

U.S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, D. C. 20555-0001

Re: Turkey Point Units 3 and 4
 Docket Nos. 50-250 and 50-251
 Response to NRC Request for Additional Information (RAI) Regarding NRC Generic
 Letter 2008-01 "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat
 Removal, and Containment Spray Systems"

References:

- Units 3 and 4 Nine-Month Response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems"
- 2) Turkey Point Unit 3: Nine-Month Supplemental (Post-Outage) Response to NRC Generic Letter 2008-01
- (3) Turkey Point Unit 4: Nine-Month Supplemental (Post-Outage) Response to NRC Generic Letter 2008-01
- (4) RAIs RE: Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems, e-mail from Jason Page (NRC), January 07, 2011 to Bob Tomonto (FPL)

The above references (1 through 3) provided Florida Power & Light's (FPL's) responses to NRC Generic Letter 2008-01 for Turkey Point Units 3 and 4. Additional information was requested by the NRC staff by e-mail dated January 7, 2011 (Reference 4). The RAI consisted of seven (7) questions concerning the Turkey Point implementation of NRC Generic Letter 2008-01 requirements. The attachments to this letter provide the FPL response to these questions.

This letter contains no new commitments and no revisions to existing commitments.

Should you have any questions regarding this submittal, please contact Mr. Robert J. Tomonto, Licensing Manager, at (305) 246-7327.

Very truly yours,

que U. RUDIA

Michael Kiley Site Vice President Turkey Point Nuclear Plant



Turkey Point Units 3 and 4 Docket Nos. 50-250 and 50-251

Attachments

cc: USNRC Regional Administrator, Region II USNRC Project Manager, Turkey Point Nuclear Plant USNRC Resident Inspector, Turkey Point Nuclear Plant Attachment 1

Response to 1/7/2011 RAIs Regarding Implementation of

NRC Generic letter 2008-01

Response to Request for Additional Information

The following information is provided by Florida Power & Light (FPL) in response to the Nuclear Regulatory Commission's (NRC) Request for Additional Information (RAI). This information was requested in an e-mail (Reference 4) from the NRC Project Manager (PM) to the Turkey Point Licensing Manager dated January 7, 2011. Each of the seven (7) questions is documented below with the applicable FPL response.

Question 1

Since the technical specifications do not address ECCS suction piping, how is gas intrusion managed in this suction piping?

Response 1

The Technical Specification does not explicitly address suction piping of the ECCS systems, however, the operability of the associated pumps or flow path is affected by the condition of their associated suction pipe. For example if a void is found in the suction piping that exceeds the pre-established acceptance criteria, then the train and associated components would be inoperable and the appropriate ECCS Technical Specification entered.

Procedure 0-ADM-547 (Gas Accumulation Management Program, GAMP) was created in response to NRC Generic Letter 2008-01, Managing Gas Accumulation in High Head Safety Injection (HHSI), Low Head Safety Injection (LHSI), Residual Heat Removal (RHR), and Containment Spray (CS) Systems (GL 2008-01). This program includes details on monitoring, evaluating, trending, and controlling gas build-up in safety related fluid systems to maintain these systems OPERABLE. Attachments 1-6 (RHR/SI/CS Gas Accumulation Monitoring Points) of this procedure list the gas accumulation monitoring points for Units 3 and 4 RHR, SI and CS systems. The list includes the high points associated with the RHR, SI and CS suction piping.

Attachment 7 (UT Planning Flowchart) of 0-ADM-547 summarizes the Ultrasonic Testing (UT) process for the locations listed in Attachments 1-6. The UT results are compared against the acceptance criteria. If the results are within the acceptance criteria an Action Request (AR) is generated and the location vented. If the results are not within the acceptance criteria, the affected SSC is declared inoperable, the void is vented and an AR is generated. As a result, an AR is generated any time voids are identified when UT is performed. These ARs are screened for conditions adverse to quality and are what Turkey Point uses to trend and correct gas intrusion in suction and discharge piping. ARs that identify conditions adverse to quality are coded as Condition Reports (CRs) and receive condition evaluations. AR that identifies conditions not adverse quality may be coded as Routine Work Types (RWTs) for tracking purposes.

Question 2

Have changes been implemented in the core spray system which require the monitoring and, if necessary, venting of the core spray system?

Response 2

Unit 3:

No changes were implemented on Unit 3 Containment Spray System. One location was identified for monitoring. The location identified on Unit 3 Containment Spray System is monitored as part of procedure 0-ADM-547 (Gas Accumulation Management Program).

Unit 4:

A vent valve was installed on Unit 4 Containment Spray System. The vent valve installed is one of the three locations that were identified for monitoring. The vent valve was installed because that was the only point with a potential to exceed acceptance criteria. The locations identified on Unit 4 Containment Spray System are monitored as part of procedure 0-ADM-547 (Gas Accumulation Management Program).

These locations are monitored and vented (as required) under procedure 0-ADM-547. An AR is generated for any location where a void is detected.

Question 3

Address any discrepancies between the systems evaluated in the PWROG report and those at Turkey Point and any discrepancies between the PWROG pump suction void criteria and NRC Inspection guidance, Rev. 9.

Response 3

I. Discrepancies between the systems evaluated in the PWROG report and Turkey Point systems

One of the tasks associated with PWROG PA-SEE-450 was to survey operating plants to gather any correspondence between plants and the vendors relative to pump operability when subjected to gas ingestion. The goal of this survey is two-fold; one is to gather available data currently used by the plants to justify pump operability and the other is to assess whether there is consistency between the vendors relative to what is considered acceptable for various pump designs. The survey results and the final reports associated with the PWROG PA-SEE-450 provided insights on the nature of the interim pump acceptance criteria. This criteria was ultimately incorporated and refined through discussions with the NRC and Industry in documents such as NEI 09-10 and the NRC guidance referenced in the NRC TI 177.

The suction side of the ECCS (i.e. RHR, LHSI, HHSI, and CS) piping was evaluated at Turkey Point by considering the impact of the gas on pump operation. The void fractions used to determine the acceptance criteria were based upon the results of PWROG report Pump Gas Ingestion Tolerance criteria. The discharge side of the ECCS piping which has a diameter equal to or greater than 4" was evaluated at Turkey Point using the PWROG Gas Void pressure pulsations void size. However, small bore piping (i.e. less than 4") was not considered during this testing. Therefore, for 3" piping the acceptable void at Turkey Point was scaled down by the ratio of area between the two different pipe sizes. For the 2", SI piping additional conservatism was added based on analysis.

II. Discrepancies between the PWROG pump suction void criteria and NRC Inspection Guidance, Rev. 10

The following is a summary of the criterion in question and pump data for the associated components:

PWROG Criteria (from PWROG Report Pump Gas Ingestion Criteria for mechanical integrity: PA-SEE-450 Task 2, Rev. 0):

Case	Single-Stage	Multi-Stage / Stiff Shaft	Multi-Sage / Flexible Shaft
Steady-State	2%	2%	2%
Transient	5% for 20 sec.	20% for 20 sec.	10% for 5 sec.
Q _{BEP} Range	70%-120%	70%-140%	70%-120%

NEI 09-10 and NRC Inspection guidance:

		Φ for	PWR Typical	Pumps
	% Q/Q _{BEP}	Single Stage	Multi-Stage	Multi-Stage
		Single Stage	Stiff Shaft	Flexible Shaft
Steady State	40%-120%	0.02	0.02	0.02
Operation				
Steady State	<40% or >120%	0.01	0.01	0.01
Operation	40/001 > 120/0	0.01	0.01	0.01
Transient	70% 120%	0.05 for	0.20 for	0.10 for
Operation	/070-12070	≤20 sec	≤20 sec	≤5 sec
Transient	<70% or >120%	0.05 for	0.05 for	0.05 for
Operation	~/070 Uf ~12070	≤20 sec	≤20 sec	≤5 sec

Turkey Point (PTN) Associated Pump's data:

As outlined in PTN calculation PTN-110389-002-M02, PTN utilized void criteria (Φ) consistent with the Industry and NRC guidance. The following summarizes Best Efficiency Point (BEP) criteria used in the analysis for the respective ECCS pumps. In all cases, the PTN analysis is consistent with the Industry and regulatory guidance.

