GPU NUCLEAR

GPU Nuclear, Inc.
U.S. Route #9 South
Post Office Box 388
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Tel 609-971-4000

June 6, 1997
6730-97-2165

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

Dear Sir.

Subject: Oyster Creek Nuclear Generating Station
Operating License No. DPR-16
Docket No. 50-219

Technical Specification Change Request No. 203
Tech. Spec. 24-Month Surveillance Extensions
Request for Additional Information (RAI) Errata (TAC No. M96906)

On April 29, 1997 a telephone conference call meeting was held between GPUN Inc. and the NRC. During the call, the Staff raised additional questions relating to the GPUN RAI response letter dated March 25, 1997 (GPUN Letter No. 6370-97-2028). The requested changes to the RAI response are being provided by way of changed pages to replace those in the attachment to our March 25, 1997 letter as mutually agreed upon during the telephone conference call. These changes are for clarification only and do not impact upon the safety evaluations or the guidance of GL 91-04, as applicable.

A001

File No. 96069

Pursuant to 10 CFR 50.91 (b) (1), a copy of this RAI response errata has been sent to the State of New Jersey Department of Environmental Protection. If you have any questions concerning this matter please contact Sr. Licensing Engineer Mr. G. M. Gurican at (201) 316-7972.

Sincerely,

Michael B Roche

Michael B. Roche
Vice President and Director
Oyster Creek

MBR\gmg
Attachment

cc: NRC Project Manager
Administrator, Region I
NRC Sr. Resident Inspector

GPU NUCLEAR

GPU Nuclear, Inc.
U.S. Route #9 South
Post Office Box 388
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June 6, 1997
6730-97-2165

Mr. Kent Tosch, Chief
Bureau of Nuclear Engineering
Department of Environmental Protection
CN 411
Trenton, NJ 08625

Dear Mr. Tosch:

Subject: Oyster Creek Nuclear Generating Station
Operating License No. DPR-16
Technical Specification Change Request No. 203
Request for Additional Information (RAI) - Errata

Pursuant to 10 CFR 50.91(b)(1), please find enclosed a copy of GPUN's errata response to NRC's RAI on the subject TSCR, which was filed with the United States Nuclear Regulatory Commission on March 25, 1997.

Sincerely,

Michael B Roche

Michael B. Roche
Vice President and Director
Oyster Creek

MBR/gmg
Attachment

File No. 96069

GPU NUCLEAR

GPU Nuclear, Inc.
U.S. Route #9 South
Post Office Box 388
Forked River, NJ 08731-0388
Tel 609-971-4000

June 6, 1997
6730-97-2165

The Honorable L. Nick
Mayor of Lacey Township
818 West Lacey Road
Forked River, New Jersey 08731

Dear Mayor Nick:

Subject: Oyster Creek Nuclear Generating Station
Operating License No. DPR-16
Technical Specification Change Request No. 203
Request for Additional Information (RAI) - Errata

Enclosed herewith is one copy of GPUN's errata response to NRC's RAI on TSCR No. 203 for the Oyster Creek Nuclear Generating Station Operating License.

The TSCR No. 203 RAI response was filed with the United States Nuclear Regulatory Commission on March 25, 1997.

Sincerely,

Michael B. Roche
Vice President and Director
Oyster Creek

MBR/gmg
Attachment

ATTACHMENT

Oyster Creek Nuclear Generating Station (OCNGS)
Operating License No. DPR-16
Docket No. 50-219
Technical Specification Change Request No. 203

REQUEST FOR ADDITIONAL INFORMATION
ERRATA

1.0 MAIN CONDENSER LOW VACUUM

1.1 Instrument Tag Nos.:

RSCS - 11 & 12 (RPS Trip System #1)
RSCS - 12 & 22 (RPS Trip System #2)

1.2 Technical Specification Section:

Table 4.1.1, Item 18

1.3 References:

1.3.1 GPUN Calculation No. C1302-640-5350-009 Rev. 0, Extending Calibration Interval of Tech Spec Instruments: RSCS 11 & 12, 21 & 22

1.3.2 GPUN Safety Evaluation SE-000640-002, Rev. 0

1.3.3 GPUN Surveillance Procedure 619.3.014, Condenser Low Vacuum Calibration and Test

1.4 Function:

Provides signal to RPS for an anticipatory scram to the reactor when Main Condenser Vacuum is below the setpoint. This scram does not provide a safety function. This reactor scram is initiated in anticipation of a turbine trip to **reduce** the severity of the transient.

