# **Beaver Valley Power Station**

# **Unit 1/2**

#### 1/2-ODC-3.03

#### **ODCM:** Controls for RETS and REMP Programs

#### <u>Document Owner</u> Manager, Nuclear Environmental and Chemistry

Revision Number	17
Level Of Use	General Skill Reference
Safety Related Procedure	Yes
Effective Date	07/17/19

Beave	er Valley Power	Station	Procedure Nur 1	nber: $\frac{1}{2}$
Title:	<b>/</b>	• · · · ·	Unit:	Level Of Use:
			1/2	General Skill Reference
ODCM: Controls for	<b>RETS and REMP Prog</b>	rams	Revision:	Page Number:
			17	<u>2 of 83</u>
	TABI	E OF CONTENTS		
				-
1.0 PURPOSE			•••••	
2.0 SCOPE			••••••	
3.0 REFERENCES	S AND COMMITMENT	[S	•••••	4
3.1 Referenc	es		••••••	4
3.2 Commitr	nents		•••••	
4.0 RECORDS AN	ID FORMS		••••••	9
4.1 Records.			•••••	9
4.2 Forms			•••••	9
5.0 PRECAUTION	IS AND LIMITATION	S		9
6.0 ACCEPTANCI	E CRITERIA		•••••	9
7.0 PREREQUISIT	TES		•••••••••••••	
8.0 PROCEDURE.			•••••	
ATTACHMENT A	ODCM CONTROLS:	OPERATIONAL MODE	S AND FR	EQUENCY
	NOTATION			
ATTACHMENT B	ODCM CONTROLS:	DEFINITIONS		
ATTACHMENT C	ODCM CONTROLS:	APPLICABILITY AND S	SURVEILI	LANCE
	REQUIREMENTS			
ATTACHMENT D	ODCM CONTROLS:	<b>RADIATION MONITOR</b>	ING INST	<b>RUMENTATION 20</b>
ATTACHMENT E	ODCM CONTROLS:	<b>RETS INSTRUMENTAT</b>	ION FOR	LIQUID
	EFFLUENTS			
ATTACHMENT F	ODCM CONTROLS:	<b>RETS INSTRUMENT FO</b>	OR GASEC	OUS RELEASES38
ATTACHMENT G	ODCM CONTROLS:	LIQUID EFFLUENT CO	NCENTRA	ATION 51
ATTACHMENT H	ODCM CONTROLS:	LIQUID EFFLUENT DO	SE	
ATTACHMENT I	ODCM CONTROLS:	LIQUID RADWASTE TI	REATMEN	NT SYSTEM 57
ATTACHMENT J	ODCM CONTROLS:	LIQUID HOLDUP TANK	۲S <sup>.</sup>	
ATTACHMENT K	ODCM CONTROLS:	GASEOUS EFFLUENT	DOSE RAT	ГЕ59
ATTACHMENT L	<b>ODCM CONTROLS:</b>	DOSE- NOBLE GASES.		
ATTACHMENT M	ODCM CONTROLS:	DOSE - RADIOIODINES	S AND PA	RTICULATES65
ATTACHMENT N	ODCM CONTROLS:	GASEOUS RADWASTE	TREATM	IENT SYSTEM 66
ATTACHMENT O	ODCM CONTROLS:	GAS STORAGE TANKS		
ATTACHMENT P	<b>ODCM CONTROLS:</b>	TOTAL DOSE		
ATTACHMENT Q	ODCM CONTROLS:	<b>REMP-PROGRAM REO</b>	UIREMEN	ITS 69
ATTACHMENT R	ODCM CONTROLS:	REMP - LAND USE CEN	ISUS	
ATTACHMENT S	ODCM CONTROLS:	REMP - INTERLABORA	TORY CO	OMPARISON
	PROGRAM			
ATTACHMENT T	ODCM CONTROLS:	ANNUAL REMP REPOR	<b>λ</b> ΤΤ	
ATTACHMENT U	ODCM CONTROLS:	ANNUAL RETS REPOR	TS	

Beaver Valley Power Station Procedur		umber: 1/2-ODC-3.03
Title:	Unit: 1/2	Level Of Use: General Skill Reference
ODCM: Controls for RETS and REMP Programs	Revision: 17	Page Number: 3 of 83