- RHR Best Efficiency Point (BEP) is 83% at 3750 gpm (RHR-3A Pump Curve, Ingersoll-Rand Curve No. 46933, 6/9/69.)
- CS Best Efficiency Point (BEP) is 75% at 1250 gpm (Goulds Pumps Certificate of Conformance, Dated 6/26/95, for Pump Serial Number 217B871, Model 3736.)
- SI Best Efficiency Point (BEP) is 65% at 450 gpm (HHSI Pump Curve, Worthington Pump Company, Pump Type WTS-811, Curve E-209011, dated 10/17/68.)

The differences between the original PWROG pump suction void criteria and the current NEI and NRC inspection guide criteria as summarized below.

- 1. QBEP range for steady state operation/single stage: 70%-120% vs. 40%-120%
- 2. QBEP range for steady state operation/Multi Stiff: 70%-140% vs. 40%-120%
- 3. QBEP range for steady state operation/Multi flexible: 70%-120% vs. 40%-120%
- 4. QBEP range for Transient operation/Multi Stiff: 70%-140% vs. 70%-120%
- 5. No data is included in the PWROG with regards to Steady State/Transient Operation when the pumps' % Q/ Q_{BEP} is less than 40 or greater than 120 however, PTN for transient operations used a void fraction which is in accordance with NEI 09-10 and NRC Inspection guidance.

The PTN analysis was consistent with the original PWROG criteria and meets the existing Industry and NRC guidance.

Question 4

Were procedures changed to address suction piping venting of RHR, where necessary?

Response 4

Yes, procedures 3/4-OSP-202.2, RHR Pump and Piping Venting and 3/4-OP-050, Residual Heat Removal System were updated to reflect the installation of vent valves on the suction lines of Unit 3 and 4 RHR system. The following table shows the applicable locations:

The second se]3		U4
RHR Suction Points	Procedure	RHR Suction Points	Procedure
P-5	3-OP-050 and 3-OSP-202.2	P-22	4-OP-050 and 4-OSP-202.2
P-6	3-OP-050 and 3-OSP-202.2	P-25	4-OP-050 and 4-OSP-202.2
		P-44	4-OP-050 and 4-OSP-202.2

Question 5

The licensee states that gas intrusion instances are entered into the CAP for evaluation if the void exceeds a certain criteria. How is the licensee aware of adverse trends at specific locations if all gas intrusion instances are not tracked and trended through the CAP?

Response 5

All instances where a gas intrusion (i.e. exceeding or within acceptance criteria) has been detected are tracked and trended through CAP. In addition, a database exists with results of UT'd points for trending.

Procedure 0-ADM-547 (Gas Accumulation Management Program, GAMP) was created in response to NRC Generic Letter 2008-01, Managing Gas Accumulation in ECCS, RHR, and CS Systems (GL 2008-01). This program includes details on monitoring, evaluating, trending, and controlling gas build-up in safety related fluid systems to maintain these systems OPERABLE.

Section 4.4 (Trending) of this procedure requires that:

- void information is trended for each monitored point over each cycle of operation
- and that an AR is generated for each abnormality detected to document the investigation and corrective actions.

This process is illustrated in Attachment 7 (UT Planning Flowchart) of this procedure. As shown in this attachment after the results are obtained one of the following is performed:

- If the UT results show that the pipe is full of water, no action is required.
- If the UT results show that the pipe has a void which is within the acceptance criteria; an AR is generated and the location is vented.
- If the UT results show that the pipe is not full of water because the void size is outside of the acceptance criteria; the Shift Manager is notified of the system not being operable, the location is vented and an AR is generated.

Question 6

The licensee states that due to previous gas intrusion, training was conducted for Operations personnel. Has training been updated or expanded beyond operations since evaluation of GL 2008-01?

<u>Response 6</u>

Yes, training has been updated and expanded beyond operations since evaluation of GL 2008-01. Engineering had continuing training which included GL 08-01 training.

The concept of gas intrusion is covered with the operators during the Generic Fundamentals program, a separate lesson on water hammer, again during the initial training of SOER 97-1 and periodically in continuing training.

An information bulletin has been prepared and distributed to Operations, Engineering, Chemistry and Maintenance. The training bulletin has the purpose of enhancing knowledge on the Gas Accumulation Management Program.

Question 7

The licensee referenced gas transport analyses conducted by Numerical Applications, Inc. (NAI). Many licensees have contracted with NAI to evaluate gas voids using the computer code GOTHIC, if this is the case, confirm and note that the NRC is pursuing additional evaluation of the applicability of GOTHIC to two-phase, two component flow. The NRC may need to conduct further evaluation at a later date of the licensee's use of GOTHIC. If the licensee used another method for detailed gas transport analysis, explain the method used.

Response 7

All of the GAMP acceptance criteria were established such that the maximum void size at any location would not create a void exceeding 2% at any pump suction for a maximum duration of 0.5 seconds. This establishes an extremely conservative void size in that it uses the steady state 2% criteria for what in reality is a transient (5-20% void allowed) and as such, transport analysis was not required. GOTHIC was used to understand the behavior of the gases in the suction piping of the ECCS. In some cases however, a more complex analysis was required to address the behavior of potential gas voids located in the Emergency Core Cooling System (ECCS) discharge piping. Transport analyses were performed by an outside contractor using GOTHIC to address water hammer in ECCS discharge piping.

Attachment 2

Excerpt from Turkey Point Procedure 0-ADM-547

Gas Accumulation Management Program

Attachment 2

Excerpt from Turkey Point Procedure 0-ADM-547

Gas Accumulation Management Program

REVISION NO.:	PROCEDURE TITLE:	PAGE:
3	GAS ACCUMULATION MANAGEMENT PROGRAM	13 of 42
PROCEDURE NO .:		
0-ADM-547	TURKEY POINT PLANT	
	ATTACHMENT 1	
	UNIT 3	
	RHR GAS ACCUMULATION MONITORING POINTS	
	(Page 1 of 6)	
GRP # - Di	fferentiates the monitoring points for a system to inside or outside containment.	
• GRI	P 1 - RHR Outside Containment	
• GRI	2 - RHR Inside Containment	
MONITOR referencing monitoring	POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cros of the points being monitored to the correspondence documenting the initial evaluation and justifying these points.	S
VENT VAL have desig system in a	VE - The valve located at the high point to be used to remove air/void at that point. Those that do not nated vents will have the void removed using some other method. Normally this will be to operate the a test mode and purge the void.	
Acceptanc	e Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value.	
Acceptanc evaluation	e Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering will be required.	

