

Incorrect data for pressure at Primary Containment Vessel of Unit 1 at Fukushima
Daiichi Nuclear Power Station (Brief Overview)

November 29, 2011
Tokyo Electric Power Company

1. Event

We noticed discrepancy of data for pressure at Primary Containment Vessel of Unit 1 (Hereafter D/W pressure) with other supervisory instrumentation on November 21, 2011. Thereafter we checked and on November 25, we realized possibility that the methods of compensating the data for D/W pressure may be inaccurate. We checked the methods of compensating the data, and found out that the data for D/W pressure from at 11:00 am on October 28 when we changed data sampling device from primary device to digital recorder have not been compensated. Also, we found out that the compensation formula itself used from at 17:00 pm on May 11 is incorrect.

2. Examination

We have examined how data for D/W pressure became incorrect and found out following points: (Reference document 1&2)

(1)Event 1: Neglect of Compensation Formula Usage

After the earthquake, regarding data for D/W pressure of unit 1, our operators visited Central Operation Room(COR), read figures at D/W pressure recorder(PR1602-16) and recorded the gained figures at datasheet

On May 11, as operation aiming converging reactor, we checked input-output characteristics of D/W pressure recorder of unit 1(PT-1601-69, hereafter PT) and we found out the out of tune at output signals at PT(hereafter gauge drift)

¹. Since D/W pressure recorder as primary device gains the pressure data from PT and display it, we calculated amount of compensation needed from gauge drift and decided D/W pressure ¹ as the amount of read figures at D/W pressure recorder at COR and the calculated amount of compensation needed.

¹ We press released regarding this issue on May 12,2011
(Reference document 3)

As a result of above, we recorded both data of D/W pressure recorder read by our operator at COR and the compensated data at data sheet.

As to reduce exposure to radiation, Equipment Maintenance Division at Fukushima Daiichi Stabilization Center started installation of digital recorders and remote monitoring device (hereafter CRT) on this summer to be able to read the data at Main Anti-Earthquake Building, and regarding D/W pressure, the installation was done on September 5. We started to use the digital recorder from at 11:00 am on October 28 because the installing digital recorders and CRT for other data was done and we could gain the data at CRT in Main Anti-Earthquake Building.

Before changing the data collection method, with recognition of documents

released by the Equipment Maintenance Division and comparison of read data and compensated data, operator misunderstood that the data shown at digital recorder is already compensated value and decided to change the way of recording to data sheet, such as the operator wrote down only the read data at digital recorder (Before this change, both read data and compensated data were written down at data sheet). Thus, from at 11:00 on October 28, data shown at the digital recorder was written down on data sheet, instead of compensated data that should be recorded.

In daily meeting held at headquarters together with Fukushima Daiichi and Daini Nuclear Power Station and other related offices, we realized the differentials between data spoken from Power Station and daily published data of D/W pressure of Unit 1. Thus we confirmed to Power Station regarding compensation of D/W pressure in the evening on October 21.

It seemed that the figures of D/W pressure shown at digital recorder did not compensate gauge drift, so staffs at Power Station checked in detail. As a result, we realized that the data of D/W pressure from 11:00 am on October 28 written down on the data sheet were not the compensated data but the figures shown at digital recorder.

(2)Event 2: Inaccurate Compensation Formula Usage

(Reference document 4)

(Operation at site)

We realized gauge drift at output signals on May 11 when we checked input-output characteristics of D/W pressure recorder of unit 1.

In ordinal occasion, we calibrate the gauge (arrange the output signals), but the Airborne radiation of the working area (1st floor of reactor building) was extremely high (12mSv/h) and so to reduce exposure to radiation, we decided to monitor the plant by using compensated data that we calculate as D/W pressure. (How the compensation formula was derived)

Two TEPCO's employee derived the compensation formula on May 11

One of the employees (Employee A) calculated the range of error by comparing the calibrated figures and read data at pressure monitor device. The other employee (Employee B) calculated the process figure using the result attained from the calculation done by Employee A, and tried to derive the compensation formula.

Employee A provided Employee B with the range of error (Percentages of range of error at 600kPa range of device measuring) at two points such as " 40kPa (6.67% output) " and " 600kPa (100% output) " .

Then Employee B calculated the process figure at that two points using data provided by Employee A

Employee B supposed to calculate the process figure by multiplying the range of error and 600kPa range of device measuring, but calculated by multiplying the range of error and two calculated pressure provided by Employee A respectively and join the two points in linear line, and thought the linear

formula is the compensation formula.

We did not realize the inaccuracy in the compensation formula and so we derived incorrect D/W pressure figures from May 11 to October 28.

3. Probable Cause

We researched the cause of event 1 and 2 and the facts we found are as follows:

(1)Event 1: Neglect of Compensation Formula Usage

With change data sampling device, Equipment Maintenance Division which changed data sheet design found the fact as follows:

Trend of data gained by adding read figures at primary data sampling device and calibrated figures and data shown at digital recorder proceeded in similar figures

	Sampling time	Read Figures	Calibrated Figures	
October, 27	23 : 00	118 . 7	121 . 1	Primary Device
October, 28	05 : 00	118 . 6	121 . 1	Primary Device
	11 : 00	121 . 9		Digital Recorder
	17 : 00	122 . 0		Digital Recorder

In the document released from Equipment Maintenance Division says “ data shown at digital recorder is similar to primary device and data written down on the data sheet ” , and so Operation Maintenance Division realized that the data of digital recorder and primary device is the same.

Operation Maintenance Division thought that it is easy to calculate D/W pressure compensation by digitalization.

As above to , operator who designed the new data sheet realized that the digital recorder shows the calibrated data.

The realization above was strong enough that the operator did not confirm whether the data at digital recorder is before calibration or after calibration.

Other operators also did not questioned the decision of “ digital recorder shows the calibrated data ” made by the operator who designed the new data sheet because the data from digital recorder is similar to primary device and data written down on the data sheet

As above, following causes are estimated:

- The operator who designed the new data sheet misunderstood that “ D/W pressure at digital recorder shows the calibrated figure from PT ” and so changed the design of data sheet without any consideration of the misunderstandings
- This misunderstood realization was taken over by the other operators

(2)Event 2: Inaccurate Compensation Formula Usage

It was unusual operation environment at site and so we monitor the D/W pressure by using compensation formula instead of on site calibration.

During derivation of the compensation formula, division of rolls, checking methods, and who checks were not defined in detail, and enough checks were not done for derived compensation formula.

4. Measurement for Prevention of Recurrence

We correct the data and do following measurement to prevent from recurrence
(Reference document 5&6)

(1)Event 1: Neglect of Compensation Formula Usage

We define the devices which are calibrated and the content of calibration in clear and precise manner and have them in common. We give direction document of Operation Maintenance Division to all the operator that says when change in the said device is made, ask Equipment Maintenance Division whether calibration is needed or not.

(2)Event 2: Inaccurate Compensation Formula Usage

It depends on the operation environment on site, but when gauge drift is realized, we calibrate the gauge on site in principal

We check twice for verification document of the calibration

5. Influence Caused by the Incorrect Data

(1)Re-calibration of D/W pressure using accurate compensation formula

As we recalculated the figures using accurate compensation formula for the period of inaccurate compensation formula was used (from at 17:00 pm on May 11 to at 5:00 am on October 28), we found out that the incorrect data showed higher by range from 0.00183MPa to 0.00202MPa.

Also, as for the period of compensation formula was not used and monitored D/W pressure (from at 11:00 am on October 28 to at 5:00 on November 29), we found out that the incorrect data showed lower by range from 0.00028MPa to 0.00062MPa.

(Reference document 5)

(2)Influence for Monitoring D/W Pressure Caused by the Inaccurate Compensation Formula

In this occasion, the maximum difference of the pressure is around 0.002MPa and the corrected data keeps over atmosphere pressure. Thus, oxygen that may lead hydrogen explosion would not come into D/W, we see no problem in safety issue. Also, as the difference between the corrected data and incorrect data are almost fixed, we think we could monitor the Primary Containment Vessel.

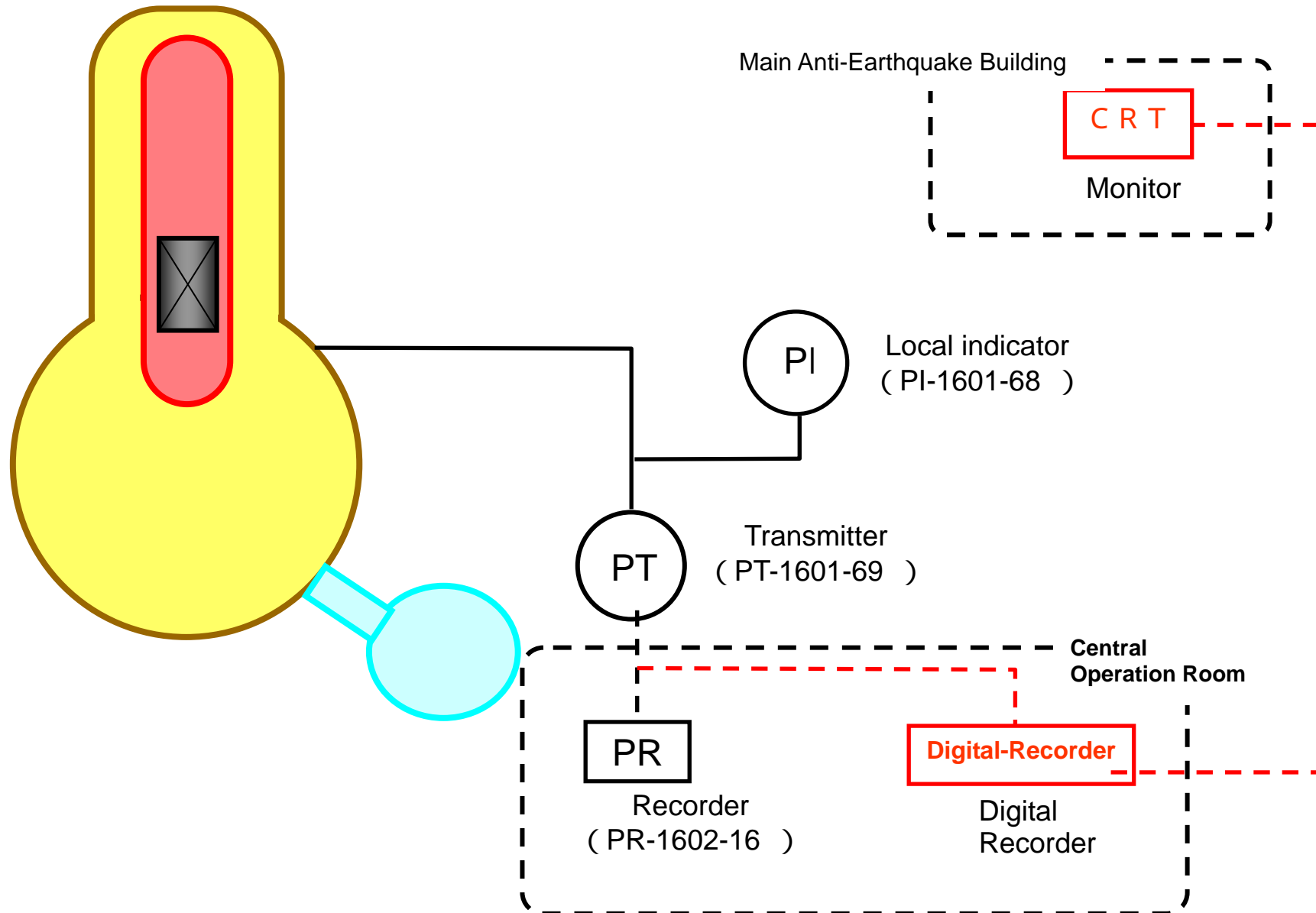
(3)Research on Similar Cases

We checked our published data on the view of adequacy of data sampling device,

whether calibration is done and the content of the calibration (if calibrated), we confirmed that there is no incorrect data other than D/W pressure of Unit 1. Also, we checked data that are compensated based on input-output characteristics regarding our published data and devices used to monitor, and we found out only D/W pressure of Unit 1 matches this case.