1.5 Setpoint and Limits:

As-Left: 22.25 ±0.25" Hg Vacuum
As-Found : ≥20.0" Hg Vacuum

1.6 GL 91-04 Guidance Criteria:

1.6.1. Confirm that instrumentation drift as determined by As-Found and As-Left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval

The drift calculation used calibration data from February 25, 1989 to November 20, 1994. In December 1989, Oyster Creek plant experienced a condenser vacuum transient. The transient evaluation per GPUN Technical Data Report #1009 resulted in a recommendation for Technical Specification change from >23" Hg Vac to >20" Hg Vac. Following the setpoint change implementation, no violation of As-Found criteria was found in surveillance data.

1.6.2. Confirm that the values of drift for each instrument type (make, model and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical plant calibration data.

Student-t distribution ($t_{(DF,\alpha)} = t_{(N-2,0.05)}$) used in projecting uncertainty in the sample (i.e., surveillance/calibration) data from the population mean uses a probability of a largest absolute value of "t".

($t_{(DF,\alpha)} = t_{(N-2,0.05)}$) - here the term alpha is a largest absolute value of "t" for a two-sided distribution. Alpha = 0.05, which means only 5% of the values could fall outside the predicted confidence **interval** or in other words 95% of the time the surveillance data would fall within the predicted confidence **interval**. The 95% confidence interval is acceptable per Reg. Guide 1.105.

Instrument surveillance/test data is analyzed for drift determination using statistical analysis (regression complemented by student-t distribution). Actual "As-Found" data is used in the analysis.

In the regression analysis, the slope (b) and intercept (a) of the regression line is calculated based on the actual "As-Found" surveillance data (Y-axis) and the time interval between the surveillances (X-axis). The analysis methodology is as follows:

- Using 'a' and 'b' (i.e., intercept and slope) values, the surveillance results are predicted at 24 months plus 25% margin (24 + 25% = 30 months or 915 days) as shown below:

  $\hat{Y}_i = a + b * x_i$, where x_i = 915 days = 30 months,

  $\hat{Y}_i$ = PredictedInstrumentResponse

- Variance, $s^2\left(\hat{Y}_i\right)$, and standard deviation, $s\left(\hat{Y}_i\right)$, of the predicted value, $\left(\hat{Y}_i\right)$, are calculated from the regression estimate, $\hat{y}$, at 915 days.

- $s^2\left(\hat{Y}_i\right) = S^2\left(\hat{y}\right) * \left[1 + \left(\frac{1}{N}\right) + \left\{\left(\bar{x} - x_i\right)^2 / \sum\left(x - \bar{x}\right)^2\right\}\right]$

- The 95% confidence range of the predicted value, $\left(\hat{Y}_i\right)$, is calculated using student-t distribution and standard deviation of the predicted value as follows.

  Regression Estimate ± Student-t Distribution * Standard Deviation of Predicted Value =

  $\hat{Y}_i +/- t_{(0.05, N-2)} * s\left(\hat{Y}_i\right)$, for one-sided t and N-2 degrees of freedom, or

  $\hat{Y}_i +/- t_{(0.025, N-2)} * s\left(\hat{Y}_i\right)$, for two-sided t and N-2 degrees of freedom

NOTE: More data points and longer process cycles are desirable in the drift determination using regression model. In addition, more data points add to the confidence of or provides more credibility to the calculation.

Thus using regression analysis, the "As-Found" data is statistically analyzed. The calculated 95% **confidence** range **(C95% CR),** i.e., t* (Std. Deviation), predicts **a number equivalent to our engineering** tolerance **(e.g., +/- 2% of full scale)** at a future date and is comparable to the "As-Found" acceptance criteria. The calculated value is compared to the existing **As-Found** acceptance criteria.

- The 90% confidence range of the predicted value, $\left(\hat{Y}_i\right)$, is calculated using student-t distribution and standard deviation of the predicted value as follows.

  Regression Estimate ± Student-t Distribution * Standard Deviation of Predicted Value =

  $$\hat{Y}_i +/- t_{(0.1,N-2)} * s\left(\hat{Y}_i\right)$$, for one-sided t and N-2 degrees of freedom, or

  $$\hat{Y}_i +/- t_{(0.05,N-2)} * s\left(\hat{Y}_i\right)$$, for two-sided t and N-2 degrees of freedom

See the appended sample calculation for details.