3 E NO.:								
E NO.:			070 A	CCUMULATION MANAGEMEN	NT PROGRAM			14 of 42
					_			
JM-547								
		<u>RHR (</u>	GAS ACO	ATTACHMENT 1 <u>UNIT 3</u> CUMULATION MONITOR (Page 2 of 6)	ING POINTS			
				OUNSIDE CONTAINMENT				
Monifior Point	VIENT VALVE	ISO DRAVVING #	PIPE SIZE & SGH	LOCATION & ELEVATION	ACGEPTIANCE CRITERIA (W2 ARC)/ Technicel Specification	IPROGEDURE TO VENT/PURGE	PRO VE MAII	CEDURE 170 INT ROST NITENANCE
P-5	3-1490	5613-M-3050 Sh 1 5613-P-600-S Sh 2	14" Sch = 40	10' Access to RHR Pits Left side of MOV-3-860A Elevation = 7' 2-13/16"	4.42 in 4-3/8" T.S.3.5.2 T.S.3.6.2.1	3-OSP-202.2	3	-OP-050
P-6	3-1491	5613-M-3050 Sh 1 5613-P-600-S Sh 2	14" Sch = 40	10' Access to RHR Pits Left side of MOV-3-860B Elevation = 7' 3-5/8"	1.89 in 1-7/8" T.S.3.5.2 T.S.3.6.2.1	3-OSP-202.2	3	-OP-050
[•] P-8	NA	5613-M-3050 Sh 1 5613-P-602-S Sh 3	10" Sch = 40S	HX Room 3" from the weld line of the elbow towards penetration #5 Elevation = 4' 10-1/2"	3.29 in 3-1/4" T.S.3.5.2 T.S.3.6.2.1	3-OSP-050.2	3	-OP-050
	ONITIOR 1 P-5 P-6 P-8	ONITIOR WENT P-5 3-1490 P-6 3-1491 P-8 NA	ONITIOR VENT ISO DRAWING# P-5 3-1490 5613-M-3050 P-6 3-1491 5613-M-3050 P-8 NA 5613-M-3050 Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-600-S Sh 1 5613-P-602-S Sh 3	ONITIOR POINTWENT: VALMEISO DRAWING (?)PIPE SIZE (8) SO(24)P-53-1490 $5613-M-3050$ Sh 1 S613-P-600-S Sh 2 $14"$ Sch = 40P-63-1491 $5613-M-3050$ Sh 1 S613-P-600-S Sh 2 $14"$ Sch = 40P-8NA $5613-M-3050$ Sh 1 S613-P-602-S Sh 3 $10"$ Sch = 40S	ATTACHMENT T UNIT 3 RHR GAS ACCUMULATION MONITOR (Page 2 of 6)ONITIOR ROINTWENT VALVEISO DRAWING #PIPE SIZE SIZE SGMLOCATION & ELEVATION PIPE SIZE BOCATION & ELEVATIONP-53-14905613-M-3050 Sh 1 5613-P-600-S Sh 214" Sch = 4010' Access to RHR Pits Left side of MOV-3-860A Elevation = 7' 2-13/16"P-63-14915613-M-3050 Sh 1 Sch 214" Sch = 4010' Access to RHR Pits Left side of MOV-3-860B Elevation = 7' 3-5/8"P-8NA5613-M-3050 Sh 1 Sch 214" Sch = 40S10' Access to RHR Pits Left side of MOV-3-860B Elevation = 7' 3-5/8"	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	HTACHMENT I UNIT 3 RHR GAS ACCUMULATION MONITORING POINTS (Page 2 of 6)ONITION 	A LANGINGER 1 UNIT 3 RHR GAS ACCUMULATION MONITORING POINTS (Page 2 of 6) ONITION ROUNT VENT VENT VALVE ISO DRAWING # Sold PIPE SIZE 8 (SH) OUTSIDE GONTAINMENT (Page 2 of 6) Acception Specification PROCEDURE TO VENT/PURCE PROCEDURE TO VENT/PURCE

REVISIO	N NO.:	PROCED	URE TITLE:	· · · · · · ·				PAGE:
	3			GAS A	CCUMULATION MANAGEME	NT PROGRAM		15 of 42
PROCED 0-	-ADM-547				TURKEY POINT PLAN	т		
			RHR	GAS AC	ATTACHMENT 1 <u>UNIT 3</u> CUMULATION MONITOR (Page 3 of 6)	RING POINTS		
1				and a state of the	OUTSIDE CONTAINMENT			
GRP #	- MONITIOR POINT	VIENTI VALVIE	ISO DRAWING #	PIPE SIZE & SGH	LOCATION & ELEVATION	ACCEPTANCE CRITERIA (11/2 ARC)/ Technical Specification	PROGEDURE KO VENTIPURGE	PROCEDURE TO VIENT (POST MAINMENANCE
1	P-9	NA	5613-M-3050 Sh 1 5613-P-602-S Sh 3	10" Sch = 40S	HX Room 3" from the Penetration #2 (See Node 380) Elevation = 4' 10-1/2"	3.07 in 3-1/16" T.S.3.5.2	3-OSP-050.2	3-OP-050
1	P-10	NA	5613-M-3050 Sh 1 5613-P-822-S Sh 1	2" Sch = 80S	Pipe & Valve Room 3" from the elbow downstream of Vent Valve 4-741B Elevation 25'-6"	1.78 in 1-3/4" T.S.3.0.3	3-OSP-050.2	3-OP-050
1	P-13	3-940-N	5613-M-3050 Sh 1 5613-P-601-S Sh 1	8" Sch = 120	Pipe & Valve Room 3" from Vent Valve 3-940N Elevation = 25'-11-1/4"	3.20 in 3-3/16" N/A	3-OSP-202.2	3-OP-050
1	P-48	NA	5613-M-3050 Sh 1 5613-P-601-S Sh 1	8" Sch = 40S	Pipe & Valve Room 3" from MOV-3-872 Elevation = 20'-0"	6.25 in 6-1/4" N/A	3-OSP-202.2	3-OP-050

•

REVISION	N NO.:	PROCE	OURE TITLE:					PAGE:
000000	3			GAS A	CCUMULATION MANAGEME	NT PROGRAM		16 of 42
PROCEDI	ADM-547				TURKEY POINT PLAN	т		
			RHR	GAS AC	ATTACHMENT 1 <u>UNIT 3</u> CUMULATION MONITOR (Page 4 of 6)	RING POINTS		
					OUTSIDE CONTAINMENT			
-GRP #	MONITOR POINT	VENT VALVE	ISO DRAWING #	1211PE -S124E & SGH	LOCATION & ELEVATION	ACCEPTIANCE CRIITERIA (11/2 ARC)/ Technical Specification	PROGEDURE TO VIENT/PURGE	PROGEDURE TO VENT POST MAINTENANGE
1	P-67	3-761E	5613-M-3050 Sh 1 5613-P-602-S Sh 2	12"	10" from Vent Valve 3-761E, between the Vent Valve and the Flow Element Elevation = 24'-0"	2.52 in 2-1/2" T.S.3.0.3	3-OSP-202.2	3-OP-050
1	P-68	3-741C	5613-M-3050 Sh 1 5613-P-822-S Sh 1	2" Sch = 80S	Pipe & Valve Room 12" from Vent Valve 3-741C Elevation 25'-6"	3.73 in 3-11/16" T.S.3.0.3	3-OSP-202.2	3-OP-050
A.			· ·					

	3							
PROCE	DURE NO.:			GAS A	ACCUMULATION MANA	AGEMENT PROGRAM		17 of 42
C)-ADM-547				TURKEY POIN	T PLANT		
			RHR	GAS AC	ATTACHMENT <u>UNIT 3</u> CUMULATION MO (Page 5 of 6)	1 <u>NITORING POINTS</u>		
					INSIDE CONTRINM	ENIT		
GRP #	MONITOR POINT	WENTT WALME	ISO DRAWING #	PIPE STZE & SCH	LOCATION & IELEVIATION	ACCEPTIANCE CRITERIA (f//2 ARC))/ Technical Specification	PROCEDURE TO VENIAPURCE	PROGEDURE TO VENIT POST MAINTENANGE
2	P-105	3-1495	5613-M-3064 Sh 1 5613-P-587-S Sh 1	10" Sch = 140 8" Sch = 120	Downstream of MOV-3-744B Elevation = 21'-0"	3.0 in Max. T.S.3.0.3	3-OSP-202.2	3-OP-050
2	P-108	3-1499	5613-M-3064 Sh 1 5613-P-587-S Sh 1	8" Sch = 120	Downstream of Penetration 11 Elevation = 26'-0"	3.5 in Max. N/A	3-OSP-202.2	3-OP-050
2	P-117	3-1498	5613-M-3064 Sh 1 5613-P-586-S Sh 1	8" Sch = 120	Upstream of Valve 3-876D Elevation = 22'-0"	3.5 in Max. N/A	3-OSP-202.2	3-OP-050
2	P-127	3-1496	5613-M-3064 Sh 1 5613-P-586-S Sh 1	8" Sch = 120	Upstream of Valve 3-876A Elevation = 21'-0"	2.5 in Max. T.S.3.0.3	3-OSP-202.2	3-OP-050