#### 1.0 <u>PURPOSE</u>

- 1.1 This procedure includes selected Definitions and Tables as delineated in Section 1 of the Technical Specifications and selected Applicability and Surveillance Requirement statements as delineated in T.S. 3.0.
  - 1.1.1 Prior to issuance of this procedure, these items were located in Appendix C of the old ODCM, and were added to this procedure for reference purposes, even though they are currently described in the Technical Specifications.
- 1.2 This procedure contains the controls for the Radiological Effluent Technical Specification (RETS) that were transferred from the Technical Specifications per Unit 1/2 Amendments 1A-188/2A-70, and in accordance with Generic Letter 89-01 and NUREG-1301.<sup>(3.2.10)</sup>
  - 1.2.1 Prior to issuance of this procedure, these items were located in Appendix C of the old ODCM.
- 1.3 This procedure contains the reporting requirements for the Radioactive Effluent Release Report and the Annual Radiological Environmental Operating Report that were transferred from the Technical Specifications per Unit 1/2 Amendments 1A-188/2A-70 and in accordance with Generic Letter 89-01 and NUREG-1301. <sup>(3.2.10)</sup>
  - 1.3.1 Prior to issuance of this procedure, these items were located in Appendix E of the old ODCM.
- 1.4 This procedure contains the controls for Radiation Monitoring Instrumentation that were transferred from the Technical Specification per Unit 1/2 Amendments 246/124, and in accordance with NUREG-1431. <sup>(3.2.11)</sup>
- 1.5 This procedure contains the controls for Liquid Holdup Tank Activity Limits and for Gas Decay/Storage Tank Activity Limits that were transferred from the Technical Specification per Unit 1/2 Amendment 250/130, and in accordance with NUREG-1431.<sup>(3.1.6, 3.2.11)</sup>
- 1.6 This procedure provides the Radiological Effluent Controls and Reporting Requirements required for T.S. 5.5.1, T.S. 5.5.2, T.S. 5.5.8, T.S. 5.6.1, and T.S. 5.6.2.

#### 2.0 <u>SCOPE</u>

2.1 This procedure is applicable to all station personnel that are qualified to perform activities as described and referenced in this procedure.

	Beaver Valley Power Station	Procedure Nur 1	nber: /2-ODC-3 03
Title:	<b>/</b>	Unit:	Level Of Use: General Skill Reference
ODCM: C	ontrols for RETS and REMP Programs	Revision: 17	Page Number: 4 of 83
3.0 <u>RF</u>	FERENCES AND COMMITMENTS		
3.1 <u>Re</u>	ferences		
3.1.1	1/2-ODC-2.01, ODCM: Liquid Effluents		
3.1.2	1/2-ODC-2.02, ODCM: Gaseous Effluents		
3.1.3	1/2-ODC-3.02, ODCM: Bases for ODCM Controls		
3.1.4	Unit 1/2 Technical Specification 6.8.6, including Amendme (LAR 1A-175/2A-137) Implemented August 7, 1995.	ents 188/70	
3.1.5	Unit 1/2 Technical Specification 3.3.3.1, including Amendr (LAR 1A-287/2A-159) Implemented April 11, 2002	ments 246/1	124
3.1.6	Unit 1/2 Technical Specification 3.11.1.4, 3.11.2.5, 6.8.6 an Amendments 250/130 (LAR 1A-291/2A-163) Implemented	nd 6.9.3, in I August 7,	cluding 2002
3.1.7	1/2-ADM-1640, Control of the Offsite Dose Calculation M	anual	
3.1.8	1/2-ADM-0100, Procedure Writer's Guide		
3.1.9	NOP-SS-3001, Procedure Review and Approval		
3.1.10	CR 981489, ODCM Table 4.11-2 Row A (Waste Gas Stora Revise Appendix C of the ODCM (Table 4.11-2) to add cla when tritium samples are to be obtained for GWST dischar	ge Tank D rification a ges.	ischarge). CA-01, s to where and
3.1.11	CR 981490, ODCM Table 4.11-2 Note e, and Related Cher Procedures. CA-01, Revise Appendix C of the ODCM (Ta the proper tritium sample point.	nistry Depa ble 4.11-2,	artment note e) to specify
3.1.12	CR 993021, Apparent failure to test RM-1DA-100 trip function No ODCM changes are required for this CR.	ction as req	uired by ODCM.
3.1.13 CR 001682, ODCM Action 28 Guidance. CA-02, Revise Appendix C of the ODCM (Table 3.3-13, Action 28) to differentiate actions associated with Inoperable Process Flow Rate Monitors vs. Sample Flow Rate Monitors.			of the ODCM erable Process
3.1.14	3.1.14 CR 02-05711, TS and ODCM changes not reflected in 10M.54.3.L5 Surveillance Log. CA-01, Revise 1/2-ODC-3.03 to add a requirement for applicable station groups notification of pending ODCM changes.		
3.1.15	CR 03-06123, Enhance Table 3.3-6 of 1/2-ODC-3.03 to Ac of Monitoring. CA-01, Revise Table 3.3-6 and Table 4.3-3 SPING Channel 5 as an additional 2 <sup>nd</sup> PMM when the Unit Gas Effluent Monitors are Inoperable.	ld More Pre to allow us 1 Mid or H	eplanned Method se of Eberline High Range Noble