NOTE: The calculation used one-sided student-t distribution. In this event, the term alpha becomes 0.1. Thus there would be a total of 10% of the values which could fall outside the predicted confidence range or in another words 90% of the time the surveillance data would fall within the predicted confidence range. Thus 5% of the data will be at each extreme end (high & low) of the **assumed normal** distribution. The possible 5% data at the low end of the normal distribution did not violate the As-Found acceptance criteria and the possible 5% data on the high side is further away from the Technical Specification limit and would result in premature actuation. The early actuation would be conservative, hence acceptable; thus 90% (100-10%) plus 5% early actuation represents 95% acceptable data. The two-sided distribution would widen the confidence range, however, the one-sided distribution is acceptable with an additional 2.5% chance for an early actuation.

1.6.3. Confirm that the magnitude of the instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model and range) and application that performs a safety function. Provide a list of channels by Technical Specification section that identifies these instrument applications.

Based on the methodology discussed in response to item 2 above, the calculation results show that the instrument performance predicted at 30 months has a 95% confidence that the instrument setpoint **will** be within the existing As-Found acceptance criteria. Applicable Technical Specification sections are identified above under Section 1.2.

1.6.4. Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed Technical Specification changes to update trip setpoints. If drift errors result in a revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.

As discussed in response to item 3 above, the predicted instrument performance at the end of 30 months is within the existing As-Found acceptance criteria. Therefore, there is no need to change the existing setpoint or its limits.

1.6.5. Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation.

Projected instrument response at 30 months based on regression analysis and the associated uncertainty predicted by the 95% confidence interval is within the existing As-Found acceptance criteria.

1.6.6. Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria plant surveillance procedures for channel checks, channel functional tests, and channel calibrations.

Instrument drift in terms of projected instrument response at 30 months based on regression analysis and the associated uncertainty, predicted by the 95% confidence interval, were compared against the surveillance procedure acceptance criteria. The drift values are within the As-Found acceptance criteria.

1.6.7. Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effect on safety.

OCNGS plant procedures require a DEVIATION REPORT to be generated if the setpoint is not within the As-Found acceptance criteria. The deviation reports are resolved in accordance with plant procedures, which may require root cause evaluation, trending, or corrective action as appropriate, dependent upon the occurrence and its circumstances.

2.0 MAIN STEAM LINE TUNNEL HIGH TEMPERATURE

2.1 Instrument Tag Nos.:

TS-IB10 A through R

2.2 Technical Specification Sections:

2.2.1 Table 3.1.1, Function B4, High Temperature Main Steamline Tunnel

2.2.2 Table 4.1.1, Item 20, High Temperature Main Steamline Tunnel

2.3 References:

2.3.1. GPUN Calculation No. C1302-641-5350-006, Rev 0, EGS/Patel Temperature Switch Drift Data

2.3.2 GPUN Safety Evaluation SE-000641-012, Rev 0, Main Steam Line Tunnel High Temperature Sensor Surveillance Frequency Extension

2.3.3 GPUN Surveillance Procedure 619.3.009, Main Steam Line Tunnel High Temperature Sensor Calibration

2.3.4 GPUN Surveillance Procedure 619.3.010, Main Steam Line Tunnel High Temperature Sensor Functional Test

2.4 Function:

The temperature switches are located in the steam tunnel and trunion room. Their function is to close Main Steam Isolation Valves upon detecting a high temperature in this area. This would be indicative of steam line break.

2.5 Setpoint and Limits:

As-Left: 178 + 2°F
As-Found: 185°F

2.6 GL 91-04 Requirements:

2.6.1 Confirm that instrument shift as determined by As-Found and As-Left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval

The temperature switches in this application were replaced during the 14R refueling outage (2nd quarter, 1991). For lack of As-Found data on the new switches at Oyster Creek, the switch vendor provided such data for the same model switches at another nuclear power station. A statistical analysis of this data (48 switches in the normally closed configuration) was performed and the results presented in calculation C1302-641-5350-006. OCNGS plant procedures allow a margin of 5°F for instrument drift between calibrations (As-Left upper limit of 180°F and As-Found upper limit of 185°F). Of the 48 switches which were evaluated, only three had shown an upward shift of more than 5°F, one 5.2°F, one 6°F and one 10.1°F.

A review of the replaced temperature switches at OCNGS indicates that out of 48 calibrations, the As-Found limit was exceeded only three times, two in the first calibration after installation and one in the last outage.