	N NO	PROCED	URE HILE:					PAGE:
	3	_		GAS A		AGEMENT PROGRAM		18 of 42
PROCED	URE NO.:							
0.	-ADM-547							
			RHR	GAS AC	ATTACHMENT <u>UNIT 3</u> CUMULATION MO (Page 6 of 6)	1 <u>NITORING POINTS</u>		
					INSIDE CONTAINM	<u>enn</u>		
GRP #	MONIFOR POINT	vient Valvie	ISO DRAWING #	Pipe Size & Sgh	LOCATION & ELEVATION	ACCEPTANCE GRITERIA (1/12 ARG)/ Technical Specification	IPROGEDURE TO VEXTIPURGE	PROGEDURE TO VENT POST MAINTENANCE
2	P-142	3-1497	5613-M-3064 Sh 1 5613-P-586-S Sh 1	8" Sch = 120	Upstream of Check Valve 3-876B	2.0 in Max. T.S.3.0.3	3-OSP-202.2	3-OP-050
						•		
			· .					
			,					

.

	PROCEDURE TITLE:	PAG
3	GAS ACCUMULATION MANAGEMENT PROGRAM	1
PROCEDURE NO .:		
0-ADM-547	TURKEY POINT PLANT	
	ATTACHMENT 2	
	UNIT 3	
	SI GAS ACCUMULATION MONITORING POINTS	
	(Page 1 of 6)	
· ·		
GRP # - Diffe	rentiates the monitoring points for a system to inside or outside containment.	
•	GRP 3 - SI Outside Containment	
•	GRP 4 - SI Inside Containment.	
MONITOR Port referencing of monitoring the monitoring the second	OINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cros f the points being monitored to the correspondence documenting the initial evaluation and justifying ese points.	S S
VENT VALVE have designa system in a te	E - The valve located at the high point to be used to remove air/void at that point. Those that do not ited vents will have the void removed using some other method. Normally this will be to operate the est mode and purge the void.	
Acceptance (Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value.	
Accontance (Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering	

20 of 42
XABDURE TRO ENT POST INTENANGE
OSP-202.3
OSP-202.3
OSP-202.3
OSP-202.3

	3							01 -6 10
PROCE	OURE NO.:			GAS ACC				21 of 42
0	-ADM-547				TURKEY POINT PL	ANT		
			Š	SI GAS ACCUN	ATTACHMENT 2 <u>UNIT 3</u> IULATION MONITO (Page 3 of 6)	RING POINTS		
Sp. 1				<u> </u>	UNISIDE CONTAINMEN			
GRP #	MONITOR POINT	VIENT VALVIE	ISO DRAWING #	PIPE SIZE C SGH	LOCATION & ELEVATION	ACGEPTIANCE CRITERIA (11/12 (ARG)/ Technical Specification	Progedure To Venmpurge	PROCEDURE TO MENT POST MAINTENANCE
3	P-30	3-1488	5613-M-3062 Sh 1 5613-P-599-S Sh 1	8" Sch = 10S	RWST 3" from the Vent Valve 3-1488 Elevation = 19'-1- 5/8"	2.27 in 2-1/4" T.S.3.0.3	0-OSP-202.3	0-OSP-202.3
3	P-38	NA	5613-M-3062 Sh 2 5613-P-597-S Sh 2	4" Sch = 80S	3" from support 3-SIH-72 Elevation = 25"-5- 3/8"	2.36 in 2-5/16" T.S.3.0.3	0-OSP-202.3	0-OSP-202.3
3	P-40	NA	5613-M-3062 Sh 2 5613-P-823-S Sh 1	2" Sch = 160	Pipe & Valve Room Second elbow from Penetration #28 Elevation = 26'-0"	1.85 in 1-13/16" T.S.3.0.3	0-OSP-202.3	0-OSP-202.3
3	P-49	NA	5613-M-3062 Sh 1 5613-P-597-S Sh 1	3" Sch = 80S	Pipe & Valve Room Upstream of MOV-3-869 Elevation = 26'-6"	2.74 in. N/A	0-OSP-202.3	0-OSP-202.3

REVISIO	ON NO.:	PROC	EDURE TITLE:			· · ·	···· · · ·		PAGE:
PROCE				GAS ACC	UMULATION MANAGEI	MENT PROGRAM			22 of 42
PROCEL 0)-ADM-547				TURKEY POINT PL	ANT			
			5	SI GAS ACCUN	ATTACHMENT 2 <u>UNIT 3</u> IULATION MONITO (Page 4 of 6)	RING POINTS			
				<u> </u>	UTISIDE CONT <u>AINMEN</u>	Ĵ		ing ang ang ang ang ang ang ang ang ang a	
GRP #	MONIFOR POINT	VIENT VALVIE	ISO DRAWING #	IPIPE SIZE & SCH	LOCATION & IALAVATION	AGGEPTIANCE GRITERIA ((11/2 ARG))/ Technical Specification	PROGEDURIE TTO TEORITICE	PRO MAN	XCEDURE TO EXIT POST INTENANCE
3	P-50	NA	5613-M-3062Sh 1 5613- P-823-S Sh 2	4" Sch = 120S	Containment Spray Room 3" from MOV-3-843B on the downstream side (node 26) Elevation = 29'-6"	3.50 in 3-1/2" T.S.3.0.3	0-OSP-202.3	0-	OSP-202.3
3	P-51	NA	5613-M-3062 Sh 1 5613-P-597-S Sh 1	4" Sch = 80S	3" from Vent Valve 3-395D	1.43 in 1-7/16" T.S.3.0.3	0-OSP-202.3	0-	OSP-202.3
3	P-65	3-940V	5613-M-3062 Sh 1 5613-P-597-S Sh 3	2"	3" from Vent Valve 3-940V Elevation = 28'-2"	0.65 in 5/8" T.S.3.0.3	0-OSP-202.3	0-	OSP-202.3
	I . _	L					<u>، </u>		