(Reference document 6)

Structure of D/W pressure gauge of Unit 1



Chronological Order

- March 11 Since the earthquake disaster, the data of D/W pressure recorder (PR-1602-16) had been used as D/W pressure of Unit1.
- May 11 As a result of calibration of local indicator of D/W pressure (PT-1601-68) and characteristic test of D/W pressure converter (PT-1601-69), we found gauge drift in PT.
- May 11 We made compensation formula which takes gauge drift into account, using input-output characteristic test results. At that time, we made it using incorrect data.
- May 11 We reported at the general meeting that as a result of calibration of D/W pressure gauge, gauge drift was found and we also reported how to treat D/W pressure data with compensation formula.
- May 11 From the timing of usual data collection at 5 pm , we changed the operation to regarding the compensated data which are summation of data of D/W pressure gauge (PR-1602-16) and gauge drift as compensated D/W pressure.
- October 28 From 11 am, we changed the way of data collection from collection at COR and local location to via digital recorder using remote monitoring device (CRT) of Main Anti-Earthquake Building.
- November 21 At the general meeting, we noticed that there is a difference between Unit 1 D/W pressure data which were informed by the power station and the D/W pressure data which had been disclosed everyday. Thus, at the headquarters daily meeting in the evening, device compensation of D/W pressure was questioned and we started the following survey on Nov. 21.
- Confirmation on whether D/W pressure data had been compensated and whether compensation had been necessary
 - Interview with related staff (which includes interview with operational off-duty staff through phones)
 - Confirmation of how compensation formula of D/W pressure was calculated

November 25 As a result of the survey, we confirmed the possibility of errors in the way of how D/W pressure data had been compensated (with or without compensation and compensation formula of D/W pressure). Later survey revealed that indicated data by digital recorder had been recorded since 11 am of October 28, in stead of the compensated data and that some of the values used for compensation formula had been incorrect.

END

Calibration of D/W pressure gauge

May 12, 2011
Tokyo Electric Power Company

• Calibration of D/W local pressure indicator (PI-1601-68)

Before calibration

	Input standard (MPa)	Input value (MPa)	Output standard (MPa)	Output value (MPa)	Error (%)
20%	0	0	0	0.005	1.0
80%	0.300	0.300	0.300	0.305	1.0



After calibration

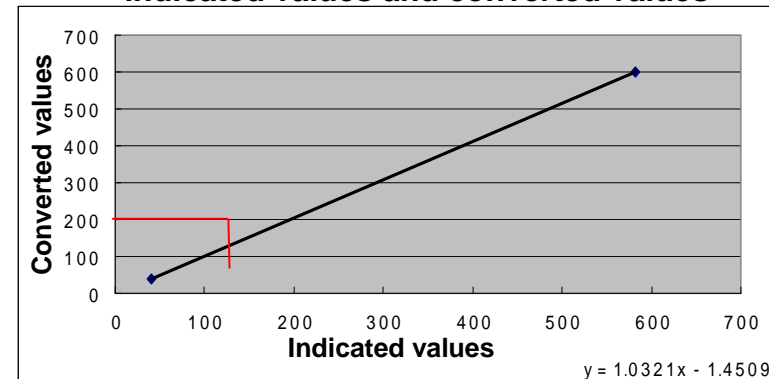
	Input standard (MPa)	Input value (MPa)	Output standard (MPa)	Output value (MPa)	Error (%)
	0	0	0	0.000	0
	0.300	0.300	0.300	0.300	0

- We calibrated the local pressure indicator to have it show correct values.
- The indicated value after calibration is 0.020MPa (gauge pressure) and 120.57 KPa abs as absolute pressure. (as of around 10 am)

• Characteristic test results of D/W pressure gauge

	Input (kPa abs)	Output (kPa abs)	Error (%)	Allowable error
6.67%	40	40.16	+0.4	± 0.2%
100%	600	582.72	-2.88	

Relationship between indicated values and converted values



- As a result of input-output characteristic test, gauge drift of device was confirmed.
- The relationship between indicated values and converted values of D/W pressure is as follows;
Converted values = 1.0321 X (indicated values) – 1.4509
- The current indicated value of D/W pressure is 118.4 KPa abs and its converted value is 120.75 KPa abs.
- Comparison of indicated values by local indicator and converted values shows that both are almost equivalent (0.03% error). Thus, it is considered that conversion formula shows almost correct values.

The correction formula of the Primary Containment Vessel Pressure Measurement of Fukushima-Daiichi Nuclear Power Plant Unit 1

1 . The data obtained by input-output characteristic test

Table 1 shows the data obtained by input-output characteristic test of Primary Containment Vessel Pressure Indicator of Unit 1 (PT-1601-69)

< Basic Specification of Pressure Indicator >

Pressure Gauge of Unit-1 Primary Containment Vessel (PT-1601-69)

Type : Semiconductor Pressure Transmitter (Hitachi EDR-N6A)

Input(Pressure) : 0 ~ 600kPa abs (Span Length : 600kPa)

Output (Current) : 4 ~ 20mA (Span Length : 16mA)

Table 1 Data obtained by confirmation of input-output characteristics on May 11.

Calibration Point	Input Value (kPa abs)	Output Reference Value (mA)	Output Value (mA)	Error Range = (-)/16mA
6 . 6 7 %	4 0	5 . 0 6 7	5 . 1 3	+ 0 . 4 % F S
1 0 0 %	6 0 0	2 0	1 9 . 5 4	- 2 . 8 8 % F S

2 . Error in leading the correction formulation

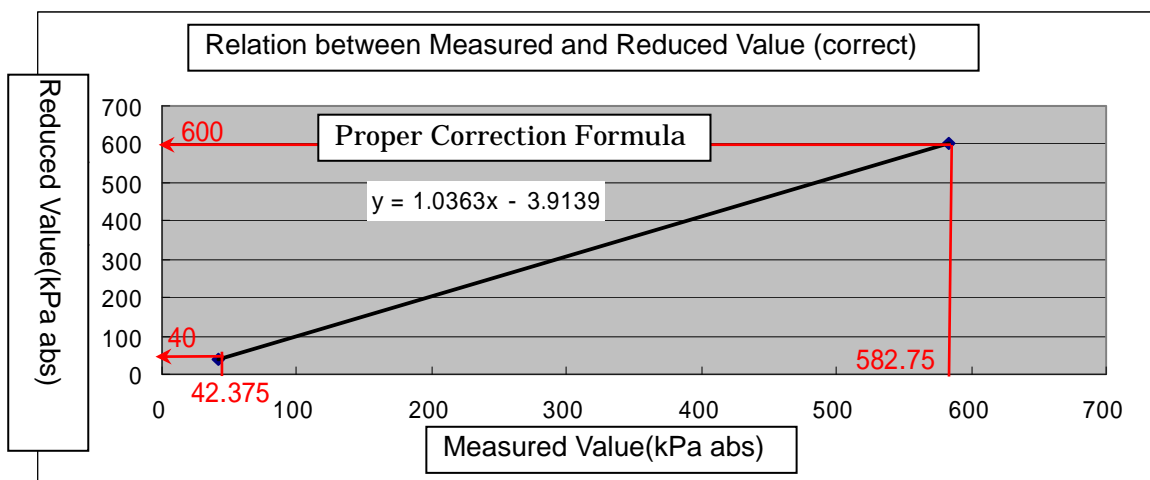
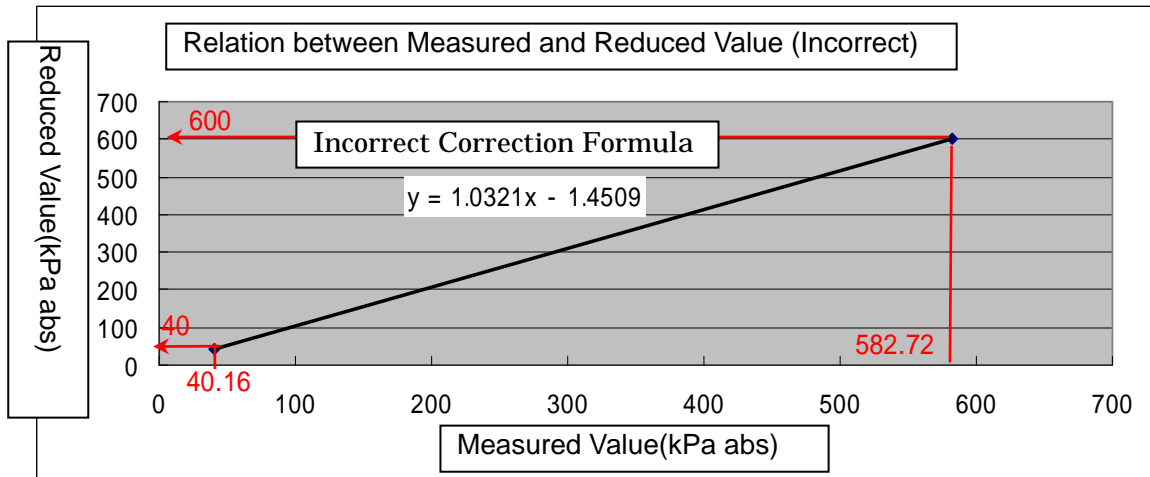
When converting from output values (current) to process values (pressure) at each calibration points from Table1 result, we shall have multiplied 600kPa (span length), but we multiplied 40kPa which is input value at calibration point 6.67%.

Due to misleading the correction formula by using incorrect calculation result, so we lead incorrect correction formula.

Table2. Error in leading the correction formulation

Calibration Point	Error Range	Input Value (kPa abs)	Incorrect Process Value (kPa abs) = x +	Correct Process Value (kPa abs) = { (-4mA)/16mA}x600kPa
6 . 6 7 %	+ 0 . 4 % F S	4 0	4 0 . 1 6	4 2 . 3 7 5
1 0 0 %	- 2 . 8 8 % F S	6 0 0	5 8 2 . 7 2	5 8 2 . 7 5 *

* Process Value at 100% calibration point is different between incorrect and correct correction formula due to rounding.



From "relation between measured and reduced value (correct)", the first-order approximation curve is able to be derived from

$$40 = 42.375 \times a + b \dots$$

And

$$600 = 582.75 \times a + b \dots$$

(a : gradient b : intercept)

From Formula $b = 40 - 42.375 \times a$

From Formula $600 = 582.75 \times a + 40 - 42.375 \times a$

Then,

$$a = 560 / 540.375 = 1.03631\dots = \underline{\underline{1.0363}}$$

$$b = 40 - 42.375 \times 560 / 540.375 = -3.91394\dots = \underline{\underline{-3.9139}}$$

3 . Proper Correction Formula

Therefore, Proper Correction Formula is as follows.

