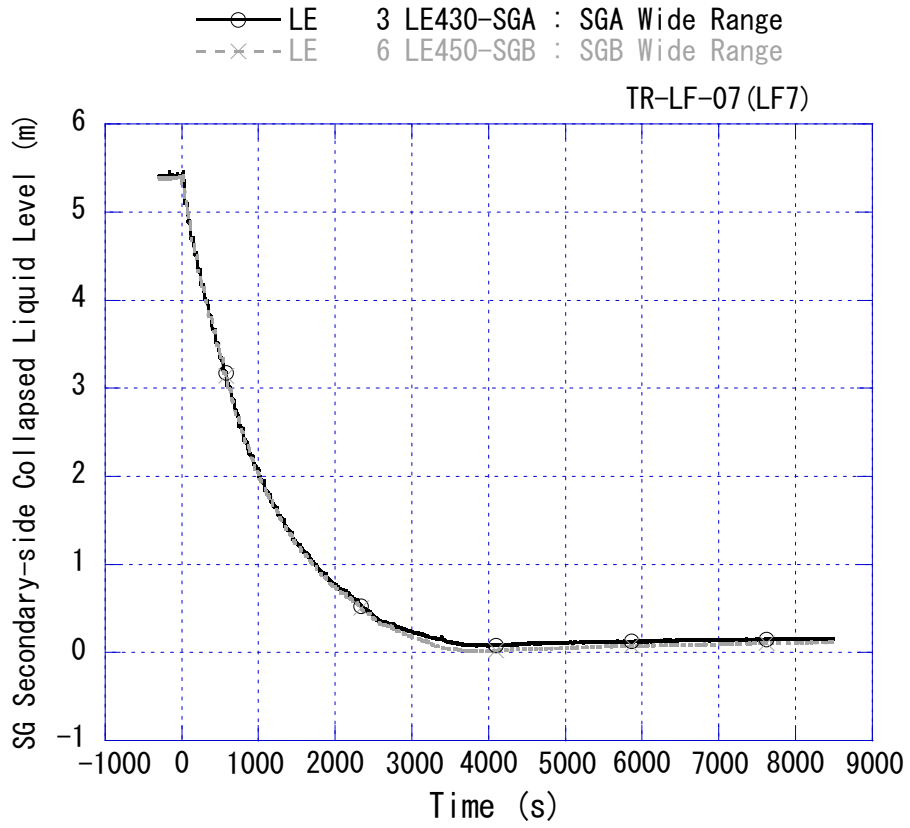


Fig. 4-7 SG secondary-side collapsed liquid level

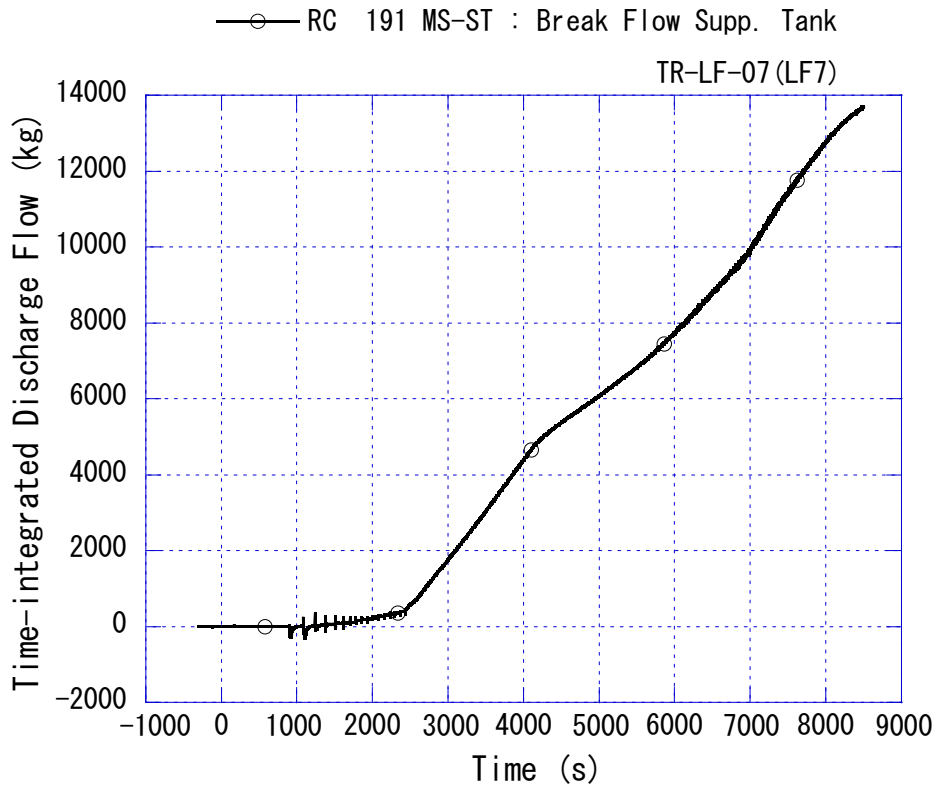


Fig. 4-8 Time-integrated discharge flow through pressurizer PORV

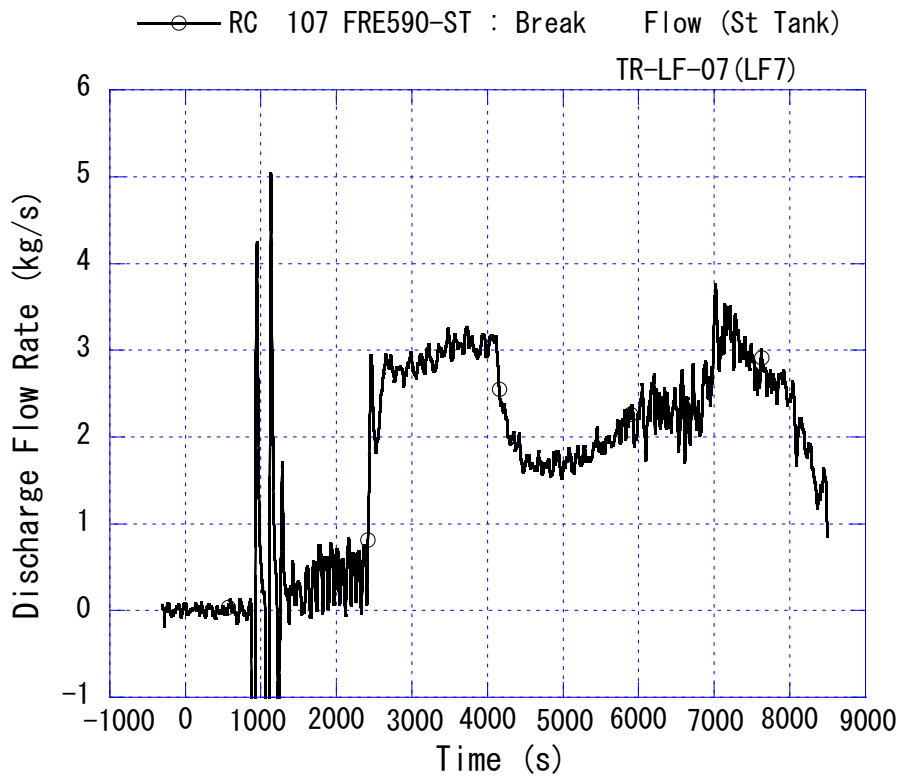


Fig. 4-9 Discharge flow rate through pressurizer PORV

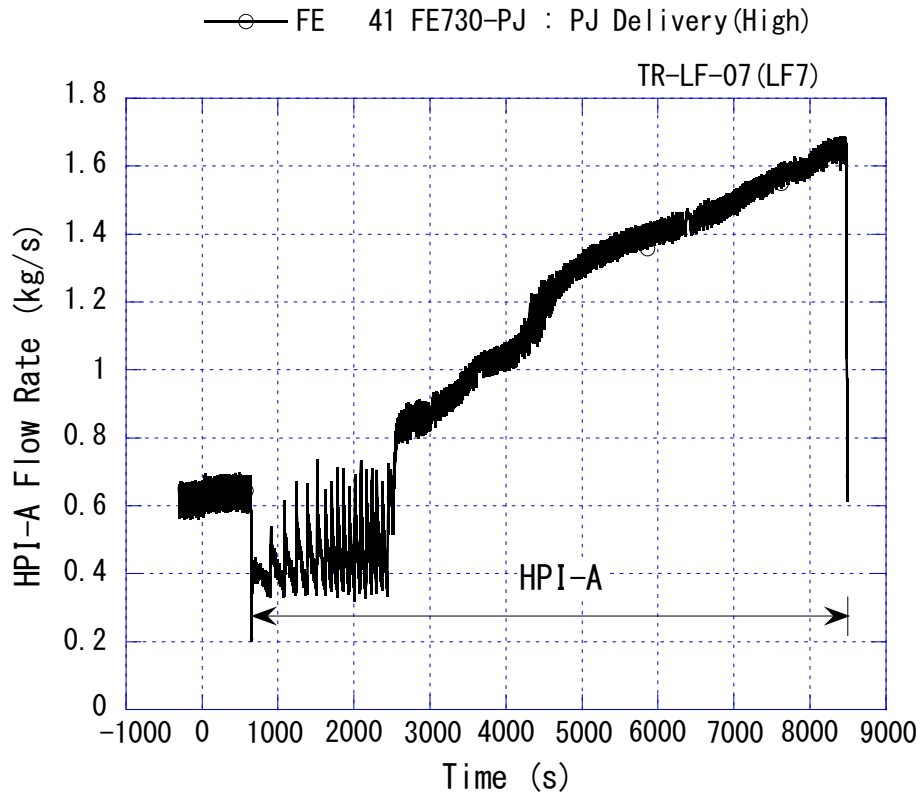


Fig. 4-10 High pressure injection flow rate in loop-A

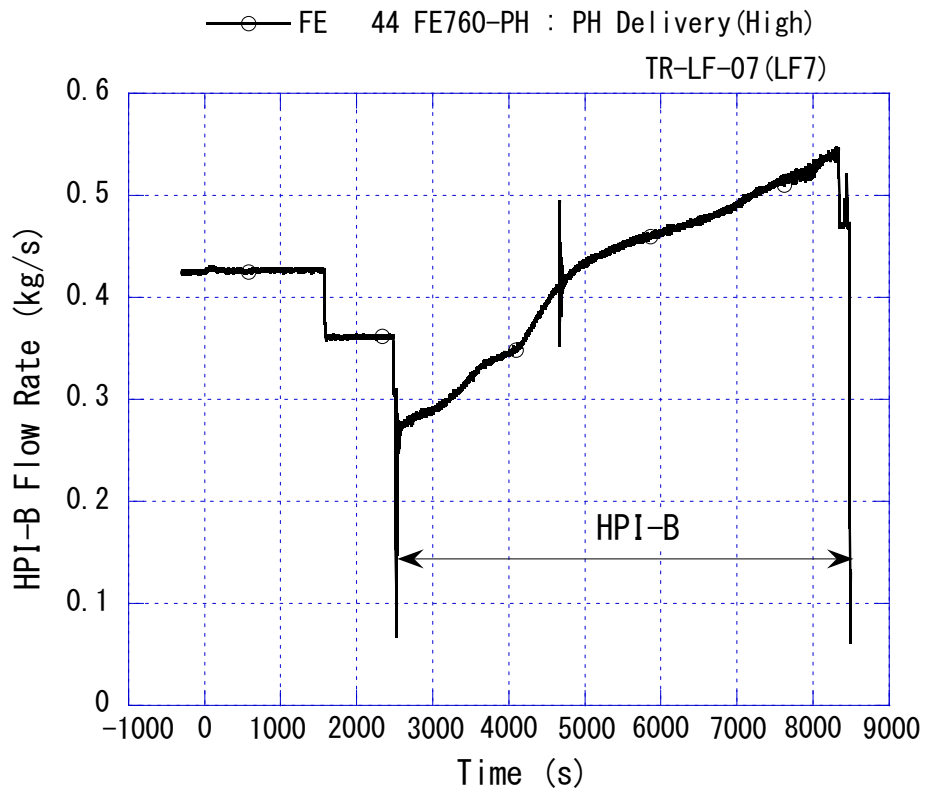


Fig. 4-11 High pressure injection flow rate in loop-B

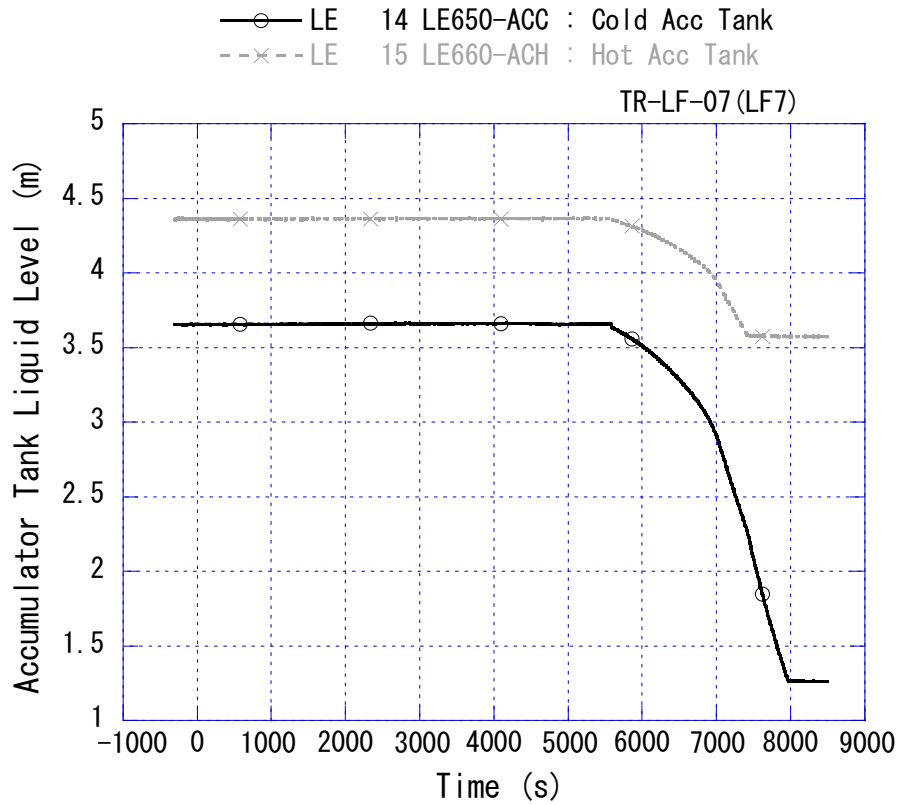


Fig. 4-12 Liquid level in accumulator tank

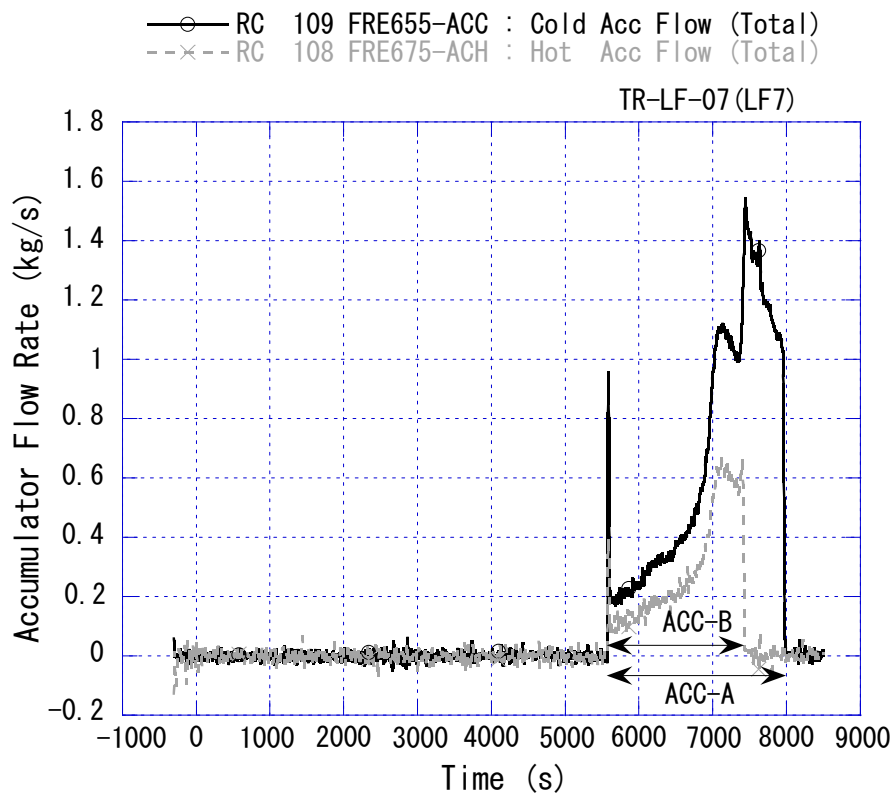


Fig. 4-13 Coolant injection flow rate from accumulator tank

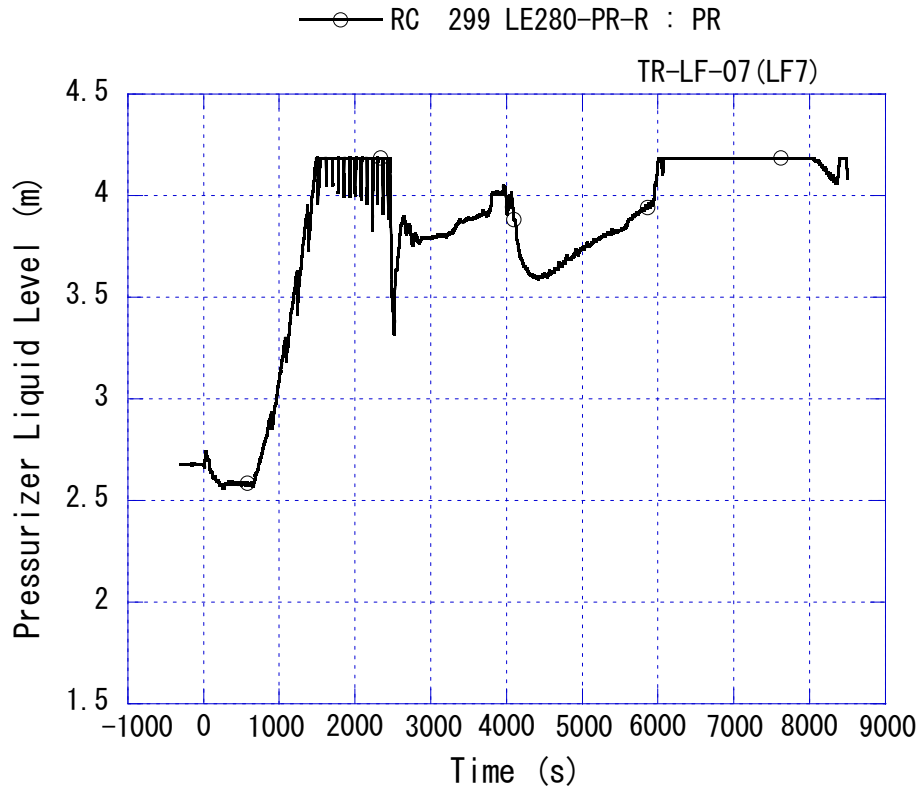


Fig. 4-14 Pressurizer liquid level

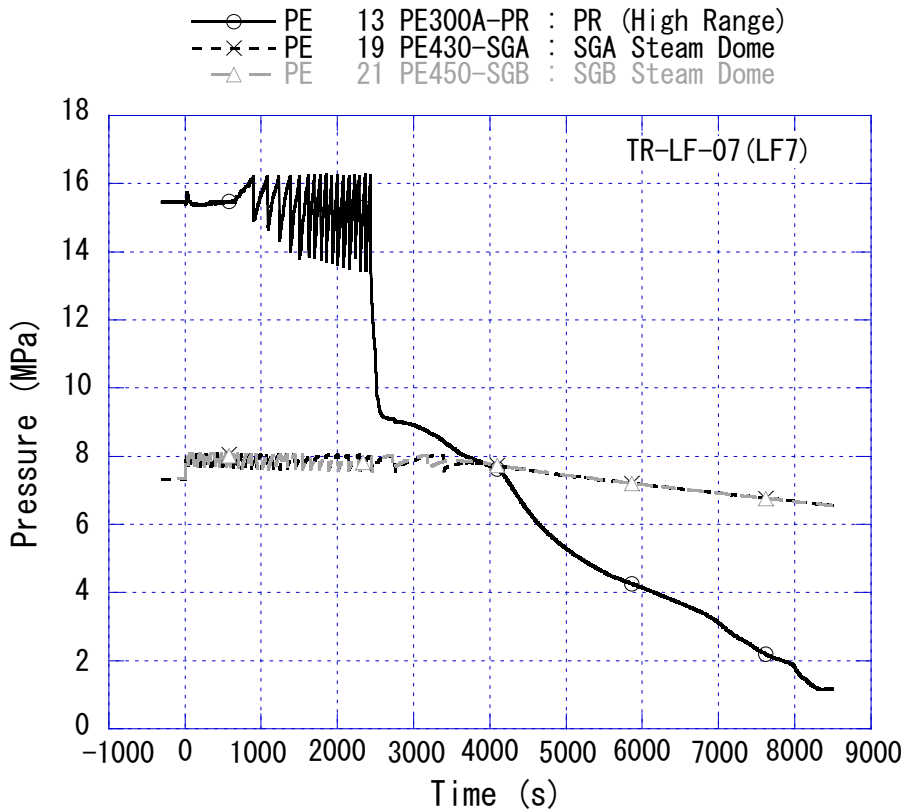


Fig. 4-15 Primary and secondary pressures

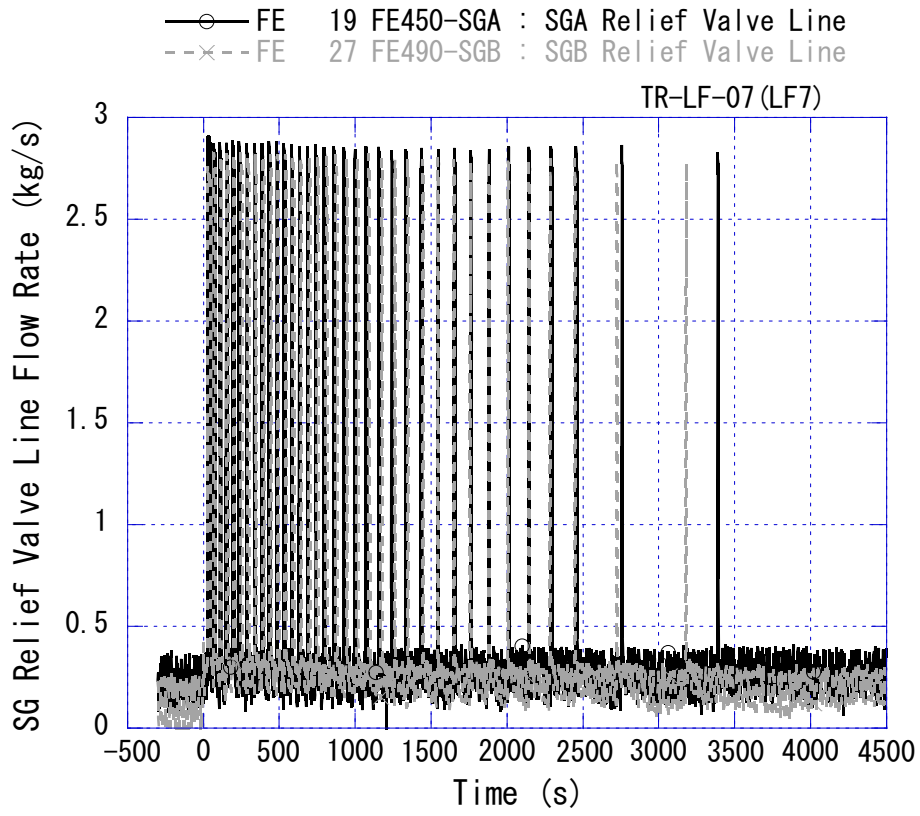


Fig. 4-16 SG relief valve line flow rate

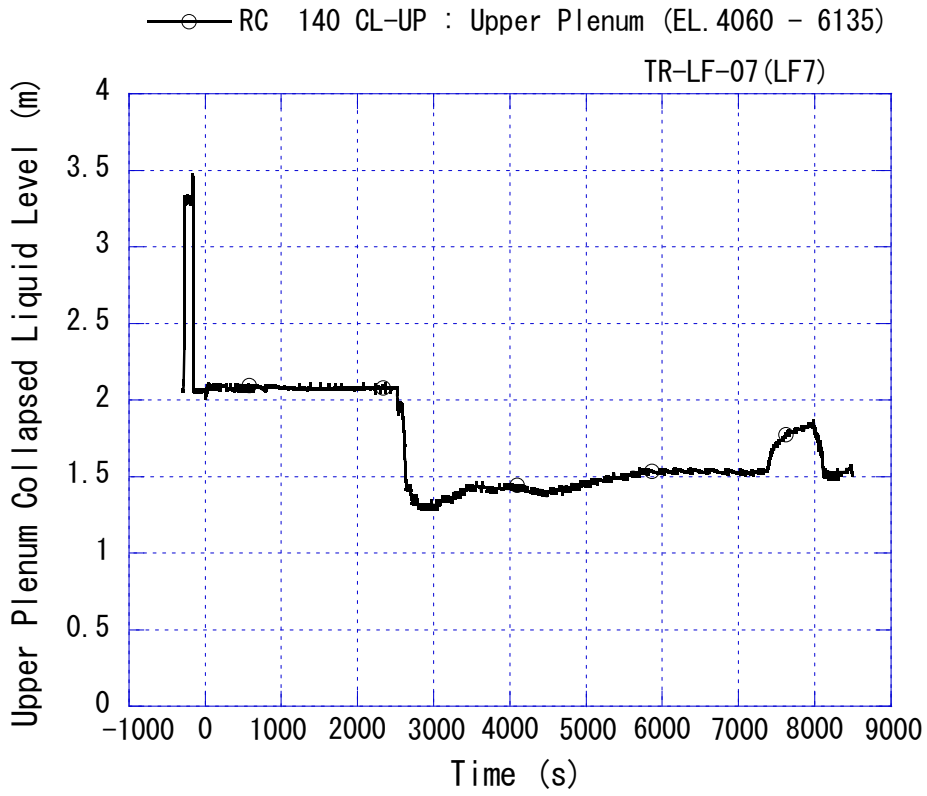


Fig. 4-17 Upper plenum collapsed liquid level

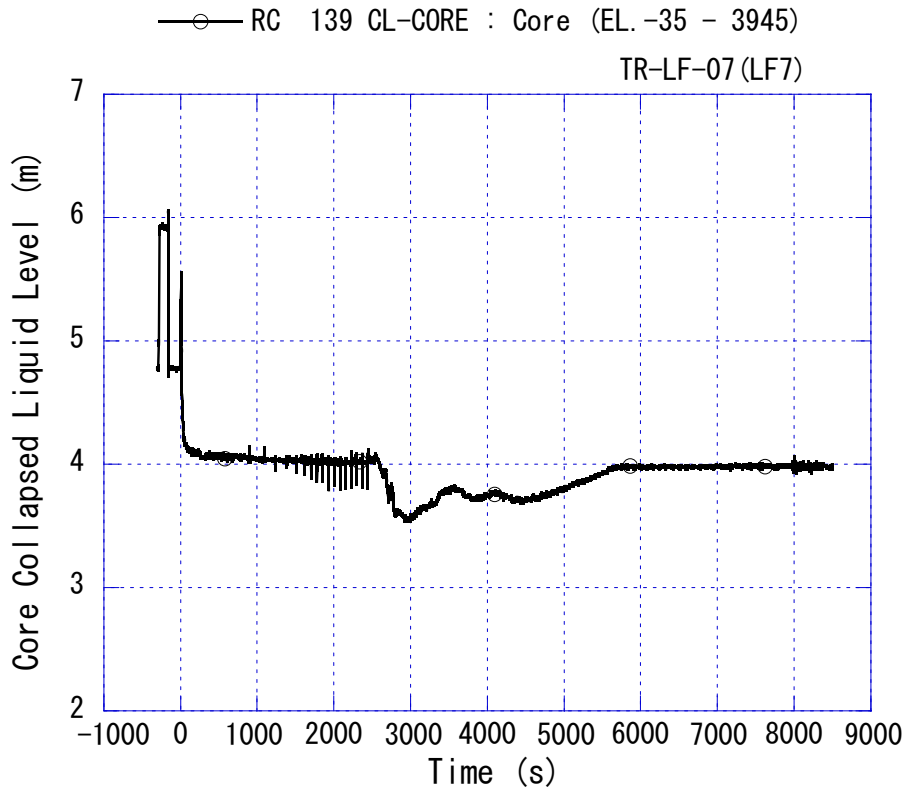


Fig. 4-18 Core collapsed liquid level

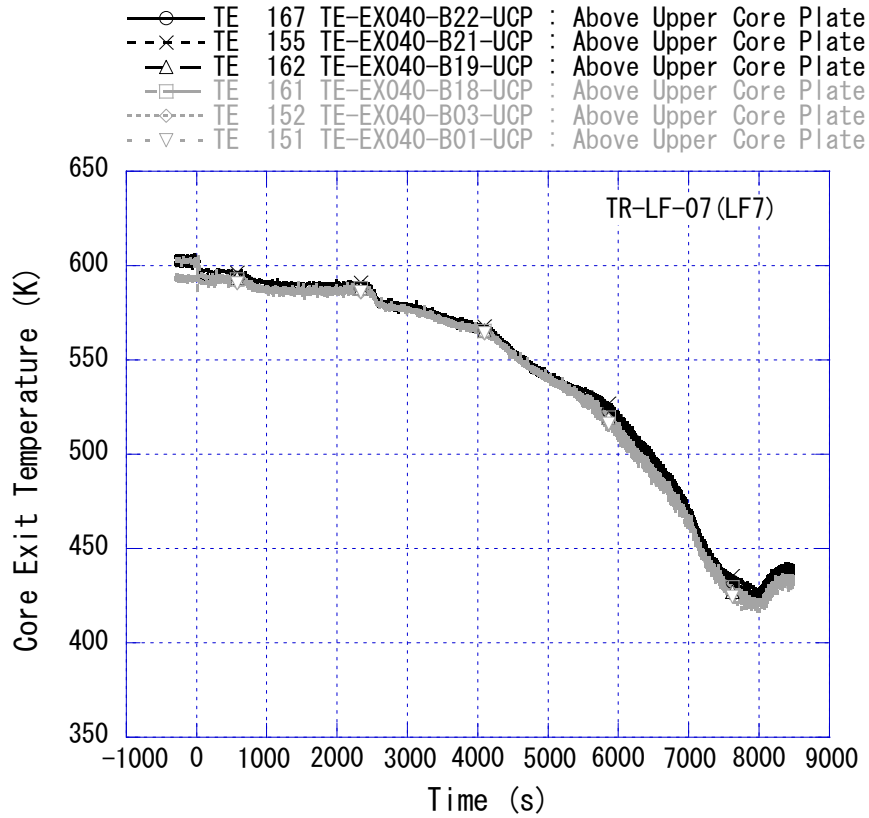


Fig. 4-19 Core exit temperature

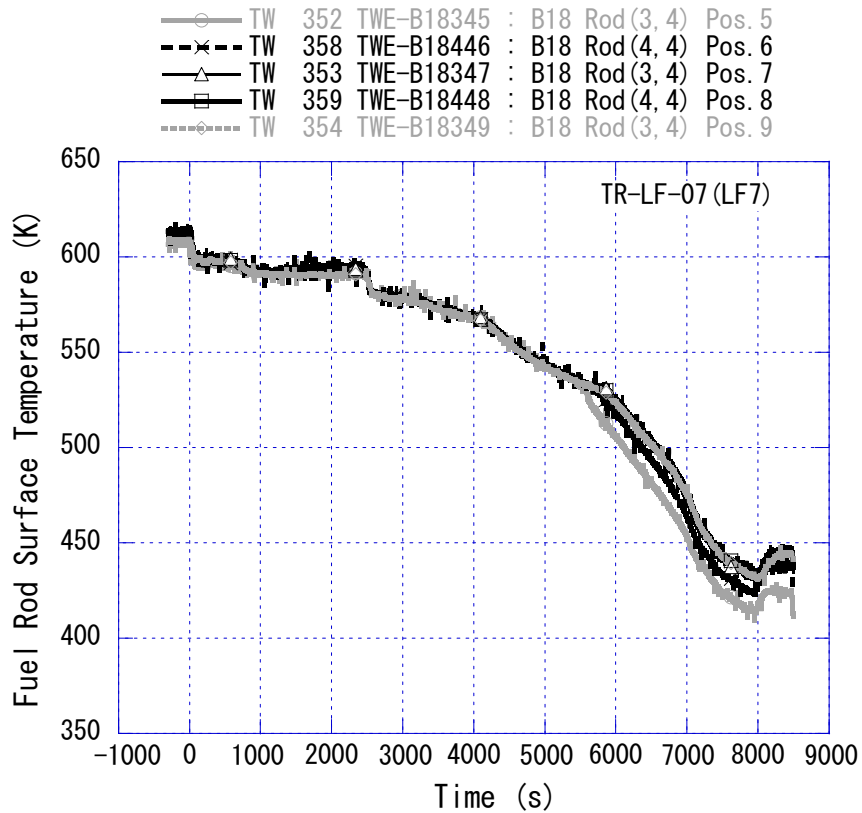


Fig. 4-20 Fuel rod surface temperatures at Positions 9 through 5

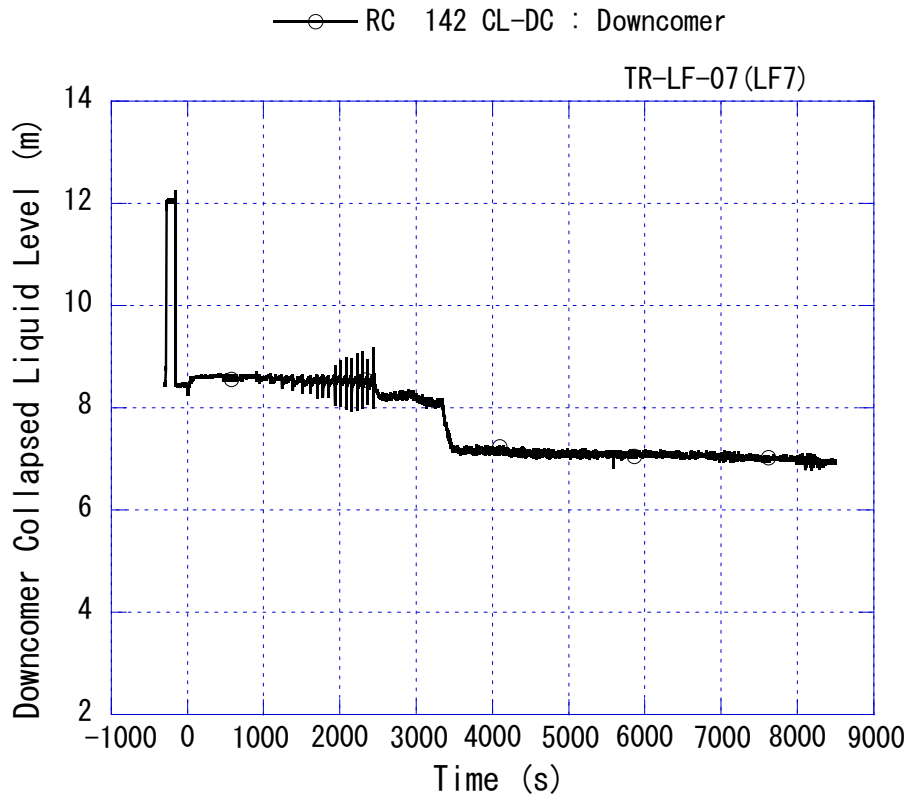


Fig. 4-21 Downcomer collapsed liquid level

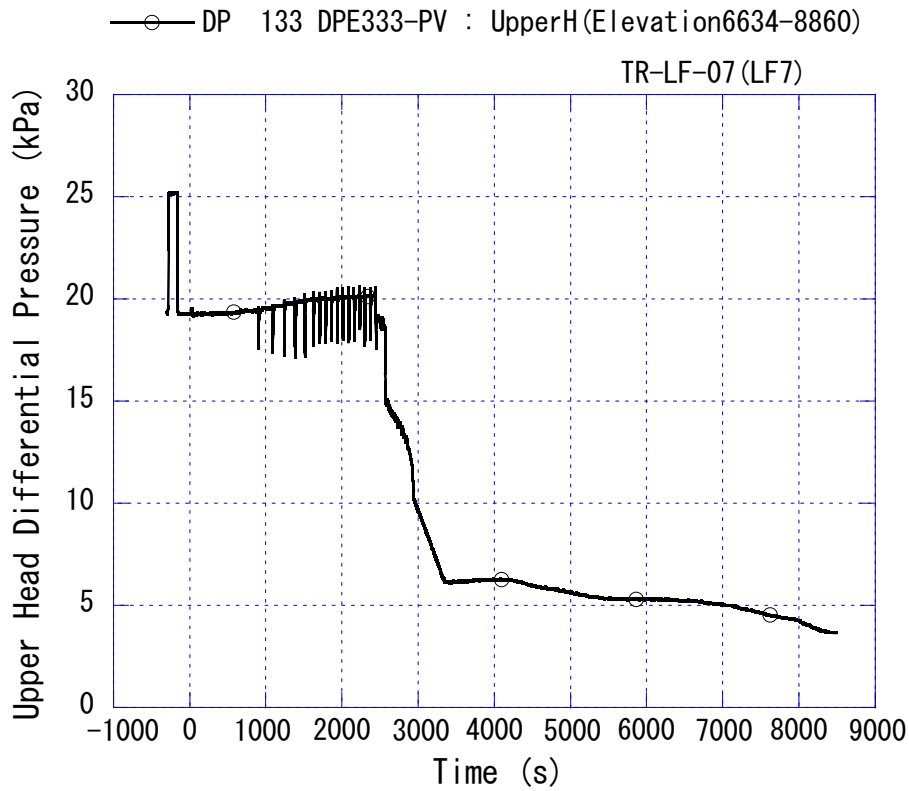


Fig. 4-22 Upper-head differential pressure

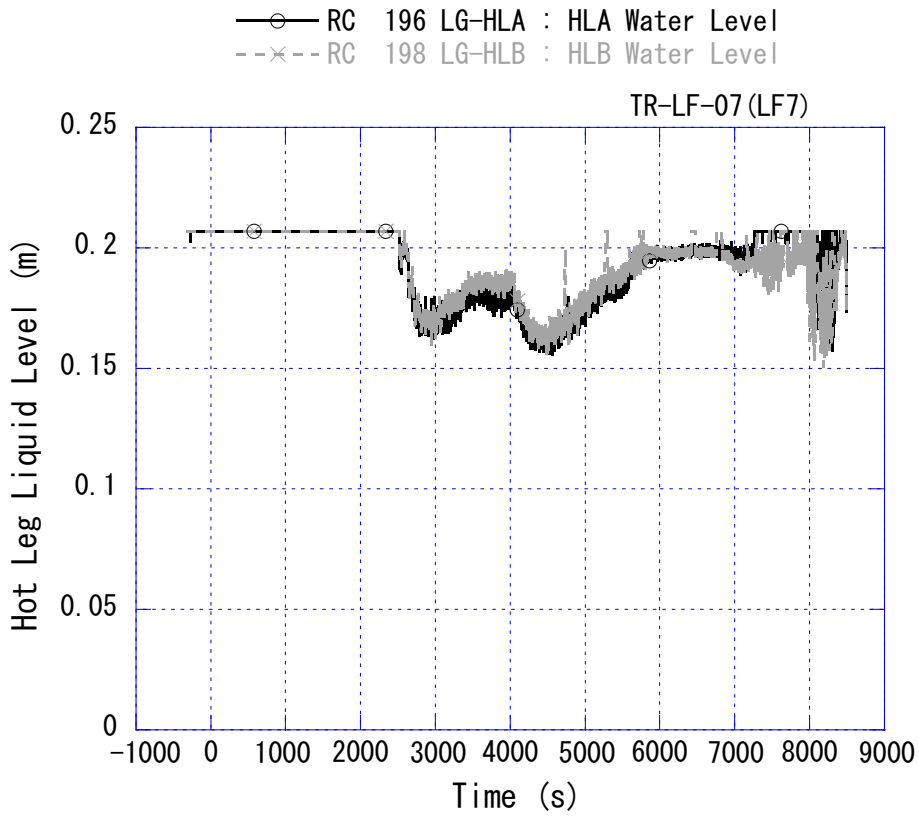


Fig. 4-23 Hot leg liquid level

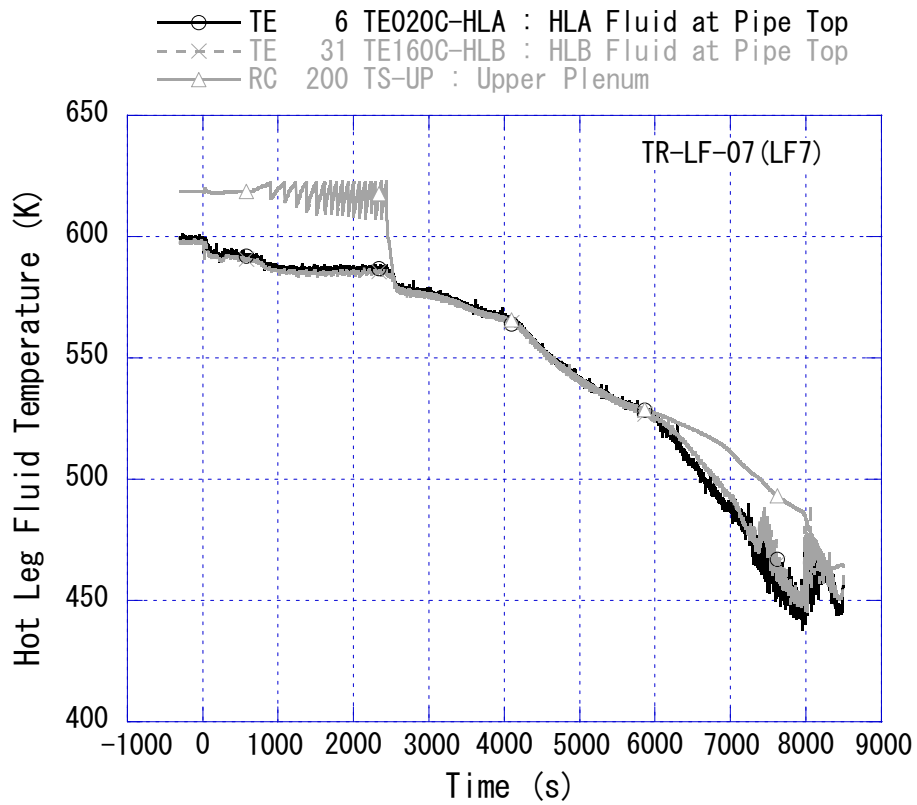


Fig. 4-24 Hot leg fluid temperature

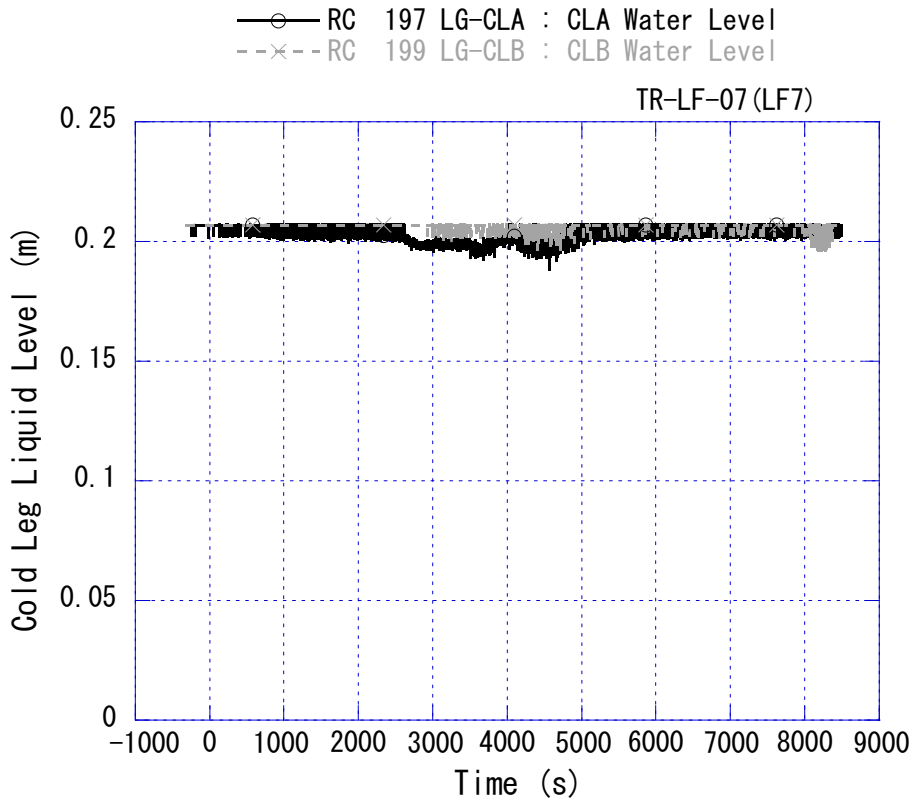


Fig. 4-25 Cold leg liquid level

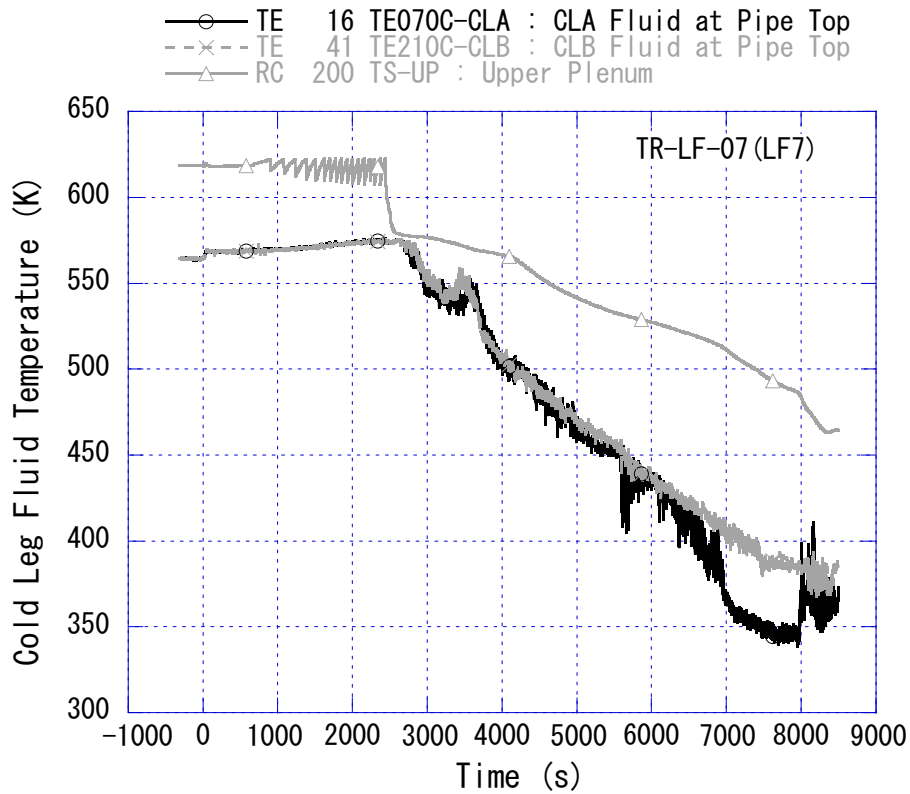


Fig. 4-26 Cold leg fluid temperature

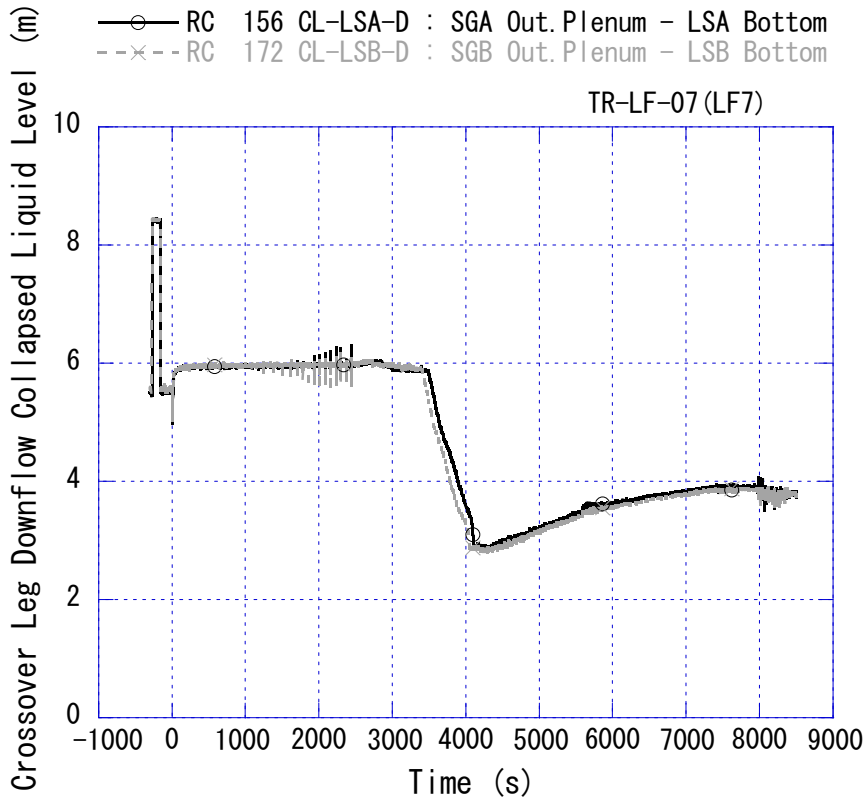


Fig. 4-27 Collapsed liquid level in crossover leg downflow-side

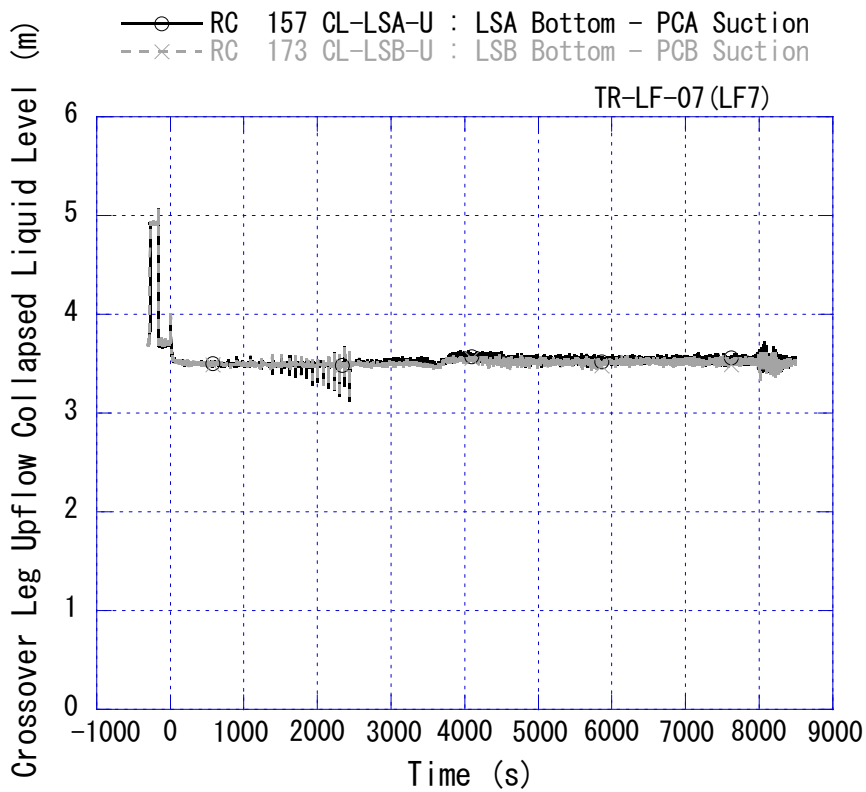


Fig. 4-28 Collapsed liquid level in crossover leg upflow-side

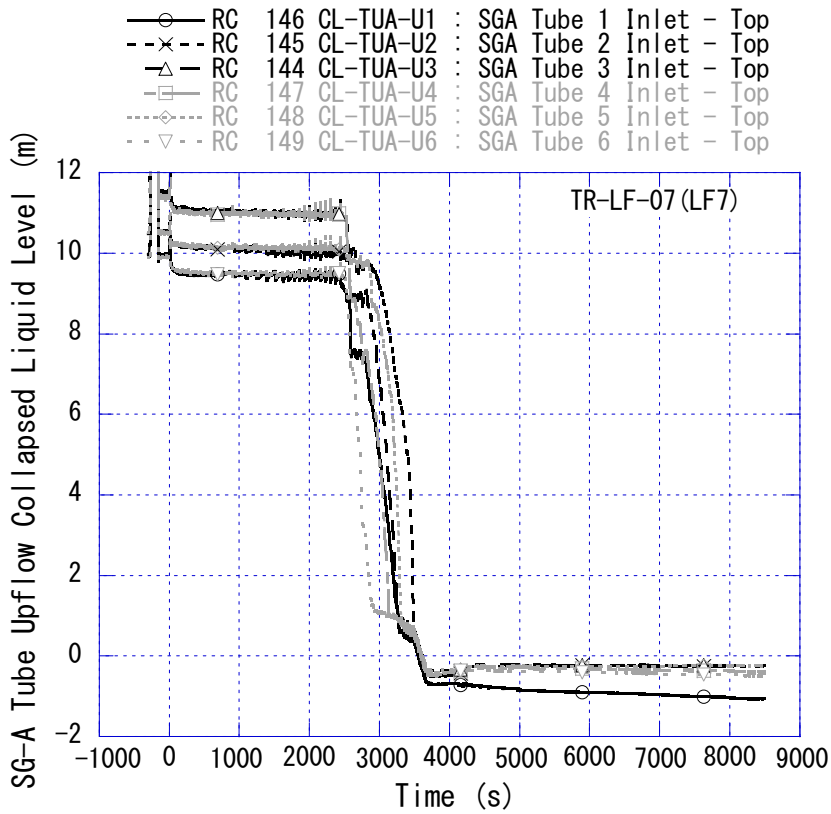


Fig. 4-29 Collapsed liquid level in SG U-tube upflow-side in loop-A

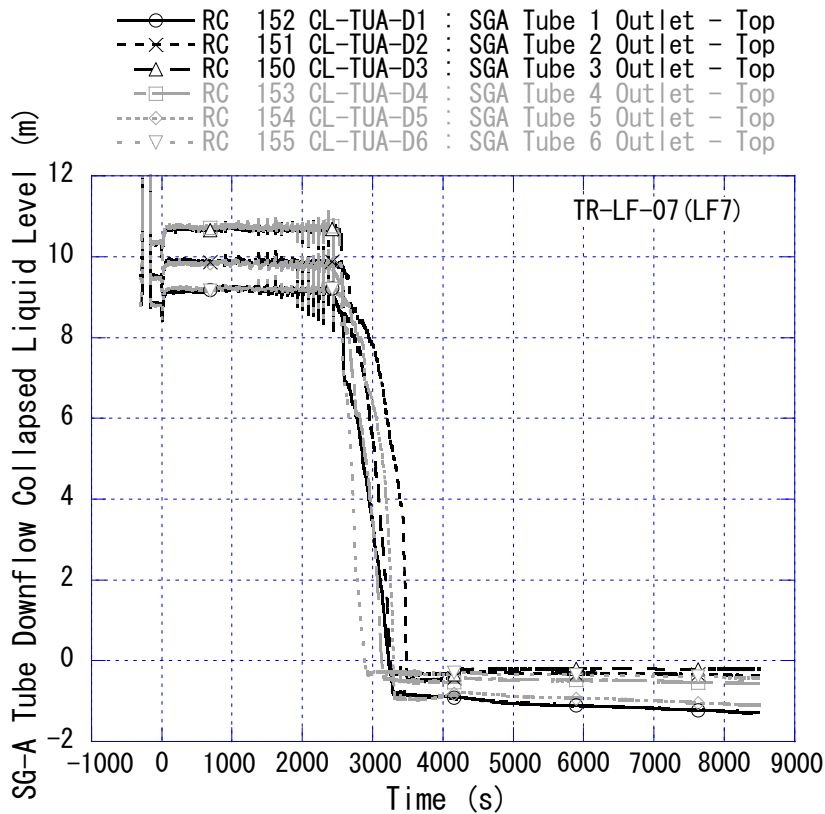


Fig. 4-30 Collapsed liquid level in SG U-tube downflow-side in loop-A

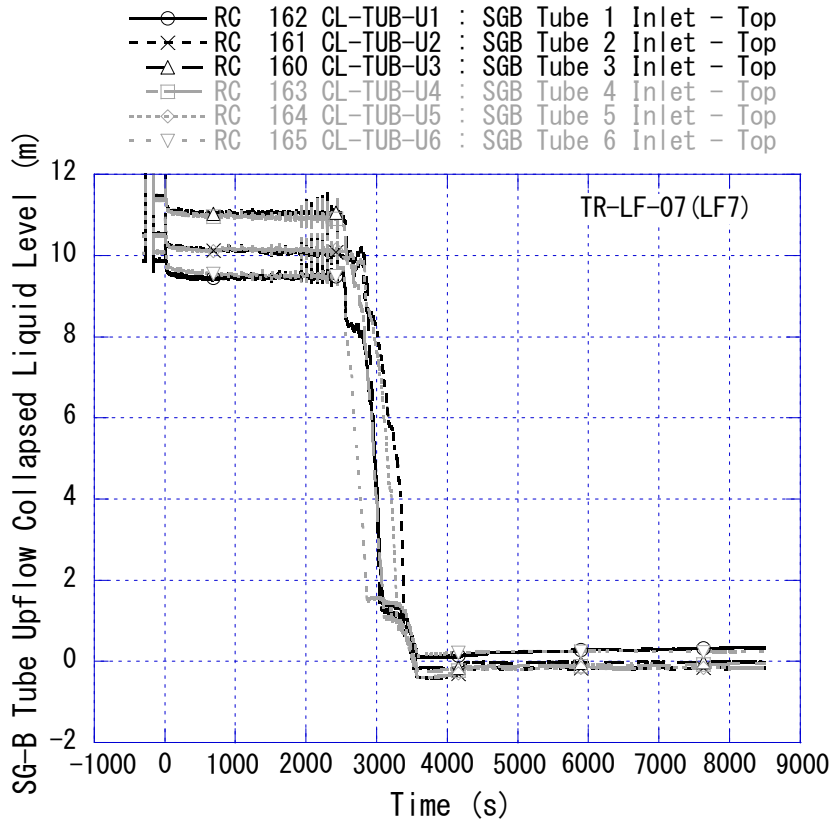


Fig. 4-31 Collapsed liquid level in SG U-tube upflow-side in loop-B

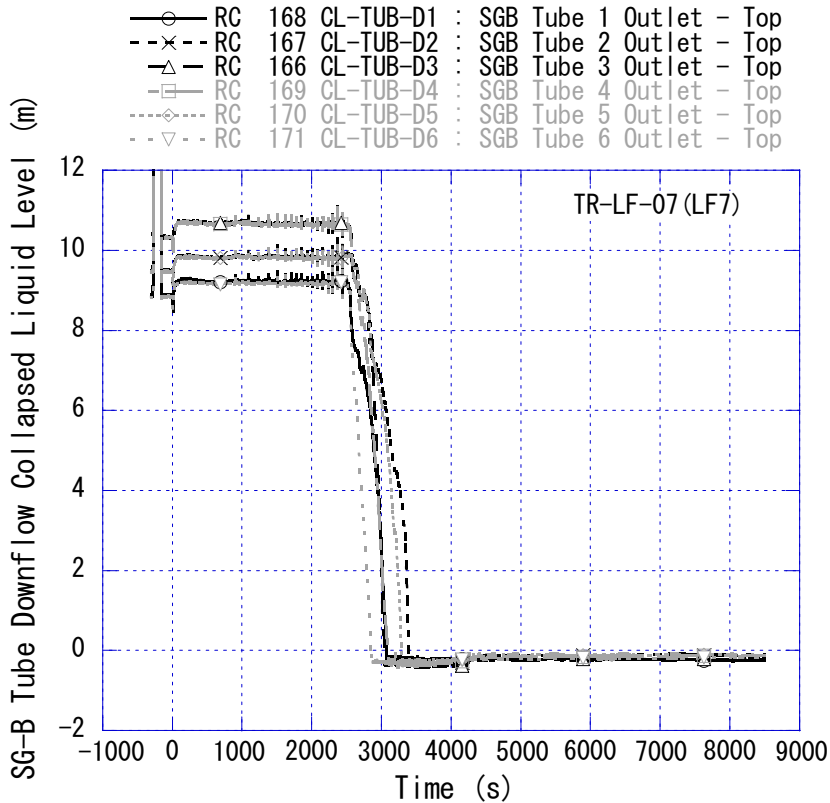


Fig. 4-32 Collapsed liquid level in SG U-tube downflow-side in loop-B

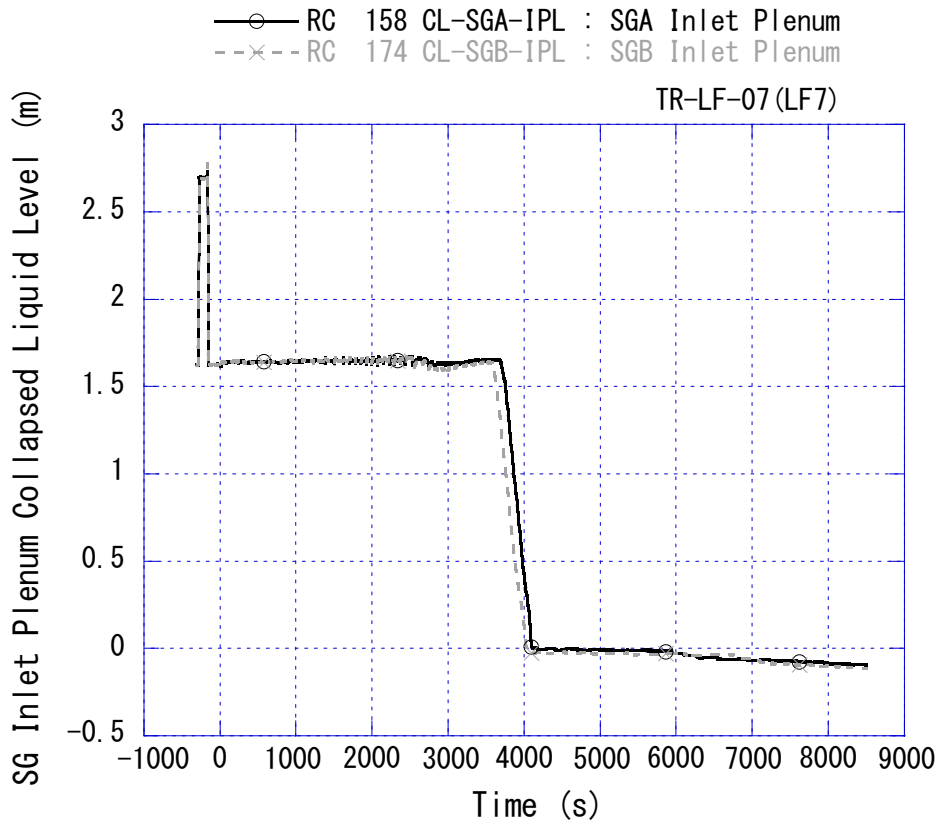


Fig. 4-33 SG inlet plenum collapsed liquid level

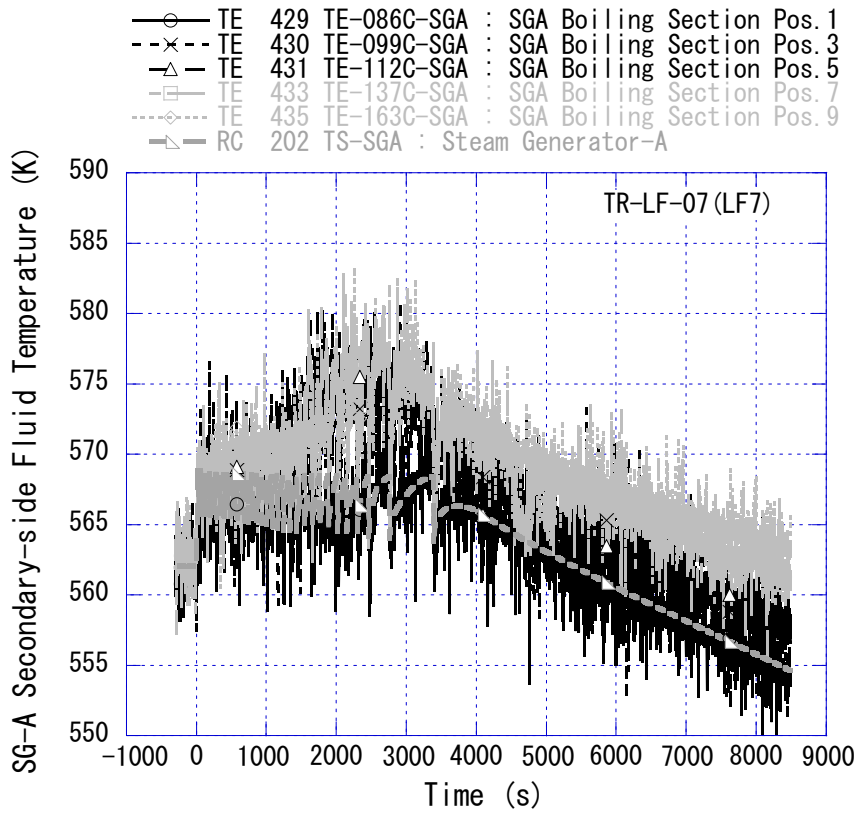


Fig. 4-34 SG secondary-side fluid temperature in loop-A

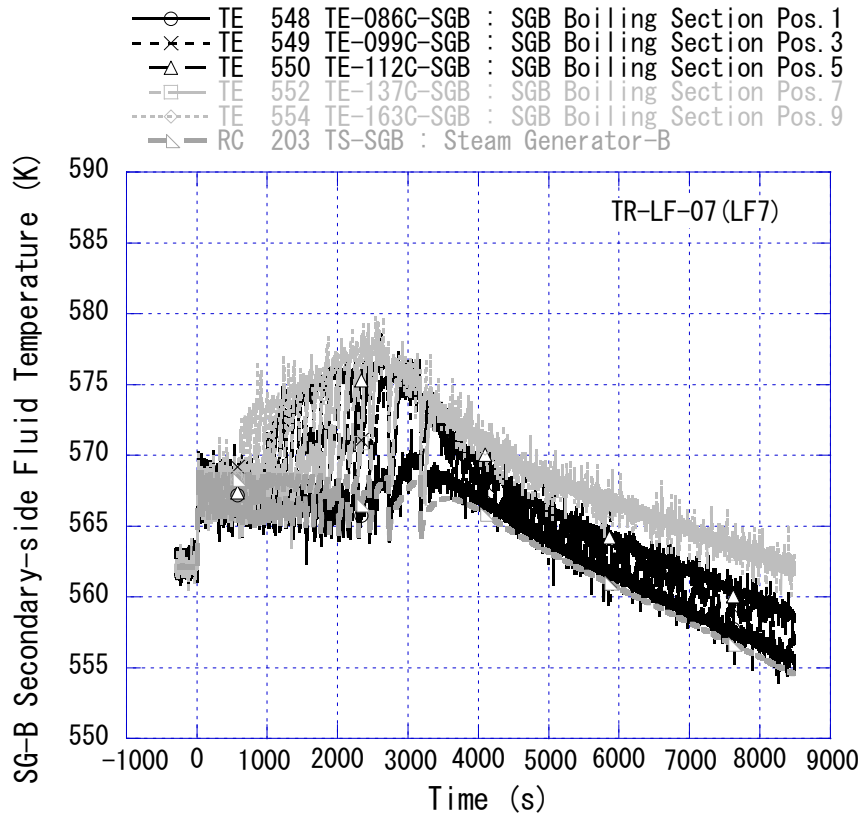


Fig. 4-35 SG secondary-side fluid temperature in loop-B

5. Summary

A ROSA/LSTF experiment TR-LF-07 was conducted on June 23, 1992, which simulated a PWR loss-of-feedwater transient with primary feed-and-bleed operation and total failure of auxiliary feedwater system. A SI signal was generated when SG secondary-side collapsed liquid level decreased to 3 m. Primary depressurization was initiated by fully opening a PORV of PZR 30 min after the SI signal. HPI system was started in loop with PZR 12 s after the SI signal, while it was initiated in loop without PZR when the primary pressure decreased to 10.7 MPa. Major findings are summarized as follows;

- (1) The primary and SG secondary pressures were kept almost constant because of cycle opening of the PZR PORV and SG RVs. The PZR liquid level began to drop steeply following the PORV full opening, which caused liquid level formation at the hot leg. The PZR and hot leg liquid levels recovered due to the HPI actuation in both loops. The primary pressure became lower than the SG secondary pressure, which resulted in the actuation of ACC system in both loops. The PZR and hot legs became full of liquid again after the ACC actuation.
- (2) The primary feed-and-bleed operation by use of the PORV, HPI and ACC systems was effective to core cooling because of no core uncover.
- (3) The experiment was terminated when the continuous core cooling was confirmed due to the successive coolant injection from the HPI system even after the ACC termination.