	N NO.:		EDURE TITLE:					PAGE:
PROCE				GAS ACC	CUMULATION MANAGE	MENT PROGRAM		23 of 42
0	-ADM-547					ANT		
			Š	SI GAS ACCUN	ATTACHMENT 2 <u>UNIT 3</u> <u>//ULATION MONITO</u> (Page 5 of 6)	RING POINTS		
GRP	MONIFOR	VIENTI - VIENTI - VALVIE	ISO DRAWING #	© RIPE SIME & SGH	UTSIDE CONTAINMEN LLOCATION & ELEVATION	i ACCEPTANCE CRINERIA (W2 ARO)/Treeboleal Specification	IPROCEDURE TO VENTIPURGE	ot eriugedora Troog Trany Bokakerikinam
NOTE	1: Pump Cas	sing Water	Solid is determined	l by water in the ve	ent line which is the highp	oint. The vent line may ha	ve air but must have	e some water presen
to con	sider the Pum	p Časing V	Vater Solid.					
to con	sider the Pum	p Časing V 3-944A	Vater Solid. 5613-M-3062 Sh 1 5613-P-5022 Sh 1	3/4"	3B HHSI Pump Vent	Pump Casing Water Solid T.S.3.5.2	0-OSP-202.3	0-OSP-202.3
<u>to con</u> 3 3	P-69 P-70	p Časing V 3-944A 3-944B	Vater Solid. 5613-M-3062 Sh 1 5613-P-5022 Sh 1 5613-M-3062 Sh 1 5613-P-5021 Sh 1	3/4"	3B HHSI Pump Vent 3B HHSI Pump Vent	Pump Casing Water Solid T.S.3.5.2 Pump Casing Water Solid T.S.3.5.2	0-OSP-202.3 0-OSP-202.3	0-OSP-202.3 0-OSP-202.3
<u>to con</u> 3 3 3	P-69 P-70 P-71	p Casing V 3-944A 3-944B 3-944C	Vater Solid. 5613-M-3062 Sh 1 5613-P-5022 Sh 1 5613-M-3062 Sh 1 5613-P-5021 Sh 1 5613-M-3062 Sh 1 5613-P-5019 Sh 1	3/4" 3/4" 3/4"	3B HHSI Pump Vent 3B HHSI Pump Vent 3A HHSI Pump Vent	Pump Casing Water Solid T.S.3.5.2 Pump Casing Water Solid T.S.3.5.2 Pump Casing Water Solid T.S.3.5.2	0-OSP-202.3 0-OSP-202.3 0-OSP-202.3	0-OSP-202.3 0-OSP-202.3 0-OSP-202.3

REVISIO	N NO.:	PROCE	DURE TITLE:					PAGE:
	- 3			GAS ACC	CUMULATION MANAGEM	IENT PROGRAM		24 of 42
PROCED	OURE NO.:							
0-	-ADM-547					NT		· · · · · · · · · · · · · · · · · · ·
			<u>SI G</u>	AS ACCUN	ATTACHMENT 2 <u>UNIT 3</u> MULATION MONITOF (Page 6 of 6)	RING POINTS		
GRP ⊕	MONIFOR POINT	WENT WALWE	ISO DRAWING #	RIPE SIZE & SCH	INSIDE CONTAINMENT LOCATION & ELEVATION	ACCEPTANCE CRIMENIA (11/2/ARC)/ Technical Specification	PROCEDURE TO MENTIPURGE	PROGEDURE TO VIENT POST MAINTENANGE
4	P-120	3-1500	5613-M-3062 Sh 1 5613-P-764-S Sh 1	2" Sch = 160	Upstream of FE-3-933 Elevation = 26'-10"	N/A N/A	0-OSP-202.3	0-OSP-202.3

REVISION NO .:	PROCEDURE TITLE:	PAGE:
	GAS ACCUMULATION MANAGEMENT PROGRAM	25 of 42
0-ADM-547	TURKEY POINT PLANT	
·	ATTACHMENT 3	
	(Page 1 of 2)	
GRP # - Diff	erentiates the monitoring points for a system to inside or outside containment.	
•	GRP 5 - CS Outside Containment	
•	GRP 6 - CS Inside Containment (currently no points are identified)	
MONITOR F referencing monitoring th	POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows of the points being monitored to the correspondence documenting the initial evaluation and justifying the points.	cross
VENT VALV have design system in a	E - The valve located at the high point to be used to remove air/void at that point. Those that do nated vents will have the void removed using some other method. Normally this will be to operate t test mode and purge the void.	ot he
Acceptance	Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value.	
Acceptance evaluation w	Criteria assumes only one location is voided. If multiple voids are found, then additional Engineer ill be required.	ing
ł		
i		
:		

REVISIO	N NO.:	PROCED	OURE TITLE:						PAGE:
	3			GAS ACC		AGEMENT PROGRAM			26 of 42
PROCED	URE NO.:	7		0,10,100					20 01 42
0-	ADM-547				TURKEY POIN	T PLANT			
			<u>CS</u>	<u>GAS ACCUI</u>	ATTACHMENT <u>UNIT 3</u> MULATION MON (Page 2 of 2)	3 IITORING POINTS			
GRP #	MONITOR FOINT	VENT VALME	ISO DRAWING #	ାମାମଣ ରାୟଣ ଅ ତ୍ର ତ୍ରେଲା	UTISIDE CONTAIN LOCATION & ELEVATION	MENT ACCEPTANCE CRITERIA (1/2 (ARC)/ Technical Specification	PROCEDURE TO VENI/PURGE	PROG Ve Main	Xedure To NT Post Menvance
5	P-62	NA	5613-M-3062 Sh 1 5613-P-599-S Sh 2	16" Sch = 10S	Either side of "T" @ Node 375	2.39 in 2-3/8" T.S.3.6.2.1	3-NOP-068 or 3-OSP-068.2	3-N 3-O	OP-068 or ISP-068.2
GRP #	MONITOR ROINIT	WENT	ISO DRAWINE (#	IPIPE Size & Soh	<u>INSIDE CONTAINM</u> OCATION-8 E4 5 7/	enti Acceptiance Critteria (1/12 Arcs)/ Technicel Specification	PROGEDURE TO VENMPURGE) PRO VE MAN	GEDURE TO INFI POSTI NTIENANIGE
6	NONE								

VISION NO .:	PROCEDURE TITLE:	PAGE:
3	GAS ACCUMULATION MANAGEMENT PROGRAM	27 of 42
0-ADM-547	TURKEY POINT PLANT	
	ATTACHMENT 4 <u>UNIT 4</u> <u>RHR GAS ACCUMULATION MONITORING POINTS</u> (Page 1 of 6)	
GRP # - Di	fferentiates the monitoring points for a system to inside or outside containment.	
•	GRP 1 - RHR Outside Containment	
•	GRP 2 - RHR Inside Containment	
MONITOR referencing monitoring	POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cro of the points being monitored to the correspondence documenting the initial evaluation and justifying these points.	ŝS
VENT VAL have desig system in a	VE - The valve located at the high point to be used to remove air/void at that point. Those that do not nated vents will have the void removed using some other method. Normally this will be to operate the test mode and purge the void.	
Acceptance	e Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value.	
Acceptance evaluation	e Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering will be required.	

REVISIO	N NO.:	PROCED	URE TITLE:				· · · · · ·	PAGE:
PROCED	3			GAS A	CCUMULATION MANAGEME	NT PROGRAM		28 of
PROCEL 0	-ADM-547				TURKEY POINT PLAN	т		
			<u>RHR (</u>	GAS AC	ATTACHMENT 4 <u>UNIT 4</u> CUMULATION MONITOR (Page 2 of 6)	RING POINTS		
					OUTSIDE CONTAINMENT			
GRP #	MONITOR POINT	TREW ENLAW	ISO DRAWING ()	FIPE SIZE & SCH	LOCATION & ELEVATION	GRITERIA (1/2 ARG)) Technical Specification	PROGEDURE TO VENTAPURGE	PROCEDURE 1 VIENT POST MAINFIENANNO
1	P-22	4-899C	5614-M-3050 Sh 1 5614-P-503-S Sh 2	14"	3" from MOV-4-860A Elev = 7'- 5-9/16"	4.40 in 4-3/8" T.S.3.5.2 T.S.3.6.2.1	4-OP-050	4-OP-050
1	P-23	4-940N	5614-M-3050 Sh 1 5614-P-504-S Sh 1	8"	Pipe & Valve Room 3" upstream of Vent Valve 4-876G Elev = 20'-0"	2.52 in 2-1/2" N/A	4-OP-050	4-OP-050
1	P-25	4-741G	5614-M-3050 Sh 1 5614-P-815-S Sh. 1	2"	2 nd elbow downstream of Valve 4-741B, 2' downstream from the weld line Elev = 27'- 3"	1.86 in 1-7/8'' T.S.3.0.3	4-OSP-202.2	4-OP-050