Converted Value = $1.0363 \times (\text{Reading Value}) - 3.9139$ [kPa abs]

End

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/5/11 17:00	0.1172	0.1153	0.00194
2011/5/11 20:00	0.1184	0.1164	0.00200
2011/5/11 23:00	0.1192	0.1172	0.00197
2011/5/12 5:00	0.1204	0.1185	0.00193
2011/5/12 8:00	0.1208	0.1188	0.00202
2011/5/12 11:00	0.1212	0.1192	0.00200
2011/5/12 14:00	0.1216	0.1196	0.00199
2011/5/12 17:00	0.1219	0.1199	0.00198
2011/5/12 20:00	0.1219	0.1199	0.00198
2011/5/12 23:00	0.1211	0.1191	0.00201
2011/5/13 2:00	0.1206	0.1187	0.00192
2011/5/13 5:00	0.1204	0.1185	0.00193
2011/5/13 8:00	0.1203	0.1184	0.00193
2011/5/13 11:00	0.1204	0.1185	0.00193
2011/5/13 14:00	0.1206	0.1187	0.00192
2011/5/13 17:00	0.1208	0.1188	0.00202
2011/5/13 20:00	0.1208	0.1188	0.00202
2011/5/13 23:00	0.1206	0.1187	0.00192
2011/5/14 2:00	0.1209	0.1189	0.00201
2011/5/14 5:00	0.1209	0.1189	0.00201
2011/5/14 8:00	0.1209	0.1189	0.00201
2011/5/14 11:00	0.1212	0.1192	0.00200
2011/5/14 14:00	0.1219	0.1199	0.00198
2011/5/14 17:00	0.1212	0.1192	0.00200
2011/5/14 20:00	0.1214	0.1194	0.00199
2011/5/14 23:00	0.1216	0.1196	0.00199
2011/5/15 2:00	0.1218	0.1198	0.00198
2011/5/15 5:00	0.1218	0.1198	0.00198
2011/5/15 8:00	0.1219	0.1199	0.00198
2011/5/15 11:00	0.1221	0.1201	0.00197
2011/5/15 14:00	0.1220	0.1200	0.00197
2011/5/15 17:00	0.1202	0.1183	0.00193
2011/5/15 20:00	0.1191	0.1171	0.00197
2011/5/15 23:00	0.1186	0.1166	0.00199
2011/5/16 2:00	0.1181	0.1161	0.00201
2011/5/16 5:00	0.1178	0.1158	0.00202
2011/5/16 8:00	0.1174	0.1155	0.00193
2011/5/16 11:00	0.1174	0.1155	0.00193
2011/5/16 14:00	0.1177	0.1157	0.00202
2011/5/16 17:00	0.1181	0.1161	0.00201
2011/5/16 20:00	0.1189	0.1169	0.00198
2011/5/16 23:00	0.1196	0.1176	0.00196
2011/5/17 2:00	0.1202	0.1183	0.00193
2011/5/17 5:00	0.1202	0.1183	0.00193
2011/5/17 8:00	0.1198	0.1179	0.00195
2011/5/17 11:00	0.1196	0.1176	0.00196
2011/5/17 12:05	0.1198	0.1179	0.00195
2011/5/17 12:20	0.1199	0.1180	0.00195
2011/5/17 14:00	0.1212	0.1192	0.00200
2011/5/17 17:00	0.1233	0.1214	0.00193
2011/5/17 20:00	0.1248	0.1228	0.00197
2011/5/17 23:00	0.1259	0.1240	0.00193
2011/5/18 2:00	0.1271	0.1252	0.00189
2011/5/18 5:00	0.1283	0.1263	0.00195
2011/5/18 8:00	0.1294	0.1275	0.00191
2011/5/18 11:00	0.1307	0.1287	0.00197
2011/5/18 14:00	0.1318	0.1299	0.00193
2011/5/18 17:00	0.1335	0.1316	0.00187

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/5/18 20:00	0.1352	0.1333	0.00191
2011/5/18 23:00	0.1362	0.1343	0.00187
2011/5/19 2:00	0.1371	0.1352	0.00194
2011/5/19 5:00	0.1379	0.1360	0.00191
2011/5/19 8:00	0.1386	0.1367	0.00189
2011/5/19 11:00	0.1391	0.1372	0.00187
2011/5/19 14:00	0.1376	0.1357	0.00192
2011/5/19 17:00	0.1360	0.1341	0.00188
2011/5/19 20:00	0.1350	0.1331	0.00192
2011/5/19 23:00	0.1342	0.1323	0.00194
2011/5/20 2:00	0.1334	0.1315	0.00187
2011/5/20 5:00	0.1330	0.1311	0.00188
2011/5/20 8:00	0.1325	0.1306	0.00190
2011/5/20 11:00	0.1321	0.1302	0.00192
2011/5/20 14:00	0.1319	0.1300	0.00192
2011/5/20 17:00	0.1317	0.1298	0.00193
2011/5/20 20:00	0.1316	0.1297	0.00193
2011/5/20 23:00	0.1316	0.1297	0.00193
2011/5/21 2:00	0.1316	0.1297	0.00193
2011/5/21 5:00	0.1315	0.1296	0.00194
2011/5/21 8:00	0.1316	0.1297	0.00193
2011/5/21 11:00	0.1317	0.1298	0.00193
2011/5/21 14:00	0.1316	0.1297	0.00193
2011/5/21 17:00	0.1303	0.1284	0.00188
2011/5/21 20:00	0.1307	0.1287	0.00197
2011/5/21 23:00	0.1310	0.1290	0.00196
2011/5/22 2:00	0.1313	0.1294	0.00195
2011/5/22 5:00	0.1315	0.1296	0.00194
2011/5/22 8:00	0.1317	0.1298	0.00193
2011/5/22 11:00	0.1318	0.1299	0.00193
2011/5/22 14:00	0.1323	0.1304	0.00191
2011/5/22 17:00	0.1319	0.1300	0.00192
2011/5/22 20:00	0.1319	0.1300	0.00192
2011/5/22 23:00	0.1319	0.1300	0.00192
2011/5/23 2:00	0.1324	0.1305	0.00191
2011/5/23 5:00	0.1328	0.1309	0.00189
2011/5/23 8:00	0.1330	0.1311	0.00188
2011/5/23 11:00	0.1333	0.1314	0.00187
2011/5/23 14:00	0.1334	0.1315	0.00187
2011/5/23 17:00	0.1334	0.1315	0.00187
2011/5/23 20:00	0.1333	0.1314	0.00187
2011/5/23 23:00	0.1333	0.1314	0.00187
2011/5/24 2:00	0.1333	0.1314	0.00187
2011/5/24 5:00	0.1333	0.1314	0.00187
2011/5/24 8:00	0.1334	0.1315	0.00187
2011/5/24 11:00	0.1334	0.1315	0.00187
2011/5/24 14:00	0.1334	0.1315	0.00187
2011/5/24 17:00	0.1335	0.1316	0.00187
2011/5/24 20:00	0.1335	0.1316	0.00187
2011/5/24 23:00	0.1335	0.1316	0.00187
2011/5/25 2:00	0.1335	0.1316	0.00187
2011/5/25 5:00	0.1335	0.1316	0.00187
2011/5/25 9:00	0.1334	0.1315	0.00187
2011/5/25 15:00	0.1322	0.1303	0.00191
2011/5/25 17:00	0.1318	0.1299	0.00193
2011/5/25 20:00	0.1306	0.1286	0.00197
2011/5/25 23:00	0.1312	0.1293	0.00195
2011/5/26 2:00	0.1315	0.1296	0.00194

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/5/26 5:00	0.1319	0.1300	0.00192
2011/5/26 8:00	0.1320	0.1301	0.00192
2011/5/26 11:00	0.1323	0.1304	0.00191
2011/5/26 14:00	0.1324	0.1305	0.00191
2011/5/26 17:00	0.1327	0.1308	0.00189
2011/5/26 20:00	0.1327	0.1308	0.00189
2011/5/26 23:00	0.1327	0.1308	0.00189
2011/5/27 2:00	0.1329	0.1310	0.00189
2011/5/27 5:00	0.1328	0.1309	0.00189
2011/5/27 8:00	0.1329	0.1310	0.00189
2011/5/27 11:00	0.1329	0.1310	0.00189
2011/5/27 14:00	0.1330	0.1311	0.00188
2011/5/27 17:00	0.1328	0.1309	0.00189
2011/5/27 20:00	0.1327	0.1308	0.00189
2011/5/27 23:00	0.1326	0.1307	0.00190
2011/5/28 2:00	0.1327	0.1308	0.00189
2011/5/28 5:00	0.1326	0.1307	0.00190
2011/5/28 8:00	0.1326	0.1307	0.00190
2011/5/28 11:00	0.1326	0.1307	0.00190
2011/5/28 14:00	0.1326	0.1307	0.00190
2011/5/28 17:00	0.1327	0.1308	0.00189
2011/5/28 20:00	0.1323	0.1304	0.00191
2011/5/28 23:00	0.1323	0.1304	0.00191
2011/5/29 2:00	0.1321	0.1302	0.00192
2011/5/29 5:00	0.1318	0.1299	0.00193
2011/5/29 8:00	0.1318	0.1299	0.00193
2011/5/29 11:00	0.1317	0.1298	0.00193
2011/5/29 14:00	0.1312	0.1293	0.00195
2011/5/29 17:00	0.1310	0.1290	0.00196
2011/5/29 20:00	0.1310	0.1290	0.00196
2011/5/29 23:00	0.1305	0.1285	0.00197
2011/5/30 2:00	0.1295	0.1276	0.00191
2011/5/30 5:00	0.1290	0.1271	0.00193
2011/5/30 8:00	0.1282	0.1262	0.00195
2011/5/30 11:00	0.1279	0.1259	0.00197
2011/5/30 14:00	0.1275	0.1255	0.00198
2011/5/30 17:00	0.1269	0.1250	0.00190
2011/5/30 20:00	0.1265	0.1246	0.00191
2011/5/30 23:00	0.1265	0.1246	0.00191
2011/5/31 2:00	0.1265	0.1246	0.00191
2011/5/31 5:00	0.1267	0.1248	0.00191
2011/5/31 8:00	0.1268	0.1249	0.00190
2011/5/31 11:00	0.1268	0.1249	0.00190
2011/5/31 14:00	0.1269	0.1250	0.00190
2011/5/31 17:00	0.1271	0.1252	0.00189
2011/5/31 20:00	0.1274	0.1254	0.00198
2011/5/31 23:00	0.1275	0.1255	0.00198
2011/6/1 2:00	0.1274	0.1254	0.00198
2011/6/1 5:00	0.1274	0.1254	0.00198
2011/6/1 8:00	0.1275	0.1255	0.00198
2011/6/1 11:00	0.1277	0.1257	0.00197
2011/6/1 14:00	0.1278	0.1258	0.00197
2011/6/1 17:00	0.1279	0.1259	0.00197
2011/6/1 20:00	0.1279	0.1259	0.00197
2011/6/1 23:00	0.1279	0.1259	0.00197
2011/6/2 2:00	0.1281	0.1261	0.00196
2011/6/2 5:00	0.1282	0.1262	0.00195
2011/6/2 8:00	0.1282	0.1262	0.00195

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/6/2 11:00	0.1284	0.1265	0.00195
2011/6/2 14:00	0.1285	0.1266	0.00194
2011/6/2 17:00	0.1283	0.1263	0.00195
2011/6/2 20:00	0.1284	0.1265	0.00195
2011/6/2 23:00	0.1284	0.1265	0.00195
2011/6/3 2:00	0.1286	0.1267	0.00194
2011/6/3 5:00	0.1288	0.1269	0.00193
2011/6/3 8:00	0.1289	0.1270	0.00193
2011/6/3 11:00	0.1289	0.1270	0.00193
2011/6/3 13:30	0.1290	0.1271	0.00193
2011/6/3 17:00	0.1293	0.1274	0.00191
2011/6/3 20:00	0.1293	0.1274	0.00191
2011/6/3 23:00	0.1294	0.1275	0.00191
2011/6/4 2:00	0.1295	0.1276	0.00191
2011/6/4 5:00	0.1295	0.1276	0.00191
2011/6/4 8:00	0.1296	0.1277	0.00190
2011/6/4 11:00	0.1297	0.1278	0.00190
2011/6/4 14:00	0.1296	0.1277	0.00190
2011/6/4 17:00	0.1295	0.1276	0.00191
2011/6/4 20:00	0.1295	0.1276	0.00191
2011/6/4 23:00	0.1296	0.1277	0.00190
2011/6/5 2:00	0.1298	0.1279	0.00190
2011/6/5 5:00	0.1299	0.1280	0.00189
2011/6/5 8:00	0.1299	0.1280	0.00189
2011/6/5 11:00	0.1301	0.1282	0.00189
2011/6/5 14:00	0.1306	0.1286	0.00197
2011/6/5 17:00	0.1308	0.1288	0.00196
2011/6/5 20:00	0.1310	0.1290	0.00196
2011/6/5 23:00	0.1309	0.1289	0.00196
2011/6/6 2:00	0.1310	0.1290	0.00196
2011/6/6 5:00	0.1310	0.1290	0.00196
2011/6/6 8:00	0.1311	0.1291	0.00195
2011/6/6 11:00	0.1313	0.1294	0.00195
2011/6/6 14:00	0.1317	0.1298	0.00193
2011/6/6 17:00	0.1317	0.1298	0.00193
2011/6/6 20:00	0.1318	0.1299	0.00193
2011/6/6 23:00	0.1317	0.1298	0.00193
2011/6/7 2:00	0.1318	0.1299	0.00193
2011/6/7 5:00	0.1318	0.1299	0.00193
2011/6/7 8:00	0.1319	0.1300	0.00192
2011/6/7 11:00	0.1321	0.1302	0.00192
2011/6/7 14:00	0.1324	0.1305	0.00191
2011/6/7 17:00	0.1328	0.1309	0.00189
2011/6/7 20:00	0.1330	0.1311	0.00188
2011/6/7 23:00	0.1330	0.1311	0.00188
2011/6/8 2:00	0.1329	0.1310	0.00189
2011/6/8 5:00	0.1328	0.1309	0.00189
2011/6/8 8:00	0.1326	0.1307	0.00190
2011/6/8 11:00	0.1326	0.1307	0.00190
2011/6/8 14:00	0.1327	0.1308	0.00189
2011/6/8 18:00	0.1308	0.1288	0.00196
2011/6/8 20:00	0.1314	0.1295	0.00194
2011/6/8 23:00	0.1316	0.1297	0.00193
2011/6/9 2:00	0.1317	0.1298	0.00193
2011/6/9 5:00	0.1317	0.1298	0.00193
2011/6/9 8:00	0.1316	0.1297	0.00193
2011/6/9 11:00	0.1319	0.1300	0.00192
2011/6/9 14:00	0.1322	0.1303	0.00191