Acknowledgements

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References

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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 TR-LF-07 (Run ID designated to be LF7). 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 TR-LF-07

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1	TE 1	TE010A-HLA	HLA Vessel Side CPT	270	720	K	3.31	0.74
2	TE 2	TE010B-HLA	HLA Vessel Side CPT	270	720	K	3.31	0.74
3	TE 3	TE010C-HLA	HLA Vessel Side CPT	270	720	K	3.31	0.74
4	TE 4	TE010D-HLA	HLA Vessel Side CPT	270	720	K	3.31	0.74
5	TE 5	TE010E-HLA	HLA Vessel Side CPT	270	720	K	3.31	0.74
6	TE 6	TE020C-HLA	HLA Fluid at Pipe Top	270	720	K	3.31	0.74
7	TE 7	TE020D-HLA	HLA Fluid at Pipe Bottom	270	720	K	3.31	0.74
8	TE 8	TE030C-HLA	HLA Fluid at Pipe Top	270	720	K	3.31	0.74
9	TE 9	TE030D-HLA	HLA Fluid at Pipe Bottom	270	720	K	3.31	0.74
10	TE 15	TE050C-LSA	LSA Fluid	270	720	K	3.31	0.74
11	TE 16	TE070C-CLA	CLA Fluid at Pipe Top	270	720	K	3.31	0.74
12	TE 17	TE070D-CLA	CLA Fluid at Pipe Bottom	270	720	K	3.31	0.74
13	TE 18	TE080C-CLA	CLA Fluid at Pipe Top	270	720	K	3.31	0.74
14	TE 19	TE080D-CLA	CLA Fluid at Pipe Bottom	270	720	K	3.31	0.74
15	TE 20	TE090A-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
16	TE 21	TE090B-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
17	TE 22	TE090C-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
18	TE 23	TE090D-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
19	TE 24	TE090E-CLA	CLA Vessel Side CPT	270	720	K	3.31	0.74
20	TE 25	TE100-HLA	HLA-CLA Average	270	720	K	3.31	0.74
21	TE 26	TE150A-HLB	HLB Vessel Side CPT	270	720	K	3.31	0.74
22	TE 27	TE150B-HLB	HLB Vessel Side CPT	270	720	K	3.31	0.74
23	TE 28	TE150C-HLB	HLB Vessel Side CPT	270	720	K	3.31	0.74
24	TE 29	TE150D-HLB	HLB Vessel Side CPT	270	720	K	3.31	0.74
25	TE 31	TE160C-HLB	HLB Fluid at Pipe Top	270	720	K	3.31	0.74
26	TE 32	TE160D-HLB	HLB Fluid at Pipe Bottom	270	720	K	3.31	0.74
27	TE 33	TE170C-HLB	HLB Fluid at Pipe Top	270	720	K	3.31	0.74
28	TE 34	TE170D-HLB	HLB Fluid at Pipe Bottom	270	720	K	3.31	0.74
29	TE 40	TE190C-LSB	LSB Fluid	270	720	K	3.31	0.74
30	TE 41	TE210C-CLB	CLB Fluid at Pipe Top	270	720	K	3.31	0.74
31	TE 42	TE210D-CLB	CLB Fluid at Pipe Bottom	270	720	K	3.31	0.74
32	TE 43	TE220C-CLB	CLB Fluid at Pipe Top	270	720	K	3.31	0.74
33	TE 44	TE220D-CLB	CLB Fluid at Pipe Bottom	270	720	K	3.31	0.74
34	TE 45	TE230A-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
35	TE 46	TE230B-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
36	TE 47	TE230C-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
37	TE 48	TE230D-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
38	TE 49	TE230E-CLB	CLB Vessel Side CPT	270	720	K	3.31	0.74
39	TE 50	TE240-HLB	HLB-CLB Average	270	720	K	3.31	0.74
40	TE 51	TE270G-PR	PR Spray Line	270	720	K	3.31	0.74
41	TE 52	TE280C-PR	PR Surge Line	270	720	K	3.31	0.74
42	TE 53	TE290-PR	PR Relief Valve	270	720	K	3.31	0.74
43	TE 55	TE430-SGA	SGA Feedwater Line	270	670	K	3.11	0.78
44	TE 56	TE440-SGA	SGA Main Steam Line	270	670	K	3.11	0.78
45	TE 57	TE450-SGA	SGA Relief Valve Line	270	670	K	3.11	0.78
46	TE 59	TE470-SGB	SGB Feedwater Line	270	670	K	3.11	0.78
47	TE 60	TE480-SGB	SGB Main Steam Line	270	670	K	3.11	0.78
48	TE 61	TE490-SGB	SGB Relief Valve Line	270	670	K	3.11	0.78
49	TE 63	TE510-SH	MSL Steam Header	270	670	K	3.11	0.78
50	TE 64	TE520-JC	JC Hot Water	270	670	K	3.11	0.78
51	TE 65	TE530-JC	PF Suction Line	270	670	K	3.11	0.78
52	TE 66	TE540-JC	JC Spray Water	270	670	K	3.11	0.78
53	TE 67	TE550-JC	JC Steam Vent Line	270	670	K	3.11	0.78
54	TE 68	TE431-SGA	SGA Downcomer A	270	670	K	3.11	0.78
55	TE 69	TE432-SGA	SGA Downcomer B	270	670	K	3.11	0.78
56	TE 70	TE433-SGA	SGA Downcomer C	270	670	K	3.11	0.78
57	TE 71	TE434-SGA	SGA Downcomer D	270	670	K	3.11	0.78
58	TE 72	TE471-SGB	SGB Downcomer A	270	670	K	3.11	0.78
59	TE 73	TE472-SGB	SGB Downcomer B	270	670	K	3.11	0.78
60	TE 74	TE473-SGB	SGB Downcomer C	270	670	K	3.11	0.78
61	TE 75	TE474-SGB	SGB Downcomer D	270	670	K	3.11	0.78
62	TE 84	TE600-ST	ST Inlet Line	270	470	K	2.30	1.15
63	TE 85	TE610-ST	ST Bottom Region	270	470	K	2.30	1.15
64	TE 86	TE620-ST	ST Middle Region	270	470	K	2.30	1.15
65	TE 87	TE630-ST	ST Top Region	270	470	K	2.30	1.15
66	TE 88	TE640-ST	ST Spray Line	270	470	K	2.30	1.15
67	TE 89	TE650-ACC	Cold Acc Tank Bottom	270	470	K	2.30	1.15
68	TE 90	TE660-ACC	Cold Acc Tank Top	270	470	K	2.30	1.15
69	TE 91	TE670-ACC	Cold Acc Line to CLA	270	470	K	2.30	1.15
70	TE 93	TE690-ACH	Hot Acc Tank Bottom	270	570	K	2.71	0.90
71	TE 94	TE700-ACH	Hot Acc Tank Top	270	570	K	2.71	0.90
72	TE 96	TE720-ACH	Hot Acc Line to CLB	270	570	K	2.71	0.90
73	TE 99	TE750-CLA	CLA ECGS Nozzle	270	670	K	3.11	0.78
74	TE 102	TE780-CLB	CLB ECGS Nozzle	270	670	K	3.11	0.78
75	TE 104	TE800-PV	PV Top ECGS Nozzle	270	670	K	3.11	0.78
76	TE 106	TE820-PL	RHR Inlet Region	270	670	K	3.11	0.78
77	TE 107	TE830-PL	RHR Outlet Region	270	670	K	3.11	0.78
78	TE 108	TE840-PL	RHR Injection Line	270	670	K	3.11	0.78
79	TE 112	TE880-RWST	RWST Tank Lower Region	270	370	K	1.90	1.90
80	TE 113	TE890-RWST	RWST Tank Middle Region	270	370	K	1.90	1.90
81	TE 115	TE-E066F-PV	Upper Head Bottom	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
82	TE 116	TE-W066F-PV	Upper Head Bottom	270	970	K	4.31	0.62
83	TE 117	TE-E075F-PV	Upper Head Middle	270	970	K	4.31	0.62
84	TE 118	TE-W075F-PV	Upper Head Middle	270	970	K	4.31	0.62
85	TE 119	TE-E081F-PV	Upper Head Top	270	970	K	4.31	0.62
86	TE 120	TE-W081F-PV	Upper Head Top	270	970	K	4.31	0.62
87	TE 121	TE-E080H-PV	CR Guide Tube Top	270	970	K	4.31	0.62
88	TE 122	TE-W080H-PV	CR Guide Tube Top	270	970	K	4.31	0.62
89	TE 123	TE-E049F-PV	Upper Plenum Bottom	270	970	K	4.31	0.62
90	TE 124	TE-W049F-PV	Upper Plenum Bottom	270	970	K	4.31	0.62
91	TE 125	TE-E055F-PV	Upper Plenum Middle	270	970	K	4.31	0.62
92	TE 126	TE-W055F-PV	Upper Plenum Middle	270	970	K	4.31	0.62
93	TE 127	TE-E060F-PV	Upper Plenum Top	270	970	K	4.31	0.62
94	TE 128	TE-W060F-PV	Upper Plenum Top	270	970	K	4.31	0.62
95	TE 129	TE-IN038-B09-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
96	TE 130	TE-IN038-B11-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
97	TE 131	TE-IN038-B01-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
98	TE 132	TE-IN038-B03-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
99	TE 133	TE-IN038-B05-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
100	TE 134	TE-IN038-B07-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
101	TE 135	TE-IN038-B21-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
102	TE 136	TE-IN038-B23-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
103	TE 137	TE-IN038-B02-UCP	Below Upper core Plate	270	970	K	4.31	0.62
104	TE 138	TE-IN038-B06-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
105	TE 139	TE-IN038-B14-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
106	TE 140	TE-IN038-B15-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
107	TE 141	TE-IN038-B18-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
108	TE 142	TE-IN038-B19-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
109	TE 143	TE-IN038-B10-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
110	TE 144	TE-IN038-B12-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
111	TE 145	TE-IN038-B04-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
112	TE 146	TE-IN038-B08-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
113	TE 147	TE-IN038-B22-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
114	TE 148	TE-IN038-B24-UCP	Below Upper Core Plate	270	970	K	4.31	0.62
115	TE 149	TE-EX040-B09-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
116	TE 150	TE-EX040-B11-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
117	TE 151	TE-EX040-B01-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
118	TE 152	TE-EX040-B03-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
119	TE 153	TE-EX040-B05-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
120	TE 154	TE-EX040-B07-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
121	TE 155	TE-EX040-B21-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
122	TE 156	TE-EX040-B23-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
123	TE 157	TE-EX040-B02-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
124	TE 158	TE-EX040-B06-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
125	TE 159	TE-EX040-B14-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
126	TE 160	TE-EX040-B15-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
127	TE 161	TE-EX040-B18-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
128	TE 162	TE-EX040-B19-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
129	TE 163	TE-EX040-B10-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
130	TE 164	TE-EX040-B12-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
131	TE 165	TE-EX040-B04-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
132	TE 166	TE-EX040-B08-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
133	TE 167	TE-EX040-B22-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
134	TE 168	TE-EX040-B24-UCP	Above Upper Core Plate	270	970	K	4.31	0.62
135	TE 169	TE-IN-002B02-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
136	TE 170	TE-IN-002B03-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
137	TE 171	TE-IN-002B06-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
138	TE 172	TE-IN-002B07-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
139	TE 173	TE-IN-002B09-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
140	TE 174	TE-IN-002B11-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
141	TE 175	TE-IN-002B14-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
142	TE 176	TE-IN-002B16-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
143	TE 177	TE-IN-002B18-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
144	TE 178	TE-IN-002B20-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
145	TE 179	TE-IN-002B21-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
146	TE 180	TE-IN-002B23-LCPP	Below Lower Core Plate	270	720	K	3.31	0.74
147	TE 181	TE-EX-000B02-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
148	TE 182	TE-EX-000B03-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
149	TE 183	TE-EX-000B06-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
150	TE 184	TE-EX-000B07-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
151	TE 185	TE-EX-000B09-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
152	TE 186	TE-EX-000B11-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
153	TE 187	TE-EX-000B14-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
154	TE 188	TE-EX-000B16-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
155	TE 189	TE-EX-000B18-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
156	TE 190	TE-EX-000B20-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
157	TE 191	TE-EX-000B21-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
158	TE 192	TE-EX-000B23-LCPP	Above Lower Core Plate	270	720	K	3.31	0.74
159	TE 193	TE-N000C-DC	Downcomer EL. 0.0m, North	270	720	K	3.31	0.74
160	TE 194	TE-S000C-DC	Downcomer EL. 0.0m, South	270	720	K	3.31	0.74
161	TE 195	TE-E000C-DC	Downcomer EL. 0.0m, East	270	720	K	3.31	0.74
162	TE 196	TE-W000C-DC	Downcomer EL. 0.0m, 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
163	TE 197	TE-N018C-DC	Downcomer EL. 1. 8m, North	270	720	K	3. 31	0. 74
164	TE 198	TE-S018C-DC	Downcomer EL. 1. 8m, South	270	720	K	3. 31	0. 74
165	TE 199	TE-E018C-DC	Downcomer EL. 1. 8m, East	270	720	K	3. 31	0. 74
166	TE 200	TE-W018C-DC	Downcomer EL. 1. 8m, West	270	720	K	3. 31	0. 74
167	TE 201	TE-N036C-DC	Downcomer EL. 3. 6m, North	270	720	K	3. 31	0. 74
168	TE 202	TE-S036C-DC	Downcomer EL. 3. 6m, South	270	720	K	3. 31	0. 74
169	TE 203	TE-E036C-DC	Downcomer EL. 3. 6m, East	270	720	K	3. 31	0. 74
170	TE 204	TE-W036C-DC	Downcomer EL. 3. 6m, West	270	720	K	3. 31	0. 74
171	TE 205	TE-N060C-DC	Downcomer EL. 6. 0m, North	270	720	K	3. 31	0. 74
172	TE 206	TE-S060C-DC	Downcomer EL. 6. 0m, South	270	720	K	3. 31	0. 74
173	TE 207	TE-E060C-DC	Downcomer EL. 6. 0m, East	270	720	K	3. 31	0. 74
174	TE 208	TE-W060C-DC	Downcomer EL. 6. 0m, West	270	720	K	3. 31	0. 74
175	TE 209	TE-N055C-DC	Downcomer EL. 5. 5m, North	270	720	K	3. 31	0. 74
176	TE 210	TE-S055C-DC	Downcomer EL. 5. 5m, South	270	720	K	3. 31	0. 74
177	TE 211	TE-C-021-LP	Lower Plenum EL. -2. 1m, C	270	720	K	3. 31	0. 74
178	TE 212	TE-C-018-LP	Lower Plenum EL. -1. 8m, C	270	720	K	3. 31	0. 74
179	TE 213	TE-C-015-LP	Lower Plenum EL. -1. 5m, C	270	720	K	3. 31	0. 74
180	TE 214	TE-C-012-LP	Lower Plenum EL. -1. 2m, C	270	720	K	3. 31	0. 74
181	TE 215	TE-C-009-LP	Lower Plenum EL. -0. 9m, C	270	720	K	3. 31	0. 74
182	TE 216	TE-C-006-LP	Lower Plenum EL. -0. 6m, C	270	720	K	3. 31	0. 74
183	TE 217	TE-C-005-LP	Lower Plenum EL. -0. 5m, C	270	720	K	3. 31	0. 74
184	TE 218	TE-C-003-LP	Lower Plenum EL. -0. 3m, C	270	720	K	3. 31	0. 74
185	TE 219	TE-B18621	B18 Rod (6, 2) Pos. 1, Fluid	270	970	K	4. 31	0. 62
186	TE 220	TE-B18622	B18 Rod (6, 2) Pos. 2, Fluid	270	970	K	4. 31	0. 62
187	TE 221	TE-B18623	B18 Rod (6, 2) Pos. 3, Fluid	270	970	K	4. 31	0. 62
188	TE 222	TE-B18624	B18 Rod (6, 2) Pos. 4, Fluid	270	970	K	4. 31	0. 62
189	TE 223	TE-B18625	B18 Rod (6, 2) Pos. 5, Fluid	270	970	K	4. 31	0. 62
190	TE 224	TE-B18626	B18 Rod (6, 2) Pos. 6, Fluid	270	970	K	4. 31	0. 62
191	TE 225	TE-B18627	B18 Rod (6, 2) Pos. 7, Fluid	270	970	K	4. 31	0. 62
192	TE 226	TE-B18628	B18 Rod (6, 2) Pos. 8, Fluid	270	970	K	4. 31	0. 62
193	TE 227	TE-B18629	B18 Rod (6, 2) Pos. 9, Fluid	270	970	K	4. 31	0. 62
194	TE 234	TE-B14262	B14 Rod (2, 6) Pos. 2, Fluid	270	970	K	4. 31	0. 62
195	TE 235	TE-B14264	B14 Rod (2, 6) Pos. 4, Fluid	270	970	K	4. 31	0. 62
196	TE 236	TE-B14268	B14 Rod (2, 6) Pos. 8, Fluid	270	970	K	4. 31	0. 62
197	TE 255	TE-B09661	B09 Rod (6, 6) Pos. 1, Fluid	270	970	K	4. 31	0. 62
198	TE 256	TE-B09663	B09 Rod (6, 6) Pos. 3, Fluid	270	970	K	4. 31	0. 62
199	TE 257	TE-B09665	B09 Rod (6, 6) Pos. 5, Fluid	270	970	K	4. 31	0. 62
200	TE 258	TE-B09666	B09 Rod (6, 6) Pos. 6, Fluid	270	970	K	4. 31	0. 62
201	TE 259	TE-B09667	B09 Rod (6, 6) Pos. 7, Fluid	270	970	K	4. 31	0. 62
202	TE 260	TE-B09669	B09 Rod (6, 6) Pos. 9, Fluid	270	970	K	4. 31	0. 62
203	TE 273	TE-B14261	B14 Rod (2, 6) Pos. 1, Fluid	270	970	K	4. 31	0. 62
204	TE 274	TE-B14263	B14 Rod (2, 6) Pos. 3, Fluid	270	970	K	4. 31	0. 62
205	TE 275	TE-B14265	B14 Rod (2, 6) Pos. 5, Fluid	270	970	K	4. 31	0. 62
206	TE 276	TE-B14266	B14 Rod (2, 6) Pos. 6, Fluid	270	970	K	4. 31	0. 62
207	TE 277	TE-B14267	B14 Rod (2, 6) Pos. 7, Fluid	270	970	K	4. 31	0. 62
208	TE 278	TE-B14269	B14 Rod (2, 6) Pos. 9, Fluid	270	970	K	4. 31	0. 62
209	TE 279	TE-B15261	B15 Rod (2, 6) Pos. 1, Fluid	270	970	K	4. 31	0. 62
210	TE 280	TE-B15263	B15 Rod (2, 6) Pos. 3, Fluid	270	970	K	4. 31	0. 62
211	TE 281	TE-B15265	B15 Rod (2, 6) Pos. 5, Fluid	270	970	K	4. 31	0. 62
212	TE 282	TE-B15266	B15 Rod (2, 6) Pos. 6, Fluid	270	970	K	4. 31	0. 62
213	TE 283	TE-B15267	B15 Rod (2, 6) Pos. 7, Fluid	270	970	K	4. 31	0. 62
214	TE 284	TE-B15269	B15 Rod (2, 6) Pos. 9, Fluid	270	970	K	4. 31	0. 62
215	TE 291	TE-B15262	B15 Rod (2, 6) Pos. 2, Fluid	270	970	K	4. 31	0. 62
216	TE 292	TE-B15264	B15 Rod (2, 6) Pos. 4, Fluid	270	970	K	4. 31	0. 62
217	TE 293	TE-B15268	B15 Rod (2, 6) Pos. 8, Fluid	270	970	K	4. 31	0. 62
218	TE 294	TE-B23221	B23 Rod (2, 2) Pos. 1, Fluid	270	970	K	4. 31	0. 62
219	TE 295	TE-B23223	B23 Rod (2, 2) Pos. 3, Fluid	270	970	K	4. 31	0. 62
220	TE 296	TE-B23225	B23 Rod (2, 2) Pos. 5, Fluid	270	970	K	4. 31	0. 62
221	TE 297	TE-B23226	B23 Rod (2, 2) Pos. 6, Fluid	270	970	K	4. 31	0. 62
222	TE 298	TE-B23227	B23 Rod (2, 2) Pos. 7, Fluid	270	970	K	4. 31	0. 62
223	TE 299	TE-B23229	B23 Rod (2, 2) Pos. 9, Fluid	270	970	K	4. 31	0. 62
224	TE 300	TE-B20661	B20 Rod (6, 6) Pos. 1, Fluid	270	970	K	4. 31	0. 62
225	TE 301	TE-B20662	B20 Rod (6, 6) Pos. 2, Fluid	270	970	K	4. 31	0. 62
226	TE 302	TE-B20663	B20 Rod (6, 6) Pos. 3, Fluid	270	970	K	4. 31	0. 62
227	TE 303	TE-B20664	B20 Rod (6, 6) Pos. 4, Fluid	270	970	K	4. 31	0. 62
228	TE 304	TE-B20665	B20 Rod (6, 6) Pos. 5, Fluid	270	970	K	4. 31	0. 62
229	TE 305	TE-B20666	B20 Rod (6, 6) Pos. 6, Fluid	270	970	K	4. 31	0. 62
230	TE 306	TE-B20667	B20 Rod (6, 6) Pos. 7, Fluid	270	970	K	4. 31	0. 62
231	TE 307	TE-B20668	B20 Rod (6, 6) Pos. 8, Fluid	270	970	K	4. 31	0. 62
232	TE 308	TE-B20669	B20 Rod (6, 6) Pos. 9, Fluid	270	970	K	4. 31	0. 62
233	TE 309	TE-B22661	B22 Rod (6, 6) Pos. 1, Fluid	270	970	K	4. 31	0. 62
234	TE 310	TE-B22662	B22 Rod (6, 6) Pos. 2, Fluid	270	970	K	4. 31	0. 62
235	TE 311	TE-B22663	B22 Rod (6, 6) Pos. 3, Fluid	270	970	K	4. 31	0. 62
236	TE 312	TE-B22664	B22 Rod (6, 6) Pos. 4, Fluid	270	970	K	4. 31	0. 62
237	TE 313	TE-B22665	B22 Rod (6, 6) Pos. 5, Fluid	270	970	K	4. 31	0. 62
238	TE 314	TE-B22666	B22 Rod (6, 6) Pos. 6, Fluid	270	970	K	4. 31	0. 62
239	TE 315	TE-B22667	B22 Rod (6, 6) Pos. 7, Fluid	270	970	K	4. 31	0. 62
240	TE 316	TE-B22668	B22 Rod (6, 6) Pos. 8, Fluid	270	970	K	4. 31	0. 62
241	TE 317	TE-B22669	B22 Rod (6, 6) Pos. 9, Fluid	270	970	K	4. 31	0. 62
242	TE 318	TE-B24621	B24 Rod (6, 2) Pos. 1, Fluid	270	970	K	4. 31	0. 62
243	TE 319	TE-B24623	B24 Rod (6, 2) Pos. 3, Fluid	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
244	TE 320	TE-B24625	B24 Rod(6, 2) Pos. 5, Fluid	270	970	K	4.31	0.62
245	TE 321	TE-B24626	B24 Rod(6, 2) Pos. 6, Fluid	270	970	K	4.31	0.62
246	TE 322	TE-B24627	B24 Rod(6, 2) Pos. 7, Fluid	270	970	K	4.31	0.62
247	TE 323	TE-B24629	B24 Rod(6, 2) Pos. 9, Fluid	270	970	K	4.31	0.62
248	TE 324	TE-IN0641-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
249	TE 325	TE-IN0642-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
250	TE 326	TE-IN0643-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
251	TE 330	TE-IN0861-SGA	SGA U-Tube(1, IN) Pos. 1	270	720	K	3.31	0.74
252	TE 331	TE-IN0862-SGA	SGA U-Tube(2, IN) Pos. 1	270	720	K	3.31	0.74
253	TE 332	TE-IN0863-SGA	SGA U-Tube(3, IN) Pos. 1	270	720	K	3.31	0.74
254	TE 333	TE-IN0864-SGA	SGA U-Tube(4, IN) Pos. 1	270	720	K	3.31	0.74
255	TE 334	TE-IN0865-SGA	SGA U-Tube(5, IN) Pos. 1	270	720	K	3.31	0.74
256	TE 335	TE-IN0866-SGA	SGA U-Tube(6, IN) Pos. 1	270	720	K	3.31	0.74
257	TE 336	TE-EX0861-SGA	SGA U-Tube(1, EX) Pos. 1	270	720	K	3.31	0.74
258	TE 337	TE-EX0862-SGA	SGA U-Tube(2, EX) Pos. 1	270	720	K	3.31	0.74
259	TE 338	TE-EX0863-SGA	SGA U-Tube(3, EX) Pos. 1	270	720	K	3.31	0.74
260	TE 339	TE-EX0864-SGA	SGA U-Tube(4, EX) Pos. 1	270	720	K	3.31	0.74
261	TE 340	TE-EX0865-SGA	SGA U-Tube(5, EX) Pos. 1	270	720	K	3.31	0.74
262	TE 341	TE-EX0866-SGA	SGA U-Tube(6, EX) Pos. 1	270	720	K	3.31	0.74
263	TE 342	TE-IN0931-SGA	SGA U-Tube(1, IN) Pos. 2	270	720	K	3.31	0.74
264	TE 343	TE-IN0932-SGA	SGA U-Tube(2, IN) Pos. 2	270	720	K	3.31	0.74
265	TE 344	TE-IN0933-SGA	SGA U-Tube(3, IN) Pos. 2	270	720	K	3.31	0.74
266	TE 345	TE-IN0934-SGA	SGA U-Tube(4, IN) Pos. 2	270	720	K	3.31	0.74
267	TE 346	TE-IN0935-SGA	SGA U-Tube(5, IN) Pos. 2	270	720	K	3.31	0.74
268	TE 347	TE-IN0936-SGA	SGA U-Tube(6, IN) Pos. 2	270	720	K	3.31	0.74
269	TE 348	TE-IN0991-SGA	SGA U-Tube(1, IN) Pos. 3	270	720	K	3.31	0.74
270	TE 349	TE-EX0991-SGA	SGA U-Tube(1, EX) Pos. 3	270	720	K	3.31	0.74
271	TE 350	TE-IN0992-SGA	SGA U-Tube(2, IN) Pos. 3	270	720	K	3.31	0.74
272	TE 351	TE-EX0992-SGA	SGA U-Tube(2, EX) Pos. 3	270	720	K	3.31	0.74
273	TE 352	TE-IN0993-SGA	SGA U-Tube(3, IN) Pos. 3	270	720	K	3.31	0.74
274	TE 353	TE-EX0993-SGA	SGA U-Tube(3, EX) Pos. 3	270	720	K	3.31	0.74
275	TE 354	TE-IN0994-SGA	SGA U-Tube(4, IN) Pos. 3	270	720	K	3.31	0.74
276	TE 355	TE-EX0994-SGA	SGA U-Tube(4, EX) Pos. 3	270	720	K	3.31	0.74
277	TE 356	TE-IN0995-SGA	SGA U-Tube(5, IN) Pos. 3	270	720	K	3.31	0.74
278	TE 357	TE-EX0995-SGA	SGA U-Tube(5, EX) Pos. 3	270	720	K	3.31	0.74
279	TE 358	TE-IN0996-SGA	SGA U-Tube(6, IN) Pos. 3	270	720	K	3.31	0.74
280	TE 359	TE-EX0996-SGA	SGA U-Tube(6, EX) Pos. 3	270	720	K	3.31	0.74
281	TE 360	TE-IN1051-SGA	SGA U-Tube(1, IN) Pos. 4	270	720	K	3.31	0.74
282	TE 361	TE-IN1052-SGA	SGA U-Tube(2, IN) Pos. 4	270	720	K	3.31	0.74
283	TE 362	TE-IN1053-SGA	SGA U-Tube(3, IN) Pos. 4	270	720	K	3.31	0.74
284	TE 363	TE-IN1054-SGA	SGA U-Tube(4, IN) Pos. 4	270	720	K	3.31	0.74
285	TE 364	TE-IN1055-SGA	SGA U-Tube(5, IN) Pos. 4	270	720	K	3.31	0.74
286	TE 365	TE-IN1056-SGA	SGA U-Tube(6, IN) Pos. 4	270	720	K	3.31	0.74
287	TE 366	TE-IN1121-SGA	SGA U-Tube(1, IN) Pos. 5	270	720	K	3.31	0.74
288	TE 367	TE-EX1121-SGA	SGA U-Tube(1, EX) Pos. 5	270	720	K	3.31	0.74
289	TE 368	TE-IN1122-SGA	SGA U-Tube(2, IN) Pos. 5	270	720	K	3.31	0.74
290	TE 369	TE-EX1122-SGA	SGA U-Tube(2, EX) Pos. 5	270	720	K	3.31	0.74
291	TE 370	TE-IN1123-SGA	SGA U-Tube(3, IN) Pos. 5	270	720	K	3.31	0.74
292	TE 371	TE-EX1123-SGA	SGA U-Tube(3, EX) Pos. 5	270	720	K	3.31	0.74
293	TE 372	TE-IN1124-SGA	SGA U-Tube(4, IN) Pos. 5	270	720	K	3.31	0.74
294	TE 373	TE-EX1124-SGA	SGA U-Tube(4, EX) Pos. 5	270	720	K	3.31	0.74
295	TE 374	TE-IN1125-SGA	SGA U-Tube(5, IN) Pos. 5	270	720	K	3.31	0.74
296	TE 375	TE-EX1125-SGA	SGA U-Tube(5, EX) Pos. 5	270	720	K	3.31	0.74
297	TE 376	TE-IN1126-SGA	SGA U-Tube(6, IN) Pos. 5	270	720	K	3.31	0.74
298	TE 377	TE-EX1126-SGA	SGA U-Tube(6, EX) Pos. 5	270	720	K	3.31	0.74
299	TE 378	TE-IN1251-SGA	SGA U-Tube(1, IN) Pos. 6	270	720	K	3.31	0.74
300	TE 379	TE-EX1251-SGA	SGA U-Tube(1, EX) Pos. 6	270	720	K	3.31	0.74
301	TE 380	TE-IN1252-SGA	SGA U-Tube(2, IN) Pos. 6	270	720	K	3.31	0.74
302	TE 381	TE-EX1252-SGA	SGA U-Tube(2, EX) Pos. 6	270	720	K	3.31	0.74
303	TE 382	TE-IN1253-SGA	SGA U-Tube(3, IN) Pos. 6	270	720	K	3.31	0.74
304	TE 383	TE-EX1253-SGA	SGA U-Tube(3, EX) Pos. 6	270	720	K	3.31	0.74
305	TE 384	TE-IN1254-SGA	SGA U-Tube(4, IN) Pos. 6	270	720	K	3.31	0.74
306	TE 385	TE-EX1254-SGA	SGA U-Tube(4, EX) Pos. 6	270	720	K	3.31	0.74
307	TE 386	TE-IN1255-SGA	SGA U-Tube(5, IN) Pos. 6	270	720	K	3.31	0.74
308	TE 387	TE-EX1255-SGA	SGA U-Tube(5, EX) Pos. 6	270	720	K	3.31	0.74
309	TE 388	TE-IN1256-SGA	SGA U-Tube(6, IN) Pos. 6	270	720	K	3.31	0.74
310	TE 389	TE-EX1256-SGA	SGA U-Tube(6, EX) Pos. 6	270	720	K	3.31	0.74
311	TE 390	TE-IN1371-SGA	SGA U-Tube(1, IN) Pos. 7	270	720	K	3.31	0.74
312	TE 391	TE-EX1371-SGA	SGA U-Tube(1, EX) Pos. 7	270	720	K	3.31	0.74
313	TE 392	TE-IN1372-SGA	SGA U-Tube(2, IN) Pos. 7	270	720	K	3.31	0.74
314	TE 393	TE-EX1372-SGA	SGA U-Tube(2, EX) Pos. 7	270	720	K	3.31	0.74
315	TE 394	TE-IN1373-SGA	SGA U-Tube(3, IN) Pos. 7	270	720	K	3.31	0.74
316	TE 395	TE-EX1373-SGA	SGA U-Tube(3, EX) Pos. 7	270	720	K	3.31	0.74
317	TE 396	TE-IN1374-SGA	SGA U-Tube(4, IN) Pos. 7	270	720	K	3.31	0.74
318	TE 397	TE-EX1374-SGA	SGA U-Tube(4, EX) Pos. 7	270	720	K	3.31	0.74
319	TE 398	TE-IN1375-SGA	SGA U-Tube(5, IN) Pos. 7	270	720	K	3.31	0.74
320	TE 399	TE-EX1375-SGA	SGA U-Tube(5, EX) Pos. 7	270	720	K	3.31	0.74
321	TE 400	TE-IN1376-SGA	SGA U-Tube(6, IN) Pos. 7	270	720	K	3.31	0.74
322	TE 401	TE-EX1376-SGA	SGA U-Tube(6, EX) Pos. 7	270	720	K	3.31	0.74
323	TE 402	TE-IN1501-SGA	SGA U-Tube(1, IN) Pos. 8	270	720	K	3.31	0.74
324	TE 403	TE-EX1501-SGA	SGA U-Tube(1, EX) Pos. 8	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
325	TE 404	TE-IN1502-SGA	SGA U-Tube (2, IN) Pos. 8	270	720	K	3.31	0.74
326	TE 405	TE-EX1502-SGA	SGA U-Tube (2, EX) Pos. 8	270	720	K	3.31	0.74
327	TE 406	TE-IN1503-SGA	SGA U-Tube (3, IN) Pos. 8	270	720	K	3.31	0.74
328	TE 407	TE-EX1503-SGA	SGA U-Tube (3, EX) Pos. 8	270	720	K	3.31	0.74
329	TE 408	TE-IN1504-SGA	SGA U-Tube (4, IN) Pos. 8	270	720	K	3.31	0.74
330	TE 409	TE-EX1504-SGA	SGA U-Tube (4, EX) Pos. 8	270	720	K	3.31	0.74
331	TE 410	TE-IN1505-SGA	SGA U-Tube (5, IN) Pos. 8	270	720	K	3.31	0.74
332	TE 412	TE-IN1506-SGA	SGA U-Tube (6, IN) Pos. 8	270	720	K	3.31	0.74
333	TE 413	TE-EX1506-SGA	SGA U-Tube (6, EX) Pos. 8	270	720	K	3.31	0.74
334	TE 414	TE-IN1632-SGA	SGA U-Tube (2, IN) Pos. 9	270	720	K	3.31	0.74
335	TE 415	TE-EX1632-SGA	SGA U-Tube (2, EX) Pos. 9	270	720	K	3.31	0.74
336	TE 416	TE-IN1633-SGA	SGA U-Tube (3, IN) Pos. 9	270	720	K	3.31	0.74
337	TE 417	TE-EX1633-SGA	SGA U-Tube (3, EX) Pos. 9	270	720	K	3.31	0.74
338	TE 418	TE-IN1634-SGA	SGA U-Tube (4, IN) Pos. 9	270	720	K	3.31	0.74
339	TE 419	TE-EX1634-SGA	SGA U-Tube (4, EX) Pos. 9	270	720	K	3.31	0.74
340	TE 420	TE-IN1635-SGA	SGA U-Tube (5, IN) Pos. 9	270	720	K	3.31	0.74
341	TE 421	TE-EX1635-SGA	SGA U-Tube (5, EX) Pos. 9	270	720	K	3.31	0.74
342	TE 422	TE-IN1701-SGA	SGA U-Tube (1, IN) Pos. 10	270	720	K	3.31	0.74
343	TE 423	TE-IN1706-SGA	SGA U-Tube (6, IN) Pos. 10	270	720	K	3.31	0.74
344	TE 424	TE-IN1782-SGA	SGA U-Tube (2, IN) Pos. 10	270	720	K	3.31	0.74
345	TE 425	TE-IN1785-SGA	SGA U-Tube (5, IN) Pos. 10	270	720	K	3.31	0.74
346	TE 426	TE-IN1863-SGA	SGA U-Tube (3, IN) Pos. 11	270	720	K	3.31	0.74
347	TE 427	TE-IN1864-SGA	SGA U-Tube (4, IN) Pos. 11	270	720	K	3.31	0.74
348	TE 428	TE-223D-SGA	SGA Steam Dome	270	670	K	3.11	0.78
349	TE 429	TE-086C-SGA	SGA Boiling Section Pos. 1	270	670	K	3.11	0.78
350	TE 430	TE-099C-SGA	SGA Boiling Section Pos. 3	270	670	K	3.11	0.78
351	TE 431	TE-112C-SGA	SGA Boiling Section Pos. 5	270	670	K	3.11	0.78
352	TE 432	TE-125C-SGA	SGA Boiling Section Pos. 6	270	670	K	3.11	0.78
353	TE 433	TE-137C-SGA	SGA Boiling Section Pos. 7	270	670	K	3.11	0.78
354	TE 434	TE-150C-SGA	SGA Boiling Section Pos. 8	270	670	K	3.11	0.78
355	TE 435	TE-163C-SGA	SGA Boiling Section Pos. 9	270	670	K	3.11	0.78
356	TE 436	TE-178C-SGA	SGA Boiling Section Pos. 10	270	670	K	3.11	0.78
357	TE 437	TE-192F-SGA	SGA Boiling Section	270	670	K	3.11	0.78