2.6.2 Confirm that the values of the drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical calibration data.

All the data for the switches used in the analysis was for surveillance intervals of greater than 30 months. The data analysis was a simple determination of the change in setpoint for each switch in the sample to average positive drift and the standard deviation. To get the 95% confidence level, the standard deviation is multiplied by "X" and added to the average positive drift. The value of "X" is based on the sample and the assumption is that the drift values are normally distributed about the mean.

2.6.3 Confirm that the magnitude of the instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model number, and range) and applications that performs a safety function. Provide a list of Technical Specification sections that identifies these instrument applications.

As discussed in Section **2.6.2** above, the data analyzed was for calibration intervals greater than 30 months. The calculation methodology resulted in 95% confidence for the maximum setpoint drift. The applicable Technical Specification sections are identified above in Section 2.2.

2.6.4 Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed Technical Specification changes to update trip setpoints. If the drift errors result in a revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.

The Technical Specification limit for the temperature switch setpoint is 200°F. The calculation determined that with a positive drift of 2.04°F and a standard deviation of 2.11°F, the drift value for 95% confidence is 6.4°F. This exceeded the 5°F margin for drift in the plant procedure. However, it was concluded that the additional margin between the upper As-Found limit of 185°F and the Technical Specification limit of 200°F is sufficient enough to accommodate this deviation. GPUN Engineering Standard defines the margin between upper As-Found limit and the Technical Specification limit as a value to provide any allowance for process measurement accuracy, instrument accuracy of any component not in test and accuracy of test equipment used in surveillance testing. Since the first two accuracy's are not a concern in this application, the calculation results were determined as acceptable without any changes to the setpoint or its limits.

The 16 temperature switches TS-IB10A through R are located as groups of 4 in 4 locations. One group is located in the trunion room. The other 3 groups are spaced along the steam tunnel above the steam lines between the trunion room and the steam chest. Each group of 4 is configured in a one-out-of -two twice trip configuration to provide an MSIV closure upon detecting high temperature.

As-Found data of the replaced temperature switches at OCNGS was also reviewed. Duration of such data ranges from 5-21-91 to 10-14-96. The data was reviewed in two groupings: 1. Entire data, and 2. Data from 1-27-93 to 10-14-96. The review method consisted of regression analysis modified by student-t distribution for a high degree of confidence in the predicted values. The results are as follows:

1. Entire Data Set (5-21-91 to 10-14-96)

No. of Data Points (1)	95% Confidence Range @ 30 Months/36 Months (2)	95% CI* Around Regression Line** @ 30 Months/36 Months (3)	Procedural As-found Acceptance Criteria (4)	Technical Specification Limit (5)
79	±7.21°F/ ±7.24°F	172.3 to 186.8°F/ 172.4 to 186.9°F	≤185°F	≤200°F

* Confidence Interval

** As-left setpoint is 178±2°F

The column (2) data is a calculated 95% value equivalent to As-Found acceptance criteria projected to a future date. This data when added to the existing setpoint of 178°F would satisfy the As-Found acceptance criteria of <185°F. However, the column (2) data when imposed on the regression line makes it exceed the 185°F criteria. This is due to the fact that the regression line has an intercept value and slope different than ZERO (0). The 95% predicted deviation in excess of the 185°F criteria is small at 30 and 36 months. Another evaluation was performed without the data with wider swings or bad data and the improved results are provided in discussion 2 "Partial Data Set" further below. Notes below identify the data that was dropped from the second evaluation.

NOTES:

(a) In the entire data set, a wider swing in the As-Found data of the first surveillance were noticed. However, from the same data set it is clear that after the first surveillance, the instruments performed well-within the acceptance criteria. The wider swings may be attributed to some systematic error in the initial adjustment, or peculiarities in the test equipment and/or adjustment practices. Hence, the second evaluation was performed without the first operating cycle instrument data (As-Left and As-Found).

(b) Also the last surveillance data of the "D" switch was found to be 199.9°F. This is considered to be a gross deviation from the As-Found acceptance criteria. For the purposes of the second evaluation we also omitted this data point as it is believed to be an outlier.

(c) The second evaluation results are compiled below.

2. Partial Data Set (1-27-93 to 10-14-96 & Without "D" switch data from 10-14-96 surveillance)

See NOTES (a), (b), (c) above for justification for data omission

No. of Data Points (1)	95% Confidence Range @ 30 Months/36 Months (2)	95% CI* Around Regression Line** @ 30 Months/36 Months (3)	Procedural As-found Acceptance Criteria (4)	Technical Specification Limit (5)
48	±2.78°F/ ±2.80°F	175.0 to 180.6°F/ 174.9 to 180.5°F	≤185°F	≤200°F

* Confidence Interval

** As-Left setpoint is 178 ±2°F

2.6.5 Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation.