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/6/9 17:00	0.1323	0.1304	0.00191
2011/6/9 20:00	0.1323	0.1304	0.00191
2011/6/9 23:00	0.1322	0.1303	0.00191
2011/6/10 2:00	0.1322	0.1303	0.00191
2011/6/10 5:00	0.1322	0.1303	0.00191
2011/6/10 8:00	0.1321	0.1302	0.00192
2011/6/10 11:00	0.1322	0.1303	0.00191
2011/6/10 14:00	0.1323	0.1304	0.00191
2011/6/10 17:00	0.1325	0.1306	0.00190
2011/6/10 20:00	0.1325	0.1306	0.00190
2011/6/10 23:00	0.1326	0.1307	0.00190
2011/6/11 2:00	0.1326	0.1307	0.00190
2011/6/11 5:00	0.1325	0.1306	0.00190
2011/6/11 8:00	0.1324	0.1305	0.00191
2011/6/11 11:00	0.1324	0.1305	0.00191
2011/6/11 14:00	0.1323	0.1304	0.00191
2011/6/11 17:00	0.1326	0.1307	0.00190
2011/6/11 20:00	0.1326	0.1307	0.00190
2011/6/11 23:00	0.1326	0.1307	0.00190
2011/6/12 2:00	0.1325	0.1306	0.00190
2011/6/12 5:00	0.1325	0.1306	0.00190
2011/6/12 8:00	0.1325	0.1306	0.00190
2011/6/12 11:00	0.1325	0.1306	0.00190
2011/6/12 14:00	0.1328	0.1309	0.00189
2011/6/12 17:00	0.1330	0.1311	0.00188
2011/6/12 20:00	0.1329	0.1310	0.00189
2011/6/12 23:00	0.1329	0.1310	0.00189
2011/6/13 2:00	0.1327	0.1308	0.00189
2011/6/13 5:00	0.1326	0.1307	0.00190
2011/6/13 8:00	0.1325	0.1306	0.00190
2011/6/13 11:00	0.1324	0.1305	0.00191
2011/6/13 14:00	0.1325	0.1306	0.00190
2011/6/13 17:00	0.1326	0.1307	0.00190
2011/6/13 20:00	0.1326	0.1307	0.00190
2011/6/13 23:00	0.1325	0.1306	0.00190
2011/6/14 2:00	0.1324	0.1305	0.00191
2011/6/14 5:00	0.1323	0.1304	0.00191
2011/6/14 8:00	0.1323	0.1304	0.00191
2011/6/14 11:00	0.1323	0.1304	0.00191
2011/6/14 14:00	0.1324	0.1305	0.00191
2011/6/14 17:00	0.1326	0.1307	0.00190
2011/6/14 20:00	0.1328	0.1309	0.00189
2011/6/14 23:00	0.1328	0.1309	0.00189
2011/6/15 2:00	0.1328	0.1309	0.00189
2011/6/15 5:00	0.1327	0.1308	0.00189
2011/6/15 8:00	0.1327	0.1308	0.00189
2011/6/15 11:00	0.1329	0.1310	0.00189
2011/6/15 14:00	0.1332	0.1313	0.00188
2011/6/15 17:00	0.1337	0.1317	0.00196
2011/6/15 20:00	0.1337	0.1317	0.00196
2011/6/15 23:00	0.1338	0.1318	0.00196
2011/6/16 2:00	0.1337	0.1317	0.00196
2011/6/16 5:00	0.1337	0.1317	0.00196
2011/6/16 8:00	0.1337	0.1317	0.00196
2011/6/16 11:00	0.1338	0.1318	0.00196
2011/6/16 14:00	0.1342	0.1323	0.00194
2011/6/16 17:00	0.1344	0.1325	0.00194
2011/6/16 20:00	0.1343	0.1324	0.00194

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/6/16 23:00	0.1343	0.1324	0.00194
2011/6/17 2:00	0.1345	0.1326	0.00193
2011/6/17 5:00	0.1343	0.1324	0.00194
2011/6/17 8:00	0.1345	0.1326	0.00193
2011/6/17 11:00	0.1345	0.1326	0.00193
2011/6/17 14:00	0.1346	0.1327	0.00193
2011/6/17 17:00	0.1347	0.1328	0.00193
2011/6/17 20:00	0.1348	0.1329	0.00192
2011/6/17 23:00	0.1348	0.1329	0.00192
2011/6/18 2:00	0.1349	0.1330	0.00192
2011/6/18 5:00	0.1349	0.1330	0.00192
2011/6/18 8:00	0.1349	0.1330	0.00192
2011/6/18 11:00	0.1349	0.1330	0.00192
2011/6/18 14:00	0.1351	0.1332	0.00191
2011/6/18 17:00	0.1352	0.1333	0.00191
2011/6/18 20:00	0.1352	0.1333	0.00191
2011/6/18 23:00	0.1352	0.1333	0.00191
2011/6/19 2:00	0.1351	0.1332	0.00191
2011/6/19 5:00	0.1351	0.1332	0.00191
2011/6/19 8:00	0.1350	0.1331	0.00192
2011/6/19 11:00	0.1350	0.1331	0.00192
2011/6/19 13:00	0.1344	0.1325	0.00194
2011/6/19 17:00	0.1331	0.1312	0.00188
2011/6/19 20:00	0.1337	0.1317	0.00196
2011/6/19 23:00	0.1339	0.1319	0.00195
2011/6/20 2:00	0.1342	0.1323	0.00194
2011/6/20 5:00	0.1343	0.1324	0.00194
2011/6/20 8:00	0.1344	0.1325	0.00194
2011/6/20 11:00	0.1347	0.1328	0.00193
2011/6/20 14:00	0.1351	0.1332	0.00191
2011/6/20 17:00	0.1353	0.1334	0.00190
2011/6/20 20:00	0.1353	0.1334	0.00190
2011/6/20 23:00	0.1355	0.1336	0.00190
2011/6/21 2:00	0.1355	0.1336	0.00190
2011/6/21 5:00	0.1355	0.1336	0.00190
2011/6/21 8:00	0.1356	0.1337	0.00189
2011/6/21 11:00	0.1357	0.1338	0.00189
2011/6/21 14:00	0.1345	0.1326	0.00193
2011/6/21 17:00	0.1332	0.1313	0.00188
2011/6/21 20:00	0.1334	0.1315	0.00187
2011/6/21 23:00	0.1338	0.1318	0.00196
2011/6/22 2:00	0.1343	0.1324	0.00194
2011/6/22 5:00	0.1346	0.1327	0.00193
2011/6/22 8:00	0.1351	0.1332	0.00191
2011/6/22 11:00	0.1357	0.1338	0.00189
2011/6/22 14:00	0.1362	0.1343	0.00187
2011/6/22 17:00	0.1364	0.1345	0.00186
2011/6/22 20:00	0.1367	0.1348	0.00185
2011/6/22 23:00	0.1369	0.1350	0.00195
2011/6/23 2:00	0.1372	0.1353	0.00194
2011/6/23 5:00	0.1374	0.1355	0.00193
2011/6/23 8:00	0.1375	0.1356	0.00193
2011/6/23 11:00	0.1379	0.1360	0.00191
2011/6/23 14:00	0.1380	0.1361	0.00191
2011/6/23 17:00	0.1383	0.1364	0.00190
2011/6/23 20:00	0.1385	0.1366	0.00189
2011/6/23 23:00	0.1387	0.1368	0.00188
2011/6/24 2:00	0.1388	0.1369	0.00188

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/6/24 5:00	0.1388	0.1369	0.00188
2011/6/24 8:00	0.1390	0.1371	0.00187
2011/6/24 11:00	0.1392	0.1373	0.00187
2011/6/24 14:00	0.1396	0.1377	0.00185
2011/6/24 17:00	0.1397	0.1379	0.00185
2011/6/24 20:00	0.1401	0.1382	0.00194
2011/6/24 23:00	0.1402	0.1383	0.00193
2011/6/25 2:00	0.1404	0.1385	0.00193
2011/6/25 5:00	0.1404	0.1385	0.00193
2011/6/25 8:00	0.1404	0.1385	0.00193
2011/6/25 11:00	0.1406	0.1387	0.00192
2011/6/25 14:00	0.1407	0.1388	0.00192
2011/6/25 17:00	0.1408	0.1389	0.00191
2011/6/25 20:00	0.1410	0.1391	0.00190
2011/6/25 23:00	0.1411	0.1392	0.00190
2011/6/26 2:00	0.1412	0.1393	0.00190
2011/6/26 5:00	0.1412	0.1393	0.00190
2011/6/26 8:00	0.1413	0.1394	0.00189
2011/6/26 11:00	0.1412	0.1393	0.00190
2011/6/26 14:00	0.1413	0.1394	0.00189
2011/6/26 17:00	0.1411	0.1392	0.00190
2011/6/26 20:00	0.1403	0.1384	0.00193
2011/6/26 23:00	0.1399	0.1381	0.00184
2011/6/27 2:00	0.1396	0.1377	0.00185
2011/6/27 5:00	0.1391	0.1372	0.00187
2011/6/27 7:30	0.1390	0.1371	0.00187
2011/6/27 15:30	0.1355	0.1336	0.00190
2011/6/27 17:00	0.1357	0.1338	0.00189
2011/6/27 20:00	0.1358	0.1339	0.00189
2011/6/27 23:00	0.1359	0.1340	0.00188
2011/6/28 2:00	0.1361	0.1342	0.00188
2011/6/28 5:00	0.1363	0.1344	0.00187
2011/6/28 8:00	0.1363	0.1344	0.00187
2011/6/28 11:00	0.1365	0.1346	0.00186
2011/6/28 14:00	0.1367	0.1348	0.00185
2011/6/28 17:00	0.1371	0.1352	0.00194
2011/6/28 19:00	0.1372	0.1353	0.00194
2011/6/28 23:00	0.1375	0.1356	0.00193
2011/6/29 2:00	0.1378	0.1359	0.00192
2011/6/29 5:00	0.1379	0.1360	0.00191
2011/6/29 8:00	0.1381	0.1362	0.00191
2011/6/29 11:00	0.1383	0.1364	0.00190
2011/6/29 14:00	0.1387	0.1368	0.00188
2011/6/29 17:00	0.1392	0.1373	0.00187
2011/6/29 20:00	0.1395	0.1376	0.00186
2011/6/29 23:00	0.1396	0.1377	0.00185
2011/6/30 2:00	0.1399	0.1381	0.00184
2011/6/30 5:00	0.1402	0.1383	0.00193
2011/6/30 8:00	0.1405	0.1386	0.00192
2011/6/30 11:00	0.1406	0.1387	0.00192
2011/6/30 14:00	0.1411	0.1392	0.00190
2011/6/30 17:00	0.1413	0.1394	0.00189
2011/6/30 20:00	0.1416	0.1397	0.00188
2011/6/30 23:00	0.1417	0.1398	0.00188
2011/7/1 2:00	0.1417	0.1398	0.00188
2011/7/1 5:00	0.1417	0.1398	0.00188
2011/7/1 8:00	0.1417	0.1398	0.00188
2011/7/1 11:00	0.1418	0.1399	0.00188