Beaver Valley Power Station		Procedure Nu	mber: 1/2_ODC_3_03
Title:		Unit: 1/2	Level Of Use: General Skill Reference
ODCM: C	Controls for RETS and REMP Programs	Revision:	Page Number: 5 of 83
3.1.16 CR 03-06281, Gaseous Tritium Sampling Required by ODCM (1/2-ODC-3.03) Unclear for Chemistry. CA-01, Revise procedure Attachment K Table 4.11-2 for RP & Chemistry sampling of Gaseous Effluent Pathways to show which effluent pathways need sampled for compliance to ODCM Control 3.11.2.1 requirements.			DC-3.03) Unclear for RP & luent pathways s.
<ul> <li>3.1.17 CR 03-07487, Results of NQA Assessment of the Radiological Effluents Program.</li> <li>CA-01, Revise Calculation Package No. ERS-ATL-95-007 to clarify the term "Surface Water Supply" per guidance presented in NUREG-0800 SRP 15.7.3. CA-05, Revise 1/2-ODC3.03 Control 3.11.1.4 to update the activity limits for the outside storage tanks.</li> </ul>			nts Program. he term "Surface CA-05, Revise side storage tanks.
3.1.18 CR 03-07668, Benchmark Effluent & Environmental Programs VS Papers Presented at 13 <sup>th</sup> REMP/RETS Workshop. CA-01, Evaluate procedure Attachment K Table 4.11-2 to			apers Presented at t K Table 4.11-2 to

3.1.19 CR 03-09288, LAR 1A-321 & 2A-193, Increased Flexibility in Mode Restraints. CA-19, Review LAR 1A-321/2A-193 to identify the affected Rad Effluent procedures, programs, manuals, and applicable plant modification documents that will need to be revised to support implementing the LAR.

reduce the amount of Effluent Samples obtained during a power transient.

- 3.1.20 CR 03-09959, RFA-Rad Protection Provide Clarification to ODCM 1/Day Air Tritium Sample. CA-01, Revise ODCM procedure 1/2-ODC-3.03 Attachment K (Table 4.11-2 note c & note e) to allow sampling of the appropriate building atmosphere.
- 3.1.21 CR 03-11726, Typographical Error Found in ODCM 3.11.2.5. CA-01, Revise ODCM procedure 1/2-ODC-3.03, Attachment O, Control 3.11.2.5 to correct a typographical error. Specifically, the final word in Action (a) needs changed from "nad" to "and".
- 3.1.22 CR 04-01643, Procedure Correction Typographical Error in the ODCM. CA-01, Revise ODCM procedure 1/2-ODC-3.03, Attachment F, (Table 3.3-13 and 4.3-13) to correct a typographical error. Specifically, the Asset Number for the Vacuum Gauge used for measurement of sample flow (from the Alternate Sampling Device) needs changed from [PI-1GW-13] to [PI-1GW-135].
- 3.1.23 CR 04-02275, Discrepancies in Table 3.3-13 of the ODCM. CA-01, Revise ODCM procedure 1/2-ODC-3.03, Attachment F, (Table 3.3-13 and 4.3-13) to add clarification that the "Sampler Flow Rate Monitors are the devices used for "Particulate and Iodine Sampling".
- 3.1.24 Unit 1 Technical Specification Amendment No. 275 (LAR 1A-302) to License No. DPR-66. This amendment to the Unit 1 license was approved by the NRC on July 19, 2006.
- 3.1.25 Vendor Calculation Package No. 8700-UR(B)-223, Impact of Atmospheric Containment Conversion, Power Uprate, and Alternative Source Terms on the Alarm Setpoints for the Radiation Monitors at Unit 1.