358	TE 438	TE-208F-SGA	SGA Separator	270	670	K	3.11	0.78
359	TE 439	TE-192C-SGA	SGA Downcomer	270	670	K	3.11	0.78
360	TE 440	TE-208C-SGA	SGA Downcomer	270	670	K	3.11	0.78
361	TE 441	TE-223C-SGA	SGA Steam Dome	270	670	K	3.11	0.78
362	TE 442	TE-245C-SGA	SGA Steam Dome	270	670	K	3.11	0.78
363	TE 443	TE-IN0641-SGB	SGB Inlet Plenum	270	720	K	3.31	0.74
364	TE 444	TE-IN0642-SGB	SGB Inlet Plenum	270	720	K	3.31	0.74
365	TE 445	TE-IN0643-SGB	SGB Inlet Plenum	270	720	K	3.31	0.74
366	TE 449	TE-IN0861-SGB	SGB U-Tube (1, IN) Pos. 1	270	720	K	3.31	0.74
367	TE 450	TE-IN0862-SGB	SGB U-Tube (2, IN) Pos. 1	270	720	K	3.31	0.74
368	TE 451	TE-IN0863-SGB	SGB U-Tube (3, IN) Pos. 1	270	720	K	3.31	0.74
369	TE 452	TE-IN0864-SGB	SGB U-Tube (4, IN) Pos. 1	270	720	K	3.31	0.74
370	TE 453	TE-IN0865-SGB	SGB U-Tube (5, IN) Pos. 1	270	720	K	3.31	0.74
371	TE 454	TE-IN0866-SGB	SGB U-Tube (6, IN) Pos. 1	270	720	K	3.31	0.74
372	TE 455	TE-EX0861-SGB	SGB U-Tube (1, EX) Pos. 1	270	720	K	3.31	0.74
373	TE 456	TE-EX0862-SGB	SGB U-Tube (2, EX) Pos. 1	270	720	K	3.31	0.74
374	TE 457	TE-EX0863-SGB	SGB U-Tube (3, EX) Pos. 1	270	720	K	3.31	0.74
375	TE 458	TE-EX0864-SGB	SGB U-Tube (4, EX) Pos. 1	270	720	K	3.31	0.74
376	TE 459	TE-EX0865-SGB	SGB U-Tube (5, EX) Pos. 1	270	720	K	3.31	0.74
377	TE 460	TE-EX0866-SGB	SGB U-Tube (6, EX) Pos. 1	270	720	K	3.31	0.74
378	TE 461	TE-IN0931-SGB	SGB U-Tube (1, IN) Pos. 2	270	720	K	3.31	0.74
379	TE 462	TE-IN0932-SGB	SGB U-Tube (2, IN) Pos. 2	270	720	K	3.31	0.74
380	TE 463	TE-IN0933-SGB	SGB U-Tube (3, IN) Pos. 2	270	720	K	3.31	0.74
381	TE 464	TE-IN0934-SGB	SGB U-Tube (4, IN) Pos. 2	270	720	K	3.31	0.74
382	TE 465	TE-IN0935-SGB	SGB U-Tube (5, IN) Pos. 2	270	720	K	3.31	0.74
383	TE 466	TE-IN0936-SGB	SGB U-Tube (6, IN) Pos. 2	270	720	K	3.31	0.74
384	TE 467	TE-IN0991-SGB	SGB U-Tube (1, IN) Pos. 3	270	720	K	3.31	0.74
385	TE 468	TE-EX0991-SGB	SGB U-Tube (1, EX) Pos. 3	270	720	K	3.31	0.74
386	TE 469	TE-IN0992-SGB	SGB U-Tube (2, IN) Pos. 3	270	720	K	3.31	0.74
387	TE 470	TE-EX0992-SGB	SGB U-Tube (2, EX) Pos. 3	270	720	K	3.31	0.74
388	TE 471	TE-IN0993-SGB	SGB U-Tube (3, IN) Pos. 3	270	720	K	3.31	0.74
389	TE 472	TE-EX0993-SGB	SGB U-Tube (3, EX) Pos. 3	270	720	K	3.31	0.74
390	TE 473	TE-IN0994-SGB	SGB U-Tube (4, IN) Pos. 3	270	720	K	3.31	0.74
391	TE 474	TE-EX0994-SGB	SGB U-Tube (4, EX) Pos. 3	270	720	K	3.31	0.74
392	TE 475	TE-IN0995-SGB	SGB U-Tube (5, IN) Pos. 3	270	720	K	3.31	0.74
393	TE 476	TE-EX0995-SGB	SGB U-Tube (5, EX) Pos. 3	270	720	K	3.31	0.74
394	TE 477	TE-IN0996-SGB	SGB U-Tube (6, IN) Pos. 3	270	720	K	3.31	0.74
395	TE 478	TE-EX0996-SGB	SGB U-Tube (6, EX) Pos. 3	270	720	K	3.31	0.74
396	TE 479	TE-IN1051-SGB	SGB U-Tube (1, IN) Pos. 4	270	720	K	3.31	0.74
397	TE 480	TE-IN1052-SGB	SGB U-Tube (2, IN) Pos. 4	270	720	K	3.31	0.74
398	TE 482	TE-IN1054-SGB	SGB U-Tube (4, IN) Pos. 4	270	720	K	3.31	0.74
399	TE 483	TE-IN1055-SGB	SGB U-Tube (5, IN) Pos. 4	270	720	K	3.31	0.74
400	TE 484	TE-IN1056-SGB	SGB U-Tube (6, IN) Pos. 4	270	720	K	3.31	0.74
401	TE 485	TE-IN1121-SGB	SGB U-Tube (1, IN) Pos. 5	270	720	K	3.31	0.74
402	TE 486	TE-EX1121-SGB	SGB U-Tube (1, EX) Pos. 5	270	720	K	3.31	0.74
403	TE 487	TE-IN1122-SGB	SGB U-Tube (2, IN) Pos. 5	270	720	K	3.31	0.74
404	TE 488	TE-EX1122-SGB	SGB U-Tube (2, EX) Pos. 5	270	720	K	3.31	0.74
405	TE 489	TE-IN1123-SGB	SGB U-Tube (3, IN) Pos. 5	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
406	TE 490	TE-EX1123-SGB	SGB U-Tube (3, EX) Pos. 5	270	720	K	3.31	0.74
407	TE 491	TE-IN1124-SGB	SGB U-Tube (4, IN) Pos. 5	270	720	K	3.31	0.74
408	TE 492	TE-EX1124-SGB	SGB U-Tube (4, EX) Pos. 5	270	720	K	3.31	0.74
409	TE 493	TE-IN1125-SGB	SGB U-Tube (5, IN) Pos. 5	270	720	K	3.31	0.74
410	TE 494	TE-EX1125-SGB	SGB U-Tube (5, EX) Pos. 5	270	720	K	3.31	0.74
411	TE 495	TE-IN1126-SGB	SGB U-Tube (6, IN) Pos. 5	270	720	K	3.31	0.74
412	TE 496	TE-EX1126-SGB	SGB U-Tube (6, EX) Pos. 5	270	720	K	3.31	0.74
413	TE 497	TE-IN1251-SGB	SGB U-Tube (1, IN) Pos. 6	270	720	K	3.31	0.74
414	TE 498	TE-EX1251-SGB	SGB U-Tube (1, EX) Pos. 6	270	720	K	3.31	0.74
415	TE 499	TE-IN1252-SGB	SGB U-Tube (2, IN) Pos. 6	270	720	K	3.31	0.74
416	TE 500	TE-EX1252-SGB	SGB U-Tube (2, EX) Pos. 6	270	720	K	3.31	0.74
417	TE 501	TE-IN1253-SGB	SGB U-Tube (3, IN) Pos. 6	270	720	K	3.31	0.74
418	TE 502	TE-EX1253-SGB	SGB U-Tube (3, EX) Pos. 6	270	720	K	3.31	0.74
419	TE 503	TE-IN1254-SGB	SGB U-Tube (4, IN) Pos. 6	270	720	K	3.31	0.74
420	TE 504	TE-EX1254-SGB	SGB U-Tube (4, EX) Pos. 6	270	720	K	3.31	0.74
421	TE 505	TE-IN1255-SGB	SGB U-Tube (5, IN) Pos. 6	270	720	K	3.31	0.74
422	TE 506	TE-EX1255-SGB	SGB U-Tube (5, EX) Pos. 6	270	720	K	3.31	0.74
423	TE 507	TE-IN1256-SGB	SGB U-Tube (6, IN) Pos. 6	270	720	K	3.31	0.74
424	TE 508	TE-EX1256-SGB	SGB U-Tube (6, EX) Pos. 6	270	720	K	3.31	0.74
425	TE 509	TE-IN1371-SGB	SGB U-Tube (1, IN) Pos. 7	270	720	K	3.31	0.74
426	TE 510	TE-EX1371-SGB	SGB U-Tube (1, EX) Pos. 7	270	720	K	3.31	0.74
427	TE 511	TE-IN1372-SGB	SGB U-Tube (2, IN) Pos. 7	270	720	K	3.31	0.74
428	TE 512	TE-EX1372-SGB	SGB U-Tube (2, EX) Pos. 7	270	720	K	3.31	0.74
429	TE 513	TE-IN1373-SGB	SGB U-Tube (3, IN) Pos. 7	270	720	K	3.31	0.74
430	TE 514	TE-EX1373-SGB	SGB U-Tube (3, EX) Pos. 7	270	720	K	3.31	0.74
431	TE 515	TE-IN1374-SGB	SGB U-Tube (4, IN) Pos. 7	270	720	K	3.31	0.74
432	TE 516	TE-EX1374-SGB	SGB U-Tube (4, EX) Pos. 7	270	720	K	3.31	0.74
433	TE 517	TE-IN1375-SGB	SGB U-Tube (5, IN) Pos. 7	270	720	K	3.31	0.74
434	TE 518	TE-EX1375-SGB	SGB U-Tube (5, EX) Pos. 7	270	720	K	3.31	0.74
435	TE 519	TE-IN1376-SGB	SGB U-Tube (6, IN) Pos. 7	270	720	K	3.31	0.74
436	TE 520	TE-EX1376-SGB	SGB U-Tube (6, EX) Pos. 7	270	720	K	3.31	0.74
437	TE 521	TE-IN1501-SGB	SGB U-Tube (1, IN) Pos. 8	270	720	K	3.31	0.74
438	TE 522	TE-EX1501-SGB	SGB U-Tube (1, EX) Pos. 8	270	720	K	3.31	0.74
439	TE 523	TE-IN1502-SGB	SGB U-Tube (2, IN) Pos. 8	270	720	K	3.31	0.74
440	TE 524	TE-EX1502-SGB	SGB U-Tube (2, EX) Pos. 8	270	720	K	3.31	0.74
441	TE 525	TE-IN1503-SGB	SGB U-Tube (3, IN) Pos. 8	270	720	K	3.31	0.74
442	TE 526	TE-EX1503-SGB	SGB U-Tube (3, EX) Pos. 8	270	720	K	3.31	0.74
443	TE 527	TE-IN1504-SGB	SGB U-Tube (4, IN) Pos. 8	270	720	K	3.31	0.74
444	TE 528	TE-EX1504-SGB	SGB U-Tube (4, EX) Pos. 8	270	720	K	3.31	0.74
445	TE 529	TE-IN1505-SGB	SGB U-Tube (5, IN) Pos. 8	270	720	K	3.31	0.74
446	TE 530	TE-EX1505-SGB	SGB U-Tube (5, EX) Pos. 8	270	720	K	3.31	0.74
447	TE 531	TE-IN1506-SGB	SGB U-Tube (6, IN) Pos. 8	270	720	K	3.31	0.74
448	TE 532	TE-EX1506-SGB	SGB U-Tube (6, EX) Pos. 8	270	720	K	3.31	0.74
449	TE 533	TE-IN1632-SGB	SGB U-Tube (2, IN) Pos. 9	270	720	K	3.31	0.74
450	TE 534	TE-EX1632-SGB	SGB U-Tube (2, EX) Pos. 9	270	720	K	3.31	0.74
451	TE 535	TE-IN1633-SGB	SGB U-Tube (3, IN) Pos. 9	270	720	K	3.31	0.74
452	TE 536	TE-EX1633-SGB	SGB U-Tube (3, EX) Pos. 9	270	720	K	3.31	0.74
453	TE 537	TE-IN1634-SGB	SGB U-Tube (4, IN) Pos. 9	270	720	K	3.31	0.74
454	TE 538	TE-EX1634-SGB	SGB U-Tube (4, EX) Pos. 9	270	720	K	3.31	0.74
455	TE 539	TE-IN1635-SGB	SGB U-Tube (5, IN) Pos. 9	270	720	K	3.31	0.74
456	TE 540	TE-EX1635-SGB	SGB U-Tube (5, EX) Pos. 9	270	720	K	3.31	0.74
457	TE 541	TE-IN1701-SGB	SGB U-Tube (1, IN) Pos. 10	270	720	K	3.31	0.74
458	TE 542	TE-IN1706-SGB	SGB U-Tube (6, IN) Pos. 10	270	720	K	3.31	0.74
459	TE 544	TE-IN1785-SGB	SGB U-Tube (5, IN) Pos. 10	270	720	K	3.31	0.74
460	TE 545	TE-IN1863-SGB	SGB U-Tube (3, IN) Pos. 11	270	720	K	3.31	0.74
461	TE 546	TE-IN1864-SGB	SGB U-Tube (4, IN) Pos. 11	270	720	K	3.31	0.74
462	TE 547	TE-223D-SGB	SGB Steam Dome	270	670	K	3.11	0.78
463	TE 548	TE-086C-SGB	SGB Boiling Section Pos. 1	270	670	K	3.11	0.78
464	TE 549	TE-099C-SGB	SGB Boiling Section Pos. 3	270	670	K	3.11	0.78
465	TE 550	TE-112C-SGB	SGB Boiling Section Pos. 5	270	670	K	3.11	0.78
466	TE 551	TE-125C-SGB	SGB Boiling Section Pos. 6	270	670	K	3.11	0.78
467	TE 552	TE-137C-SGB	SGB Boiling Section Pos. 7	270	670	K	3.11	0.78
468	TE 553	TE-150C-SGB	SGB Boiling Section Pos. 8	270	670	K	3.11	0.78
469	TE 554	TE-163C-SGB	SGB Boiling Section Pos. 9	270	670	K	3.11	0.78
470	TE 555	TE-178C-SGB	SGB Boiling Section Pos. 10	270	670	K	3.11	0.78
471	TE 556	TE-192F-SGB	SGB Boiling Section	270	670	K	3.11	0.78
472	TE 557	TE-208F-SGB	SGB Separator	270	670	K	3.11	0.78
473	TE 558	TE-192C-SGB	SGB Downcomer	270	670	K	3.11	0.78
474	TE 559	TE-208C-SGB	SGB Downcomer	270	670	K	3.11	0.78
475	TE 560	TE-223C-SGB	SGB Steam Dome	270	670	K	3.11	0.78
476	TE 561	TE-245C-SGB	SGB Steam Dome	270	670	K	3.11	0.78
477	TE 562	TE-211C-PR	PR Fluid	270	720	K	3.31	0.74
478	TE 563	TE-194C-PR	PR Fluid	270	720	K	3.31	0.74
479	TE 564	TE-177C-PR	PR Fluid	270	720	K	3.31	0.74
480	TE 596	TE-177D-PR	PR Fluid	270	720	K	3.31	0.74
481	TE 597	TE-181D-PR	PR Fluid	270	720	K	3.31	0.74
482	TE 598	TE-185D-PR	PR Fluid	270	720	K	3.31	0.74
483	TE 599	TE-189D-PR	PR Fluid	270	720	K	3.31	0.74
484	TE 600	TE-192D-PR	PR Fluid	270	720	K	3.31	0.74
485	TE 601	TE-196D-PR	PR Fluid	270	720	K	3.31	0.74
486	TE 602	TE-200D-PR	PR Fluid	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
487	TE 603	TE-204D-PR	PR Fluid	270	720	K	3.31	0.74
488	TE 604	TE-207D-PR	PR Fluid	270	720	K	3.31	0.74
489	TE 605	TE-211D-PR	PR Fluid	270	720	K	3.31	0.74
490	TE 606	TE011A-HLA	HLA S.P Top	270	720	K	3.31	0.74
491	TE 607	TE011B-HLA	HLA S.P Side	270	720	K	3.31	0.74
492	TE 609	TE012C-HLA	HLA S.P Top	270	720	K	3.31	0.74
493	TE 610	TE012D-HLA	HLA S.P Bottom	270	720	K	3.31	0.74
494	TE 612	TE051B-LSA	LSA S.P South	270	720	K	3.31	0.74
495	TE 613	TE051C-LSA	LSA S.P West	270	720	K	3.31	0.74
496	TE 614	TE051D-LSA	LSA S.P North	270	720	K	3.31	0.74
497	TE 615	TE052-LSA	LSA S.P	270	720	K	3.31	0.74
498	TE 616	TE071A-CLA	CLA S.P Top	270	720	K	3.31	0.74
499	TE 619	TE072C-CLA	CLA S.P Top	270	720	K	3.31	0.74
500	TE 620	TE072D-CLA	CLA S.P Bottom	270	720	K	3.31	0.74
501	TE 622	TE151B-HLB	HLB S.P Side	270	720	K	3.31	0.74
502	TE 623	TE151C-HLB	HLB S.P Bottom	270	720	K	3.31	0.74
503	TE 624	TE152C-HLB	HLB S.P Top	270	720	K	3.31	0.74
504	TE 625	TE152D-HLB	HLB S.P Bottom	270	720	K	3.31	0.74
505	TE 626	TE191A-LSB	LSB S.P West	270	720	K	3.31	0.74
506	TE 628	TE191C-LSB	LSB S.P East	270	720	K	3.31	0.74
507	TE 629	TE191D-LSB	LSB S.P South	270	720	K	3.31	0.74
508	TE 630	TE192-LSB	LSB S.P	270	720	K	3.31	0.74
509	TE 631	TE211A-CLB	CLB S.P Top	270	720	K	3.31	0.74
510	TE 632	TE211B-CLB	CLB S.P Side	270	720	K	3.31	0.74
511	TE 634	TE212C-CLB	CLB S.P Top	270	720	K	3.31	0.74
512	TE 635	TE212D-CLB	CLB S.P Bottom	270	720	K	3.31	0.74
513	TE 636	TE291C-PR	PR Relief Valve Line	270	720	K	3.31	0.74
514	TE 637	TE291D-PR	PR Relief Valve Line	270	720	K	3.31	0.74
515	TE 662	TE-N-006-DC	PV Downcomer DTT North	270	720	K	3.31	0.74
516	TE 663	TE-S-006-DC	PV Downcomer DTT South	270	720	K	3.31	0.74
517	TE 664	TE-E-006-DC	PV Downcomer DTT East	270	720	K	3.31	0.74
518	TE 665	TE-W-006-DC	PV Downcomer DTT West	270	720	K	3.31	0.74
519	TE 670	TE-111A-CDP	PLR-02-1 Fluid EL. -1.18m	270	720	K	3.31	0.74
520	TE 671	TE-111B-CDP	PLR-02-1 Fluid EL. 0.25m	270	720	K	3.31	0.74
521	TE 673	TE-112B-CDP	PLR-01-2 Fluid EL. 0.61m	270	720	K	3.31	0.74
522	TE 674	TE-113A-CDP	PLR-08-3 Fluid EL. -1.18m	270	720	K	3.31	0.74
523	TE 675	TE-113B-CDP	PLR-08-3 Fluid EL. 1.01m	270	720	K	3.31	0.74
524	TE 676	TE-114A-CDP	PLR-07-4 Fluid EL. -1.18m	270	720	K	3.31	0.74
525	TE 677	TE-114B-CDP	PLR-07-4 Fluid EL. 1.42m	270	720	K	3.31	0.74
526	TE 678	TE-115A-CDP	PLR-06-5 Fluid EL. -1.18m	270	720	K	3.31	0.74
527	TE 679	TE-115B-CDP	PLR-06-5 Fluid EL. 0.21m	270	720	K	3.31	0.74
528	TE 680	TE-115C-CDP	PLR-06-5 Fluid EL. 1.83m	270	720	K	3.31	0.74
529	TE 681	TE-116A-CDP	PLR-05-6 Fluid EL. -1.18m	270	720	K	3.31	0.74
530	TE 682	TE-116B-CDP	PLR-05-6 Fluid EL. 0.21m	270	720	K	3.31	0.74
531	TE 683	TE-116C-CDP	PLR-05-6 Fluid EL. 2.24m	270	720	K	3.31	0.74
532	TE 684	TE-117A-CDP	PLR-04-7 Fluid EL. -1.18m	270	720	K	3.31	0.74
533	TE 685	TE-117B-CDP	PLR-04-7 Fluid EL. 0.21m	270	720	K	3.31	0.74
534	TE 686	TE-117C-CDP	PLR-04-7 Fluid EL. 2.64m	270	720	K	3.31	0.74
535	TE 687	TE-118A-CDP	PLR-03-8 Fluid EL. -1.18m	270	720	K	3.31	0.74
536	TE 688	TE-118B-CDP	PLR-03-8 Fluid EL. 0.21m	270	720	K	3.31	0.74
537	TE 689	TE-118C-CDP	PLR-03-8 Fluid EL. 3.05m	270	720	K	3.31	0.74
538	TE 690	TE-131-CDP	PLR-03-8 Oil EL. -2.0m, In	270	720	K	3.31	0.74
539	TE 691	TE-132-CDP	PLR-03-8 Oil EL. 0.0m, In	270	720	K	3.31	0.74
540	TE 692	TE-133-CDP	PLR-03-8 Oil EL. 1.0m, In	270	720	K	3.31	0.74
541	TE 693	TE-134-CDP	PLR-03-8 Oil EL. 2.0m, In	270	720	K	3.31	0.74
542	TE 694	TE-135-CDP	PLR-03-8 Oil EL. 3.22m, Top	270	720	K	3.31	0.74
543	TE 695	TE-136-CDP	PLR-03-8 Oil EL. 2.0m, Out	270	720	K	3.31	0.74
544	TE 696	TE-137-CDP	PLR-03-8 Oil EL. 1.0m, Out	270	720	K	3.31	0.74
545	TE 697	TE-138-CDP	PLR-03-8 Oil EL. 0.0m, Out	270	720	K	3.31	0.74
546	TE 698	TE-139-CDP	PLR-03-8 Oil EL. -2.0m, Out	270	720	K	3.31	0.74
547	TE 699	TE-111E-CDP	PLR-02-1 Oil Outlet	270	720	K	3.31	0.74
548	TE 700	TE-112E-CDP	PLR-01-2 Oil Outlet	270	720	K	3.31	0.74
549	TE 701	TE-113E-CDP	PLR-08-3 Oil Outlet	270	720	K	3.31	0.74
550	TE 702	TE-114E-CDP	PLR-07-4 Oil Outlet	270	720	K	3.31	0.74
551	TE 703	TE-115E-CDP	PLR-06-5 Oil Outlet	270	720	K	3.31	0.74
552	TE 704	TE-116E-CDP	PLR-05-6 Oil Outlet	270	720	K	3.31	0.74
553	TE 705	TE-117E-CDP	PLR-04-7 Oil Outlet	270	720	K	3.31	0.74
554	TE 706	TE-118E-CDP	PLR-03-8 Oil Outlet	270	720	K	3.31	0.74
555	TE 707	TE-121E-UHDP	PLR-UH-9 Oil Outlet	270	720	K	3.31	0.74
556	TE 708	TE-121A-UHDP	PLR-UH-9 Fluid EL. 6.9m	270	720	K	3.31	0.74
557	TE 709	TE-121B-UHDP	PLR-UH-9 Fluid EL. 7.6m	270	720	K	3.31	0.74
558	TE 710	TE-121C-UHDP	PLR-UH-9 Fluid EL. 8.2m	270	720	K	3.31	0.74
559	TE 711	TE-E071C-DC	Downcomer EL. 7.1m, East	270	720	K	3.31	0.74
560	TE 712	TE-W071C-DC	Downcomer EL. 7.1m, West	270	720	K	3.31	0.74
561	TE 713	TE-E067C-DC	Downcomer EL. 6.7m, East	270	720	K	3.31	0.74
562	TE 714	TE-W067C-DC	Downcomer EL. 6.7m, West	270	720	K	3.31	0.74
563	TE 715	TE-951-CS	Oil Inlet-Main	270	720	K	3.31	0.74
564	TE 716	TE-952-CS	Oil Outlet-Main	270	720	K	3.31	0.74
565	TE 717	TE-953-CS	Heat Exchanger Outlet	270	720	K	3.31	0.74
566	TE 718	TE-B05221	B05 Rod(2, 2) Pos. 1, Fluid	270	970	K	4.31	0.62
567	TE 719	TE-B05223	B05 Rod(2, 2) Pos. 3, Fluid	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
568	TE 720	TE-B05225	B05 Rod(2,2) Pos.5,Fluid	270	970	K	4.31	0.62
569	TE 721	TE-B05226	B05 Rod(2,2) Pos.6,Fluid	270	970	K	4.31	0.62
570	TE 722	TE-B05227	B05 Rod(2,2) Pos.7,Fluid	270	970	K	4.31	0.62
571	TE 723	TE-B05229	B05 Rod(2,2) Pos.9,Fluid	270	970	K	4.31	0.62
572	TE 724	TE-B07221	B07 Rod(2,2) Pos.1,Fluid	270	970	K	4.31	0.62
573	TE 725	TE-B07223	B07 Rod(2,2) Pos.3,Fluid	270	970	K	4.31	0.62
574	TE 726	TE-B07225	B07 Rod(2,2) Pos.5,Fluid	270	970	K	4.31	0.62
575	TE 727	TE-B07226	B07 Rod(2,2) Pos.6,Fluid	270	970	K	4.31	0.62
576	TE 728	TE-B07227	B07 Rod(2,2) Pos.7,Fluid	270	970	K	4.31	0.62
577	TE 729	TE-B07229	B07 Rod(2,2) Pos.9,Fluid	270	970	K	4.31	0.62
578	TE 730	TE-EX0650-SGA	SGA Outlet Plenum	270	720	K	3.31	0.74
579	TE 731	TE-EX0680-SGA	SGA Outlet Plenum	270	720	K	3.31	0.74
580	TE 732	TE-EX0720-SGA	SGA Outlet Plenum	270	720	K	3.31	0.74
581	TE 733	TE-EX0650-SGB	SGB Outlet Plenum	270	720	K	3.31	0.74
582	TE 734	TE-EX0680-SGB	SGB Outlet Plenum	270	720	K	3.31	0.74
583	TE 735	TE-EX0720-SGB	SGB Outlet Plenum	270	720	K	3.31	0.74
584	TE 739	TE275C-PR	PR Spray Inlet Nozzle	270	720	K	3.31	0.74
585	TE 744	TE183A-HLB	HLB SG Side Super Heat	270	720	K	3.31	0.74
586	TE 745	TE183B-HLB	HLB SG Side Super Heat	270	720	K	3.31	0.74
587	TE 746	TE183C-HLB	HLB SG Side Super Heat	270	720	K	3.31	0.74
588	DT 1	DTE020A-HLA	HLA Pipe Wall I/O	-150	150	K	6.24	2.08
589	DT 2	DTE020B-HLA	HLA Pipe Wall to Fluid	-150	150	K	6.24	2.08
590	DT 3	DTE030A-HLA	HLA Pipe Wall I/O	-150	150	K	6.24	2.08
591	DT 4	DTE030B-HLA	HLA Pipe Wall to Fluid	-150	150	K	6.24	2.08
592	DT 5	DTE050A-LSA	LSA Pipe Wall I/O	-150	150	K	6.24	2.08
593	DT 6	DTE050B-LSA	LSA Pipe Wall Fluid	-150	150	K	6.24	2.08
594	DT 7	DTE060A-PCA	PCA Wall I/O	-150	150	K	6.24	2.08
595	DT 8	DTE070A-CLA	CLA Pipe Wall I/O	-150	150	K	6.24	2.08
596	DT 9	DTE070B-CLA	CLA Pipe Wall to Fluid	-150	150	K	6.24	2.08
597	DT 10	DTE080A-CLA	CLA Pipe Wall I/O	-150	150	K	6.24	2.08
598	DT 11	DTE080B-CLA	CLA Pipe Wall to Fluid	-150	150	K	6.24	2.08
599	DT 12	DTE100-HLA	HLA-CLA	-150	150	K	2.49	0.83
600	DT 13	DTE160A-HLB	HLB Pipe Wall I/O	-150	150	K	6.24	2.08
601	DT 14	DTE160B-HLB	HLB Pipe Wall to Fluid	-150	150	K	6.24	2.08
602	DT 15	DTE170A-HLB	HLB Pipe Wall I/O	-150	150	K	6.24	2.08
603	DT 16	DTE170B-HLB	HLB Pipe Wall to Fluid	-150	150	K	6.24	2.08
604	DT 17	DTE190A-LSB	LSB Pipe Wall I/O	-150	150	K	6.24	2.08
605	DT 18	DTE190B-LSB	LSB Pipe Wall to Fluid	-150	150	K	6.24	2.08
606	DT 19	DTE200A-PCB	PCB Wall I/O	-150	150	K	6.24	2.08
607	DT 20	DTE210A-CLB	CLB Pipe Wall I/O	-150	150	K	6.24	2.08
608	DT 21	DTE210B-CLB	CLB Pipe Wall to Fluid	-150	150	K	6.24	2.08
609	DT 22	DTE220A-CLB	CLB Pipe Wall I/O	-150	150	K	6.24	2.08
610	DT 23	DTE220B-CLB	CLB Pipe Wall to Fluid	-150	150	K	6.24	2.08
611	DT 24	DTE240-HLB	HLB-CLB	-150	150	K	2.49	0.83
612	DT 25	DTE270A-PR	PR Spray Line	-150	150	K	6.24	2.08
613	DT 26	DTE280A-PR	PR Surge Line	-150	150	K	6.24	2.08
614	DT 27	DTE-E-015A-PV	PV Wall I/O-E at L. Plenum	-150	150	K	6.24	2.08
615	DT 28	DTE-W-015A-PV	PV Wall I/O-W at L. Plenum	-150	150	K	6.24	2.08
616	DT 29	DTE-N000A-PV	PV Wall I/O-N at DC Bottom	-150	150	K	6.24	2.08
617	DT 30	DTE-S000A-PV	PV Wall I/O-S at DC Bottom	-150	150	K	6.24	2.08
618	DT 31	DTE-E000A-PV	PV Wall I/O-E at DC Bottom	-150	150	K	6.24	2.08
619	DT 32	DTE-W000A-PV	PV Wall I/O-W at DC Bottom	-150	150	K	6.24	2.08
620	DT 33	DTE-N018A-PV	PV Wall I/O-N at DC Middle	-150	150	K	6.24	2.08
621	DT 34	DTE-S018A-PV	PV Wall I/O-S at DC Middle	-150	150	K	6.24	2.08
622	DT 35	DTE-E018A-PV	PV Wall I/O-E at DC Middle	-150	150	K	6.24	2.08
623	DT 36	DTE-W018A-PV	PV Wall I/O-W at DC Middle	-150	150	K	6.24	2.08
624	DT 37	DTE-N036A-PV	PV Wall I/O-N at Upper DC	-150	150	K	6.24	2.08
625	DT 38	DTE-S036A-PV	PV Wall I/O-S at Upper DC	-150	150	K	6.24	2.08
626	DT 39	DTE-E036A-PV	PV Wall I/O-E at Upper DC	-150	150	K	6.24	2.08
627	DT 40	DTE-W036A-PV	PV Wall I/O-W at Upper DC	-150	150	K	6.24	2.08
628	DT 41	DTE-N060A-PV	PV Wall I/O-N at DC Top	-150	150	K	6.24	2.08
629	DT 42	DTE-S060A-PV	PV Wall I/O-S at DC Top	-150	150	K	6.24	2.08
630	DT 43	DTE-E060A-PV	PV Wall I/O-E at DC Top	-150	150	K	6.24	2.08
631	DT 44	DTE-W060A-PV	PV Wall I/O-W at DC Top	-150	150	K	6.24	2.08
632	DT 45	DTE-E080A-PV	PV Wall I/O-E at DC Head	-150	150	K	6.24	2.08
633	DT 46	DTE-W080A-PV	PV Wall I/O-W at DC Head	-150	150	K	6.24	2.08
634	DT 47	DTE-N000B-PV	PV/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
635	DT 48	DTE-S000B-PV	PV/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
636	DT 49	DTE-E000B-PV	PV/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
637	DT 50	DTE-W000B-PV	PV/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
638	DT 51	DTE-N018B-PV	PV/DC Fluid at DC Middle	-150	150	K	6.24	2.08
639	DT 52	DTE-S018B-PV	PV/DC Fluid at DC Middle	-150	150	K	6.24	2.08
640	DT 53	DTE-E018B-PV	PV/DC Fluid at DC Middle	-150	150	K	6.24	2.08
641	DT 54	DTE-W018B-PV	PV/DC Fluid at DC Middle	-150	150	K	6.24	2.08
642	DT 55	DTE-N036B-PV	PV/DC Fluid at Upper DC	-150	150	K	6.24	2.08
643	DT 56	DTE-S036B-PV	PV/DC Fluid at Upper DC	-150	150	K	6.24	2.08
644	DT 57	DTE-E036B-PV	PV/DC Fluid at Upper DC	-150	150	K	6.24	2.08
645	DT 58	DTE-W036B-PV	PV/DC Fluid at Upper DC	-150	150	K	6.24	2.08
646	DT 59	DTE-N060B-PV	PV/DC Fluid at DC Top	-150	150	K	6.24	2.08
647	DT 60	DTE-S060B-PV	PV/DC Fluid at DC Top	-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
648	DT 61	DTE-E060B-PV	PV/DC Fluid at DC Top	-150	150	K	6.24	2.08
649	DT 62	DTE-W060B-PV	PV/DC Fluid at DC Top	-150	150	K	6.24	2.08
650	DT 63	DTE-N000C-PV	CB/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
651	DT 64	DTE-S000C-PV	CB/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
652	DT 65	DTE-E000C-PV	CB/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
653	DT 66	DTE-W000C-PV	CB/DC Fluid at DC Bottom	-150	150	K	6.24	2.08
654	DT 67	DTE-N018C-PV	CB/DC Fluid at DC Middle	-150	150	K	6.24	2.08
655	DT 68	DTE-S018C-PV	CB/DC Fluid at DC Middle	-150	150	K	6.24	2.08
656	DT 69	DTE-E018C-PV	CB/DC Fluid at DC Middle	-150	150	K	6.24	2.08
657	DT 70	DTE-W018C-PV	CB/DC Fluid at DC Middle	-150	150	K	6.24	2.08
658	DT 71	DTE-N036C-PV	CB/DC Fluid at Upper DC	-150	150	K	6.24	2.08
659	DT 72	DTE-S036C-PV	CB/DC Fluid at Upper DC	-150	150	K	6.24	2.08
660	DT 73	DTE-E036C-PV	CB/DC Fluid at Upper DC	-150	150	K	6.24	2.08
661	DT 74	DTE-W036C-PV	CB/DC Fluid at Upper DC	-150	150	K	6.24	2.08
662	DT 75	DTE-N060C-PV	CB/DC Fluid at DC Top	-150	150	K	6.24	2.08
663	DT 76	DTE-S060C-PV	CB/DC Fluid at DC Top	-150	150	K	6.24	2.08
664	DT 77	DTE-E060C-PV	CB/DC Fluid at DC Top	-150	150	K	6.24	2.08
665	DT 78	DTE-W060C-PV	CB/DC Fluid at DC Top	-150	150	K	6.24	2.08
666	DT 79	DTE-N000E-PV	CB Wall I/O at DC Bottom	-150	150	K	6.24	2.08
667	DT 80	DTE-S000E-PV	CB Wall I/O at DC Bottom	-150	150	K	6.24	2.08
668	DT 81	DTE-E000E-PV	CB Wall I/O at DC Bottom	-150	150	K	6.24	2.08
669	DT 82	DTE-W000E-PV	CB Wall I/O at DC Bottom	-150	150	K	6.24	2.08
670	DT 83	DTE-N010E-PV	CB Wall I/O at Lower DC	-150	150	K	6.24	2.08
671	DT 84	DTE-S010E-PV	CB Wall I/O at Lower DC	-150	150	K	6.24	2.08
672	DT 85	DTE-E010E-PV	CB Wall I/O at Lower DC	-150	150	K	6.24	2.08
673	DT 86	DTE-W010E-PV	CB Wall I/O at Lower DC	-150	150	K	6.24	2.08
674	DT 87	DTE-N018E-PV	CB Wall I/O at DC Middle	-150	150	K	6.24	2.08
675	DT 88	DTE-S018E-PV	CB Wall I/O at DC Middle	-150	150	K	6.24	2.08
676	DT 89	DTE-E018E-PV	CB Wall I/O at DC Middle	-150	150	K	6.24	2.08
677	DT 90	DTE-W018E-PV	CB Wall I/O at DC Middle	-150	150	K	6.24	2.08
678	DT 91	DTE-N026E-PV	CB Wall I/O at DC Center	-150	150	K	6.24	2.08
679	DT 92	DTE-S026E-PV	CB Wall I/O at DC Center	-150	150	K	6.24	2.08
680	DT 93	DTE-E026E-PV	CB Wall I/O at DC Center	-150	150	K	6.24	2.08
681	DT 94	DTE-W026E-PV	CB Wall I/O at DC Center	-150	150	K	6.24	2.08
682	DT 95	DTE-N036E-PV	CB Wall I/O at Upper DC	-150	150	K	6.24	2.08
683	DT 96	DTE-S036E-PV	CB Wall I/O at Upper DC	-150	150	K	6.24	2.08
684	DT 97	DTE-E036E-PV	CB Wall I/O at Upper DC	-150	150	K	6.24	2.08
685	DT 98	DTE-W036E-PV	CB Wall I/O at Upper DC	-150	150	K	6.24	2.08
686	DT 99	DTE-N049E-PV	CB Wall I/O below Nozzle	-150	150	K	6.24	2.08
687	DT 100	DTE-S049E-PV	CB Wall I/O below Nozzle	-150	150	K	6.24	2.08
688	DT 101	DTE-E049E-PV	CB Wall I/O below Nozzle	-150	150	K	6.24	2.08
689	DT 102	DTE-W049E-PV	CB Wall I/O below Nozzle	-150	150	K	6.24	2.08
690	DT 103	DTE-N060E-PV	CB Wall I/O at DC Top	-150	150	K	6.24	2.08
691	DT 104	DTE-S060E-PV	CB Wall I/O at DC Top	-150	150	K	6.24	2.08
692	DT 105	DTE-E060E-PV	CB Wall I/O at DC Top	-150	150	K	6.24	2.08
693	DT 106	DTE-W060E-PV	CB Wall I/O at DC Top	-150	150	K	6.24	2.08
694	DT 107	DTE-040-B09-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
695	DT 108	DTE-040-B11-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
696	DT 109	DTE-040-B01-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
697	DT 110	DTE-040-B03-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
698	DT 111	DTE-040-B05-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
699	DT 112	DTE-040-B07-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
700	DT 113	DTE-040-B21-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
701	DT 114	DTE-040-B23-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
702	DT 115	DTE-040-B02-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
703	DT 116	DTE-040-B15-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
704	DT 117	DTE-040-B06-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
705	DT 118	DTE-040-B14-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
706	DT 119	DTE-040-B18-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
707	DT 120	DTE-040-B19-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
708	DT 121	DTE-040-B10-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
709	DT 122	DTE-040-B12-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
710	DT 123	DTE-040-B04-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
711	DT 124	DTE-040-B08-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
712	DT 125	DTE-040-B22-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
713	DT 126	DTE-040-B24-UCP	In/Out Fluid across UCP	-150	150	K	6.24	2.08
714	DT 127	DTE-000-B02-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
715	DT 128	DTE-000-B03-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
716	DT 129	DTE-000-B06-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
717	DT 130	DTE-000-B07-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
718	DT 131	DTE-000-B09-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
719	DT 132	DTE-000-B11-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
720	DT 133	DTE-000-B14-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
721	DT 134	DTE-000-B16-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
722	DT 135	DTE-000-B18-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
723	DT 136	DTE-000-B20-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
724	DT 137	DTE-000-B21-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
725	DT 138	DTE-000-B23-LCP	In/Out Fluid across LCP	-40	40	K	1.66	2.08
726	DT 139	DTE-086A-SGA	SGA Wall I/O Pos. 1	-40	40	K	1.66	2.08
727	DT 140	DTE-137A-SGA	SGA Wall I/O Pos. 7	-40	40	K	1.66	2.08
728	DT 141	DTE-178A-SGA	SGA Wall I/O Pos. 10	-40	40	K	1.66	2.08