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/7/1 14:00	0.1420	0.1401	0.00187
2011/7/1 17:00	0.1421	0.1402	0.00186
2011/7/1 20:00	0.1420	0.1401	0.00187
2011/7/1 23:00	0.1421	0.1402	0.00186
2011/7/2 2:00	0.1421	0.1402	0.00186
2011/7/2 5:00	0.1420	0.1401	0.00187
2011/7/2 8:00	0.1421	0.1402	0.00186
2011/7/2 11:00	0.1419	0.1400	0.00187
2011/7/2 14:00	0.1421	0.1402	0.00186
2011/7/2 17:00	0.1421	0.1402	0.00186
2011/7/2 20:00	0.1422	0.1403	0.00186
2011/7/2 23:00	0.1423	0.1404	0.00186
2011/7/3 2:00	0.1423	0.1404	0.00186
2011/7/3 5:00	0.1423	0.1404	0.00186
2011/7/3 8:00	0.1423	0.1404	0.00186
2011/7/3 11:00	0.1425	0.1406	0.00185
2011/7/3 14:00	0.1426	0.1408	0.00185
2011/7/3 17:00	0.1427	0.1409	0.00184
2011/7/3 20:00	0.1428	0.1410	0.00184
2011/7/3 23:00	0.1429	0.1411	0.00184
2011/7/4 2:00	0.1429	0.1411	0.00184
2011/7/4 5:00	0.1429	0.1411	0.00184
2011/7/4 8:00	0.1429	0.1411	0.00184
2011/7/4 11:00	0.1427	0.1409	0.00184
2011/7/4 14:00	0.1429	0.1411	0.00184
2011/7/4 17:00	0.1430	0.1412	0.00183
2011/7/4 20:00	0.1429	0.1411	0.00184
2011/7/4 23:00	0.1429	0.1411	0.00184
2011/7/5 2:00	0.1428	0.1410	0.00184
2011/7/5 5:00	0.1428	0.1410	0.00184
2011/7/5 8:00	0.1428	0.1410	0.00184
2011/7/5 11:00	0.1428	0.1410	0.00184
2011/7/5 14:00	0.1429	0.1411	0.00184
2011/7/5 17:00	0.1429	0.1411	0.00184
2011/7/5 20:00	0.1430	0.1412	0.00183
2011/7/5 23:00	0.1429	0.1411	0.00184
2011/7/6 2:00	0.1429	0.1411	0.00184
2011/7/6 5:00	0.1430	0.1412	0.00183
2011/7/6 8:00	0.1430	0.1412	0.00183
2011/7/6 11:00	0.1431	0.1413	0.00183
2011/7/6 14:00	0.1431	0.1413	0.00183
2011/7/6 17:00	0.1433	0.1414	0.00192
2011/7/6 20:00	0.1434	0.1415	0.00192
2011/7/6 23:00	0.1434	0.1415	0.00192
2011/7/7 2:00	0.1435	0.1416	0.00192
2011/7/7 5:00	0.1434	0.1415	0.00192
2011/7/7 8:00	0.1433	0.1414	0.00192
2011/7/7 11:00	0.1434	0.1415	0.00192
2011/7/7 14:00	0.1436	0.1417	0.00191
2011/7/7 17:00	0.1436	0.1417	0.00191
2011/7/7 20:00	0.1438	0.1419	0.00191
2011/7/7 23:00	0.1438	0.1419	0.00191
2011/7/8 2:00	0.1438	0.1419	0.00191
2011/7/8 5:00	0.1438	0.1419	0.00191
2011/7/8 8:00	0.1438	0.1419	0.00191
2011/7/8 11:00	0.1438	0.1419	0.00191
2011/7/8 14:00	0.1438	0.1419	0.00191
2011/7/8 17:00	0.1440	0.1421	0.00190

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/7/8 20:00	0.1438	0.1419	0.00191
2011/7/8 23:00	0.1437	0.1418	0.00191
2011/7/9 2:00	0.1438	0.1419	0.00191
2011/7/9 5:00	0.1437	0.1418	0.00191
2011/7/9 8:00	0.1439	0.1420	0.00190
2011/7/9 11:00	0.1441	0.1422	0.00190
2011/7/9 14:00	0.1441	0.1422	0.00190
2011/7/9 17:00	0.1443	0.1424	0.00189
2011/7/9 20:00	0.1443	0.1424	0.00189
2011/7/9 23:00	0.1444	0.1425	0.00188
2011/7/10 2:00	0.1443	0.1424	0.00189
2011/7/10 5:00	0.1443	0.1424	0.00189
2011/7/10 8:00	0.1442	0.1423	0.00189
2011/7/10 11:00	0.1444	0.1425	0.00188
2011/7/10 14:00	0.1446	0.1427	0.00188
2011/7/10 17:00	0.1447	0.1428	0.00187
2011/7/10 20:00	0.1450	0.1431	0.00186
2011/7/10 23:00	0.1449	0.1430	0.00187
2011/7/11 2:00	0.1449	0.1430	0.00187
2011/7/11 5:00	0.1447	0.1428	0.00187
2011/7/11 8:00	0.1445	0.1426	0.00188
2011/7/11 11:00	0.1444	0.1425	0.00188
2011/7/11 14:00	0.1446	0.1427	0.00188
2011/7/11 17:00	0.1447	0.1428	0.00187
2011/7/11 20:00	0.1446	0.1427	0.00188
2011/7/11 23:00	0.1446	0.1427	0.00188
2011/7/12 2:00	0.1446	0.1427	0.00188
2011/7/12 5:00	0.1444	0.1425	0.00188
2011/7/12 8:00	0.1444	0.1425	0.00188
2011/7/12 11:00	0.1444	0.1425	0.00188
2011/7/12 14:00	0.1445	0.1426	0.00188
2011/7/12 17:00	0.1444	0.1425	0.00188
2011/7/12 20:00	0.1443	0.1424	0.00189
2011/7/12 23:00	0.1442	0.1423	0.00189
2011/7/13 2:00	0.1442	0.1423	0.00189
2011/7/13 5:00	0.1441	0.1422	0.00190
2011/7/13 8:00	0.1439	0.1420	0.00190
2011/7/13 11:00	0.1437	0.1418	0.00191
2011/7/13 14:00	0.1437	0.1418	0.00191
2011/7/13 17:00	0.1438	0.1419	0.00191
2011/7/13 20:00	0.1438	0.1419	0.00191
2011/7/13 23:00	0.1437	0.1418	0.00191
2011/7/14 2:00	0.1436	0.1417	0.00191
2011/7/14 5:00	0.1436	0.1417	0.00191
2011/7/14 8:00	0.1436	0.1417	0.00191
2011/7/14 11:00	0.1436	0.1417	0.00191
2011/7/14 14:00	0.1433	0.1414	0.00192
2011/7/14 17:00	0.1431	0.1413	0.00183
2011/7/14 20:00	0.1434	0.1415	0.00192
2011/7/14 23:00	0.1436	0.1417	0.00191
2011/7/15 2:00	0.1435	0.1416	0.00192
2011/7/15 5:00	0.1430	0.1412	0.00183
2011/7/15 8:00	0.1430	0.1412	0.00183
2011/7/15 11:00	0.1434	0.1415	0.00192
2011/7/15 14:00	0.1434	0.1415	0.00192
2011/7/15 17:00	0.1433	0.1414	0.00192
2011/7/15 20:00	0.1430	0.1412	0.00183
2011/7/15 23:00	0.1429	0.1411	0.00184

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/7/16 2:00	0.1429	0.1411	0.00184
2011/7/16 5:00	0.1428	0.1410	0.00184
2011/7/16 8:00	0.1424	0.1405	0.00185
2011/7/16 11:00	0.1424	0.1405	0.00185
2011/7/16 14:00	0.1424	0.1405	0.00185
2011/7/16 17:00	0.1427	0.1409	0.00184
2011/7/16 20:00	0.1426	0.1408	0.00185
2011/7/16 23:00	0.1424	0.1405	0.00185
2011/7/17 2:00	0.1424	0.1405	0.00185
2011/7/17 5:00	0.1424	0.1405	0.00185
2011/7/17 8:00	0.1425	0.1406	0.00185
2011/7/17 11:00	0.1424	0.1405	0.00185
2011/7/17 14:00	0.1424	0.1405	0.00185
2011/7/17 17:00	0.1425	0.1406	0.00185
2011/7/17 20:00	0.1425	0.1406	0.00185
2011/7/17 23:00	0.1422	0.1403	0.00186
2011/7/18 2:00	0.1420	0.1401	0.00187
2011/7/18 5:00	0.1419	0.1400	0.00187
2011/7/18 8:00	0.1419	0.1400	0.00187
2011/7/18 11:00	0.1416	0.1397	0.00188
2011/7/18 14:00	0.1417	0.1398	0.00188
2011/7/18 17:00	0.1416	0.1397	0.00188
2011/7/18 20:00	0.1416	0.1397	0.00188
2011/7/18 23:00	0.1414	0.1395	0.00189
2011/7/19 2:00	0.1412	0.1393	0.00190
2011/7/19 5:00	0.1410	0.1391	0.00190
2011/7/19 8:00	0.1410	0.1391	0.00190
2011/7/19 11:00	0.1410	0.1391	0.00190
2011/7/19 14:00	0.1407	0.1388	0.00192
2011/7/19 17:00	0.1405	0.1386	0.00192
2011/7/19 20:00	0.1392	0.1373	0.00187
2011/7/19 23:00	0.1385	0.1366	0.00189
2011/7/20 2:00	0.1380	0.1361	0.00191
2011/7/20 5:00	0.1378	0.1359	0.00192
2011/7/20 8:00	0.1375	0.1356	0.00193
2011/7/20 11:00	0.1373	0.1354	0.00194
2011/7/20 14:00	0.1369	0.1350	0.00195
2011/7/20 17:00	0.1361	0.1342	0.00188
2011/7/20 20:00	0.1354	0.1335	0.00190
2011/7/20 23:00	0.1343	0.1324	0.00194
2011/7/21 2:00	0.1335	0.1316	0.00187
2011/7/21 5:00	0.1334	0.1315	0.00187
2011/7/21 8:00	0.1335	0.1316	0.00187
2011/7/21 11:00	0.1334	0.1315	0.00187
2011/7/21 14:00	0.1337	0.1317	0.00196
2011/7/21 17:00	0.1340	0.1320	0.00195
2011/7/21 20:00	0.1341	0.1322	0.00195
2011/7/21 23:00	0.1343	0.1324	0.00194
2011/7/22 2:00	0.1343	0.1324	0.00194
2011/7/22 5:00	0.1344	0.1325	0.00194
2011/7/22 8:00	0.1345	0.1326	0.00193
2011/7/22 11:00	0.1346	0.1327	0.00193
2011/7/22 14:00	0.1348	0.1329	0.00192
2011/7/22 17:00	0.1351	0.1332	0.00191
2011/7/22 20:00	0.1352	0.1333	0.00191
2011/7/22 23:00	0.1354	0.1335	0.00190
2011/7/23 2:00	0.1353	0.1334	0.00190
2011/7/23 5:00	0.1354	0.1335	0.00190