REVISIO	N NO.:	PROCED	OURE TITLE:		<u> </u>			PAGE:	
	3			GAS A	CCUMULATION MANAGEME	NT PROGRAM		29 of 4	2
PROCED	OURE NO.:					_			
0	-ADM-547		<u>.</u>			T			
			RHR	GAS AC	ATTACHMENT 4 <u>UNIT 4</u> CUMULATION MONITOF (Page 3 of 6)	RING POINTS			
GRP	MONITTOR POINT	VALVIE	ISO DRAWING #	PIPE SIZE & SCH	OUTSIDE CONTAINMENT	ACCEPTANCE CRIMERIA (HV2/ARC))/ Technical Specification	DITE TO VEXTURNE VEXTURNE	PROCEDURE TO VENT ROST MAINTENANCE	0
1	P-44	4-741G	5614-M-3050 Sh 1 5614-P-815-S Sh 1	2"	3 rd elbow upstream of Valve 4-741A, 3" downstream Elev = 27'- 3"	1.86in 1-7/8'' T.S.3.0.3	4-OSP-202.2	4-OP-050	
1	P-46	4-899E	5614-M-3050 Sh 1 5614-P-503-S Sh 2	14"	Downstream of MOV-4-860B, 3" downstream of 4-899E connection Elev = 7'- 4-15/16"	2.48in 2-7/16" T.S.3.5.2	4-OP-050	4-OP-050	
1	P-52	4-767F	5614-M-3050 Sh 1 5614-P-505-S Sh 1	10"	3" Upstream of Valve 4-757C Elev = 5'- 0-1/2"	3.52 in 3-1/2" T.S.3.6.2.1	4-OSP-202.2	4-OP-050	
1	P-53	4-1501A	5614-M-3050 Sh 1 5614-P-505-S Sh 3	12" Sch =40S	6" from Support SR-637 Near Valve 4-1501	3.64 in 3-5/8" T.S.3.0.3	4-OSP-202.2	4-OP-050	
						· · · · · · · · · · · · · · · · · · ·			

REVISIO	N NO.:	PROCED	OURE TITLE:	•					PAGE:
	3			GAS A	CCUMULATION MANAGEME	NT PROGRAM			30 of 42
PROCED						т			
0	-ADIVI-547		· · ·			I			
			RHR	GAS AC	ATTACHMENT 4 <u>UNIT 4</u> CUMULATION MONITOR (Page 4 of 6)	RING POINTS			
					OUTSIDE CONTAINMENT				
GRP #	MONITOR POINT	VENIT VALVE	ISO DRAWING #	PIPE SIZE & SCH	LOCATION & ELEVATION	ACCEPTANCE CRITERIA (1/2 ARC)/ Technical Specification	PROGEDURE TO VENT/PURGE	Pro Mi Mai	GEDURE TIO ENT POST NTIENANGE
1	P-54	4-942L	5614-M-3050 Sh 1 5614-P-504-S Sh 1	8"	Pipe & Valve Room Upstream from MOV-4-872 between the valve and the Elbow Elev = 26'-0"	5.59 in 5-1/2" N/A	4-OSP-202.2	2	I-OP-050
1	P-73	4-761H	5614-M-3050 Sh 1 5614-P-505-S Sh 3	12" Sch =40S	3" Downstream from Vent Valve 4-761E	3.25 in 3-1/4" T.S.3.0.3	4-OSP-202.2	2	I-OP-050
1	P-74	4-767E	5614-M-3050 Sh 1 5614-P-505-S Sh 2	10"	Located Upstream of Valve 4-754A on the Elbow Elev = 5'- 0-1/2"	3.15 in 3-1/8" T.S.3.5.2	4-OSP-202.2	2	I-OP-050
	L	1	1	L	J		I	L	

•

REVISIC	NNNO.:	PROCED	URE TITLE:					PAGE:
	3			GAS A	CCUMULATION MANAGEME	NT PROGRAM		31 of 42
)-ADM-547				TURKEY POINT PLAN	т		
			<u>RHR</u>	GAS AC	ATTACHMENT 4 <u>UNIT 4</u> CUMULATION MONITOR (Page 5 of 6)	RING POINTS		
					INSIDE CONTAINMENT			
GRP #	MONITOR ROINT	VENT VALVE	ISO DRAWING#	PIPE SIZE & SCH	LOCATION & ELEVATION	ACCEPTIANCE GRITERIA (1//2 ARC)/Techniteri Specifiertion	PROCEDURE TO VENIMPURCE	PROCEDURE TO VENT POST MANNENANCE
2	P-204	4-940X-A	5614-M-3064 Sh 1 5614-P-509-S Sh 1	8" Sch =120	Upstream of Check valve 4-876E Elev = 21'-5"	4.5" N/A	4-OSP-202.2	4-OP-050
2	P-205	4-940J-A	5614-M-3064 Sh 1 5614-P-509-S Sh 1	8" Sch =120	Upstream of Check valve 4-876D Elev = 24'-4-7/16"	4.5" N/A	4-OSP-202.2	4-OP-050
2	P-208	4-4922-A	5614-M-3064 Sh 1 5614-P-509-S Sh 2	8" Sch =120	Downstream of vent valve 4-876E Elev = 23'-6"	2.5" T.S.3.0.3	4-OSP-202.2	4-OP-050

r

REVISIC	N NO.:	PROCED	URE TITLE:					PAGE:
PROCE	3 DURE NO.:			GAS A	CCUMULATION MANAGEME	NT PROGRAM		32 of 42
0	-ADM-547				TURKEY POINT PLAN	Т		
			RHR	GAS AC	ATTACHMENT 4 <u>UNIT 4</u> CUMULATION MONITOR (Page 6 of 6)	ING POINTS		
1. J. J. J.					INSIDE CONTAINMENT			
GRP #	MONITOR POINT		ISO DRAWING #	PIPE SIZE & SCH	LOGATION & ELEVATION	ACCEPT/ANCE CRITERIA (1//2 ARC)/Technical Specification	PROGEDURE TO VENT/PURGE	PROGEDURE TO VENTI POST MAINTENANGE
2	P-209	4-940H-A	5614-M-3064 Sh 1 5614-P-509-S Sh 2	8" Sch =120	Upstream of valve 4-940H Elev = 21'-5''	3.5" T.S.3.0.3	4-OSP-202.2	4-OP-050
2	P212	4-940L-A	5614-M-3064 Sh 1 5614-P-509-S Sh 4	8" Sch =120	Upstream of Check valve 4-876C Elev = 21'-6"	3.0" T.S.3.0.3	4-OSP-202.2	4-OP-050
2	P-213	N/A	5614-M-3050 Sh 1 5614-P-574-S Sh 1	14" Sch =140	At MOV-4-750 Elev. 19"-0"	N/A	Procedures that open MOV-3-750 and MOV-3-751 open 750 first to vent any trapped gasses to the RPV. (CR 00-1164)	4-OP-050

REVISION NO.:	PROCEDURE TITLE:	PAGE:
3	GAS ACCUMULATION MANAGEMENT PROGRAM	33 of 42
ROCEDURE NO.:		
0-ADM-547		
	ATTACHMENT 5	
	UNIT 4	
	SI GAS ACCUMULATION MONITORING POINTS	
	(Page 1 of 6)	
GRP # - Di	ferentiates the monitoring points for a system to inside or outside containment	
•	GRP 3 - SI Outside Containment	
•	GRP 4 - SI Inside Containment.	
MONITOR referencing monitoring	POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows of the points being monitored to the correspondence documenting the initial evaluation and justifyin these points.	cross
VENT VAL have design system in a	/E - The valve located at the high point to be used to remove air/void at that point. Those that do n nated vents will have the void removed using some other method. Normally this will be to operate t test mode and purge the void.	ot he
Acceptance	e Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value.	
Acceptance evaluation	e Criteria assumes only one location is voided. If multiple voids are found, then additional Engineeri vill be required.	ng