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
729	DT 142	DTE-223A-SGA	SGA Steam Dome Wall I/O	-40	40	K	1.66	2.08
730	DT 143	DTE-IN0861-SGA	SGA U-Tube (1, IN) Pos. 1	-100	100	K	1.66	0.83
731	DT 144	DTE-EX0861-SGA	SGA U-Tube (1, EX) Pos. 1	-100	100	K	1.66	0.83
732	DT 145	DTE-IN0862-SGA	SGA U-Tube (2, IN) Pos. 1	-100	100	K	1.66	0.83
733	DT 146	DTE-EX0862-SGA	SGA U-Tube (2, EX) Pos. 1	-100	100	K	1.66	0.83
734	DT 147	DTE-IN0863-SGA	SGA U-Tube (3, IN) Pos. 1	-100	100	K	1.66	0.83
735	DT 148	DTE-EX0863-SGA	SGA U-Tube (3, EX) Pos. 1	-100	100	K	1.66	0.83
736	DT 149	DTE-IN0991-SGA	SGA U-Tube (1, IN) Pos. 3	-100	100	K	1.66	0.83
737	DT 150	DTE-EX0991-SGA	SGA U-Tube (1, EX) Pos. 3	-100	100	K	1.66	0.83
738	DT 151	DTE-IN0992-SGA	SGA U-Tube (2, IN) Pos. 3	-100	100	K	1.66	0.83
739	DT 152	DTE-EX0992-SGA	SGA U-Tube (2, EX) Pos. 3	-100	100	K	1.66	0.83
740	DT 153	DTE-IN0993-SGA	SGA U-Tube (3, IN) Pos. 3	-100	100	K	1.66	0.83
741	DT 154	DTE-EX0993-SGA	SGA U-Tube (3, EX) Pos. 3	-100	100	K	1.66	0.83
742	DT 155	DTE-IN1121-SGA	SGA U-Tube (1, IN) Pos. 5	-100	100	K	1.66	0.83
743	DT 156	DTE-EX1121-SGA	SGA U-Tube (1, EX) Pos. 5	-100	100	K	1.66	0.83
744	DT 157	DTE-IN1122-SGA	SGA U-Tube (2, IN) Pos. 5	-100	100	K	1.66	0.83
745	DT 158	DTE-EX1122-SGA	SGA U-Tube (2, EX) Pos. 5	-100	100	K	1.66	0.83
746	DT 159	DTE-IN1123-SGA	SGA U-Tube (3, IN) Pos. 5	-100	100	K	1.66	0.83
747	DT 160	DTE-EX1123-SGA	SGA U-Tube (3, EX) Pos. 5	-100	100	K	1.66	0.83
748	DT 161	DTE-IN1371-SGA	SGA U-Tube (1, IN) Pos. 7	-100	100	K	1.66	0.83
749	DT 162	DTE-EX1371-SGA	SGA U-Tube (1, EX) Pos. 7	-100	100	K	1.66	0.83
750	DT 163	DTE-IN1372-SGA	SGA U-Tube (2, IN) Pos. 7	-100	100	K	1.66	0.83
751	DT 164	DTE-EX1372-SGA	SGA U-Tube (2, EX) Pos. 7	-100	100	K	1.66	0.83
752	DT 165	DTE-IN1373-SGA	SGA U-Tube (3, IN) Pos. 7	-100	100	K	1.66	0.83
753	DT 166	DTE-EX1373-SGA	SGA U-Tube (3, EX) Pos. 7	-100	100	K	1.66	0.83
754	DT 167	DTE-IN1632-SGA	SGA U-Tube (2, IN) Pos. 9	-100	100	K	1.66	0.83
755	DT 168	DTE-EX1632-SGA	SGA U-Tube (2, EX) Pos. 9	-100	100	K	1.66	0.83
756	DT 169	DTE-IN1633-SGA	SGA U-Tube (3, IN) Pos. 9	-100	100	K	1.66	0.83
757	DT 170	DTE-EX1633-SGA	SGA U-Tube (3, EX) Pos. 9	-100	100	K	1.66	0.83
758	DT 171	DTE-IN1701-SGA	SGA U-Tube (1, IN) Pos. 10	-100	100	K	1.66	0.83
759	DT 172	DTE-EX1782-SGA	SGA U-Tube (2, IN) Pos. 10	-100	100	K	1.66	0.83
760	DT 173	DTE-IN1863-SGA	SGA U-Tube (3, IN) Pos. 11	-100	100	K	1.66	0.83
761	DT 174	DTE-086A-SGB	SGB Wall I/O Pos. 1	-40	40	K	1.66	2.08
762	DT 175	DTE-137A-SGB	SGB Wall I/O Pos. 7	-40	40	K	1.66	2.08
763	DT 176	DTE-178A-SGB	SGB Wall I/O Pos. 10	-40	40	K	1.66	2.08
764	DT 177	DTE-223A-SGB	SGB Steam Dome Wall I/O	-40	40	K	1.66	2.08
765	DT 178	DTE-IN0861-SGB	SGB U-Tube (1, IN) Pos. 1	-100	100	K	1.66	0.83
766	DT 179	DTE-EX0861-SGB	SGB U-Tube (1, EX) Pos. 1	-100	100	K	1.66	0.83
767	DT 180	DTE-IN0862-SGB	SGB U-Tube (2, IN) Pos. 1	-100	100	K	1.66	0.83
768	DT 181	DTE-EX0862-SGB	SGB U-Tube (2, EX) Pos. 1	-100	100	K	1.66	0.83
769	DT 182	DTE-IN0863-SGB	SGB U-Tube (3, IN) Pos. 1	-100	100	K	1.66	0.83
770	DT 183	DTE-EX0863-SGB	SGB U-Tube (3, EX) Pos. 1	-100	100	K	1.66	0.83
771	DT 184	DTE-IN0991-SGB	SGB U-Tube (1, IN) Pos. 3	-100	100	K	1.66	0.83
772	DT 185	DTE-EX0991-SGB	SGB U-Tube (1, EX) Pos. 3	-100	100	K	1.66	0.83
773	DT 186	DTE-IN0992-SGB	SGB U-Tube (2, IN) Pos. 3	-100	100	K	1.66	0.83
774	DT 187	DTE-EX0992-SGB	SGB U-Tube (2, EX) Pos. 3	-100	100	K	1.66	0.83
775	DT 188	DTE-IN0993-SGB	SGB U-Tube (3, IN) Pos. 3	-100	100	K	1.66	0.83
776	DT 189	DTE-EX0993-SGB	SGB U-Tube (3, EX) Pos. 3	-100	100	K	1.66	0.83
777	DT 190	DTE-IN1121-SGB	SGB U-Tube (1, IN) Pos. 5	-100	100	K	1.66	0.83
778	DT 191	DTE-EX1121-SGB	SGB U-Tube (1, EX) Pos. 5	-100	100	K	1.66	0.83
779	DT 192	DTE-IN1122-SGB	SGB U-Tube (2, IN) Pos. 5	-100	100	K	1.66	0.83
780	DT 193	DTE-EX1122-SGB	SGB U-Tube (2, EX) Pos. 5	-100	100	K	1.66	0.83
781	DT 194	DTE-IN1123-SGB	SGB U-Tube (3, IN) Pos. 5	-100	100	K	1.66	0.83
782	DT 195	DTE-EX1123-SGB	SGB U-Tube (3, EX) Pos. 5	-100	100	K	1.66	0.83
783	DT 196	DTE-IN1371-SGB	SGB U-Tube (1, IN) Pos. 7	-100	100	K	1.66	0.83
784	DT 197	DTE-EX1371-SGB	SGB U-Tube (1, EX) Pos. 7	-100	100	K	1.66	0.83
785	DT 198	DTE-IN1372-SGB	SGB U-Tube (2, IN) Pos. 7	-100	100	K	1.66	0.83
786	DT 199	DTE-EX1372-SGB	SGB U-Tube (2, EX) Pos. 7	-100	100	K	1.66	0.83
787	DT 200	DTE-IN1373-SGB	SGB U-Tube (3, IN) Pos. 7	-100	100	K	1.66	0.83
788	DT 201	DTE-EX1373-SGB	SGB U-Tube (3, EX) Pos. 7	-100	100	K	1.66	0.83
789	DT 202	DTE-IN1632-SGB	SGB U-Tube (2, IN) Pos. 9	-100	100	K	1.66	0.83
790	DT 203	DTE-EX1632-SGB	SGB U-Tube (2, EX) Pos. 9	-100	100	K	1.66	0.83
791	DT 204	DTE-IN1633-SGB	SGB U-Tube (3, IN) Pos. 9	-100	100	K	1.66	0.83
792	DT 205	DTE-EX1633-SGB	SGB U-Tube (3, EX) Pos. 9	-100	100	K	1.66	0.83
793	DT 206	DTE-IN1701-SGB	SGB U-Tube (1, IN) Pos. 10	-100	100	K	1.66	0.83
794	DT 207	DTE-EX1782-SGB	SGB U-Tube (2, IN) Pos. 10	-100	100	K	1.66	0.83
795	DT 208	DTE-IN1863-SGB	SGB U-Tube (3, IN) Pos. 11	-100	100	K	1.66	0.83
796	TW 1	TWE020B-HLA	HLA Pipe Inner Wall	270	720	K	3.31	0.74
797	TW 2	TWE030B-HLA	HLA Pipe Inner Wall	270	720	K	3.31	0.74
798	TW 3	TWE050B-LSA	LSA Pipe Inner Wall	270	720	K	3.31	0.74
799	TW 4	TWE060B-PCA	PCA Inner Wall	270	720	K	3.31	0.74
800	TW 5	TWE070B-CLA	CLA Pipe Inner Wall	270	720	K	3.31	0.74
801	TW 6	TWE080B-CLA	CLA Pipe Inner Wall	270	720	K	3.31	0.74
802	TW 7	TWE160B-HLB	HLB Pipe Inner Wall	270	720	K	3.31	0.74
803	TW 8	TWE170B-HLB	HLB Pipe Inner Wall	270	720	K	3.31	0.74
804	TW 9	TWE190B-LSB	LSB Pipe Inner Wall	270	720	K	3.31	0.74
805	TW 10	TWE200B-PCB	PCB Inner Wall	270	720	K	3.31	0.74
806	TW 11	TWE210B-CLB	CLB Pipe Inner Wall	270	720	K	3.31	0.74
807	TW 12	TWE220B-CLB	CLB Pipe Inner Wall	270	720	K	3.31	0.74
808	TW 13	TWE280B-PR	PR Surge Line	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
809	TW 14	TWE431A-SGA	SGA Downcomer A Wall	270	670	K	3.11	0.78
810	TW 15	TWE432A-SGA	SGA Downcomer B Wall	270	670	K	3.11	0.78
811	TW 16	TWE433A-SGA	SGA Downcomer C Wall	270	670	K	3.11	0.78
812	TW 17	TWE434A-SGA	SGA Downcomer D Wall	270	670	K	3.11	0.78
813	TW 18	TWE471A-SGB	SGB Downcomer A Wall	270	670	K	3.11	0.78
814	TW 19	TWE472A-SGB	SGB Downcomer B Wall	270	670	K	3.11	0.78
815	TW 20	TWE473A-SGB	SGB Downcomer C Wall	270	670	K	3.11	0.78
816	TW 21	TWE474A-SGB	SGB Downcomer D Wall	270	670	K	3.11	0.78
817	TW 22	TWE-E-015B-PV	PV Inner Wall EL. -1.5m, E	270	720	K	3.31	0.74
818	TW 23	TWE-W-015B-PV	PV Inner Wall EL. -1.5m, W	270	720	K	3.31	0.74
819	TW 24	TWE-N000B-PV	PV Inner Wall EL. 0.0m, N	270	720	K	3.31	0.74
820	TW 25	TWE-S000B-PV	PV Inner Wall EL. 0.0m, S	270	720	K	3.31	0.74
821	TW 26	TWE-E000B-PV	PV Inner Wall EL. 0.0m, E	270	720	K	3.31	0.74
822	TW 27	TWE-W000B-PV	PV Inner Wall EL. 0.0m, W	270	720	K	3.31	0.74
823	TW 28	TWE-N018B-PV	PV Inner Wall EL. 1.8m, N	270	720	K	3.31	0.74
824	TW 29	TWE-S018B-PV	PV Inner Wall EL. 1.8m, S	270	720	K	3.31	0.74
825	TW 30	TWE-E018B-PV	PV Inner Wall EL. 1.8m, E	270	720	K	3.31	0.74
826	TW 31	TWE-W018B-PV	PV Inner Wall EL. 1.8m, W	270	720	K	3.31	0.74
827	TW 32	TWE-N036B-PV	PV Inner Wall EL. 3.6m, N	270	720	K	3.31	0.74
828	TW 33	TWE-S036B-PV	PV Inner Wall EL. 3.6m, S	270	720	K	3.31	0.74
829	TW 34	TWE-E036B-PV	PV Inner Wall EL. 3.6m, E	270	720	K	3.31	0.74
830	TW 35	TWE-W036B-PV	PV Inner Wall EL. 3.6m, W	270	720	K	3.31	0.74
831	TW 36	TWE-N060B-PV	PV Inner Wall EL. 6.0m, N	270	720	K	3.31	0.74
832	TW 37	TWE-S060B-PV	PV Inner Wall EL. 6.0m, S	270	720	K	3.31	0.74
833	TW 38	TWE-E060B-PV	PV Inner Wall EL. 6.0m, E	270	720	K	3.31	0.74
834	TW 39	TWE-W060B-PV	PV Inner Wall EL. 6.0m, W	270	720	K	3.31	0.74
835	TW 40	TWE-E080B-PV	PV Inner Wall EL. 8.0m, E	270	720	K	3.31	0.74
836	TW 41	TWE-W080B-PV	PV Inner Wall EL. 8.0m, W	270	720	K	3.31	0.74
837	TW 42	TWE-N000D-CB	CB Outer Wall EL. 0.0m, N	270	970	K	4.31	0.62
838	TW 43	TWE-S000D-CB	CB Outer Wall EL. 0.0m, S	270	970	K	4.31	0.62
839	TW 44	TWE-E000D-CB	CB Outer Wall EL. 0.0m, E	270	970	K	4.31	0.62
840	TW 45	TWE-W000D-CB	CB Outer Wall EL. 0.0m, W	270	970	K	4.31	0.62
841	TW 46	TWE-N010D-CB	CB Outer Wall EL. 1.0m, N	270	970	K	4.31	0.62
842	TW 47	TWE-S010D-CB	CB Outer Wall EL. 1.0m, S	270	970	K	4.31	0.62
843	TW 48	TWE-E010D-CB	CB Outer Wall EL. 1.0m, E	270	970	K	4.31	0.62
844	TW 49	TWE-W010D-CB	CB Outer Wall EL. 1.0m, W	270	970	K	4.31	0.62
845	TW 50	TWE-N018D-CB	CB Outer Wall EL. 1.8m, N	270	970	K	4.31	0.62
846	TW 51	TWE-S018D-CB	CB Outer Wall EL. 1.8m, S	270	970	K	4.31	0.62
847	TW 52	TWE-E018D-CB	CB Outer Wall EL. 1.8m, E	270	970	K	4.31	0.62
848	TW 53	TWE-W018D-CB	CB Outer Wall EL. 1.8m, W	270	970	K	4.31	0.62
849	TW 54	TWE-N026D-CB	CB Outer Wall EL. 2.6m, N	270	970	K	4.31	0.62
850	TW 55	TWE-S026D-CB	CB Outer Wall EL. 2.6m, S	270	970	K	4.31	0.62
851	TW 56	TWE-E026D-CB	CB Outer Wall EL. 2.6m, E	270	970	K	4.31	0.62
852	TW 57	TWE-W026D-CB	CB Outer Wall EL. 2.6m, W	270	970	K	4.31	0.62
853	TW 58	TWE-N036D-CB	CB Outer Wall EL. 3.6m, N	270	970	K	4.31	0.62
854	TW 59	TWE-S036D-CB	CB Outer Wall EL. 3.6m, S	270	970	K	4.31	0.62
855	TW 60	TWE-E036D-CB	CB Outer Wall EL. 3.6m, E	270	970	K	4.31	0.62
856	TW 61	TWE-W036D-CB	CB Outer Wall EL. 3.6m, W	270	970	K	4.31	0.62
857	TW 62	TWE-N049D-CB	CB Outer Wall EL. 4.9m, N	270	970	K	4.31	0.62
858	TW 63	TWE-S049D-CB	CB Outer Wall EL. 4.9m, S	270	970	K	4.31	0.62
859	TW 64	TWE-E049D-CB	CB Outer Wall EL. 4.9m, E	270	970	K	4.31	0.62
860	TW 65	TWE-W049D-CB	CB Outer Wall EL. 4.9m, W	270	970	K	4.31	0.62
861	TW 66	TWE-N060D-CB	CB Outer Wall EL. 6.0m, N	270	970	K	4.31	0.62
862	TW 67	TWE-S060D-CB	CB Outer Wall EL. 6.0m, S	270	970	K	4.31	0.62
863	TW 68	TWE-E060D-CB	CB Outer Wall EL. 6.0m, E	270	970	K	4.31	0.62
864	TW 69	TWE-W060D-CB	CB Outer Wall EL. 6.0m, W	270	970	K	4.31	0.62
865	TW 70	TWE-N000E-CB	CB Inner Wall EL. 0.0m, N	270	970	K	4.31	0.62
866	TW 71	TWE-S000E-CB	CB Inner Wall EL. 0.0m, S	270	970	K	4.31	0.62
867	TW 72	TWE-E000E-CB	CB Inner Wall EL. 0.0m, E	270	970	K	4.31	0.62
868	TW 73	TWE-W000E-CB	CB Inner Wall EL. 0.0m, W	270	970	K	4.31	0.62
869	TW 74	TWE-N010E-CB	CB Inner Wall EL. 1.0m, N	270	970	K	4.31	0.62
870	TW 75	TWE-S010E-CB	CB Inner Wall EL. 1.0m, S	270	970	K	4.31	0.62
871	TW 76	TWE-E010E-CB	CB Inner Wall EL. 1.0m, E	270	970	K	4.31	0.62
872	TW 77	TWE-W010E-CB	CB Inner Wall EL. 1.0m, W	270	970	K	4.31	0.62
873	TW 78	TWE-N018E-CB	CB Inner Wall EL. 1.8m, N	270	970	K	4.31	0.62
874	TW 79	TWE-S018E-CB	CB Inner Wall EL. 1.8m, S	270	970	K	4.31	0.62
875	TW 80	TWE-E018E-CB	CB Inner Wall EL. 1.8m, E	270	970	K	4.31	0.62
876	TW 81	TWE-W018E-CB	CB Inner Wall EL. 1.8m, W	270	970	K	4.31	0.62
877	TW 82	TWE-N026E-CB	CB Inner Wall EL. 2.6m, N	270	970	K	4.31	0.62
878	TW 83	TWE-S026E-CB	CB Inner Wall EL. 2.6m, S	270	970	K	4.31	0.62
879	TW 84	TWE-E026E-CB	CB Inner Wall EL. 2.6m, E	270	970	K	4.31	0.62
880	TW 85	TWE-W026E-CB	CB Inner Wall EL. 2.6m, W	270	970	K	4.31	0.62
881	TW 86	TWE-N036E-CB	CB Inner Wall EL. 3.6m, N	270	970	K	4.31	0.62
882	TW 87	TWE-S036E-CB	CB Inner Wall EL. 3.6m, S	270	970	K	4.31	0.62
883	TW 88	TWE-E036E-CB	CB Inner Wall EL. 3.6m, E	270	970	K	4.31	0.62
884	TW 89	TWE-W036E-CB	CB Inner Wall EL. 3.6m, W	270	970	K	4.31	0.62
885	TW 90	TWE-N049E-CB	CB Inner Wall EL. 4.9m, N	270	970	K	4.31	0.62
886	TW 91	TWE-S049E-CB	CB Inner Wall EL. 4.9m, S	270	970	K	4.31	0.62
887	TW 92	TWE-E049E-CB	CB Inner Wall EL. 4.9m, E	270	970	K	4.31	0.62
888	TW 93	TWE-W049E-CB	CB Inner Wall EL. 4.9m, W	270	970	K	4.31	0.62
889	TW 94	TWE-N060E-CB	CB Inner Wall EL. 6.0m, 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
890	TW 95	TWE-S060E-CB	CB Inner Wall EL. 6.0m, S	270	970	K	4.31	0.62
891	TW 96	TWE-E060E-CB	CB Inner Wall EL. 6.0m, E	270	970	K	4.31	0.62
892	TW 97	TWE-W060E-CB	CB Inner Wall EL. 6.0m, W	270	970	K	4.31	0.62
893	TW 98	TWE-IN038B02-UCPP	UCP L. Surf. EL. 3.8m, B02	270	970	K	4.31	0.62
894	TW 99	TWE-IN038B04-UCPP	UCP L. Surf. EL. 3.8m, B04	270	970	K	4.31	0.62
895	TW 100	TWE-IN038B06-UCPP	UCP L. Surf. EL. 3.8m, B06	270	970	K	4.31	0.62
896	TW 101	TWE-IN038B08-UCPP	UCP L. Surf. EL. 3.8m, B08	270	970	K	4.31	0.62
897	TW 102	TWE-IN038B21-UCPP	UCP L. Surf. EL. 3.8m, C	270	970	K	4.31	0.62
898	TW 103	TWE-EX040B02-UCPP	UCP U. Surf. EL. 4.0m, B02	270	970	K	4.31	0.62
899	TW 104	TWE-EX040B04-UCPP	UCP U. Surf. EL. 4.0m, B04	270	970	K	4.31	0.62
900	TW 105	TWE-EX040B06-UCPP	UCP U. Surf. EL. 4.0m, B06	270	970	K	4.31	0.62
901	TW 106	TWE-EX040B08-UCPP	UCP U. Surf. EL. 4.0m, B08	270	970	K	4.31	0.62
902	TW 107	TWE-EX040B21-UCPP	UCP U. Surf. EL. 4.0m, C	270	970	K	4.31	0.62
903	TW 108	TWE-063-B09-UCSP	UCSP L. Surf. EL. 6.3m, B09	270	970	K	4.31	0.62
904	TW 109	TWE-065-B09-UCSP	UCSP U. Surf. EL. 6.5m, B09	270	970	K	4.31	0.62
905	TW 110	TWE-E047G-UP	UP Str. Surf. EL. 4.7m, East	270	970	K	4.31	0.62
906	TW 111	TWE-W047G-UP	UP Str. Surf. EL. 4.7m, West	270	970	K	4.31	0.62
907	TW 112	TWE-E056G-UP	UP Str. Surf. EL. 5.6m, East	270	970	K	4.31	0.62
908	TW 113	TWE-W056G-UP	UP Str. Surf. EL. 5.6m, West	270	970	K	4.31	0.62
909	TW 114	TWE-080G-UH	UH Str. Surf. EL. 8.0m, C	270	970	K	4.31	0.62
910	TW 115	TWE-B01342	B01 Rod(3, 4) Pos. 2	270	1470	K	6.44	0.54
911	TW 116	TWE-B01344	B01 Rod(3, 4) Pos. 4	270	1470	K	6.44	0.54
912	TW 117	TWE-B01345	B01 Rod(3, 4) Pos. 5	270	1470	K	6.44	0.54
913	TW 118	TWE-B01346	B01 Rod(3, 4) Pos. 6	270	1470	K	6.44	0.54
914	TW 119	TWE-B01347	B01 Rod(3, 4) Pos. 7	270	1470	K	6.44	0.54
915	TW 120	TWE-B01348	B01 Rod(3, 4) Pos. 8	270	1470	K	6.44	0.54
916	TW 121	TWE-B20431	B20 Rod(4, 3) Pos. 1	270	1470	K	6.44	0.54
917	TW 122	TWE-B20433	B20 Rod(4, 3) Pos. 3	270	1470	K	6.44	0.54
918	TW 123	TWE-B20435	B20 Rod(4, 3) Pos. 5	270	1470	K	6.44	0.54
919	TW 124	TWE-B20436	B20 Rod(4, 3) Pos. 6	270	1470	K	6.44	0.54
920	TW 125	TWE-B20438	B20 Rod(4, 3) Pos. 8	270	1470	K	6.44	0.54
921	TW 126	TWE-B20439	B20 Rod(4, 3) Pos. 9	270	1470	K	6.44	0.54
922	TW 127	TWE-B02241	B02 Rod(2, 4) Pos. 1	270	1470	K	6.44	0.54
923	TW 128	TWE-B02242	B02 Rod(2, 4) Pos. 2	270	1470	K	6.44	0.54
924	TW 129	TWE-B02244	B02 Rod(2, 4) Pos. 4	270	1470	K	6.44	0.54
925	TW 130	TWE-B02245	B02 Rod(2, 4) Pos. 5	270	1470	K	6.44	0.54
926	TW 131	TWE-B02247	B02 Rod(2, 4) Pos. 7	270	1470	K	6.44	0.54
927	TW 132	TWE-B02249	B02 Rod(2, 4) Pos. 9	270	1470	K	6.44	0.54
928	TW 133	TWE-B02341	B02 Rod(3, 4) Pos. 1	270	1470	K	6.44	0.54
929	TW 134	TWE-B02343	B02 Rod(3, 4) Pos. 3	270	1470	K	6.44	0.54
930	TW 135	TWE-B02345	B02 Rod(3, 4) Pos. 5	270	1470	K	6.44	0.54
931	TW 136	TWE-B02346	B02 Rod(3, 4) Pos. 6	270	1470	K	6.44	0.54
932	TW 137	TWE-B02348	B02 Rod(3, 4) Pos. 8	270	1470	K	6.44	0.54
933	TW 138	TWE-B02349	B02 Rod(3, 4) Pos. 9	270	1470	K	6.44	0.54
934	TW 145	TWE-B03421	B03 Rod(4, 2) Pos. 1	270	1470	K	6.44	0.54
935	TW 146	TWE-B03422	B03 Rod(4, 2) Pos. 2	270	1470	K	6.44	0.54
936	TW 147	TWE-B03424	B03 Rod(4, 2) Pos. 4	270	1470	K	6.44	0.54
937	TW 148	TWE-B03425	B03 Rod(4, 2) Pos. 5	270	1470	K	6.44	0.54
938	TW 149	TWE-B03427	B03 Rod(4, 2) Pos. 7	270	1470	K	6.44	0.54
939	TW 150	TWE-B03429	B03 Rod(4, 2) Pos. 9	270	1470	K	6.44	0.54
940	TW 151	TWE-B03431	B03 Rod(4, 3) Pos. 1	270	1470	K	6.44	0.54
941	TW 152	TWE-B03433	B03 Rod(4, 3) Pos. 3	270	1470	K	6.44	0.54
942	TW 153	TWE-B03435	B03 Rod(4, 3) Pos. 5	270	1470	K	6.44	0.54
943	TW 154	TWE-B03436	B03 Rod(4, 3) Pos. 6	270	1470	K	6.44	0.54
944	TW 155	TWE-B03438	B03 Rod(4, 3) Pos. 8	270	1470	K	6.44	0.54
945	TW 163	TWE-B04432	B04 Rod(4, 3) Pos. 2	270	1470	K	6.44	0.54
946	TW 164	TWE-B04434	B04 Rod(4, 3) Pos. 4	270	1470	K	6.44	0.54
947	TW 165	TWE-B04435	B04 Rod(4, 3) Pos. 5	270	1470	K	6.44	0.54
948	TW 166	TWE-B04436	B04 Rod(4, 3) Pos. 6	270	1470	K	6.44	0.54
949	TW 167	TWE-B04437	B04 Rod(4, 3) Pos. 7	270	1470	K	6.44	0.54
950	TW 168	TWE-B04438	B04 Rod(4, 3) Pos. 8	270	1470	K	6.44	0.54
951	TW 169	TWE-B05342	B05 Rod(3, 4) Pos. 2	270	1470	K	6.44	0.54
952	TW 170	TWE-B05344	B05 Rod(3, 4) Pos. 4	270	1470	K	6.44	0.54
953	TW 171	TWE-B05345	B05 Rod(3, 4) Pos. 5	270	1470	K	6.44	0.54
954	TW 172	TWE-B05346	B05 Rod(3, 4) Pos. 6	270	1470	K	6.44	0.54
955	TW 173	TWE-B05347	B05 Rod(3, 4) Pos. 7	270	1470	K	6.44	0.54
956	TW 174	TWE-B05348	B05 Rod(3, 4) Pos. 8	270	1470	K	6.44	0.54
957	TW 181	TWE-B06241	B06 Rod(2, 4) Pos. 1	270	1470	K	6.44	0.54
958	TW 182	TWE-B06242	B06 Rod(2, 4) Pos. 2	270	1470	K	6.44	0.54
959	TW 183	TWE-B06244	B06 Rod(2, 4) Pos. 4	270	1470	K	6.44	0.54
960	TW 184	TWE-B06245	B06 Rod(2, 4) Pos. 5	270	1470	K	6.44	0.54
961	TW 185	TWE-B06247	B06 Rod(2, 4) Pos. 7	270	1470	K	6.44	0.54
962	TW 186	TWE-B06249	B06 Rod(2, 4) Pos. 9	270	1470	K	6.44	0.54
963	TW 187	TWE-B06341	B06 Rod(3, 4) Pos. 1	270	1470	K	6.44	0.54
964	TW 188	TWE-B06343	B06 Rod(3, 4) Pos. 3	270	1470	K	6.44	0.54
965	TW 189	TWE-B06345	B06 Rod(3, 4) Pos. 5	270	1470	K	6.44	0.54
966	TW 190	TWE-B06346	B06 Rod(3, 4) Pos. 6	270	1470	K	6.44	0.54
967	TW 191	TWE-B06348	B06 Rod(3, 4) Pos. 8	270	1470	K	6.44	0.54
968	TW 192	TWE-B06349	B06 Rod(3, 4) Pos. 9	270	1470	K	6.44	0.54
969	TW 199	TWE-B07421	B07 Rod(4, 2) Pos. 1	270	1470	K	6.44	0.54
970	TW 200	TWE-B07422	B07 Rod(4, 2) 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
971	TW 201	TWE-B07424	B07 Rod (4, 2) Pos. 4	270	1470	K	6.44	0.54
972	TW 202	TWE-B07425	B07 Rod (4, 2) Pos. 5	270	1470	K	6.44	0.54
973	TW 203	TWE-B07427	B07 Rod (4, 2) Pos. 7	270	1470	K	6.44	0.54
974	TW 204	TWE-B07429	B07 Rod (4, 2) Pos. 9	270	1470	K	6.44	0.54
975	TW 205	TWE-B07431	B07 Rod (4, 3) Pos. 1	270	1470	K	6.44	0.54
976	TW 206	TWE-B07433	B07 Rod (4, 3) Pos. 3	270	1470	K	6.44	0.54
977	TW 207	TWE-B07435	B07 Rod (4, 3) Pos. 5	270	1470	K	6.44	0.54
978	TW 208	TWE-B07436	B07 Rod (4, 3) Pos. 6	270	1470	K	6.44	0.54
979	TW 209	TWE-B07438	B07 Rod (4, 3) Pos. 8	270	1470	K	6.44	0.54
980	TW 210	TWE-B07439	B07 Rod (4, 3) Pos. 9	270	1470	K	6.44	0.54
981	TW 217	TWE-B08222	B08 Rod (2, 2) Pos. 2	270	970	K	4.31	0.62
982	TW 218	TWE-B08224	B08 Rod (2, 2) Pos. 4	270	970	K	4.31	0.62
983	TW 219	TWE-B08225	B08 Rod (2, 2) Pos. 5	270	970	K	4.31	0.62
984	TW 220	TWE-B08226	B08 Rod (2, 2) Pos. 6	270	970	K	4.31	0.62
985	TW 221	TWE-B08227	B08 Rod (2, 2) Pos. 7	270	970	K	4.31	0.62
986	TW 222	TWE-B08228	B08 Rod (2, 2) Pos. 8	270	970	K	4.31	0.62
987	TW 223	TWE-B08432	B08 Rod (4, 3) Pos. 2	270	1470	K	6.44	0.54
988	TW 224	TWE-B08434	B08 Rod (4, 3) Pos. 4	270	1470	K	6.44	0.54
989	TW 225	TWE-B08435	B08 Rod (4, 3) Pos. 5	270	1470	K	6.44	0.54
990	TW 226	TWE-B08436	B08 Rod (4, 3) Pos. 6	270	1470	K	6.44	0.54
991	TW 227	TWE-B08437	B08 Rod (4, 3) Pos. 7	270	1470	K	6.44	0.54
992	TW 228	TWE-B08438	B08 Rod (4, 3) Pos. 8	270	1470	K	6.44	0.54
993	TW 229	TWE-B09442	B09 Rod (4, 4) Pos. 2	270	1470	K	6.44	0.54
994	TW 230	TWE-B09444	B09 Rod (4, 4) Pos. 4	270	1470	K	6.44	0.54
995	TW 231	TWE-B09445	B09 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
996	TW 232	TWE-B09446	B09 Rod (4, 4) Pos. 6	270	1470	K	6.44	0.54
997	TW 233	TWE-B09447	B09 Rod (4, 4) Pos. 7	270	1470	K	6.44	0.54
998	TW 234	TWE-B09448	B09 Rod (4, 4) Pos. 8	270	1470	K	6.44	0.54
999	TW 235	TWE-B10441	B10 Rod (4, 4) Pos. 1	270	1470	K	6.44	0.54
1000	TW 236	TWE-B10442	B10 Rod (4, 4) Pos. 2	270	1470	K	6.44	0.54
1001	TW 237	TWE-B10444	B10 Rod (4, 4) Pos. 4	270	1470	K	6.44	0.54
1002	TW 238	TWE-B10445	B10 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1003	TW 239	TWE-B10447	B10 Rod (4, 4) Pos. 7	270	1470	K	6.44	0.54
1004	TW 240	TWE-B10449	B10 Rod (4, 4) Pos. 9	270	1470	K	6.44	0.54
1005	TW 241	TWE-B10451	B10 Rod (4, 5) Pos. 1	270	1470	K	6.44	0.54
1006	TW 242	TWE-B10453	B10 Rod (4, 5) Pos. 3	270	1470	K	6.44	0.54
1007	TW 243	TWE-B10455	B10 Rod (4, 5) Pos. 5	270	1470	K	6.44	0.54
1008	TW 244	TWE-B10456	B10 Rod (4, 5) Pos. 6	270	1470	K	6.44	0.54
1009	TW 245	TWE-B10458	B10 Rod (4, 5) Pos. 8	270	1470	K	6.44	0.54
1010	TW 246	TWE-B10459	B10 Rod (4, 5) Pos. 9	270	1470	K	6.44	0.54
1011	TW 247	TWE-B11442	B11 Rod (4, 4) Pos. 2	270	1470	K	6.44	0.54
1012	TW 248	TWE-B11444	B11 Rod (4, 4) Pos. 4	270	1470	K	6.44	0.54
1013	TW 249	TWE-B11445	B11 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1014	TW 250	TWE-B11446	B11 Rod (4, 4) Pos. 6	270	1470	K	6.44	0.54
1015	TW 251	TWE-B11447	B11 Rod (4, 4) Pos. 7	270	1470	K	6.44	0.54
1016	TW 252	TWE-B11448	B11 Rod (4, 4) Pos. 8	270	1470	K	6.44	0.54
1017	TW 253	TWE-B11172	B11 Rod (1, 7) Pos. 2	270	1470	K	6.44	0.54
1018	TW 254	TWE-B11174	B11 Rod (1, 7) Pos. 4	270	1470	K	6.44	0.54
1019	TW 255	TWE-B11175	B11 Rod (1, 7) Pos. 5	270	1470	K	6.44	0.54
1020	TW 256	TWE-B11176	B11 Rod (1, 7) Pos. 6	270	1470	K	6.44	0.54
1021	TW 257	TWE-B11177	B11 Rod (1, 7) Pos. 7	270	1470	K	6.44	0.54
1022	TW 258	TWE-B11178	B11 Rod (1, 7) Pos. 8	270	1470	K	6.44	0.54
1023	TW 259	TWE-B12262	B12 Rod (2, 6) Pos. 2	270	970	K	4.31	0.62
1024	TW 260	TWE-B12264	B12 Rod (2, 6) Pos. 4	270	970	K	4.31	0.62
1025	TW 261	TWE-B12265	B12 Rod (2, 6) Pos. 5	270	970	K	4.31	0.62
1026	TW 262	TWE-B12266	B12 Rod (2, 6) Pos. 6	270	970	K	4.31	0.62
1027	TW 263	TWE-B12267	B12 Rod (2, 6) Pos. 7	270	970	K	4.31	0.62
1028	TW 264	TWE-B12268	B12 Rod (2, 6) Pos. 8	270	970	K	4.31	0.62
1029	TW 265	TWE-B12441	B12 Rod (4, 4) Pos. 1	270	1470	K	6.44	0.54
1030	TW 266	TWE-B12442	B12 Rod (4, 4) Pos. 2	270	1470	K	6.44	0.54
1031	TW 267	TWE-B12444	B12 Rod (4, 4) Pos. 4	270	1470	K	6.44	0.54
1032	TW 268	TWE-B12445	B12 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1033	TW 269	TWE-B12447	B12 Rod (4, 4) Pos. 7	270	1470	K	6.44	0.54
1034	TW 270	TWE-B12449	B12 Rod (4, 4) Pos. 9	270	1470	K	6.44	0.54
1035	TW 271	TWE-B12431	B12 Rod (4, 3) Pos. 1	270	1470	K	6.44	0.54
1036	TW 272	TWE-B12433	B12 Rod (4, 3) Pos. 3	270	1470	K	6.44	0.54
1037	TW 273	TWE-B12435	B12 Rod (4, 3) Pos. 5	270	1470	K	6.44	0.54
1038	TW 274	TWE-B12436	B12 Rod (4, 3) Pos. 6	270	1470	K	6.44	0.54
1039	TW 275	TWE-B12438	B12 Rod (4, 3) Pos. 8	270	1470	K	6.44	0.54
1040	TW 276	TWE-B12439	B12 Rod (4, 3) Pos. 9	270	1470	K	6.44	0.54
1041	TW 277	TWE-B13662	B13 Rod (6, 6) Pos. 2	270	970	K	4.31	0.62
1042	TW 278	TWE-B13664	B13 Rod (6, 6) Pos. 4	270	970	K	4.31	0.62
1043	TW 279	TWE-B13665	B13 Rod (6, 6) Pos. 5	270	970	K	4.31	0.62
1044	TW 280	TWE-B13666	B13 Rod (6, 6) Pos. 6	270	970	K	4.31	0.62
1045	TW 281	TWE-B13667	B13 Rod (6, 6) Pos. 7	270	970	K	4.31	0.62
1046	TW 282	TWE-B13668	B13 Rod (6, 6) Pos. 8	270	970	K	4.31	0.62
1047	TW 283	TWE-B13442	B13 Rod (4, 4) Pos. 2	270	1470	K	6.44	0.54