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/7/23 8:00	0.1354	0.1335	0.00190
2011/7/23 11:00	0.1354	0.1335	0.00190
2011/7/23 14:00	0.1353	0.1334	0.00190
2011/7/23 17:00	0.1355	0.1336	0.00190
2011/7/23 20:00	0.1356	0.1337	0.00189
2011/7/23 23:00	0.1355	0.1336	0.00190
2011/7/24 2:00	0.1355	0.1336	0.00190
2011/7/24 5:00	0.1354	0.1335	0.00190
2011/7/24 8:00	0.1355	0.1336	0.00190
2011/7/24 11:00	0.1356	0.1337	0.00189
2011/7/24 14:00	0.1357	0.1338	0.00189
2011/7/24 17:00	0.1357	0.1338	0.00189
2011/7/24 20:00	0.1357	0.1338	0.00189
2011/7/24 23:00	0.1357	0.1338	0.00189
2011/7/25 2:00	0.1358	0.1339	0.00189
2011/7/25 5:00	0.1359	0.1340	0.00188
2011/7/25 8:00	0.1360	0.1341	0.00188
2011/7/25 11:00	0.1362	0.1343	0.00187
2011/7/25 14:00	0.1362	0.1343	0.00187
2011/7/25 17:00	0.1361	0.1342	0.00188
2011/7/25 20:00	0.1361	0.1342	0.00188
2011/7/25 23:00	0.1364	0.1345	0.00186
2011/7/26 2:00	0.1363	0.1344	0.00187
2011/7/26 5:00	0.1360	0.1341	0.00188
2011/7/26 8:00	0.1359	0.1340	0.00188
2011/7/26 11:00	0.1360	0.1341	0.00188
2011/7/26 14:00	0.1362	0.1343	0.00187
2011/7/26 17:00	0.1364	0.1345	0.00186
2011/7/26 20:00	0.1363	0.1344	0.00187
2011/7/26 23:00	0.1360	0.1341	0.00188
2011/7/27 2:00	0.1361	0.1342	0.00188
2011/7/27 5:00	0.1361	0.1342	0.00188
2011/7/27 8:00	0.1362	0.1343	0.00187
2011/7/27 11:00	0.1360	0.1341	0.00188
2011/7/27 14:00	0.1357	0.1338	0.00189
2011/7/27 17:00	0.1359	0.1340	0.00188
2011/7/27 20:00	0.1364	0.1345	0.00186
2011/7/27 23:00	0.1362	0.1343	0.00187
2011/7/28 2:00	0.1357	0.1338	0.00189
2011/7/28 5:00	0.1352	0.1333	0.00191
2011/7/28 8:00	0.1355	0.1336	0.00190
2011/7/28 11:00	0.1361	0.1342	0.00188
2011/7/28 14:00	0.1359	0.1340	0.00188
2011/7/28 17:00	0.1355	0.1336	0.00190
2011/7/28 23:00	0.1349	0.1330	0.00192
2011/7/29 5:00	0.1358	0.1339	0.00189
2011/7/29 11:00	0.1347	0.1328	0.00193
2011/7/29 17:00	0.1348	0.1329	0.00192
2011/7/29 23:00	0.1354	0.1335	0.00190
2011/7/30 5:00	0.1341	0.1322	0.00195
2011/7/30 11:00	0.1348	0.1329	0.00192
2011/7/30 17:00	0.1343	0.1324	0.00194
2011/7/30 23:00	0.1328	0.1309	0.00189
2011/7/31 5:00	0.1329	0.1310	0.00189
2011/7/31 11:00	0.1325	0.1306	0.00190
2011/7/31 17:00	0.1315	0.1296	0.00194
2011/7/31 23:00	0.1318	0.1299	0.00193
2011/8/1 5:00	0.1321	0.1302	0.00192

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/8/1 11:00	0.1308	0.1288	0.00196
2011/8/1 17:00	0.1314	0.1295	0.00194
2011/8/1 23:00	0.1318	0.1299	0.00193
2011/8/2 5:00	0.1315	0.1296	0.00194
2011/8/2 11:00	0.1311	0.1291	0.00195
2011/8/2 17:00	0.1319	0.1300	0.00192
2011/8/2 23:00	0.1321	0.1302	0.00192
2011/8/3 5:00	0.1313	0.1294	0.00195
2011/8/3 11:00	0.1301	0.1282	0.00189
2011/8/3 17:00	0.1314	0.1295	0.00194
2011/8/3 23:00	0.1312	0.1293	0.00195
2011/8/4 5:00	0.1309	0.1289	0.00196
2011/8/4 11:00	0.1320	0.1301	0.00192
2011/8/4 17:00	0.1319	0.1300	0.00192
2011/8/4 23:00	0.1311	0.1291	0.00195
2011/8/5 5:00	0.1321	0.1302	0.00192
2011/8/5 11:00	0.1318	0.1299	0.00193
2011/8/5 17:00	0.1311	0.1291	0.00195
2011/8/5 23:00	0.1320	0.1301	0.00192
2011/8/6 5:00	0.1319	0.1300	0.00192
2011/8/6 11:00	0.1309	0.1289	0.00196
2011/8/6 17:00	0.1320	0.1301	0.00192
2011/8/6 23:00	0.1319	0.1300	0.00192
2011/8/7 5:00	0.1310	0.1290	0.00196
2011/8/7 11:00	0.1316	0.1297	0.00193
2011/8/7 17:00	0.1319	0.1300	0.00192
2011/8/7 23:00	0.1309	0.1289	0.00196
2011/8/8 5:00	0.1317	0.1298	0.00193
2011/8/8 11:00	0.1315	0.1296	0.00194
2011/8/8 17:00	0.1308	0.1288	0.00196
2011/8/8 23:00	0.1318	0.1299	0.00193
2011/8/9 5:00	0.1315	0.1296	0.00194
2011/8/9 11:00	0.1306	0.1286	0.00197
2011/8/9 17:00	0.1316	0.1297	0.00193
2011/8/9 23:00	0.1316	0.1297	0.00193
2011/8/10 5:00	0.1306	0.1286	0.00197
2011/8/10 11:00	0.1314	0.1295	0.00194
2011/8/10 17:00	0.1316	0.1297	0.00193
2011/8/10 23:00	0.1307	0.1287	0.00197
2011/8/11 5:00	0.1316	0.1297	0.00193
2011/8/11 11:00	0.1311	0.1291	0.00195
2011/8/11 17:00	0.1308	0.1288	0.00196
2011/8/11 23:00	0.1318	0.1299	0.00193
2011/8/12 5:30	0.1314	0.1295	0.00194
2011/8/12 11:00	0.1308	0.1288	0.00196
2011/8/12 17:00	0.1313	0.1294	0.00195
2011/8/12 23:00	0.1303	0.1284	0.00188
2011/8/13 5:00	0.1303	0.1284	0.00188
2011/8/13 11:00	0.1309	0.1289	0.00196
2011/8/13 17:00	0.1300	0.1281	0.00189
2011/8/13 23:00	0.1309	0.1289	0.00196
2011/8/14 5:00	0.1308	0.1288	0.00196
2011/8/14 11:00	0.1299	0.1280	0.00189
2011/8/14 17:00	0.1313	0.1294	0.00195
2011/8/14 23:00	0.1303	0.1284	0.00188
2011/8/15 5:00	0.1301	0.1282	0.00189
2011/8/15 11:00	0.1308	0.1288	0.00196
2011/8/15 17:00	0.1300	0.1281	0.00189

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/8/15 23:00	0.1307	0.1287	0.00197
2011/8/16 5:00	0.1306	0.1286	0.00197
2011/8/16 11:00	0.1295	0.1276	0.00191
2011/8/16 17:00	0.1306	0.1286	0.00197
2011/8/16 23:00	0.1299	0.1280	0.00189
2011/8/17 5:00	0.1297	0.1278	0.00190
2011/8/17 11:00	0.1307	0.1287	0.00197
2011/8/17 17:00	0.1295	0.1276	0.00191
2011/8/17 23:00	0.1302	0.1283	0.00188
2011/8/18 5:00	0.1300	0.1281	0.00189
2011/8/18 11:00	0.1292	0.1273	0.00192
2011/8/18 17:00	0.1303	0.1284	0.00188
2011/8/18 23:00	0.1296	0.1277	0.00190
2011/8/19 5:00	0.1293	0.1274	0.00191
2011/8/19 11:00	0.1295	0.1276	0.00191
2011/8/19 17:00	0.1280	0.1260	0.00196
2011/8/19 23:00	0.1288	0.1269	0.00193
2011/8/20 5:00	0.1284	0.1265	0.00195
2011/8/20 11:00	0.1273	0.1253	0.00199
2011/8/20 17:00	0.1283	0.1263	0.00195
2011/8/20 23:00	0.1277	0.1257	0.00197
2011/8/21 5:00	0.1273	0.1253	0.00199
2011/8/21 11:00	0.1270	0.1251	0.00189
2011/8/21 17:00	0.1260	0.1241	0.00193
2011/8/21 23:00	0.1263	0.1244	0.00192
2011/8/22 5:00	0.1268	0.1249	0.00190
2011/8/22 11:00	0.1258	0.1239	0.00194
2011/8/22 17:00	0.1260	0.1241	0.00193
2011/8/22 23:00	0.1268	0.1249	0.00190
2011/8/23 5:00	0.1262	0.1243	0.00192
2011/8/23 11:00	0.1262	0.1243	0.00192
2011/8/23 17:00	0.1270	0.1251	0.00189
2011/8/23 23:00	0.1266	0.1247	0.00191
2011/8/24 5:00	0.1263	0.1244	0.00192
2011/8/24 11:00	0.1275	0.1255	0.00198
2011/8/24 17:00	0.1270	0.1251	0.00189
2011/8/24 23:00	0.1267	0.1248	0.00191
2011/8/25 5:00	0.1275	0.1255	0.00198
2011/8/25 11:00	0.1271	0.1252	0.00189
2011/8/25 17:00	0.1266	0.1247	0.00191
2011/8/25 23:00	0.1274	0.1254	0.00198
2011/8/26 5:00	0.1271	0.1252	0.00189
2011/8/26 11:00	0.1265	0.1246	0.00191
2011/8/26 17:00	0.1275	0.1255	0.00198
2011/8/26 23:00	0.1269	0.1250	0.00190
2011/8/27 5:00	0.1264	0.1245	0.00192
2011/8/27 11:00	0.1275	0.1255	0.00198
2011/8/27 17:00	0.1271	0.1252	0.00189
2011/8/27 23:00	0.1265	0.1246	0.00191
2011/8/28 5:00	0.1274	0.1254	0.00198
2011/8/28 11:00	0.1270	0.1251	0.00189
2011/8/28 17:00	0.1267	0.1248	0.00191
2011/8/28 23:00	0.1277	0.1257	0.00197
2011/8/29 5:00	0.1269	0.1250	0.00190
2011/8/29 11:00	0.1268	0.1249	0.00190
2011/8/29 17:00	0.1277	0.1257	0.00197
2011/8/29 23:00	0.1264	0.1245	0.00192
2011/8/30 5:00	0.1264	0.1245	0.00192