-

REVISIO	N NO.:	PROCED	OURE TITLE:		<u> </u>			PAGE:
	3			GAS AC	CUMULATION MANAGEME	ENT PROGRAM		34 of 42
PROCEE	OURE NO.:							
. 0	-ADM-547					N I	<u>.</u> .	
			<u>SI G</u>	AS ACCU	ATTACHMENT 5 <u>UNIT 4</u> MULATION MONITOR (Page 2 of 6)	<u>ING POINTS</u>		
GRP #	MONITOR POINT	Vienii Walve	ISO DRAWING #	PIPE SIZE 8, SCHI	A COCATION & LOCATION & LOCATION & LOCATION	ACCEPTANCE CRITERIA (1/2 ARC)/ Technical Specification	PROCEDURE TO VENT/PURGE	PROCEDURE TO VENT ROST MAINTENANCE
3	P-27	4-1493A	5614-M-3062 Sh 2 5614-P-783-S Sh 2	2"	Pipe & Valve Room 3" from Vent Valve 4-1493 Elev = 28'-6"	1.11 in 1-1/8" T.S.3.0.3	0-OSP-202.3	0-OSP-202.3
3	P-28	4-1494A	5614-M-3062 Sh 2 5614-P-783-S Sh 2	2"	Pipe & Valve Room 3" from Vent Valve 4-1494 Elev = 28'-6"	1.05 in 1-1/32" T.S.3.0.3	0-OSP-202.3	0-OSP-202.3
3	P-29	4-1492A	5614-M-3062 Sh 2 5614-P-783-S Sh 3	2"	Pipe & Valve Room 3" from Vent Valve 4-1492 Elev = 31'-0"	0.95 in 15/16" * T.S.3.0.3	0-OSP-202.3	0-OSP-202.3
*	If P-27 and P-	28 are dete	ermined to be full water	, then the ac	ceptance criteria for P-29 is	11/4" (1.25") half are	c length.	· · · · · · · · · · · · · · · · · · ·

•

REVISIO	DN NO.:	PROCE	OURE TITLE:						PAGE:
PROOF	3	4		GAS AC	CUMULATION MANAGEME	NT PROGRAM			35 of 42
	-ADM-547				TURKEY POINT PLAN	т			
			<u>SI G</u>	AS ACCU	ATTACHMENT 5 <u>UNIT 4</u> MULATION MONITORI (Page 3 of 6)	NG POINTS			
GRP #	MONITOR POINT	VENT VALVE	ISO DRAWING #	PIPE SIZE & SGH	OUTSIDE CONTAINMENT LOCATION & IELEVATION	AGGEPTANGE GRITIERIA (11/2 ARG)/ Technical Specification	PROGEDURE TO VENTIFIEUROE	PRO Vie MAI	Gedure To Int Post Intenange
3	P-56	4-942J	5614-M-3062 Sh 2 5614-P-572-S Sh 4	4" Sch =80S	3" from the Vent Valve 4-942J Elev = 20'-9-3/8"	2.73 in 2-11/16'' T.S.3.0.3	0-OSP-202.3	0-0	DSP-202.3
3	P-58	4-947D 4-947C	5614-M-3062 Sh 2 5614-P-572-S Sh 3	4" Sch =80S	3" from Vent Valve 4-947C Elev = 33'-9"	2.17 in 2-5/32" T.S.3.0.3	0-OSP-202.3	0-0	DSP-202.3
3	P-59	4-947A 4-947B	5614-M-3062 Sh 1 5614-P-572-S Sh 1	3" Sch =80S	3" from Vent Valve 4-947A Elev = 33'-9"	1.58 in 1-1/2" T.S.3.0.3	0-OSP-202.3	0-0	DSP-202.3
NOTE	1: Location P-4	1 is comm	on to the suctions of b	oth HHSI and	d CS. Purging for either syste	em will eliminate the	void for both.		
3	P-41 NOTE 1	NONE	5614-M-3062 Sh 1 5614-P-502-S Sh 3	16"	Downstream of MOV-4-864B on the opposite side of the Elbow Elev. = 19'-0"	3.43 in 3-7/16" T.S.3.0.3	0-OSP-202.3	0-0	DSP-202.3

. .

REVISION	N NO.:	PROCED	URE TITLE:					PAGE:
ROCEDI	3	_		GAS AC	CUMULATION MANAGEME	NT PROGRAM		36 of 42
0-	ADM-547				TURKEY POINT PLAN	т		
			<u>SI G</u>	<u>AS ACCU</u>	ATTACHMENT 5 <u>UNIT 4</u> MULATION MONITORI (Page 4 of 6)	NG POINTS		
					OUTISIDE CONTAINMENT			
GRP- #	MONITOR POINT	MANT Walwe	ISO DRAWING #	RIPA Size & Soh	LOCATION & ELEVATION	ACCEPTIANCE CRITERIA (1/2 ARC)/ Technicel Specification	PROCEDURE 170 VENT/PURGE	PROGEDURE TO VENT POST MAINTENANGE
	三日 中国行				the second s			
NOTE : to cons	2: Pump Casir sider the Pump	ng Water So Casing Wat	olid is determined by v er Solid.	water in the v	vent line which is the highpoir	nt. The vent line ma	y have air but must ha	we some water prese
NOTE : to cons 3	2: Pump Casir sider the Pump P-75	ng Water So Casing Wat 4-944E	blid is determined by v er Solid. 5614-M-3062 Sh 1 5614-M-3062 Sh. 1	water in the v 3/4"	vent line which is the highpoir 4A HHSI Pump Vent	Pump Casing Water Solid NOTE 2 T.S.3.5.2	y have air but must ha	0-OSP-202.3
NOTE : to cons 3 3	2: Pump Casir sider the Pump P-75 P-76	4-944E 4-944F	blid is determined by v er Solid. 5614-M-3062 Sh 1 5614-M-3062 Sh. 1 5614-M-3062 Sh 1 5614-M-3062 Sh 1 5614-M-3062 Sh. 1	3/4"	AA HHSI Pump Vent	Pump Casing Water Solid NOTE 2 T.S.3.5.2 Pump Casing Water Solid NOTE 2 T.S.3.5.2	0-OSP-202.3	0-OSP-202.3 0-OSP-202.3

•

REVISI	ON NO.:	PROCED	URE TITLE:						PAGE:
	3			GAS AC	CUMULATION MANAGEME	NT PROGRAM			37 of 42
PROCE	EDURE NO.:	1		0/10/10					57 01 42
1	0-ADM-547				TURKEY POINT PLAN	IT			
			<u>SI G</u>	AS ACCU	ATTACHMENT 5 <u>UNIT 4</u> MULATION MONITORI (Page 5 of 6)	NG POINTS			
				di de Arge	<u>OUTSIDE CONTAINMENT</u> I	ACCEPTIANCE			
GRP #	MONITOR	VIENT VIALVIE	ISO PRAVING #	PIPE SIZE & SCH	LOCATION & ELEVATION	GRITERIA (1/12 ARG)/ Teomici Specification	PROGEDURE TO VENT/PURGE	pro Ve Mai	Gedure 170 Inf Post NTENANCE
NOT to co	E 2: Pump Casing nsider the Pump C	Water S asing Wa	olid is determined by w ter Solid.	vater in the	vent line which is the highpoir	nt. The vent line ma	y have air but must ha	ave some	e water present
3	P78	4-944H	5614-M-3062 Sh 1 5614-M-3062 Sh. 1	3/4"	4B HHSI Pump Vent	Pump Casing Water Solid NOTE 2 T.S.3.5.2	0-OSP-202.3 At least every 31 days.	0-0	OSP-202.3
							· · ·		