Based on the above, and as discussed in the referenced safety evaluation and calculation the temperature switches at the current setpoint subjected to the worst case drift will still perform their safety function as required.

2.6.6 Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for channel checks, channel functional tests, and channel calibrations.

There is no Technical Specification requirement for a channel check for main steam line tunnel temperature sensors. The calibration and test of the sensors are covered by the referenced surveillance procedures. The criteria for the channel **test** ensures the appropriate trip relays respond and the required trip signals are generated. The setpoint along with the As-Left and As-Found values are part of the surveillance procedure.

2.6.7 Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effects on safety.

OCNGS plant procedures require a DEVIATION REPORT to be generated if the setpoint is not within the As-Found acceptance criteria. The deviation reports are resolved in accordance with plant procedures, which may require root cause evaluation, trending, or corrective action as appropriate, dependent upon the occurrence and its circumstances.

3.0 REACTOR RECIRCULATION FLOW

3.1 Instrument Tag Nos.:

Reactor Recirculation Flow Transmitters and Associated Loops

3.2 Technical Specification Sections:

3.2.1 Section 2.3

3.2.2 Table 3.1.1

3.2.3. Table 4.1.1

3.3 References:

3.3.1 GPUN Calculation No. C1302-622-5350-044, Rev 1, Recirc Flow Monitoring Electronics Loop Error Calculation.

3.3.2 GPUN Safety Evaluation SE-000622-017, Rev 0, Recirculation Loop Flow Calibration Frequency Extension.

3.3.3 GPUN Safety Evaluation SE-402966-001, Replacement of Recirculation Flow Monitoring Electronics.

3.3.4 GPUN Surveillance Procedure 603.3.002, Reactor Recirculation Flow Calibration Procedure.

3.4 Function:

The recirculation flow monitoring instrumentation perform or support the following functions.

APRM Flow Biased Scram
The recirculation flow monitoring instrumentation provides a total flow signal to the Average Power Range Monitors (APRMs). The APRMs provide a reactor scram signal based on core neutron flux levels. The scram setpoint is varied with recirculation flow up to 100% where the setpoint is clamped at the maximum. This flow biased scram is not required for any accident or transient described in Chapter 15 of the OCNGS Updated FSAR. This function is relied upon in the core stability analysis.

APRM Flow Biased Rod Block

The APRMs provide a rod block signal based on core neutron flux levels. The rod block setpoint is varied with the recirculation flow. The APRM flow biased rod block is designed to terminate rod withdrawal errors prior to power levels reaching cladding damaging conditions.

Upscale Rod Block

The recirculation flow monitoring instrumentation provide a rod block signal if the total recirculation flow is in excess of 100% of rated flow.

Control Room Indications

The recirculation flow monitoring instrumentation provide individual loop flows to indicators in control room and plant computer. In addition, total flow indication and recording are also provided in the control room.

3.5 Setpoint and Limits:

Refer to Section 3.4 above.

3.6 GL 91-04 Requirements:

3.6.1 Confirm that instrument shift as determined by As-Found and As-Left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval.

The flow transmitters and associated electronics were replaced during the 15 refueling outage. Because of this, historical calibration data was not available for evaluation.

3.6.2 Confirm that the values of the drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical calibration data

As a part of the modification which replaced the flow transmitters and the electronics, calculation C1302-622-5350-044 was performed to determine the inaccuracies associated with the trip functions and indications. The calculation assumed a 30 month interval between calibrations. The calculation was based on manufacturer specifications. Manufacturer's error data was assumed to be random and approximated by a normal distribution, except for the static pressure effect on the transmitter. Manufacturer's error data was converted to two sigma values which results in a 95% confidence interval for the calculation results.

All errors identified as random errors were combined using the square root of the sum of the squares method. Systematic errors were combined algebraically. GPUN Standards used to identify the factors that must be considered to establish the setpoint and limits.

3.6.3 Confirm that the magnitude of the instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model number, and range) and applications that performs a safety function. Provide a list of Technical Specification sections that identifies these instrument applications.

The referenced calculation results show that the instrument performance predicted at 30 months has a 95% confidence with 95% probability that the instruments will perform within the existing As-Found acceptance criteria. Applicable Technical Specification sections are identified above in Section 3.2.