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/8/30 11:00	0.1273	0.1253	0.00199
2011/8/30 17:00	0.1263	0.1244	0.00192
2011/8/30 23:00	0.1269	0.1250	0.00190
2011/8/31 5:00	0.1265	0.1246	0.00191
2011/8/31 11:00	0.1259	0.1240	0.00193
2011/8/31 17:00	0.1269	0.1250	0.00190
2011/8/31 23:00	0.1263	0.1244	0.00192
2011/9/1 5:00	0.1260	0.1241	0.00193
2011/9/1 11:00	0.1268	0.1249	0.00190
2011/9/1 17:00	0.1260	0.1241	0.00193
2011/9/1 23:00	0.1265	0.1246	0.00191
2011/9/2 5:00	0.1263	0.1244	0.00192
2011/9/2 11:00	0.1251	0.1231	0.00196
2011/9/2 17:00	0.1262	0.1243	0.00192
2011/9/2 23:00	0.1258	0.1239	0.00194
2011/9/3 5:00	0.1253	0.1233	0.00196
2011/9/3 11:00	0.1262	0.1243	0.00192
2011/9/3 17:00	0.1257	0.1238	0.00194
2011/9/3 23:00	0.1257	0.1238	0.00194
2011/9/4 5:00	0.1265	0.1246	0.00191
2011/9/4 11:00	0.1257	0.1238	0.00194
2011/9/4 17:00	0.1258	0.1239	0.00194
2011/9/4 23:00	0.1265	0.1246	0.00191
2011/9/5 5:00	0.1256	0.1237	0.00195
2011/9/5 11:00	0.1264	0.1245	0.00192
2011/9/5 17:00	0.1260	0.1241	0.00193
2011/9/5 23:00	0.1249	0.1229	0.00197
2011/9/6 5:00	0.1250	0.1230	0.00197
2011/9/6 11:00	0.1238	0.1219	0.00191
2011/9/6 17:00	0.1245	0.1225	0.00199
2011/9/6 23:00	0.1248	0.1228	0.00197
2011/9/7 5:00	0.1237	0.1218	0.00191
2011/9/7 11:00	0.1247	0.1227	0.00198
2011/9/7 17:00	0.1246	0.1226	0.00198
2011/9/7 23:00	0.1241	0.1221	0.00200
2011/9/8 5:00	0.1252	0.1232	0.00196
2011/9/8 11:00	0.1252	0.1232	0.00196
2011/9/8 17:00	0.1249	0.1229	0.00197
2011/9/8 23:00	0.1260	0.1241	0.00193
2011/9/9 5:00	0.1255	0.1236	0.00195
2011/9/9 11:00	0.1257	0.1238	0.00194
2011/9/9 17:00	0.1263	0.1244	0.00192
2011/9/9 23:00	0.1255	0.1236	0.00195
2011/9/10 5:00	0.1259	0.1240	0.00193
2011/9/10 11:00	0.1260	0.1241	0.00193
2011/9/10 17:00	0.1257	0.1238	0.00194
2011/9/10 23:00	0.1264	0.1245	0.00192
2011/9/11 5:00	0.1263	0.1244	0.00192
2011/9/11 11:00	0.1257	0.1238	0.00194
2011/9/11 17:00	0.1266	0.1247	0.00191
2011/9/11 23:00	0.1258	0.1239	0.00194
2011/9/12 5:00	0.1259	0.1240	0.00193
2011/9/12 11:00	0.1264	0.1245	0.00192
2011/9/12 17:00	0.1257	0.1238	0.00194
2011/9/12 23:00	0.1264	0.1245	0.00192
2011/9/13 5:00	0.1263	0.1244	0.00192
2011/9/13 11:00	0.1255	0.1236	0.00195
2011/9/13 17:00	0.1263	0.1244	0.00192

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/9/13 23:00	0.1252	0.1232	0.00196
2011/9/14 5:00	0.1252	0.1232	0.00196
2011/9/14 11:00	0.1256	0.1237	0.00195
2011/9/14 17:00	0.1247	0.1227	0.00198
2011/9/14 23:00	0.1254	0.1234	0.00195
2011/9/15 5:00	0.1250	0.1230	0.00197
2011/9/15 11:00	0.1245	0.1225	0.00199
2011/9/15 17:00	0.1253	0.1233	0.00196
2011/9/15 23:00	0.1242	0.1222	0.00200
2011/9/16 5:00	0.1248	0.1228	0.00197
2011/9/16 11:00	0.1247	0.1227	0.00198
2011/9/16 17:00	0.1241	0.1221	0.00200
2011/9/16 23:00	0.1251	0.1231	0.00196
2011/9/17 5:00	0.1248	0.1228	0.00197
2011/9/17 11:00	0.1244	0.1224	0.00199
2011/9/17 17:00	0.1254	0.1234	0.00195
2011/9/17 23:00	0.1244	0.1224	0.00199
2011/9/18 5:00	0.1250	0.1230	0.00197
2011/9/18 11:00	0.1250	0.1230	0.00197
2011/9/18 17:00	0.1247	0.1227	0.00198
2011/9/18 23:00	0.1252	0.1232	0.00196
2011/9/19 5:00	0.1247	0.1227	0.00198
2011/9/19 11:00	0.1249	0.1229	0.00197
2011/9/19 17:00	0.1251	0.1231	0.00196
2011/9/19 23:00	0.1249	0.1229	0.00197
2011/9/20 5:00	0.1246	0.1226	0.00198
2011/9/20 11:00	0.1241	0.1221	0.00200
2011/9/20 17:00	0.1234	0.1215	0.00192
2011/9/20 23:00	0.1232	0.1213	0.00193
2011/9/21 5:00	0.1231	0.1212	0.00193
2011/9/21 11:00	0.1226	0.1206	0.00195
2011/9/21 17:00	0.1222	0.1202	0.00197
2011/9/22 5:00	0.1218	0.1198	0.00198
2011/9/22 11:00	0.1222	0.1202	0.00197
2011/9/22 17:00	0.1224	0.1204	0.00196
2011/9/22 23:00	0.1224	0.1204	0.00196
2011/9/23 5:00	0.1224	0.1204	0.00196
2011/9/23 11:00	0.1225	0.1205	0.00195
2011/9/23 17:00	0.1228	0.1209	0.00194
2011/9/23 23:00	0.1229	0.1210	0.00194
2011/9/24 5:00	0.1229	0.1210	0.00194
2011/9/24 11:00	0.1232	0.1213	0.00193
2011/9/24 17:00	0.1236	0.1217	0.00191
2011/9/24 23:00	0.1236	0.1217	0.00191
2011/9/25 5:00	0.1237	0.1218	0.00191
2011/9/25 11:00	0.1239	0.1220	0.00190
2011/9/25 17:00	0.1241	0.1221	0.00200
2011/9/25 23:00	0.1241	0.1221	0.00200
2011/9/26 5:00	0.1239	0.1220	0.00190
2011/9/26 11:00	0.1239	0.1220	0.00190
2011/9/26 17:00	0.1241	0.1221	0.00200
2011/9/26 23:00	0.1236	0.1217	0.00191
2011/9/27 5:00	0.1235	0.1216	0.00192
2011/9/27 11:00	0.1234	0.1215	0.00192
2011/9/27 17:00	0.1235	0.1216	0.00192
2011/9/27 23:00	0.1234	0.1215	0.00192
2011/9/28 5:00	0.1232	0.1213	0.00193
2011/9/28 11:00	0.1233	0.1214	0.00193

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/9/28 17:00	0.1235	0.1216	0.00192
2011/9/28 23:00	0.1236	0.1217	0.00191
2011/9/29 5:00	0.1235	0.1216	0.00192
2011/9/29 11:00	0.1235	0.1216	0.00192
2011/9/29 17:00	0.1235	0.1216	0.00192
2011/9/29 23:00	0.1235	0.1216	0.00192
2011/9/30 5:00	0.1232	0.1213	0.00193
2011/9/30 11:00	0.1230	0.1211	0.00194
2011/9/30 17:00	0.1228	0.1209	0.00194
2011/9/30 23:00	0.1226	0.1206	0.00195
2011/10/1 5:00	0.1225	0.1205	0.00195
2011/10/1 11:00	0.1226	0.1206	0.00195
2011/10/1 17:00	0.1228	0.1209	0.00194
2011/10/1 23:00	0.1228	0.1209	0.00194
2011/10/2 5:00	0.1228	0.1209	0.00194
2011/10/2 11:00	0.1227	0.1208	0.00195
2011/10/2 17:00	0.1228	0.1209	0.00194
2011/10/2 23:00	0.1227	0.1208	0.00195
2011/10/3 5:00	0.1225	0.1205	0.00195
2011/10/3 11:00	0.1225	0.1205	0.00195
2011/10/3 17:00	0.1227	0.1208	0.00195
2011/10/3 23:00	0.1227	0.1208	0.00195
2011/10/4 5:00	0.1227	0.1208	0.00195
2011/10/4 11:00	0.1229	0.1210	0.00194
2011/10/4 17:00	0.1232	0.1213	0.00193
2011/10/4 23:00	0.1230	0.1211	0.00194
2011/10/5 5:00	0.1229	0.1210	0.00194
2011/10/5 11:00	0.1228	0.1209	0.00194
2011/10/5 17:00	0.1227	0.1208	0.00195
2011/10/5 23:00	0.1220	0.1200	0.00197
2011/10/6 5:00	0.1214	0.1194	0.00199
2011/10/6 11:00	0.1209	0.1189	0.00201
2011/10/6 17:00	0.1210	0.1190	0.00201
2011/10/6 23:00	0.1212	0.1192	0.00200
2011/10/7 5:00	0.1213	0.1193	0.00200
2011/10/7 11:00	0.1214	0.1194	0.00199
2011/10/7 17:00	0.1216	0.1196	0.00199
2011/10/7 23:00	0.1216	0.1196	0.00199
2011/10/8 5:00	0.1218	0.1198	0.00198
2011/10/8 11:00	0.1221	0.1201	0.00197
2011/10/8 17:00	0.1225	0.1205	0.00195
2011/10/8 23:00	0.1226	0.1206	0.00195
2011/10/9 5:00	0.1228	0.1209	0.00194
2011/10/9 11:00	0.1229	0.1210	0.00194
2011/10/9 17:00	0.1230	0.1211	0.00194
2011/10/9 23:00	0.1230	0.1211	0.00194
2011/10/10 5:00	0.1228	0.1209	0.00194
2011/10/10 11:00	0.1229	0.1210	0.00194
2011/10/10 17:00	0.1227	0.1208	0.00195
2011/10/10 23:00	0.1225	0.1205	0.00195
2011/10/11 5:00	0.1224	0.1204	0.00196
2011/10/11 11:00	0.1223	0.1203	0.00196
2011/10/11 17:00	0.1222	0.1202	0.00197
2011/10/11 23:00	0.1221	0.1201	0.00197
2011/10/12 5:00	0.1219	0.1199	0.00198
2011/10/12 11:00	0.1218	0.1198	0.00198
2011/10/12 17:00	0.1218	0.1198	0.00198
2011/10/12 23:00	0.1218	0.1198	0.00198

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/10/13 5:00	0.1217	0.1197	0.00198
2011/10/13 11:00	0.1217	0.1197	0.00198
2011/10/13 17:00	0.1218	0.1198	0.00198
2011/10/13 23:00	0.1218	0.1198	0.00198
2011/10/14 5:00	0.1217	0.1197	0.00198
2011/10/14 11:00	0.1218	0.1198	0.00198
2011/10/14 17:00	0.1219	0.1199	0.00198
2011/10/14 23:00	0.1217	0.1197	0.00198
2011/10/15 5:00	0.1214	0.1194	0.00199
2011/10/15 11:00	0.1211	0.1191	0.00201
2011/10/15 17:00	0.1210	0.1190	0.00201
2011/10/15 23:00	0.1208	0.1188	0.00202
2011/10/16 5:00	0.1206	0.1187	0.00192
2011/10/16 11:00	0.1204	0.1185	0.00193
2011/10/16 17:00	0.1204	0.1185	0.00193
2011/10/16 23:00	0.1204	0.1185	0.00193
2011/10/17 5:00	0.1204	0.1185	0.00193
2011/10/17 11:00	0.1205	0.1186	0.00192
2011/10/17 17:00	0.1206	0.1187	0.00192
2011/10/17 23:00	0.1208	0.1188	0.00202
2011/10/18 5:00	0.1209	0.1189	0.00201
2011/10/18 11:00	0.1210	0.1190	0.00201
2011/10/18 17:00	0.1212	0.1192	0.00200
2011/10/18 23:00	0.1213	0.1193	0.00200
2011/10/19 5:00	0.1213	0.1193	0.00200
2011/10/19 11:00	0.1216	0.1196	0.00199
2011/10/19 17:00	0.1217	0.1197	0.00198
2011/10/19 23:00	0.1217	0.1197	0.00198
2011/10/20 5:00	0.1218	0.1198	0.00198
2011/10/20 11:00	0.1217	0.1197	0.00198
2011/10/20 17:00	0.1218	0.1198	0.00198
2011/10/20 23:00	0.1218	0.1198	0.00198
2011/10/21 5:00	0.1216	0.1196	0.00199
2011/10/21 11:00	0.1215	0.1195	0.00199
2011/10/21 17:00	0.1215	0.1195	0.00199
2011/10/21 23:00	0.1214	0.1194	0.00199
2011/10/22 5:00	0.1212	0.1192	0.00200
2011/10/22 11:00	0.1212	0.1192	0.00200
2011/10/22 17:00	0.1209	0.1189	0.00201
2011/10/22 23:00	0.1206	0.1187	0.00192
2011/10/23 5:00	0.1204	0.1185	0.00193
2011/10/23 11:00	0.1203	0.1184	0.00193
2011/10/23 17:00	0.1202	0.1183	0.00193
2011/10/23 23:00	0.1203	0.1184	0.00193
2011/10/24 5:00	0.1204	0.1185	0.00193
2011/10/24 11:00	0.1204	0.1185	0.00193
2011/10/24 17:00	0.1200	0.1181	0.00194
2011/10/24 23:00	0.1197	0.1177	0.00195
2011/10/25 5:00	0.1193	0.1173	0.00197
2011/10/25 9:00	0.1191	0.1171	0.00197
2011/10/25 17:00	0.1190	0.1170	0.00198
2011/10/25 23:00	0.1192	0.1172	0.00197
2011/10/26 5:00	0.1192	0.1172	0.00197
2011/10/26 11:00	0.1195	0.1175	0.00196
2011/10/26 17:00	0.1204	0.1185	0.00193
2011/10/26 23:00	0.1208	0.1188	0.00202
2011/10/27 5:00	0.1205	0.1186	0.00192
2011/10/27 11:00	0.1205	0.1186	0.00192