1048	TW 284	TWE-B13444	B13 Rod (4, 4) Pos. 4	270	1470	K	6.44	0.54
1049	TW 285	TWE-B13445	B13 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1050	TW 286	TWE-B13446	B13 Rod (4, 4) Pos. 6	270	1470	K	6.44	0.54
1051	TW 287	TWE-B13447	B13 Rod (4, 4) Pos. 7	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
1052	TW 288	TWE-B13448	B13 Rod(4,4) Pos. 8	270	1470	K	6.44	0.54
1053	TW 289	TWE-B14541	B14 Rod(5,4) Pos. 1	270	1470	K	6.44	0.54
1054	TW 290	TWE-B14542	B14 Rod(5,4) Pos. 2	270	1470	K	6.44	0.54
1055	TW 291	TWE-B14544	B14 Rod(5,4) Pos. 4	270	1470	K	6.44	0.54
1056	TW 292	TWE-B14545	B14 Rod(5,4) Pos. 5	270	1470	K	6.44	0.54
1057	TW 293	TWE-B14547	B14 Rod(5,4) Pos. 7	270	1470	K	6.44	0.54
1058	TW 294	TWE-B14549	B14 Rod(5,4) Pos. 9	270	1470	K	6.44	0.54
1059	TW 295	TWE-B14441	B14 Rod(4,4) Pos. 1	270	1470	K	6.44	0.54
1060	TW 296	TWE-B14443	B14 Rod(4,4) Pos. 3	270	1470	K	6.44	0.54
1061	TW 297	TWE-B14445	B14 Rod(4,4) Pos. 5	270	1470	K	6.44	0.54
1062	TW 298	TWE-B14446	B14 Rod(4,4) Pos. 6	270	1470	K	6.44	0.54
1063	TW 299	TWE-B14448	B14 Rod(4,4) Pos. 8	270	1470	K	6.44	0.54
1064	TW 300	TWE-B14449	B14 Rod(4,4) Pos. 9	270	1470	K	6.44	0.54
1065	TW 301	TWE-B14172	B14 Rod(1,7) Pos. 2	270	1470	K	6.44	0.54
1066	TW 302	TWE-B14174	B14 Rod(1,7) Pos. 4	270	1470	K	6.44	0.54
1067	TW 303	TWE-B14175	B14 Rod(1,7) Pos. 5	270	1470	K	6.44	0.54
1068	TW 304	TWE-B14176	B14 Rod(1,7) Pos. 6	270	1470	K	6.44	0.54
1069	TW 305	TWE-B14177	B14 Rod(1,7) Pos. 7	270	1470	K	6.44	0.54
1070	TW 306	TWE-B14178	B14 Rod(1,7) Pos. 8	270	1470	K	6.44	0.54
1071	TW 307	TWE-B15441	B15 Rod(4,4) Pos. 1	270	1470	K	6.44	0.54
1072	TW 308	TWE-B15442	B15 Rod(4,4) Pos. 2	270	1470	K	6.44	0.54
1073	TW 309	TWE-B15444	B15 Rod(4,4) Pos. 4	270	1470	K	6.44	0.54
1074	TW 310	TWE-B15445	B15 Rod(4,4) Pos. 5	270	1470	K	6.44	0.54
1075	TW 311	TWE-B15447	B15 Rod(4,4) Pos. 7	270	1470	K	6.44	0.54
1076	TW 312	TWE-B15449	B15 Rod(4,4) Pos. 9	270	1470	K	6.44	0.54
1077	TW 313	TWE-B15451	B15 Rod(4,5) Pos. 1	270	1470	K	6.44	0.54
1078	TW 314	TWE-B15453	B15 Rod(4,5) Pos. 3	270	1470	K	6.44	0.54
1079	TW 315	TWE-B15455	B15 Rod(4,5) Pos. 5	270	1470	K	6.44	0.54
1080	TW 316	TWE-B15456	B15 Rod(4,5) Pos. 6	270	1470	K	6.44	0.54
1081	TW 317	TWE-B15458	B15 Rod(4,5) Pos. 8	270	1470	K	6.44	0.54
1082	TW 318	TWE-B15459	B15 Rod(4,5) Pos. 9	270	1470	K	6.44	0.54
1083	TW 319	TWE-B15172	B15 Rod(1,7) Pos. 2	270	1470	K	6.44	0.54
1084	TW 320	TWE-B15174	B15 Rod(1,7) Pos. 4	270	1470	K	6.44	0.54
1085	TW 321	TWE-B15175	B15 Rod(1,7) Pos. 5	270	1470	K	6.44	0.54
1086	TW 322	TWE-B15176	B15 Rod(1,7) Pos. 6	270	1470	K	6.44	0.54
1087	TW 323	TWE-B15177	B15 Rod(1,7) Pos. 7	270	1470	K	6.44	0.54
1088	TW 324	TWE-B15178	B15 Rod(1,7) Pos. 8	270	1470	K	6.44	0.54
1089	TW 325	TWE-B16442	B16 Rod(4,4) Pos. 2	270	1470	K	6.44	0.54
1090	TW 326	TWE-B16444	B16 Rod(4,4) Pos. 4	270	1470	K	6.44	0.54
1091	TW 327	TWE-B16445	B16 Rod(4,4) Pos. 5	270	1470	K	6.44	0.54
1092	TW 328	TWE-B16446	B16 Rod(4,4) Pos. 6	270	1470	K	6.44	0.54
1093	TW 329	TWE-B16447	B16 Rod(4,4) Pos. 7	270	1470	K	6.44	0.54
1094	TW 330	TWE-B16448	B16 Rod(4,4) Pos. 8	270	1470	K	6.44	0.54
1095	TW 331	TWE-B16172	B16 Rod(1,7) Pos. 2	270	1470	K	6.44	0.54
1096	TW 332	TWE-B16174	B16 Rod(1,7) Pos. 4	270	1470	K	6.44	0.54
1097	TW 333	TWE-B16175	B16 Rod(1,7) Pos. 5	270	1470	K	6.44	0.54
1098	TW 334	TWE-B16176	B16 Rod(1,7) Pos. 6	270	1470	K	6.44	0.54
1099	TW 335	TWE-B16177	B16 Rod(1,7) Pos. 7	270	1470	K	6.44	0.54
1100	TW 336	TWE-B16178	B16 Rod(1,7) Pos. 8	270	1470	K	6.44	0.54
1101	TW 337	TWE-B17442	B17 Rod(4,4) Pos. 2	270	1470	K	6.44	0.54
1102	TW 338	TWE-B17444	B17 Rod(4,4) Pos. 4	270	1470	K	6.44	0.54
1103	TW 339	TWE-B17445	B17 Rod(4,4) Pos. 5	270	1470	K	6.44	0.54
1104	TW 340	TWE-B17446	B17 Rod(4,4) Pos. 6	270	1470	K	6.44	0.54
1105	TW 341	TWE-B17447	B17 Rod(4,4) Pos. 7	270	1470	K	6.44	0.54
1106	TW 342	TWE-B17448	B17 Rod(4,4) Pos. 8	270	1470	K	6.44	0.54
1107	TW 343	TWE-B17172	B17 Rod(1,7) Pos. 2	270	1470	K	6.44	0.54
1108	TW 344	TWE-B17174	B17 Rod(1,7) Pos. 4	270	1470	K	6.44	0.54
1109	TW 345	TWE-B17175	B17 Rod(1,7) Pos. 5	270	1470	K	6.44	0.54
1110	TW 346	TWE-B17176	B17 Rod(1,7) Pos. 6	270	1470	K	6.44	0.54
1111	TW 347	TWE-B17177	B17 Rod(1,7) Pos. 7	270	1470	K	6.44	0.54
1112	TW 348	TWE-B17178	B17 Rod(1,7) Pos. 8	270	1470	K	6.44	0.54
1113	TW 349	TWE-B18341	B18 Rod(3,4) Pos. 1	270	1470	K	6.44	0.54
1114	TW 350	TWE-B18342	B18 Rod(3,4) Pos. 2	270	1470	K	6.44	0.54
1115	TW 351	TWE-B18344	B18 Rod(3,4) Pos. 4	270	1470	K	6.44	0.54
1116	TW 352	TWE-B18345	B18 Rod(3,4) Pos. 5	270	1470	K	6.44	0.54
1117	TW 353	TWE-B18347	B18 Rod(3,4) Pos. 7	270	1470	K	6.44	0.54
1118	TW 354	TWE-B18349	B18 Rod(3,4) Pos. 9	270	1470	K	6.44	0.54
1119	TW 355	TWE-B18441	B18 Rod(4,4) Pos. 1	270	1470	K	6.44	0.54
1120	TW 356	TWE-B18443	B18 Rod(4,4) Pos. 3	270	1470	K	6.44	0.54
1121	TW 357	TWE-B18445	B18 Rod(4,4) Pos. 5	270	1470	K	6.44	0.54
1122	TW 358	TWE-B18446	B18 Rod(4,4) Pos. 6	270	1470	K	6.44	0.54
1123	TW 359	TWE-B18448	B18 Rod(4,4) Pos. 8	270	1470	K	6.44	0.54
1124	TW 360	TWE-B18449	B18 Rod(4,4) Pos. 9	270	1470	K	6.44	0.54
1125	TW 361	TWE-B19451	B19 Rod(4,5) Pos. 1	270	1470	K	6.44	0.54
1126	TW 362	TWE-B19452	B19 Rod(4,5) Pos. 2	270	1470	K	6.44	0.54
1127	TW 363	TWE-B19454	B19 Rod(4,5) Pos. 4	270	1470	K	6.44	0.54
1128	TW 364	TWE-B19455	B19 Rod(4,5) Pos. 5	270	1470	K	6.44	0.54
1129	TW 365	TWE-B19457	B19 Rod(4,5) Pos. 7	270	1470	K	6.44	0.54
1130	TW 366	TWE-B19459	B19 Rod(4,5) Pos. 9	270	1470	K	6.44	0.54
1131	TW 367	TWE-B19441	B19 Rod(4,4) Pos. 1	270	1470	K	6.44	0.54
1132	TW 368	TWE-B19443	B19 Rod(4,4) 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
1133	TW 369	TWE-B19445	B19 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1134	TW 370	TWE-B19446	B19 Rod (4, 4) Pos. 6	270	1470	K	6.44	0.54
1135	TW 371	TWE-B19448	B19 Rod (4, 4) Pos. 8	270	1470	K	6.44	0.54
1136	TW 372	TWE-B19449	B19 Rod (4, 4) Pos. 9	270	1470	K	6.44	0.54
1137	TW 373	TWE-B20441	B20 Rod (4, 4) Pos. 1	270	1470	K	6.44	0.54
1138	TW 374	TWE-B20442	B20 Rod (4, 4) Pos. 2	270	1470	K	6.44	0.54
1139	TW 375	TWE-B20444	B20 Rod (4, 4) Pos. 4	270	1470	K	6.44	0.54
1140	TW 376	TWE-B20445	B20 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1141	TW 377	TWE-B20447	B20 Rod (4, 4) Pos. 7	270	1470	K	6.44	0.54
1142	TW 378	TWE-B20449	B20 Rod (4, 4) Pos. 9	270	1470	K	6.44	0.54
1143	TW 379	TWE-B21441	B21 Rod (4, 4) Pos. 1	270	1470	K	6.44	0.54
1144	TW 380	TWE-B21442	B21 Rod (4, 4) Pos. 2	270	1470	K	6.44	0.54
1145	TW 381	TWE-B21444	B21 Rod (4, 4) Pos. 4	270	1470	K	6.44	0.54
1146	TW 382	TWE-B21445	B21 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1147	TW 383	TWE-B21447	B21 Rod (4, 4) Pos. 7	270	1470	K	6.44	0.54
1148	TW 384	TWE-B21449	B21 Rod (4, 4) Pos. 9	270	1470	K	6.44	0.54
1149	TW 385	TWE-B21541	B21 Rod (5, 4) Pos. 1	270	1470	K	6.44	0.54
1150	TW 386	TWE-B21543	B21 Rod (5, 4) Pos. 3	270	1470	K	6.44	0.54
1151	TW 387	TWE-B21545	B21 Rod (5, 4) Pos. 5	270	1470	K	6.44	0.54
1152	TW 388	TWE-B21546	B21 Rod (5, 4) Pos. 6	270	1470	K	6.44	0.54
1153	TW 389	TWE-B21548	B21 Rod (5, 4) Pos. 8	270	1470	K	6.44	0.54
1154	TW 390	TWE-B21549	B21 Rod (5, 4) Pos. 9	270	1470	K	6.44	0.54
1155	TW 391	TWE-B21662	B21 Rod (6, 6) Pos. 2	270	970	K	4.31	0.62
1156	TW 392	TWE-B21664	B21 Rod (6, 6) Pos. 4	270	970	K	4.31	0.62
1157	TW 393	TWE-B21665	B21 Rod (6, 6) Pos. 5	270	970	K	4.31	0.62
1158	TW 394	TWE-B21666	B21 Rod (6, 6) Pos. 6	270	970	K	4.31	0.62
1159	TW 395	TWE-B21667	B21 Rod (6, 6) Pos. 7	270	970	K	4.31	0.62
1160	TW 396	TWE-B21668	B21 Rod (6, 6) Pos. 8	270	970	K	4.31	0.62
1161	TW 397	TWE-B21112	B21 Rod (1, 1) Pos. 2	270	1470	K	6.44	0.54
1162	TW 398	TWE-B21114	B21 Rod (1, 1) Pos. 4	270	1470	K	6.44	0.54
1163	TW 399	TWE-B21115	B21 Rod (1, 1) Pos. 5	270	1470	K	6.44	0.54
1164	TW 400	TWE-B21116	B21 Rod (1, 1) Pos. 6	270	1470	K	6.44	0.54
1165	TW 401	TWE-B21117	B21 Rod (1, 1) Pos. 7	270	1470	K	6.44	0.54
1166	TW 402	TWE-B21118	B21 Rod (1, 1) Pos. 8	270	1470	K	6.44	0.54
1167	TW 403	TWE-B22541	B22 Rod (5, 4) Pos. 1	270	1470	K	6.44	0.54
1168	TW 404	TWE-B22542	B22 Rod (5, 4) Pos. 2	270	1470	K	6.44	0.54
1169	TW 405	TWE-B22544	B22 Rod (5, 4) Pos. 4	270	1470	K	6.44	0.54
1170	TW 406	TWE-B22545	B22 Rod (5, 4) Pos. 5	270	1470	K	6.44	0.54
1171	TW 407	TWE-B22547	B22 Rod (5, 4) Pos. 7	270	1470	K	6.44	0.54
1172	TW 408	TWE-B22549	B22 Rod (5, 4) Pos. 9	270	1470	K	6.44	0.54
1173	TW 409	TWE-B22441	B22 Rod (4, 4) Pos. 1	270	1470	K	6.44	0.54
1174	TW 410	TWE-B22443	B22 Rod (4, 4) Pos. 3	270	1470	K	6.44	0.54
1175	TW 411	TWE-B22445	B22 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1176	TW 412	TWE-B22446	B22 Rod (4, 4) Pos. 6	270	1470	K	6.44	0.54
1177	TW 413	TWE-B22448	B22 Rod (4, 4) Pos. 8	270	1470	K	6.44	0.54
1178	TW 414	TWE-B22449	B22 Rod (4, 4) Pos. 9	270	1470	K	6.44	0.54
1179	TW 415	TWE-B22172	B22 Rod (1, 7) Pos. 2	270	1470	K	6.44	0.54
1180	TW 416	TWE-B22174	B22 Rod (1, 7) Pos. 4	270	1470	K	6.44	0.54
1181	TW 417	TWE-B22175	B22 Rod (1, 7) Pos. 5	270	1470	K	6.44	0.54
1182	TW 418	TWE-B22176	B22 Rod (1, 7) Pos. 6	270	1470	K	6.44	0.54
1183	TW 419	TWE-B22177	B22 Rod (1, 7) Pos. 7	270	1470	K	6.44	0.54
1184	TW 420	TWE-B22178	B22 Rod (1, 7) Pos. 8	270	1470	K	6.44	0.54
1185	TW 421	TWE-B23441	B23 Rod (4, 4) Pos. 1	270	1470	K	6.44	0.54
1186	TW 422	TWE-B23442	B23 Rod (4, 4) Pos. 2	270	1470	K	6.44	0.54
1187	TW 423	TWE-B23444	B23 Rod (4, 4) Pos. 4	270	1470	K	6.44	0.54
1188	TW 424	TWE-B23445	B23 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1189	TW 425	TWE-B23447	B23 Rod (4, 4) Pos. 7	270	1470	K	6.44	0.54
1190	TW 426	TWE-B23449	B23 Rod (4, 4) Pos. 9	270	1470	K	6.44	0.54
1191	TW 427	TWE-B23451	B23 Rod (4, 5) Pos. 1	270	1470	K	6.44	0.54
1192	TW 428	TWE-B23453	B23 Rod (4, 5) Pos. 3	270	1470	K	6.44	0.54
1193	TW 429	TWE-B23455	B23 Rod (4, 5) Pos. 5	270	1470	K	6.44	0.54
1194	TW 430	TWE-B23456	B23 Rod (4, 5) Pos. 6	270	1470	K	6.44	0.54
1195	TW 431	TWE-B23458	B23 Rod (4, 5) Pos. 8	270	1470	K	6.44	0.54
1196	TW 432	TWE-B23459	B23 Rod (4, 5) Pos. 9	270	1470	K	6.44	0.54
1197	TW 433	TWE-B20112	B20 Rod (1, 1) Pos. 2	270	1470	K	6.44	0.54
1198	TW 434	TWE-B20114	B20 Rod (1, 1) Pos. 4	270	1470	K	6.44	0.54
1199	TW 435	TWE-B20115	B20 Rod (1, 1) Pos. 5	270	1470	K	6.44	0.54
1200	TW 436	TWE-B20116	B20 Rod (1, 1) Pos. 6	270	1470	K	6.44	0.54
1201	TW 437	TWE-B20117	B20 Rod (1, 1) Pos. 7	270	1470	K	6.44	0.54
1202	TW 438	TWE-B20118	B20 Rod (1, 1) Pos. 8	270	1470	K	6.44	0.54
1203	TW 439	TWE-B24341	B24 Rod (3, 4) Pos. 1	270	1470	K	6.44	0.54
1204	TW 440	TWE-B24342	B24 Rod (3, 4) Pos. 2	270	1470	K	6.44	0.54
1205	TW 441	TWE-B24344	B24 Rod (3, 4) Pos. 4	270	1470	K	6.44	0.54
1206	TW 442	TWE-B24345	B24 Rod (3, 4) Pos. 5	270	1470	K	6.44	0.54
1207	TW 443	TWE-B24347	B24 Rod (3, 4) Pos. 7	270	1470	K	6.44	0.54
1208	TW 444	TWE-B24349	B24 Rod (3, 4) Pos. 9	270	1470	K	6.44	0.54
1209	TW 445	TWE-B24441	B24 Rod (4, 4) Pos. 1	270	1470	K	6.44	0.54
1210	TW 446	TWE-B24443	B24 Rod (4, 4) Pos. 3	270	1470	K	6.44	0.54
1211	TW 447	TWE-B24445	B24 Rod (4, 4) Pos. 5	270	1470	K	6.44	0.54
1212	TW 448	TWE-B24446	B24 Rod (4, 4) Pos. 6	270	1470	K	6.44	0.54
1213	TW 449	TWE-B24448	B24 Rod (4, 4) Pos. 8	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
1214	TW 450	TWE-B24449	B24 Rod(4,4) Pos. 9	270	1470	K	6.44	0.54
1215	TW 451	TWE-B24712	B24 Rod(7,1) Pos. 2	270	1470	K	6.44	0.54
1216	TW 452	TWE-B24714	B24 Rod(7,1) Pos. 4	270	1470	K	6.44	0.54
1217	TW 453	TWE-B24715	B24 Rod(7,1) Pos. 5	270	1470	K	6.44	0.54
1218	TW 454	TWE-B24716	B24 Rod(7,1) Pos. 6	270	1470	K	6.44	0.54
1219	TW 455	TWE-B24717	B24 Rod(7,1) Pos. 7	270	1470	K	6.44	0.54
1220	TW 456	TWE-B24718	B24 Rod(7,1) Pos. 8	270	1470	K	6.44	0.54
1221	TW 457	TWE-IN0641-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
1222	TW 458	TWE-IN0642-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
1223	TW 459	TWE-IN0643-SGA	SGA Inlet Plenum	270	720	K	3.31	0.74
1224	TW 463	TWE-086B-SGA	SGA Inner Wall Pos. 1	270	670	K	3.11	0.78
1225	TW 464	TWE-137B-SGA	SGA Inner Wall Pos. 7	270	670	K	3.11	0.78
1226	TW 465	TWE-178B-SGA	SGA Inner Wall Pos. 10	270	670	K	3.11	0.78
1227	TW 466	TWE-223B-SGA	SGA Inner Wall	270	670	K	3.11	0.78
1228	TW 467	TWE-IN0861-SGA	SGA U-Tube(1, IN) Pos. 1	270	720	K	3.31	0.74
1229	TW 468	TWE-EX0861-SGA	SGA U-Tube(1, EX) Pos. 1	270	720	K	3.31	0.74
1230	TW 469	TWE-IN0862-SGA	SGA U-Tube(2, IN) Pos. 1	270	720	K	3.31	0.74
1231	TW 470	TWE-EX0862-SGA	SGA U-Tube(2, EX) Pos. 1	270	720	K	3.31	0.74
1232	TW 471	TWE-IN0863-SGA	SGA U-Tube(3, IN) Pos. 1	270	720	K	3.31	0.74
1233	TW 472	TWE-EX0863-SGA	SGA U-Tube(3, EX) Pos. 1	270	720	K	3.31	0.74
1234	TW 473	TWE-IN0991-SGA	SGA U-Tube(1, IN) Pos. 3	270	720	K	3.31	0.74
1235	TW 474	TWE-EX0991-SGA	SGA U-Tube(1, EX) Pos. 3	270	720	K	3.31	0.74
1236	TW 475	TWE-IN0992-SGA	SGA U-Tube(2, IN) Pos. 3	270	720	K	3.31	0.74
1237	TW 476	TWE-EX0992-SGA	SGA U-Tube(2, EX) Pos. 3	270	720	K	3.31	0.74
1238	TW 477	TWE-IN0993-SGA	SGA U-Tube(3, IN) Pos. 3	270	720	K	3.31	0.74
1239	TW 478	TWE-EX0993-SGA	SGA U-Tube(3, EX) Pos. 3	270	720	K	3.31	0.74
1240	TW 479	TWE-IN1121-SGA	SGA U-Tube(1, IN) Pos. 5	270	720	K	3.31	0.74
1241	TW 480	TWE-EX1121-SGA	SGA U-Tube(1, EX) Pos. 5	270	720	K	3.31	0.74
1242	TW 481	TWE-IN1122-SGA	SGA U-Tube(2, IN) Pos. 5	270	720	K	3.31	0.74
1243	TW 482	TWE-EX1122-SGA	SGA U-Tube(2, EX) Pos. 5	270	720	K	3.31	0.74
1244	TW 483	TWE-IN1123-SGA	SGA U-Tube(3, IN) Pos. 5	270	720	K	3.31	0.74
1245	TW 484	TWE-EX1123-SGA	SGA U-Tube(3, EX) Pos. 5	270	720	K	3.31	0.74
1246	TW 485	TWE-IN1371-SGA	SGA U-Tube(1, IN) Pos. 7	270	720	K	3.31	0.74
1247	TW 486	TWE-EX1371-SGA	SGA U-Tube(1, EX) Pos. 7	270	720	K	3.31	0.74
1248	TW 487	TWE-IN1372-SGA	SGA U-Tube(2, IN) Pos. 7	270	720	K	3.31	0.74
1249	TW 488	TWE-EX1372-SGA	SGA U-Tube(2, EX) Pos. 7	270	720	K	3.31	0.74
1250	TW 489	TWE-IN1373-SGA	SGA U-Tube(3, IN) Pos. 7	270	720	K	3.31	0.74
1251	TW 490	TWE-EX1373-SGA	SGA U-Tube(3, EX) Pos. 7	270	720	K	3.31	0.74
1252	TW 491	TWE-IN1632-SGA	SGA U-Tube(2, IN) Pos. 9	270	720	K	3.31	0.74
1253	TW 492	TWE-EX1632-SGA	SGA U-Tube(2, EX) Pos. 9	270	720	K	3.31	0.74
1254	TW 493	TWE-IN1633-SGA	SGA U-Tube(3, IN) Pos. 9	270	720	K	3.31	0.74
1255	TW 494	TWE-EX1633-SGA	SGA U-Tube(3, EX) Pos. 9	270	720	K	3.31	0.74
1256	TW 495	TWE-IN1701-SGA	SGA U-Tube(1, IN) Pos. 10	270	720	K	3.31	0.74
1257	TW 496	TWE-IN1782-SGA	SGA U-Tube(2, IN) Pos. 10	270	720	K	3.31	0.74
1258	TW 497	TWE-IN1863-SGA	SGA U-Tube(3, IN) Pos. 11	270	720	K	3.31	0.74
1259	TW 498	TWE-IN0641-SGB	SGB Inlet Plenum	270	720	K	3.74	0.83
1260	TW 499	TWE-IN0642-SGB	SGB Inlet Plenum	270	720	K	3.74	0.83
1261	TW 500	TWE-IN0643-SGB	SGB Inlet Plenum	270	720	K	3.74	0.83
1262	TW 504	TWE-086B-SGB	SGB Inner Wall Pos. 1	270	670	K	3.11	0.78
1263	TW 505	TWE-137B-SGB	SGB Inner Wall Pos. 7	270	670	K	3.11	0.78
1264	TW 506	TWE-178B-SGB	SGB Inner Wall Pos. 10	270	670	K	3.11	0.78
1265	TW 507	TWE-223B-SGB	SGB Inner Wall	270	670	K	3.11	0.78
1266	TW 508	TWE-IN0861-SGB	SGB U-Tube(1, IN) Pos. 1	270	720	K	3.31	0.74
1267	TW 509	TWE-EX0861-SGB	SGB U-Tube(1, EX) Pos. 1	270	720	K	3.31	0.74
1268	TW 510	TWE-IN0862-SGB	SGB U-Tube(2, IN) Pos. 1	270	720	K	3.31	0.74
1269	TW 511	TWE-EX0862-SGB	SGB U-Tube(2, EX) Pos. 1	270	720	K	3.31	0.74
1270	TW 512	TWE-IN0863-SGB	SGB U-Tube(3, IN) Pos. 1	270	720	K	3.31	0.74
1271	TW 513	TWE-EX0863-SGB	SGB U-Tube(3, EX) Pos. 1	270	720	K	3.31	0.74
1272	TW 514	TWE-IN0991-SGB	SGB U-Tube(1, IN) Pos. 3	270	720	K	3.31	0.74
1273	TW 515	TWE-EX0991-SGB	SGB U-Tube(1, EX) Pos. 3	270	720	K	3.31	0.74
1274	TW 516	TWE-IN0992-SGB	SGB U-Tube(2, IN) Pos. 3	270	720	K	3.31	0.74
1275	TW 517	TWE-EX0992-SGB	SGB U-Tube(2, EX) Pos. 3	270	720	K	3.31	0.74
1276	TW 518	TWE-IN0993-SGB	SGB U-Tube(3, IN) Pos. 3	270	720	K	3.31	0.74
1277	TW 519	TWE-EX0993-SGB	SGB U-Tube(3, EX) Pos. 3	270	720	K	3.31	0.74
1278	TW 520	TWE-IN1121-SGB	SGB U-Tube(1, IN) Pos. 5	270	720	K	3.31	0.74
1279	TW 521	TWE-EX1121-SGB	SGB U-Tube(1, EX) Pos. 5	270	720	K	3.31	0.74
1280	TW 522	TWE-IN1122-SGB	SGB U-Tube(2, IN) Pos. 5	270	720	K	3.31	0.74
1281	TW 523	TWE-EX1122-SGB	SGB U-Tube(2, EX) Pos. 5	270	720	K	3.31	0.74
1282	TW 524	TWE-IN1123-SGB	SGB U-Tube(3, IN) Pos. 5	270	720	K	3.31	0.74
1283	TW 525	TWE-EX1123-SGB	SGB U-Tube(3, EX) Pos. 5	270	720	K	3.31	0.74
1284	TW 526	TWE-IN1371-SGB	SGB U-Tube(1, IN) Pos. 7	270	720	K	3.31	0.74
1285	TW 527	TWE-EX1371-SGB	SGB U-Tube(1, EX) Pos. 7	270	720	K	3.31	0.74
1286	TW 528	TWE-IN1372-SGB	SGB U-Tube(2, IN) Pos. 7	270	720	K	3.31	0.74
1287	TW 529	TWE-EX1372-SGB	SGB U-Tube(2, EX) Pos. 7	270	720	K	3.31	0.74
1288	TW 530	TWE-IN1373-SGB	SGB U-Tube(3, IN) Pos. 7	270	720	K	3.31	0.74
1289	TW 531	TWE-EX1373-SGB	SGB U-Tube(3, EX) Pos. 7	270	720	K	3.31	0.74
1290	TW 532	TWE-IN1632-SGB	SGB U-Tube(2, IN) Pos. 9	270	720	K	3.31	0.74
1291	TW 533	TWE-EX1632-SGB	SGB U-Tube(2, EX) Pos. 9	270	720	K	3.31	0.74
1292	TW 534	TWE-IN1633-SGB	SGB U-Tube(3, IN) Pos. 9	270	720	K	3.31	0.74
1293	TW 535	TWE-EX1633-SGB	SGB U-Tube(3, EX) Pos. 9	270	720	K	3.31	0.74
1294	TW 536	TWE-IN1701-SGB	SGB U-Tube(1, 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
1295	TW 537	TWE-IN1782-SGB	SGB U-Tube(2, IN) Pos. 10	270	720	K	3.31	0.74
1296	TW 538	TWE-IN1863-SGB	SGB U-Tube(3, IN) Pos.11	270	720	K	3.31	0.74
1297	TW 539	TWE-211A-PR	PR Outer Wall	270	720	K	3.31	0.74
1298	TW 540	TWE-211B-PR	PR Inner Wall	270	720	K	3.31	0.74
1299	TW 541	TWE-194A-PR	PR Outer Wall	270	720	K	3.31	0.74
1300	TW 542	TWE-194B-PR	PR Inner Wall	270	720	K	3.31	0.74
1301	TW 543	TWE-177A-PR	PR Outer Wall	270	720	K	3.31	0.74
1302	TW 544	TWE-177B-PR	PR Inner Wall	270	720	K	3.31	0.74
1303	TW 545	TWE270A-PR	PR Spray Line Outer Wall	270	720	K	3.31	0.74
1304	TW 590	TWE-111D-GDP	PLR-02-1 Outer Wall	270	970	K	4.31	0.62
1305	TW 591	TWE-112D-GDP	PLR-01-2 Outer Wall	270	970	K	4.31	0.62
1306	TW 592	TWE-113D-GDP	PLR-08-3 Outer Wall	270	970	K	4.31	0.62
1307	TW 593	TWE-114D-GDP	PLR-07-4 Outer Wall	270	970	K	4.31	0.62
1308	TW 594	TWE-115D-GDP	PLR-06-5 Outer Wall	270	970	K	4.31	0.62
1309	TW 595	TWE-116D-GDP	PLR-05-6 Outer Wall	270	970	K	4.31	0.62
1310	TW 596	TWE-117D-GDP	PLR-04-7 Outer Wall	270	970	K	4.31	0.62
1311	TW 597	TWE-118D-GDP	PLR-03-8 Outer Wall	270	970	K	4.31	0.62
1312	TW 598	TWE-121D-UHDP	PLR-UH-9 Outer Wall	270	970	K	4.31	0.62
1313	TW 599	TWE-B02552	B02 Rod(5, 5) Pos. 2	270	1470	K	6.32	0.53
1314	TW 600	TWE-B02554	B02 Rod(5, 5) Pos. 4	270	1470	K	6.32	0.53
1315	TW 601	TWE-B02555	B02 Rod(5, 5) Pos. 5	270	1470	K	6.32	0.53
1316	TW 602	TWE-B02556	B02 Rod(5, 5) Pos. 6	270	1470	K	6.32	0.53
1317	TW 603	TWE-B02557	B02 Rod(5, 5) Pos. 7	270	1470	K	6.32	0.53
1318	TW 604	TWE-B02558	B02 Rod(5, 5) Pos. 8	270	1470	K	6.32	0.53
1319	TW 605	TWE-B03552	B03 Rod(5, 5) Pos. 2	270	1470	K	6.32	0.53
1320	TW 606	TWE-B03554	B03 Rod(5, 5) Pos. 4	270	1470	K	6.32	0.53
1321	TW 607	TWE-B03555	B03 Rod(5, 5) Pos. 5	270	1470	K	6.32	0.53
1322	TW 608	TWE-B03556	B03 Rod(5, 5) Pos. 6	270	1470	K	6.32	0.53
1323	TW 609	TWE-B03557	B03 Rod(5, 5) Pos. 7	270	1470	K	6.32	0.53
1324	TW 610	TWE-B03558	B03 Rod(5, 5) Pos. 8	270	1470	K	6.32	0.53
1325	TW 611	TWE-B05112	B05 Rod(1, 1) Pos. 2	270	1470	K	6.32	0.53
1326	TW 612	TWE-B05114	B05 Rod(1, 1) Pos. 4	270	1470	K	6.32	0.53
1327	TW 613	TWE-B05115	B05 Rod(1, 1) Pos. 5	270	1470	K	6.32	0.53
1328	TW 614	TWE-B05116	B05 Rod(1, 1) Pos. 6	270	1470	K	6.32	0.53
1329	TW 615	TWE-B05117	B05 Rod(1, 1) Pos. 7	270	1470	K	6.32	0.53
1330	TW 616	TWE-B05118	B05 Rod(1, 1) Pos. 8	270	1470	K	6.32	0.53
1331	TW 617	TWE-B06552	B06 Rod(5, 5) Pos. 2	270	1470	K	6.32	0.53
1332	TW 618	TWE-B06554	B06 Rod(5, 5) Pos. 4	270	1470	K	6.32	0.53
1333	TW 619	TWE-B06555	B06 Rod(5, 5) Pos. 5	270	1470	K	6.32	0.53
1334	TW 620	TWE-B06556	B06 Rod(5, 5) Pos. 6	270	1470	K	6.32	0.53
1335	TW 621	TWE-B06557	B06 Rod(5, 5) Pos. 7	270	1470	K	6.32	0.53
1336	TW 622	TWE-B06558	B06 Rod(5, 5) Pos. 8	270	1470	K	6.32	0.53
1337	TW 623	TWE-B07552	B07 Rod(5, 5) Pos. 2	270	1470	K	6.32	0.53
1338	TW 624	TWE-B07554	B07 Rod(5, 5) Pos. 4	270	1470	K	6.32	0.53
1339	TW 625	TWE-B07555	B07 Rod(5, 5) Pos. 5	270	1470	K	6.32	0.53
1340	TW 626	TWE-B07556	B07 Rod(5, 5) Pos. 6	270	1470	K	6.32	0.53
1341	TW 627	TWE-B07557	B07 Rod(5, 5) Pos. 7	270	1470	K	6.32	0.53
1342	TW 628	TWE-B07558	B07 Rod(5, 5) Pos. 8	270	1470	K	6.32	0.53
1343	TW 629	TWE-B01221	B01 Rod(2, 2) Pos. 1	270	970	K	4.31	0.62
1344	TW 630	TWE-B01223	B01 Rod(2, 2) Pos. 3	270	970	K	4.31	0.62
1345	TW 631	TWE-B01225	B01 Rod(2, 2) Pos. 5	270	970	K	4.31	0.62
1346	TW 632	TWE-B01226	B01 Rod(2, 2) Pos. 6	270	970	K	4.31	0.62
1347	TW 633	TWE-B01227	B01 Rod(2, 2) Pos. 7	270	970	K	4.31	0.62
1348	TW 634	TWE-B01229	B01 Rod(2, 2) Pos. 9	270	970	K	4.31	0.62
1349	TW 635	TWE-B04221	B04 Rod(2, 2) Pos. 1	270	970	K	4.31	0.62
1350	TW 636	TWE-B04223	B04 Rod(2, 2) Pos. 3	270	970	K	4.31	0.62
1351	TW 637	TWE-B04225	B04 Rod(2, 2) Pos. 5	270	970	K	4.31	0.62
1352	TW 638	TWE-B04226	B04 Rod(2, 2) Pos. 6	270	970	K	4.31	0.62
1353	TW 639	TWE-B04227	B04 Rod(2, 2) Pos. 7	270	970	K	4.31	0.62
1354	TW 640	TWE-B04229	B04 Rod(2, 2) Pos. 9	270	970	K	4.31	0.62
1355	TW 641	TWE-B10621	B10 Rod(6, 2) Pos. 1	270	970	K	4.31	0.62
1356	TW 642	TWE-B10623	B10 Rod(6, 2) Pos. 3	270	970	K	4.31	0.62
1357	TW 643	TWE-B10625	B10 Rod(6, 2) Pos. 5	270	970	K	4.31	0.62
1358	TW 644	TWE-B10626	B10 Rod(6, 2) Pos. 6	270	970	K	4.31	0.62
1359	TW 645	TWE-B10627	B10 Rod(6, 2) Pos. 7	270	970	K	4.31	0.62
1360	TW 646	TWE-B10629	B10 Rod(6, 2) Pos. 9	270	970	K	4.31	0.62
1361	TW 647	TWE-B11221	B11 Rod(2, 2) Pos. 1	270	970	K	4.31	0.62
1362	TW 648	TWE-B11223	B11 Rod(2, 2) Pos. 3	270	970	K	4.31	0.62
1363	TW 649	TWE-B11225	B11 Rod(2, 2) Pos. 5	270	970	K	4.31	0.62
1364	TW 650	TWE-B11226	B11 Rod(2, 2) Pos. 6	270	970	K	4.31	0.62
1365	TW 651	TWE-B11227	B11 Rod(2, 2) Pos. 7	270	970	K	4.31	0.62
1366	TW 652	TWE-B11229	B11 Rod(2, 2) Pos. 9	270	970	K	4.31	0.62
1367	TW 653	TWE-B16221	B16 Rod(2, 2) Pos. 1	270	970	K	4.31	0.62
1368	TW 654	TWE-B16223	B16 Rod(2, 2) Pos. 3	270	970	K	4.31	0.62
1369	TW 655	TWE-B16225	B16 Rod(2, 2) Pos. 5	270	970	K	4.31	0.62
1370	TW 656	TWE-B16226	B16 Rod(2, 2) Pos. 6	270	970	K	4.31	0.62
1371	TW 657	TWE-B16227	B16 Rod(2, 2) Pos. 7	270	970	K	4.31	0.62
1372	TW 658	TWE-B16229	B16 Rod(2, 2) Pos. 9	270	970	K	4.31	0.62
1373	FE 1	FE010-HLA	HLA Leakage(Positive)	0	0.4	kg/s	0.01	1.62
1374	FE 2	FE020A-LSA	Primary Loop A (High)	0	90	kg/s	1.01	1.12