3.6.4 Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed Technical Specification changes to update trip setpoints. If the drift errors result in a revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.

As described in item 2 above, the inaccuracies were determined and the setpoint As-Left and As-Found limits were established in the new calculation. GPUN Standard ES-002 was used as the guidance for determining the limits.

3.6.5 Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation.

The calculation described above and the safety evaluation for the modification have evaluated the performance requirements and has concluded that there is no adverse effect.

3.6.6 Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for channel checks, channel functional tests, and channel calibrations.

The calculation described above is the basis for establishing the acceptance criteria for surveillance procedure.

3.6.7 Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effects on safety.

OCNGS plant procedures require a DEVIATION REPORT to be generated if the setpoint is not within the As-Found acceptance criteria. The deviation reports are resolved in accordance with plant procedures, which may require root cause evaluation, trending, or corrective action as appropriate, dependent upon the occurrence and its circumstances.

4.0 REACTOR COOLANT SYSTEM LEAKAGE

4.1 Instrument Tag Nos.:

Transmitter IM-178 and IM-172 Loops

4.2 Technical Specification Sections:

4.2.1 Section 4.3.H, Item 3

4.2.2 Section 3.3.D.1

4.3 References:

4.3.1 GPUN Calculation No. C1302-573-5350-007, Rev 0, Drywell Sump and Equipment Drain Tank Flow Integrator Test

4.3.2 GPUN Safety Evaluation SE-000573-004, Rev 0, Drywell Sump and Equipment Drain Tank Flow Integrators - 24 Month TSCR

4.3.3 GPUN Surveillance Procedure 676.3.002, DWEDT Flow Integrator-Channel Calibration

4.3.4 GPUN Surveillance Procedure 676.3.003, Drywell Sump Flow Integrator-Channel Calibration

4.4 Function:

The drywell floor sump is used for determining the unidentified leakage rate (Transmitter IM-178 loop). The equipment drain tank flow is used to determine identified leakage rate (Transmitter IM-72 loop).OC Technical Specification has a 25 GPM limit for total primary leakage rate.

4.5 Setpoint and Limits:

25 GPM for total primary leakage (Technical Specification Limit)
No setpoint

4.6 GL 91-04 Requirements:

4.6.1 Confirm that instrument shift as determined by As-Found and As-Left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval

Surveillance data from 1-19-88 to 7-8-93 for FT-IM-178 and 1-6-88 to 7-21-92 for FT-IM-72 loop was used for the drift calculation (Ref. 3.1). None of the data points exceeded the As-Found acceptance criteria. In addition, a further review of surveillance data up to 4-4-95 for FT-IM-178 loop and up to 8-2-95 for FT-IM-72 loop indicated no deviation of the As-Found acceptance criteria. In total, 42 data points were reviewed for FT-IM-178 loop and 25 data points were reviewed for FT-IM-72 loop.

4.6.2 Confirm that the values of the drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical calibration data

The approach and methodology was similar to the one used for 'Main Condenser Low Vacuum Instruments" described earlier.

4.6.3 Confirm that the magnitude of the instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model number, and range) and applications that performs a safety function. Provide a list of Technical Specification sections that identifies these instrument applications.

The referenced calculation results show that the instrument performance predicted at 30 months has a 95% confidence with 95% probability that the instruments will perform within the existing As-Found acceptance criteria. Applicable Technical Specification sections are identified above in Section 4.2.

4.6.4 Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed Technical Specification changes to update trip setpoints. If the drift errors result in a revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.

The predicted instrument performance at the end of 30 months is within the existing As-Found acceptance criteria. Therefore, there is no need to change existing limits or acceptance criteria.

4.6.5 Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation.

Projected instrument response at 30 months based on regression analysis and the associated uncertainty predicted by the 95% confidence interval is within the existing As-Found acceptance criteria.

4.6.6 Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for channel checks, channel functional tests, and channel calibrations.

Instrument drift in terms of projected instrument response at 30 months based on regression analysis and the associated uncertainty, predicted by the 95% confidence interval, were compared against the surveillance procedure acceptance criteria. The drift values are within the As-Found acceptance criteria.

4.6.7 Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effects on safety.

OCNGS plant procedures require a DEVIATION REPORT to be generated if the setpoint is not within the As-Found acceptance criteria. The deviation reports are resolved in accordance with plant procedures, which may require root cause evaluation, trending, or corrective action as appropriate, dependent upon the occurrence and its circumstances.