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/10/27 17:00	0.1211	0.1191	0.00201
2011/10/27 23:00	0.1211	0.1191	0.00201
2011/10/28 5:00	0.1210	0.1190	0.00201

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/10/28 11:00	0.1219	0.1224	-0.00051
2011/10/28 17:00	0.1220	0.1225	-0.00051
2011/10/28 23:00	0.1222	0.1227	-0.00052
2011/10/29 5:00	0.1222	0.1227	-0.00052
2011/10/29 11:00	0.1222	0.1227	-0.00052
2011/10/29 17:00	0.1223	0.1228	-0.00053
2011/10/29 23:00	0.1233	0.1239	-0.00056
2011/10/30 5:00	0.1241	0.1247	-0.00059
2011/10/30 11:00	0.1246	0.1252	-0.00061
2011/10/30 17:00	0.1250	0.1256	-0.00062
2011/10/30 23:00	0.1250	0.1256	-0.00062
2011/10/31 5:00	0.1248	0.1254	-0.00062
2011/10/31 11:00	0.1248	0.1254	-0.00062
2011/10/31 17:00	0.1248	0.1254	-0.00062
2011/10/31 23:00	0.1244	0.1250	-0.00060
2011/11/1 5:00	0.1243	0.1249	-0.00060
2011/11/1 11:00	0.1243	0.1249	-0.00060
2011/11/1 17:00	0.1242	0.1248	-0.00059
2011/11/1 23:00	0.1242	0.1248	-0.00059
2011/11/2 5:00	0.1240	0.1246	-0.00059
2011/11/2 11:00	0.1240	0.1246	-0.00059
2011/11/2 17:00	0.1240	0.1246	-0.00059
2011/11/2 23:00	0.1238	0.1244	-0.00058
2011/11/3 5:00	0.1237	0.1243	-0.00058
2011/11/3 11:00	0.1235	0.1241	-0.00057
2011/11/3 17:00	0.1233	0.1239	-0.00056
2011/11/3 23:00	0.1233	0.1239	-0.00056
2011/11/4 5:00	0.1234	0.1240	-0.00057
2011/11/4 11:00	0.1235	0.1241	-0.00057
2011/11/4 17:00	0.1232	0.1238	-0.00056
2011/11/4 23:00	0.1234	0.1240	-0.00057
2011/11/5 5:00	0.1232	0.1238	-0.00056
2011/11/5 11:00	0.1230	0.1236	-0.00055
2011/11/5 17:00	0.1230	0.1236	-0.00055
2011/11/5 23:00	0.1227	0.1232	-0.00054
2011/11/6 5:00	0.1226	0.1231	-0.00054
2011/11/6 11:00	0.1223	0.1228	-0.00053
2011/11/6 17:00	0.1222	0.1227	-0.00052
2011/11/6 23:00	0.1219	0.1224	-0.00051
2011/11/7 5:00	0.1218	0.1223	-0.00051
2011/11/7 11:00	0.1217	0.1222	-0.00050
2011/11/7 17:00	0.1217	0.1222	-0.00050
2011/11/7 23:00	0.1217	0.1222	-0.00050
2011/11/8 5:00	0.1215	0.1220	-0.00050
2011/11/8 11:00	0.1216	0.1221	-0.00050
2011/11/8 17:00	0.1216	0.1221	-0.00050
2011/11/8 23:00	0.1214	0.1219	-0.00049
2011/11/9 5:00	0.1214	0.1219	-0.00049
2011/11/9 11:00	0.1214	0.1219	-0.00049
2011/11/9 17:00	0.1214	0.1219	-0.00049
2011/11/9 23:00	0.1214	0.1219	-0.00049
2011/11/10 5:00	0.1215	0.1220	-0.00050
2011/11/10 11:00	0.1215	0.1220	-0.00050
2011/11/10 17:00	0.1217	0.1222	-0.00050
2011/11/10 23:00	0.1217	0.1222	-0.00050
2011/11/11 5:00	0.1217	0.1222	-0.00050
2011/11/11 11:00	0.1219	0.1224	-0.00051
2011/11/11 17:00	0.1218	0.1223	-0.00051

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/11/11 23:00	0.1218	0.1223	-0.00051
2011/11/12 5:00	0.1217	0.1222	-0.00050
2011/11/12 11:00	0.1217	0.1222	-0.00050
2011/11/12 17:00	0.1216	0.1221	-0.00050
2011/11/12 23:00	0.1217	0.1222	-0.00050
2011/11/13 5:00	0.1218	0.1223	-0.00051
2011/11/13 11:00	0.1218	0.1223	-0.00051
2011/11/13 17:00	0.1217	0.1222	-0.00050
2011/11/13 23:00	0.1221	0.1226	-0.00052
2011/11/14 5:00	0.1221	0.1226	-0.00052
2011/11/14 11:00	0.1222	0.1227	-0.00052
2011/11/14 17:00	0.1223	0.1228	-0.00053
2011/11/14 23:00	0.1225	0.1230	-0.00053
2011/11/15 5:00	0.1225	0.1230	-0.00053
2011/11/15 11:00	0.1227	0.1232	-0.00054
2011/11/15 17:00	0.1227	0.1232	-0.00054
2011/11/15 23:00	0.1228	0.1233	-0.00054
2011/11/16 5:00	0.1229	0.1234	-0.00055
2011/11/16 11:00	0.1230	0.1236	-0.00055
2011/11/16 17:00	0.1233	0.1239	-0.00056
2011/11/16 23:00	0.1233	0.1239	-0.00056
2011/11/17 5:00	0.1234	0.1240	-0.00057
2011/11/17 11:00	0.1235	0.1241	-0.00057
2011/11/17 17:00	0.1237	0.1243	-0.00058
2011/11/17 23:00	0.1239	0.1245	-0.00058
2011/11/18 5:00	0.1241	0.1247	-0.00059
2011/11/18 11:00	0.1241	0.1247	-0.00059
2011/11/18 17:00	0.1243	0.1249	-0.00060
2011/11/18 23:00	0.1212	0.1217	-0.00049
2011/11/19 5:00	0.1190	0.1194	-0.00041
2011/11/19 11:00	0.1178	0.1182	-0.00036
2011/11/19 17:00	0.1169	0.1172	-0.00033
2011/11/19 23:00	0.1160	0.1163	-0.00030
2011/11/20 5:00	0.1156	0.1159	-0.00028
2011/11/20 11:00	0.1156	0.1159	-0.00028
2011/11/20 17:00	0.1159	0.1162	-0.00029
2011/11/20 23:00	0.1164	0.1167	-0.00031
2011/11/21 5:00	0.1169	0.1172	-0.00033
2011/11/21 11:00	0.1174	0.1177	-0.00035
2011/11/21 17:00	0.1176	0.1180	-0.00035
2011/11/21 23:00	0.1179	0.1183	-0.00037
2011/11/22 5:00	0.1182	0.1186	-0.00038
2011/11/22 11:00	0.1184	0.1188	-0.00038
2011/11/22 17:00	0.1187	0.1191	-0.00039
2011/11/22 23:00	0.1187	0.1191	-0.00039
2011/11/23 5:00	0.1187	0.1191	-0.00039
2011/11/23 11:00	0.1188	0.1192	-0.00040
2011/11/23 17:00	0.1187	0.1191	-0.00039
2011/11/23 23:00	0.1184	0.1188	-0.00038
2011/11/24 5:00	0.1179	0.1183	-0.00037
2011/11/24 11:00	0.1178	0.1182	-0.00036
2011/11/24 17:00	0.1178	0.1182	-0.00036
2011/11/24 23:00	0.1175	0.1179	-0.00035
2011/11/25 5:00	0.1173	0.1176	-0.00034
2011/11/25 11:00	0.1173	0.1176	-0.00034
2011/11/25 17:00	0.1174	0.1177	-0.00035
2011/11/25 23:00	0.1174	0.1177	-0.00035
2011/11/26 5:00	0.1178	0.1182	-0.00036

Date and Time	D/W pressure (MPa abs) [Incorrect]	D/W pressure (MPa abs) [Correct]	Error (Incorrect Values-Correct Values)
2011/11/26 11:00	0.1180	0.1184	-0.00037
2011/11/26 17:00	0.1172	0.1175	-0.00034
2011/11/26 23:00	0.1169	0.1172	-0.00033
2011/11/27 5:00	0.1167	0.1170	-0.00032
2011/11/27 11:00	0.1165	0.1168	-0.00032
2011/11/27 17:00	0.1161	0.1164	-0.00030
2011/11/27 23:00	0.1161	0.1164	-0.00030
2011/11/28 5:00	0.1162	0.1165	-0.00030
2011/11/28 11:00	0.1163	0.1166	-0.00031
2011/11/28 17:00	0.1163	0.1166	-0.00031
2011/11/28 23:00	0.1163	0.1166	-0.00031
2011/11/29 5:00	0.1162	0.1165	-0.00030

Collected Status of data published of Plant Parameter of Fukushima Daiichi Nuclear Power Plant (pressure, temperature, water, etc.)

Unit	Unit 1	Unit 2	Unit 3	Unit 4
Reactor Water Injection Status	Measured Values	Measured Values	Measured Values	unmonitored for retrieval of all fuel
Reactor Water Level	Measured Values	Measured Values	Measured Values	
Reactor Pressure	Reduced Values 1	Reduced Values 2	Measured Values	
Reactor Water Temperature	(NA)			
Temperature around the Primary Containment Vessel	Measured Values	Measured Values	Measured Values	
D/W · S/C Pressure	Reduced Values 3	Measured Values	Measured Values	
D/W Ambient Temperature	Measured Values	Measured Values	Measured Values	
CAMS Radiation Monitor	Measured Values	Measured Values	Reduced Values 4	
S/C Temperature	Measured Values	Measured Values	Measured Values	
Spent Fuel Pool Temperature	Measured Values	Measured Values	Measured Values	Measured Values
FPC Skimmer Surge Tank Level	Reduced Values 5	Measured Values	Reduced Values 5	Measured Values

1	Measured Values contain Hydraulic head pressure in addition to Reactor Pressure. Therefore, Hydraulic Head Pressure is subtracted from raw data.
2	Measured Values contain Hydraulic head pressure in addition to Reactor Pressure. Therefore, Hydraulic Head Pressure is subtracted from raw data.
3	The measurement error is included. therefore, the correction was conducted.
4	Digital recorder can not display exponent and the measured value is input voltage (0-1V). the measurement values are converted to engineering values (10^{-2} - 10^{-5} SV/h)
5	Water Levels are calculated by considering the pressure drop due to the amount of system flow from alternative cooling system inlet pressure.
Caution	When change the instrument described in this table, plant maintenance department checks whether it needs the correction. In addition, the constant described in this table may be changed due to future plant status.