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1375	FE 3	FE020B-LSA	Primary Loop A (Low)	0	15.8	kg/s	0.17	1.10
1376	FE 4	FE150-HLB	HLB Leakage(Positive)	0	0.4	kg/s	0.01	1.62
1377	FE 5	FE160A-LSB	Primary Loop B (High)	0	90	kg/s	1.01	1.12
1378	FE 6	FE160B-LSB	Primary Loop B (Low)	0	15.8	kg/s	0.17	1.10
1379	FE 13	FE430-SGA	SGA Feedwater	0	4	kg/s	0.06	1.62
1380	FE 14	FE431-SGA	SGA Downcomer	0	7	kg/s	0.11	1.62
1381	FE 15	FE432-SGA	SGA Downcomer	0	7	kg/s	0.11	1.62
1382	FE 16	FE433-SGA	SGA Downcomer	0	7	kg/s	0.11	1.62
1383	FE 17	FE434-SGA	SGA Downcomer	0	7	kg/s	0.11	1.62
1384	FE 18	FE440-SGA	SGA Steam Line	0	5	kg/s	0.11	2.29
1385	FE 19	FE450-SGA	SGA Relief Valve Line	0	4	kg/s	0.09	2.29
1386	FE 21	FE470-SGB	SGB Feedwater	0	4	kg/s	0.06	1.62
1387	FE 22	FE471-SGB	SGB Downcomer	0	7	kg/s	0.11	1.62
1388	FE 23	FE472-SGB	SGB Downcomer	0	7	kg/s	0.11	1.62
1389	FE 24	FE473-SGB	SGB Downcomer	0	7	kg/s	0.11	1.62
1390	FE 25	FE474-SGB	SGB Downcomer	0	7	kg/s	0.11	1.62
1391	FE 26	FE480-SGB	SGB Steam Line	0	5	kg/s	0.11	2.29
1392	FE 27	FE490-SGB	SGB Relief Valve Line	0	4	kg/s	0.09	2.29
1393	FE 29	FE510-SH	Steam Header	0	10	kg/s	0.23	2.29
1394	FE 41	FE730-PJ	PJ Delivery(High)	0	2.2	kg/s	0.04	1.61
1395	FE 44	FE760-PH	PH Delivery(High)	0	1.5	kg/s	0.02	1.61
1396	FE 57	FE783-PH	HP1 Flow to CLB	0	3	kg/s	0.05	1.62
1397	FE 62	FE010B-HLA	HLA Leakage(Negative)	0	0.4	kg/s	0.01	0.32
1398	FE 63	FE150B-HLB	HLB Leakage(Negative)	0	0.4	kg/s	0.01	0.32
1399	FE 65	FE440B-SGA	SGA Main Steam Line(Low)	0	1	kg/s	0.01	0.32
1400	FE 67	FE480B-SGB	SGB Main Steam Line(Low)	0	1	kg/s	0.01	0.32
1401	FE 73	FE730B-PJ	PJ Delivery(Low)	0	1.28	kg/s	0.02	1.61
1402	FE 76	FE760B-PH	PH Delivery(Low)	0	1	kg/s	0.02	1.62
1403	FE 77	FE780B-PH	HP1 Flow to Loop B(Low)	0	0.3	kg/s	0.01	1.61
1404	FE 83	FE960-CS	Oil Flow	0	2	kg/s	0.03	1.61
1405	PE 3	PE010-SGA	SGA Inlet Plenum	0	20	MPa	0.06	0.32
1406	PE 4	PE020-LSA	PCA Suction	0	20	MPa	0.06	0.32
1407	PE 5	PE030-CLA	PCA Delivery	0	20	MPa	0.06	0.32
1408	PE 6	PE150-SGB	SGB Inlet Plenum	0	20	MPa	0.06	0.32
1409	PE 7	PE160-LSB	PCB Suction	0	20	MPa	0.06	0.32
1410	PE 8	PE170-CLB	PCB Delivery	0	20	MPa	0.06	0.32
1411	PE 9	PE290-PV	PV Upper Head	0	20	MPa	0.06	0.32
1412	PE 10	PE280A-PV	PV Upper Plenum (High)	0	20	MPa	0.06	0.32
1413	PE 11	PE280B-PV	PV Upper Plenum (Low)	0	5	MPa	0.02	0.32
1414	PE 12	PE270-PV	PV Lower Plenum	0	20	MPa	0.06	0.32
1415	PE 13	PE300A-PR	PR (High Range)	0	20	MPa	0.06	0.32
1416	PE 14	PE300B-PR	PR (Low Range)	0	5	MPa	0.02	0.32
1417	PE 15	PE310-PR	PR RV Venturi Upstream	0	20	MPa	0.06	0.32
1418	PE 16	PE320-PR	PR RV Venturi Downstream	0	20	MPa	0.06	0.32
1419	PE 19	PE430-SGA	SGA Steam Dome	0	10	MPa	0.03	0.32
1420	PE 20	PE440-SGA	SGA Steam Line	0	10	MPa	0.03	0.32
1421	PE 21	PE450-SGB	SGB Steam Dome	0	10	MPa	0.03	0.32
1422	PE 22	PE460-SGB	SGB Steam Line	0	10	MPa	0.03	0.32
1423	PE 23	PE470-SH	Steam Header	0	10	MPa	0.03	0.32
1424	PE 24	PE480-JC	Jet Condenser	0	10	MPa	0.01	0.32
1425	PE 25	PE610-ST	Suppression Tank	0	1	MPa	0.01	0.32
1426	PE 30	PE600-ST	Blowdown Piping	0	2	MPa	0.01	0.32
1427	PE 31	PE650-ACC	Cold Acc Tank	0	10	MPa	0.03	0.32
1428	PE 32	PE660-ACH	Hot Acc Tank	0	10	MPa	0.03	0.32
1429	PE 35	PE011-HLA	HLA S.P	0	20	MPa	0.06	0.32
1430	PE 36	PE071-CLA	CLA S.P	0	20	MPa	0.06	0.32
1431	PE 37	PE151-HLB	HLB S.P	0	20	MPa	0.06	0.32
1432	PE 38	PE211-CLB	CLB S.P	0	20	MPa	0.06	0.32
1433	PE 39	PE291-PR	PR Relief Valve S.P	0	20	MPa	0.06	0.32
1434	PE 40	PE301-PR	PR Safety Valve Line	0	20	MPa	0.06	0.32
1435	PE 41	PE311-PR	PV-PR Vent Line	0	20	MPa	0.06	0.32
1436	PE 46	PE820-RHR	PL Delivery	0	20	MPa	0.06	0.32
1437	MI 1	RE010-PCA	PCA (Rotation Speed)	0	70	Hz	0.38	0.55
1438	MI 2	RE150-PCB	PCB (Rotation Speed)	0	70	Hz	0.38	0.55
1439	MI 3	OPE270-PR	PR Spray (HCV270)	0	100	%	0.54	0.54
1440	MI 5	OPE430-SGA	SGA Feedwater (FCV430)	0	100	%	0.54	0.54
1441	MI 6	OPE470-SGB	SGB Feedwater (FCV470)	0	100	%	0.54	0.54
1442	MI 8	OPE510-SH	Steam Flow (FCV510)	0	100	%	0.54	0.54
1443	MI 11	VBE010-PCA	PCA (Vibration)	0	200	um	1.42	0.71
1444	MI 12	VBE150-PCB	PCB (Vibration)	0	200	um	1.42	0.71
1445	MI 15	AE010-PCA	PCA (Electric Current)	0	150	A	0.75	0.50
1446	MI 16	AE150-PCB	PCB (Electric Current)	0	150	A	0.75	0.50
1447	MI 17	WE270A-T	Total Core Power	0	16	MW	0.12	0.72
1448	MI 18	WE270B-M	Middle Heat Flux Region	0	2	MW	0.01	0.72
1449	MI 19	WE270C-H1	High Heat Flux Region	0	4	MW	0.03	0.72
1450	MI 20	WE270D-H2	High Heat Flux Region	0	3	MW	0.02	0.72
1451	MI 21	WE270E-L1	Low Heat Flux Region	0	2	MW	0.01	0.72
1452	MI 22	WE270F-L2	Low Heat Flux Region	0	2	MW	0.01	0.72
1453	MI 23	WE270G-L3	Low Heat Flux Region	0	2	MW	0.01	0.72