	N NO.:	PROCED	URE TITLE:					PAGE:
	3			GAS A	CCUMULATION MANAGEME	NT PROGRAM		38
PROCED	OURE NO.:							
0	-ADM-547				TURKEY POINT PLAN	Τ		
			<u>SI G</u>	<u>AS ACC</u>	ATTACHMENT 5 <u>UNIT 4</u> UMULATION MONITORI (Page 6 of 6)	NG POINTS		
GRP #	MONITOR POINT	VENIT VALVE	ISO DRAWING #	PIPE SIZE & SCH	INSIDE CONTAINMENT	ACCEPTANCE GRITERIA (W2 ARC)) Technical Specification	PROGEDURE TO VENT/PURGE	PROCEDU VENT PO MAINTEN/
4	P26	4-941B-A	5614-M-3062 Sh 1 5614-P-571-S Sh. 1	3"	On horiz. pipe, next to support 4-SIH-35 Elev. = 26'-0''	0.0 in N/A	0-OSP-202.3	0-OSP-20
4	P60	4-941B-A	5614-M-3062 Sh 1 5614-P-571-S Sh. 1	3"	Between MOV-4-869 & Elbow Elev = 19'-0''	2.74 in T.S.3.0.3	0-OSP-202.3	0-OSP-20
4	P-224	4-941B-A	5614-M-3062 Sh 1 5614-P-792-S Sh 1	2" Sch =160	Upstream of valve 4-941B Elev = 26'-10"	0.75" N/A	0-OSP-202.3	0-OSP-20

3 GAS ACCUMULATION MANAGEMENT PROGRAM 36 PROCEEDURE NO:: UNIX 4 TURKEY POINT PLANT ATTACHMENT 6 UNIT 4 ATTACHMENT 6 UNIT 4 CS GAS ACCUMULATION MONITORING POINTS (Page 1 of 3) GRP # - Differentiates the monitoring points for a system to inside or outside containment. .	GE:
Indecedure No: 0.4DM-547 TURKEY POINT PLANT ATTACHMENT 6 UNIT 4 CS GAS ACCUMULATION MONITORING POINTS (Page 1 of 3) GRP # - Differentiates the monitoring points for a system to inside or outside containment. . GRP 5 - CS Outside Containment . GRP 6 - CS Inside Containment . GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	39 of 42
O-ADM-547 TURKEY POINT PLANT ATTACHMENT 6 UNIT 4 CS GAS ACCUMULATION MONITORING POINTS (Page 1 of 3) GRP # - Differentiates the monitoring points for a system to inside or outside containment. . GRP 5 - CS Outside Containment . GRP 6 - CS Inside Containment . GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	
ATTACHMENT 6 UNIT 4 CAGA ACCUMULATION MONITORING POINTS. (Page 1 of 3) GRP # - Differentiates the monitoring points for a system to inside or outside containment. . GRP 5 - CS Outside Containment . GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	
Unit 4 CS GAS ACCUMULATION MONITORING POINTS (Page 1 of 3) GRP # - Differentiates the monitoring points for a system to inside or outside containment. . GRP 5 - CS Outside Containment . GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	
CS GAS ACCUMULATION MONITORING POINTS (Page 1 of 3) GRP # - Differentiates the monitoring points for a system to inside or outside containment. . GRP 5 - CS Outside Containment . GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	
 GRP # - Differentiates the monitoring points for a system to inside or outside containment. GRP 5 - CS Outside Containment GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required. 	
 GRP # - Differentiates the monitoring points for a system to inside or outside containment. GRP 5 - CS Outside Containment GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	
 GRP # - Differentiates the monitoring points for a system to inside or outside containment. GRP 5 - CS Outside Containment GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required. 	
 GRP 5 - CS Outside Containment GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required. 	
 GRP 6 - CS Inside Containment MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required. 	
 MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows cross referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required. 	
 MONITOR POINT - The point number assigned by the initial investigation of PTN for GL 2008-01. This allows closs referencing of the points being monitored to the correspondence documenting the initial evaluation and justifying monitoring these points. VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required. 	
VENT VALVE - The valve located at the high point to be used to remove air/void at that point. Those that do not have designated vents will have the void removed using some other method. Normally this will be to operate the system in a test mode and purge the void. Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	
Acceptance Criteria is met when the measured 1/2 Arc length (column 7) is less than the specified value. Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	
Acceptance Criteria assumes only one location is voided. If multiple voids are found, then additional Engineering evaluation will be required.	
st.	

REVISIO	N NO.:	PROCED	OURE TITLE:					PAGE:			
PROCE	3	_	GAS ACCUMULATION MANAGEMENT PROGRAM								
0	-ADM-547				TURKEY POINT PLAN	г					
			<u>cs c</u>	SAS ACC	ATTACHMENT 6 <u>UNIT 4</u> CUMULATION MONITORI (Page 2 of 3)	<u>NG POINTS</u>					
GRP #	MONITIOR POINT	YIENT MENT SVALVE	ISO DRAWING #	PIPE SIZE & SGH	OUTSIDE CONTRAINMENT	ACCEPTIANCE GRITERIA (11/2 ARC)) Technical Specification	PROGEDURE TO MENTIPURGE	PROGEDURE 170 VIENT POST MAINTENANGE			
NOTE	1: Location P-	41 is comm	on to the suctions of b	oth HHSI a	and CS. Purging for either syste	m will eliminate the	void for both.	· · · · · · · · · · · · · · · · · · ·			
5	P-41 NOTE 1	NONE	5614-M-3062 Sh 1 5614-P-502-S Sh 3	16"	Downstream of MOV-4-864B on the opposite side of the Elbow Elev. = 19'-0"	3.43 in 3-7/16" T.S.3.03	4-NOP-068 or 4-OSP-068.2	4-NOP-068 or 4-OSP-068.2			
5	P42	NONE	5614-M-3068 Sh 1 5614-P-502-S Sh 1	8"	Upstream of MOV-4-844A Elev = 20'	2.74 in 2-3/4" T.S.3.6.2.1	4-NOP-068 or 4-OSP-068.2	4-NOP-068 or 4-OSP-068.2			
5	P43	4-896U	5614-M-3068 Sh 1 5614-P-502-S Sh 1 5614-P-5039	8"	Downstream of Valve 4-844B just before the reducer Elev = 20'	2.76 in 2-3/4" T.S.3.6.2.1	4-NOP-068 or 4-OSP-068.2	4-NOP-068 or 4-OSP-068.2			

.

REVISIO	N NO.:	PROCED	OURE TITLE:			· · ·			PAGE:
	3	4		GAS A	CCUMULATION MANAGEME	NT PROGRAM			41 of 42
0.00	-ADM-547				TURKEY POINT PLAN	т			
			<u>CS 0</u>	SAS ACC	ATTACHMENT 6 <u>UNIT 4</u> UMULATION MONITOR (Page 3 of 3)	ING POINTS			
				1	INSIDE CONTAINMENT				
GRP #	Monitior Point	VIENT VALVIE	ISO DRAWING #	PIPE SIZE & SCH	LOCATION & ELEVATION	ACCEPTIANCE CRITERIA (W2 ARC)) TCOMICEI Specification	PROGEDURE TO VENT/PURGE	PROC VE MAIN	EDURE TO NT POST ITENANGE
6	NONE								
·									