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1454	MI 24	WE280A-PR	PR Proportional Heater	0	10	kW	0.15	1.50
1455	MI 25	WE280B-PR	PR Base Heater	0	150	kW	2.25	1.50
1456	MI 26	WE010-PCA	PCA	0	30	kW	0.45	1.50
1457	MI 27	WE150-PCB	PCB	0	30	kW	0.45	1.50
1458	MI 29	WE020-HLA	HLA	0	5	kW	0.08	1.50
1459	MI 30	WE030-LSA	LSA	0	7.5	kW	0.11	1.50
1460	MI 31	WE040-CLA	CLA	0	2	kW	0.03	1.50
1461	MI 32	WE160-HLB	HLB	0	5	kW	0.08	1.50
1462	MI 33	WE170-LSB	LSB	0	7.5	kW	0.11	1.50
1463	MI 34	WE180-CLB	CLB	0	2	kW	0.03	1.50
1464	MI 35	WE271A-PV	PV	0	15	kW	0.23	1.50
1465	MI 36	WE271B-PV	PV	0	15	kW	0.23	1.50
1466	MI 37	WE271C-PV	PV	0	15	kW	0.23	1.50
1467	MI 38	WE271D-PV	PV	0	15	kW	0.23	1.50
1468	MI 39	WE430A-SGA	SGA	0	4	kW	0.06	1.50
1469	MI 40	WE430B-SGA	SGA	0	4	kW	0.06	1.50
1470	MI 41	WE430C-SGA	SGA	0	4	kW	0.06	1.50
1471	MI 42	WE430D-SGA	SGA	0	4	kW	0.06	1.50
1472	MI 43	WE440A-SGA	SGA Downcomer	0	2	kW	0.03	1.50
1473	MI 44	WE440B-SGA	SGA Downcomer	0	2	kW	0.03	1.50
1474	MI 45	WE440C-SGA	SGA Downcomer	0	2	kW	0.03	1.50
1475	MI 46	WE440D-SGA	SGA Downcomer	0	2	kW	0.03	1.50
1476	MI 47	WE290-PR	PR Surge Line	0	4	kW	0.06	1.50
1477	MI 48	WE300-PR	PR Spray Line	0	7.5	kW	0.11	1.50
1478	MI 49	WE450A-SGB	SGB	0	4	kW	0.06	1.50
1479	MI 50	WE450B-SGB	SGB	0	4	kW	0.06	1.50
1480	MI 51	WE450C-SGB	SGB	0	4	kW	0.06	1.50
1481	MI 52	WE450D-SGB	SGB	0	4	kW	0.06	1.50
1482	MI 53	WE460A-SGB	SGB Downcomer	0	2	kW	0.03	1.50
1483	MI 54	WE460B-SGB	SGB Downcomer	0	2	kW	0.03	1.50
1484	MI 55	WE460C-SGB	SGB Downcomer	0	2	kW	0.03	1.50
1485	MI 56	WE460D-SGB	SGB Downcomer	0	2	kW	0.03	1.50
1486	LE 1	LE270-PV	PV	0	11	m	0.04	0.32
1487	LE 2	LE280-PR	PR	0	5	m	0.02	0.32
1488	LE 3	LE430-SGA	SGA Wide Range	0	17	m	0.05	0.32
1489	LE 4	LE440-SGA	SGA Narrow Range	0	6	m	0.02	0.32
1490	LE 5	LE441-SGA	SGA Boiling Section	0	11	m	0.04	0.32
1491	LE 6	LE450-SGB	SGB Wide Range	0	17	m	0.05	0.32
1492	LE 7	LE460-SGB	SGB Narrow Range	0	6	m	0.02	0.32
1493	LE 8	LE461-SGB	SGB Boiling Section	0	11	m	0.04	0.32
1494	LE 9	LE470-JC	JC	0	6	m	0.02	0.32
1495	LE 10	LE560-ST	ST Wide Range	0	12	m	0.04	0.32
1496	LE 12	LE580-ST	ST Middle Level	0	4	m	0.01	0.32
1497	LE 14	LE650-ACC	Cold Acc Tank	0	5	m	0.02	0.32
1498	LE 15	LE660-ACH	Hot Acc Tank	0	5	m	0.02	0.32
1499	LE 17	LE830-RWST	RWST	0	10	m	0.03	0.32
1500	LE 18	LE442-SGA	SGA Downcomer	0	12	m	0.04	0.32
1501	LE 19	LE462-SGB	SGB Downcomer	0	12	m	0.04	0.32
1502	LE 20	DLE270-PV	PV	0	108	kPa	0.38	0.35
1503	LE 21	DLE280-PR	PR	0	39	kPa	0.22	0.56
1504	LE 22	DLE430-SGA	SGA Wide Range	0	166	kPa	0.59	0.35
1505	LE 23	DLE440-SGA	SGA Narrow Range	0	59	kPa	0.21	0.35
1506	LE 24	DLE441-SGA	SGA Boiling Section	0	108	kPa	0.38	0.35
1507	LE 25	DLE442-SGA	SGA Downcomer	0	111	kPa	0.39	0.35
1508	LE 26	DLE450-SGB	SGB Wide Range	0	166	kPa	0.59	0.35
1509	LE 27	DLE460-SGB	SGB Narrow Range	0	59	kPa	0.21	0.35
1510	LE 28	DLE461-SGB	SGB Boiling Section	0	108	kPa	0.38	0.35
1511	LE 29	DLE462-SGB	SGB Downcomer	0	111	kPa	0.39	0.35
1512	LE 30	DLE470-JC	JC	0	54	kPa	0.19	0.35
1513	LE 31	DLE560-ST	ST Wide Range	0	117	kPa	0.42	0.35
1514	LE 32	DLE570-ST	ST Low Level	0	39	kPa	0.14	0.35
1515	LE 33	DLE580-ST	ST Middle Level	0	39	kPa	0.14	0.35
1516	LE 34	DLE590-ST	ST High Level	0	39	kPa	0.14	0.35
1517	LE 35	DLE650-ACC	Cold Acc Tank	0	49	kPa	0.27	0.56
1518	LE 36	DLE660-ACH	Hot Acc Tank	0	49	kPa	0.27	0.56
1519	LE 38	DLE830-RWST	RWST	0	98	kPa	0.35	0.35
1520	DP 1	DPE010-HLA	Upper Plenum - HLA Nozzle	-40	40	kPa	0.26	0.32
1521	DP 2	DPE020-HLA	HLA Nozzle - HLA Break	-40	40	kPa	0.26	0.32
1522	DP 4	DPE040-HLA	HLA Break - SGA Inlet	-40	40	kPa	0.26	0.32
1523	DP 5	DPE050A-SGA	SGA Inlet - Tube 3 Top	-150	50	kPa	0.64	0.32
1524	DP 6	DPE050B-SGA	SGA Inlet - Tube 2 Top	-150	50	kPa	0.64	0.32
1525	DP 7	DPE050C-SGA	SGA Inlet - Tube 1 Top	-150	50	kPa	0.64	0.32
1526	DP 8	DPE050D-SGA	SGA Inlet - Tube 4 Top	-150	50	kPa	0.64	0.32
1527	DP 9	DPE050E-SGA	SGA Inlet - Tube 5 Top	-150	50	kPa	0.64	0.32
1528	DP 10	DPE050F-SGA	SGA Inlet - Tube 6 Top	-150	50	kPa	0.64	0.32
1529	DP 11	DPE060A-SGA	SGA Outlet - Tube 3 Top	-150	50	kPa	0.64	0.32
1530	DP 12	DPE060B-SGA	SGA Outlet - Tube 2 Top	-150	50	kPa	0.64	0.32
1531	DP 13	DPE060C-SGA	SGA Outlet - Tube 1 Top	-150	50	kPa	0.64	0.32
1532	DP 14	DPE060D-SGA	SGA Outlet - Tube 4 Top	-150	50	kPa	0.64	0.32

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1533	DP 15	DPE060E-SGA	SGA Outlet - Tube 5 Top	-150	50	kPa	0.64	0.32
1534	DP 16	DPE060F-SGA	SGA Outlet - Tube 6 Top	-150	50	kPa	0.64	0.32
1535	DP 17	DPE070-LSA	SGA Outlet - LSA Bottom	-50	50	kPa	0.32	0.32
1536	DP 18	DPE080-LSA	LSA Bottom - PCA Suction	-50	50	kPa	0.32	0.32
1537	DP 19	DPE090-PCA	PCA Suction - Delivery	-50	50	kPa	0.32	0.32
1538	DP 20	DPE100-CLA	PR Spray Line	-200	200	kPa	1.28	0.32
1539	DP 21	DPE110-CLA	PCA Delivery - CLA Break	-50	50	kPa	0.32	0.32
1540	DP 22	DPE120-CLA	CLA Break - CLA Nozzle	-50	50	kPa	0.32	0.32
1541	DP 23	DPE130-CLA	CLA Nozzle - Downcomer	-50	50	kPa	0.32	0.32
1542	DP 24	DPE140-HLA	Upper Plenum - Downcomer	-20	20	kPa	0.13	0.32
1543	DP 25	DPE150-HLB	Upper Plenum - HLB Nozzle	-30	30	kPa	0.19	0.32
1544	DP 26	DPE160-HLB	HLB Nozzle - HLB Break	-30	30	kPa	0.19	0.32
1545	DP 28	DPE180-HLB	SGB Break - SGB Inlet	-30	30	kPa	0.19	0.32
1546	DP 29	DPE190A-SGB	SGB Inlet - Tube 3 Top	-150	50	kPa	0.64	0.32
1547	DP 30	DPE190B-SGB	SGB Inlet - Tube 2 Top	-150	50	kPa	0.64	0.32
1548	DP 31	DPE190C-SGB	SGB Inlet - Tube 1 Top	-150	50	kPa	0.64	0.32
1549	DP 32	DPE190D-SGB	SGB Inlet - Tube 4 Top	-150	50	kPa	0.64	0.32
1550	DP 33	DPE190E-SGB	SGB Inlet - Tube 5 Top	-150	50	kPa	0.64	0.32
1551	DP 34	DPE190F-SGB	SGB Inlet - Tube 6 Top	-150	50	kPa	0.64	0.32
1552	DP 35	DPE200A-SGB	SGB Outlet - Tube 3 Top	-150	50	kPa	0.64	0.32
1553	DP 36	DPE200B-SGB	SGB Outlet - Tube 2 Top	-150	50	kPa	0.64	0.32
1554	DP 37	DPE200C-SGB	SGB Outlet - Tube 1 Top	-150	50	kPa	0.64	0.32
1555	DP 38	DPE200D-SGB	SGB Outlet - Tube 4 Top	-150	50	kPa	0.64	0.32
1556	DP 39	DPE200E-SGB	SGB Outlet - Tube 5 Top	-150	50	kPa	0.64	0.32
1557	DP 40	DPE200F-SGB	SGB Outlet - Tube 6 Top	-150	50	kPa	0.64	0.32
1558	DP 41	DPE210-LSB	SGB Outlet - LSB Bottom	-50	50	kPa	0.32	0.32
1559	DP 42	DPE220-LSB	LSB Bottom - PCB Suction	-50	50	kPa	0.32	0.32
1560	DP 43	DPE230-PCB	PCB Suction - Delivery	-50	50	kPa	0.32	0.32
1561	DP 47	DPE270-PV	PV Bottom - Top	-100	400	kPa	1.60	0.32
1562	DP 48	DPE280-PV	PV Lower Plenum	-50	100	kPa	0.48	0.32
1563	DP 50	DPE300-PV	Core(Elevation -35 - 3945)	-50	100	kPa	0.48	0.32
1564	DP 51	DPE320-PV	Upper Plenum	-50	100	kPa	0.48	0.32
1565	DP 52	DPE330-PV	Upper Head	-50	100	kPa	0.48	0.32
1566	DP 54	DPE350A-PV	Guide Tube Top Orifice	-100	100	kPa	0.64	0.32
1567	DP 55	DPE350B-PV	Guide Tube Top Orifice	-100	100	kPa	0.64	0.32
1568	DP 56	DPE360-PV	PV Downcomer	-100	300	kPa	1.28	0.32
1569	DP 57	DPE370-PV	Lower Downcomer	-50	150	kPa	0.64	0.32
1570	DP 58	DPE380-PV	Upper Downcomer	-50	150	kPa	0.64	0.32
1571	DP 62	DPE332-PV	Upper Head - Downcomer	-100	100	kPa	0.64	0.32
1572	DP 63	DPE331-PV	Upper Head	-100	100	kPa	0.64	0.32
1573	DP 70	DPE030B-HLA	PR Surge Line (Low)	-300	300	kPa	1.92	0.32
1574	DP 71	DPE072-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1575	DP 72	DPE073-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1576	DP 73	DPE074-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1577	DP 74	DPE075-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1578	DP 75	DPE076-LSA	LSA (SG Side)	-10	10	kPa	0.06	0.32
1579	DP 76	DPE212-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1580	DP 77	DPE213-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1581	DP 78	DPE214-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1582	DP 79	DPE215-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1583	DP 80	DPE216-LSB	LSB (SG Side)	-10	10	kPa	0.06	0.32
1584	DP 81	DPE430-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1585	DP 82	DPE431-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1586	DP 83	DPE432-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1587	DP 84	DPE433-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1588	DP 85	DPE434-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1589	DP 86	DPE435-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1590	DP 87	DPE436-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1591	DP 88	DPE437-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1592	DP 89	DPE438-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1593	DP 90	DPE439-SGA	SGA Boiling Section	-30	0	kPa	0.17	0.56
1594	DP 91	DPE440-SGA	SGA Boiling Section	-40	0	kPa	0.22	0.56
1595	DP 92	DPE450-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1596	DP 93	DPE451-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1597	DP 94	DPE452-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1598	DP 95	DPE453-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1599	DP 96	DPE454-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1600	DP 97	DPE455-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1601	DP 98	DPE456-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1602	DP 99	DPE457-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1603	DP 100	DPE458-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1604	DP 101	DPE459-SGB	SGB Boiling Section	-30	0	kPa	0.17	0.56
1605	DP 102	DPE460-SGB	SGB Boiling Section	-40	0	kPa	0.22	0.56
1606	DP 103	DPE011-HLA	HLA S.P	-10	10	kPa	0.06	0.32
1607	DP 104	DPE071-CLA	CLA S.P	-10	10	kPa	0.06	0.32
1608	DP 105	DPE151-HLB	HLB S.P	-10	10	kPa	0.06	0.32
1609	DP 106	DPE211-CLB	CLB S.P	-10	10	kPa	0.06	0.32
1610	DP 109	DPE041-PR	PR Diff. Press.	0	6	kPa	0.02	0.32
1611	DP 110	DPE042-PR	PR Diff. Press.	0	7	kPa	0.02	0.32
1612	DP 111	DPE043-PR	PR Diff. Press.	0	4	kPa	0.01	0.32
1613	DP 112	DPE044-PR	PR Diff. Press.	0	3.6	kPa	0.01	0.32

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1614	DP 113	DPE045-PR	PR Diff. Press.	0	11	kPa	0.04	0.32
1615	DP 114	DPE046-PR	PR Diff. Press.	0	7	kPa	0.02	0.32
1616	DP 115	DPE101-PR	PR-CLB Diff. Press.	-200	200	kPa	1.28	0.32
1617	DP 116	DPE055A-SGA	SGA I. P-0. P (High)	-30	30	kPa	0.19	0.32
1618	DP 117	DPE055B-SGA	SGA I. P-0. P (Low)	-3	3	kPa	0.02	0.32
1619	DP 118	DPE195A-SGB	SGB I. P-0. P (High)	-30	30	kPa	0.19	0.32
1620	DP 119	DPE195B-SGB	SGB I. P-0. P (Low)	-3	3	kPa	0.02	0.32
1621	DP 120	DPE056-SGA	SGA Plenum Diff.Press.	-40	40	kPa	0.26	0.32
1622	DP 122	DPE196-SGB	SGB Plenum Diff.Press.	-40	40	kPa	0.26	0.32
1623	DP 124	DPE301-PV	Core(Elevation-35--+409)	-5	10	kPa	0.04	0.28
1624	DP 125	DPE302-PV	Core(Elevation+409--+815)	-5	5	kPa	0.03	0.28
1625	DP 126	DPE303-PV	Core(Elevation+815--+1221)	-5	5	kPa	0.03	0.28
1626	DP 127	DPE304-PV	Core(Elevation+1221--+1627)	-5	5	kPa	0.03	0.28
1627	DP 128	DPE305-PV	Core(Elevation+1627--+2033)	-5	5	kPa	0.03	0.28
1628	DP 129	DPE306-PV	Core(Elevation+2033--+2439)	-5	5	kPa	0.03	0.28
1629	DP 130	DPE307-PV	Core(Elevation+2439--+2845)	-5	5	kPa	0.03	0.28
1630	DP 131	DPE308-PV	Core(Elevation+2845--+3251)	-5	5	kPa	0.03	0.28
1631	DP 132	DPE309-PV	Core(Elevation+3251--+3945)	-30	0	kPa	0.08	0.28
1632	DP 133	DPE333-PV	UpperH(Elevation6634-8860)	-35	0	kPa	0.23	0.67
1633	DE 1	DE011A-HLA	HLA S. P Beam A	-10	10	V		
1634	DE 2	DE011B-HLA	HLA S. P Beam B	-10	10	V		
1635	DE 3	DE011C-HLA	HLA S. P Beam C	-10	10	V		
1636	DE 4	DE051A-LSA	LSA S. P Beam A	-10	10	V		
1637	DE 5	DE051B-LSA	LSA S. P Beam B	-10	10	V		
1638	DE 6	DE051C-LSA	LSA S. P Beam C	-10	10	V		
1639	DE 7	DE071A-CLA	CLA S. P Beam A	-10	10	V		
1640	DE 8	DE071B-CLA	CLA S. P Beam B	-10	10	V		
1641	DE 9	DE071C-CLA	CLA S. P Beam C	-10	10	V		
1642	DE 10	DE151A-HLB	HLB S. P Beam A	-10	10	V		
1643	DE 11	DE151B-HLB	HLB S. P Beam B	-10	10	V		
1644	DE 12	DE151C-HLB	HLB S. P Beam C	-10	10	V		
1645	DE 13	DE191A-LSB	LSB S. P Beam A	-10	10	V		
1646	DE 14	DE191B-LSB	LSB S. P Beam B	-10	10	V		
1647	DE 15	DE191C-LSB	LSB S. P Beam C	-10	10	V		
1648	DE 16	DE211A-CLB	CLB S. P Beam A	-10	10	V		
1649	DE 17	DE211B-CLB	CLB S. P Beam B	-10	10	V		
1650	DE 18	DE211C-CLB	CLB S. P Beam C	-10	10	V		
1651	DE 19	DE052-LSA	LSA Bottom	-10	10	V		
1652	DE 20	DE192-LSB	PCB Suction	-10	10	V		
1653	DE 21	DE281-PR	PR Surge Line	-10	10	V		
1654	DE 24	DE311-PR	PV-PR Vent Line	-10	10	V		
1655	DE 25	DE431-SGA	SGA Downcomer	-10	10	V		
1656	DE 26	DE471-SGB	SGB Downcomer	-10	10	V		
1657	RC 31	DE011A-HLA-EU	HLA S. P Beam A			kg/m ³		
1658	RC 32	DE011B-HLA-EU	HLA S. P Beam B			kg/m ³		
1659	RC 33	DE011C-HLA-EU	HLA S. P Beam C			kg/m ³		
1660	RC 34	DE151A-HLB-EU	HLB S. P Beam A			kg/m ³		
1661	RC 35	DE151B-HLB-EU	HLB S. P Beam B			kg/m ³		
1662	RC 36	DE151C-HLB-EU	HLB S. P Beam C			kg/m ³		
1663	RC 37	DE071A-CLA-EU	CLA S. P Beam A			kg/m ³		
1664	RC 38	DE071B-CLA-EU	CLA S. P Beam B			kg/m ³		
1665	RC 39	DE071C-CLA-EU	CLA S. P Beam C			kg/m ³		
1666	RC 40	DE211A-CLB-EU	CLB S. P Beam A			kg/m ³		
1667	RC 41	DE211B-CLB-EU	CLB S. P Beam B			kg/m ³		
1668	RC 42	DE211C-CLB-EU	CLB S. P Beam C			kg/m ³		
1669	RC 47	DAE-011-HLA	Hot Leg A Flow Density			kg/m ³		
1670	RC 49	DAE-151-HLB	Hot Leg B Average Density			kg/m ³		
1671	RC 50	FRE-071-CLA	Cold Leg A Flow Rate			kg/s		
1672	RC 51	FRE-211-CLB	Cold Leg B Flow Rate			kg/s		
1673	RC 52	DAE-071-CLA	Cold Leg A Average Density			kg/m ³		
1674	RC 53	DAE-211-CLB	Cold Leg B Average Density			kg/m ³		
1675	RC 56	DE051A-LSA-EU	LSA S. P Beam A			kg/m ³		
1676	RC 57	DE051B-LSA-EU	LSA S. P Beam B			kg/m ³		
1677	RC 58	DE051C-LSA-EU	LSA S. P Beam C			kg/m ³		
1678	RC 59	DE191A-LSB-EU	LSB S. P Beam A			kg/m ³		
1679	RC 60	DE191B-LSB-EU	LSB S. P Beam B			kg/m ³		
1680	RC 61	DE191C-LSB-EU	LSB S. P Beam C			kg/m ³		
1681	RC 62	DE052-LSA-EU	LSA Bottom			kg/m ³		
1682	RC 63	DE192-LSB-EU	PCB Suction			kg/m ³		
1683	RC 65	DE291-PR-EU	PR Relief Valve Line			kg/m ³		
1684	RC 67	DE311-PR-EU	PV-PR Vent Line			kg/m ³		
1685	RC 68	DE431-SGA-EU	SGA Downcomer			kg/m ³		
1686	RC 69	DE471-SGB-EU	SGB Downcomer			kg/m ³		
1687	RC 107	FRE590-ST	Break Flow (St Tank)			kg/s		
1688	RC 108	FRE675-ACH	Hot Acc Flow (Total)			kg/s		
1689	RC 109	FRE655-ACC	Cold Acc Flow (Total)			kg/s		
1690	RC 120	DAE-051-LSA-TY	Crossover Leg A Average Density			kg/m ³		
1691	RC 121	DAE-191-LSB-TY	Crossover Leg B Average Density			kg/m ³		
1692	RC 133	TWE-PCT	Peak Cladding Temp			K		

Table A-1 (Cont'd)

SEQ No.	Function ID.	Tagname	Location	Range		Unit	Uncertainty	
				LO	HI		±ABS.	±%FR
1693	RC 139	CL-GORE	Core (EL. -35 - 3945)			m		
1694	RC 140	CL-UP	Upper Plenum (EL. 4060 - 6135)			m		
1695	RC 141	CL-UH	Upper Head (EL. 7834 - 9653)			m		
1696	RC 142	CL-DC	Downcomer			m		
1697	RC 143	CL-HLA-SGA	HLA Riser Part			m		
1698	RC 144	CL-TUA-U3	SGA Tube 3 Inlet - Top			m		
1699	RC 145	CL-TUA-U2	SGA Tube 2 Inlet - Top			m		
1700	RC 146	CL-TUA-U1	SGA Tube 1 Inlet - Top			m		
1701	RC 147	CL-TUA-U4	SGA Tube 4 Inlet - Top			m		
1702	RC 148	CL-TUA-U5	SGA Tube 5 Inlet - Top			m		
1703	RC 149	CL-TUA-U6	SGA Tube 6 Inlet - Top			m		
1704	RC 150	CL-TUA-D3	SGA Tube 3 Outlet - Top			m		
1705	RC 151	CL-TUA-D2	SGA Tube 2 Outlet - Top			m		
1706	RC 152	CL-TUA-D1	SGA Tube 1 Outlet - Top			m		
1707	RC 153	CL-TUA-D4	SGA Tube 4 Outlet - Top			m		
1708	RC 154	CL-TUA-D5	SGA Tube 5 Outlet - Top			m		
1709	RC 155	CL-TUA-D6	SGA Tube 6 Outlet - Top			m		
1710	RC 156	CL-LSA-D	SGA Out. Plenum - LSA Bottom			m		
1711	RC 157	CL-LSA-U	LSA Bottom - PCA Suction			m		
1712	RC 158	CL-SGA-IPL	SGA Inlet Plenum			m		
1713	RC 159	CL-HLB-SGB	HLB Riser Part			m		
1714	RC 160	CL-TUB-U3	SGB Tube 3 Inlet - Top			m		
1715	RC 161	CL-TUB-U2	SGB Tube 2 Inlet - Top			m		
1716	RC 162	CL-TUB-U1	SGB Tube 1 Inlet - Top			m		
1717	RC 163	CL-TUB-U4	SGB Tube 4 Inlet - Top			m		
1718	RC 164	CL-TUB-U5	SGB Tube 5 Inlet - Top			m		
1719	RC 165	CL-TUB-U6	SGB Tube 6 Inlet - Top			m		
1720	RC 166	CL-TUB-D3	SGB Tube 3 Outlet - Top			m		
1721	RC 167	CL-TUB-D2	SGB Tube 2 Outlet - Top			m		
1722	RC 168	CL-TUB-D1	SGB Tube 1 Outlet - Top			m		
1723	RC 169	CL-TUB-D4	SGB Tube 4 Outlet - Top			m		
1724	RC 170	CL-TUB-D5	SGB Tube 5 Outlet - Top			m		
1725	RC 171	CL-TUB-D6	SGB Tube 6 Outlet - Top			m		
1726	RC 172	CL-LSB-D	SGB Out. Plenum - LSB Bottom			m		
1727	RC 173	CL-LSB-U	LSB Bottom - PCB Suction			m		
1728	RC 174	CL-SGB-IPL	SGB Inlet Plenum			m		
1729	RC 191	MS-ST	Break Flow Supp. Tank			kg		
1730	RC 196	LG-HLA	HLA Water Level			m		
1731	RC 197	LG-CLA	CLA Water Level			m		
1732	RC 198	LG-HLB	HLB Water Level			m		
1733	RC 199	LG-CLB	CLB Water Level			m		
1734	RC 200	TS-UP	Upper Plenum			K		
1735	RC 201	TS-PR	Pressurizer			K		
1736	RC 202	TS-SGA	Steam Generator-A			K		
1737	RC 203	TS-SGB	Steam Generator-B			K		
1738	RC 297	RE010-PCA-R	PCA (Rotation Speed)			rpm		
1739	RC 298	RE150-PCB-R	PCB (Rotation Speed)			rpm		
1740	RC 299	LE280-PR-R	PR			m		

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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량	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
比透磁率 ^(b)	(数字の)	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 ^(e)	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	S	A/V	m ² kg ⁻¹ s ³ A ²
磁束	ウェーバ	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)	°C		K
光照射量	ルーメン	lm	cd sr ^(e)	cd
放射線量	グレイ	Gy	J/kg	m ² s ⁻²
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
酸素活性化	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及び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
粘力のモーメント	パスカル秒	Pa s	m ⁻¹ kg s ⁻¹
表面張力	ニュートンメートル	N m	m ² kg s ⁻²
角速度	ニュートン毎メートル	N/m	kg s ⁻²
角加速度	ラジアン毎秒	rad/s	m m ⁻¹ s ⁻¹ = s ⁻¹
角加減	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
電表面電荷	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
放射線強度	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 ⁴ m ²
リットル	L, l	1 L=1 l=1 dm ³ =10 ³ cm 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 ⁵ Pa
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
バイン	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単位との数値的関係は、 対数量の定義に依存。
ベレル	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=1cm ² s ⁻¹ =10 ⁻⁴ m ² s ⁻¹
スチルブ	sb	1 sb=1cd cm ⁻² =10 ⁴ cd m ⁻²
フオト	ph	1 ph=1cd sr cm ⁻² =10 ⁴ lx
ガリ	Gal	1 Gal=1cm s ⁻² =10 ⁻² ms ⁻²
マクスウェル	Mx	1 Mx=1 G 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 _e =(10 ³ /4π)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	f	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	cal	1 cal=4.1858J (「15°C」カロリ), 4.1868J (「IT」カロリ), 4.184J (「熱化学」カロリ)
マイクロン	μ	1 μ=1μm=10 ⁻⁶ m