3.1.26 Engineering Change Package No. ECP-04-0440, Extended Power Uprate.

	Beaver Valley Power Station	Procedure Nur	nber: /2-ODC-3.03	
Title:		Unit: 1/2	Level Of Use: General Skill Reference	
ODCM: C	ontrols for RETS and REMP Programs	Revision:	Page Number: 6 of 83	
3.1.27 CR 06-04908, Radiation Monitor Alarm Setpoint Discrepancies. CA-03; revise ODC procedure 1/2-ODC-3.03 to update the alarm setpoints of [RM-1VS-110] and [RM-1GW-109] for incorporation of the Extended Power Uprate per Unit 1 TS Amendment No. 275.				
3.1.28	3.1.28 Calculation Package No. ERS-MPD-93-007, BVPS-1 Gaseous Radioactivity Monitor Emergency Action Levels.			
3.1.29	SAP Order 200197646-0110: Revise ODCM procedure 1/2 1/2-HPP-3.06.001, 1/2-ENV-05.01, Form 1/2-HPP-3.06.00 Form 1/2-ENV-05.01.F05 to incorporate revised outside liq limits via Calculation Package No. ERS-ATL-95-007, R2.	ODC-3.03 1.F05 and Juid storage	, e tank activity	
3.1.30	CR 06-04944: ODCM 3.03 Attachment E conflict between Statement. CA-01; revise ODCM procedure 1/2-ODC-3.03 Applicability for tank level indicating devices is during add	Applicabil , Attachm litions to th	ity and Action ent E to clarify e tank.	
3.1.31	3.1.31 CR 05-03306: Incorporated Improved Technical Specifications. This includes transfer of programmatic controls for BV-2 Noble Gas Effluent Steam Monitors [2MSS-RQ101A], [2MSS-RQ101B] and [2MSS-RQ101C] from the Technical Specifications to ODCM procedure 1/2-ODC-3.03 (Attachment D Tables 3.3-6 and 4.3-3). This was permitted via Unit 1/2 Technical Specification Amendments No. 278/161.			
3.1.32	Unit 1 and 2 Technical Specifications: ITS 5.5.1, Offsite D	ose Calcula	ation Manual	
3.1.33	Unit 1 and 2 Technical Specifications: ITS 5.5.2, Radioacti	ve Effluen	t Controls Program	
3.1.34	Unit 1 and 2 Technical Specifications: ITS, 5.5.8, Explosiv Radioactivity Monitoring Program	e Gas and	Storage Tank	
3.1.35	Unit 1 and 2 Technical Specification: ITS 5.6.1, Annual Ra Operating Report	diological	Environmental	
3.1.36	Unit 1 and 2 Technical Specifications: ITS 5.6.2, Radioacti	ve Effluen	t Release Report	
3.1.37	SAP Order 200240681: Revise ODCM procedure 1/2-ODC Table 3.3-12) to add an alternate Action when the primary Device [FT-1CW-101-1] is not OPERABLE. The alternate measurements (as described in 1MSP-31.06-I) to determine during liquid effluent releases.	C-3.03 (Att. Flow Rate e Action (2 e a total dil	achment E Measurement 5A) uses local ution flow rate	
3.1.38	CR 07-12924 and SAP Order 200247228-0410: Revise OD (Attachment F Tables 3.3-13 and 4.3-13) to clarify the Fun Sampler Flow Rate Monitors for the BV-2 gaseous effluent Specifically, the procedure was changed to refer to Functio [2HVS-FIT101-1] instead of [2HVS-FIT101], [2RMQ-FIT [2RMQ-FIT301], [2HVL-FIT112-1] instead of [2HVL-FIT instead of [2RMQ-FIT303].	OCM proce ctional Loo t release pa nal Locatio 301-1] ins 112], and	dure 1/2-ODC-3.03 cation of the thways. on tead of [2RMQ-FIT303-1]	

Beaver Valley Power Station		Procedure Number: 1/2-ODC-3.03	
Title:	Unit: 1/2	Level Of Use: General Skill Reference	
ODCM: Controls for RETS and REMP Programs	Revision: 17	Page Number: 7 of 83	

3.1.39 SAP Order 200247228-0450: Revise 1/2-ODC-3.03 Attachment E Table 3.3-12 and Attachment F, Tables 3.3-13 & 4.3-13 to provide added clarifications, as follows; (1) add the word "or" where it is missing from Attachment F, Table 3.3-13 & 4.3-13, (2) remove grab samples from the list of alternates in Table 3.3-13 and 4.3-13, because a grab sample is an "action", not an "alternate", (3) add notations in Table 3.3-12 and 3.3-13 to indicate that Condition Report generation and reporting in the Radioactive Effluent Release Report (per Control 3.3.3.9 Action b and 3.3.3.10 Action b) do not apply when using an alternate to satisfy inoperability of the primary instrument beyond 30 days, and (4) remove surveillances for Preplanned Method of Monitoring (PMM) from Table 4.3-3, because surveillances only apply to instruments, not methods.

- 3.1.40 SAP Order 200240681-0020 and 0040: Revise 1/2-ODC-3.03 Attachment E, Table 3.3-12, Table 4.3-12 and Action 25A to clarify the 1<sup>st</sup> and 2<sup>nd</sup> alternates to the flow rate measurement devices used for the cooling tower blowdown line.
- 3.1.41 SAP Order 200197646-0300 and CR07-31083: Revise ODCM procedure 1/2-ODC-3.03 to add a definition for Channel Functional Test and revise the definition for Channel Operational Test to indicate that these definitions have the same requirements and, therefore, are considered equal.
- 3.1.42 CR G203-2011-02332, Inability to meet ODCM requirements for REMP milk sampling in 2011 and CA G203-2011-02332-1, Make changes to the ODCM.
- 3.1.43 Engineering Change Package 10-0150: Replacement of BV1 Effluent Monitoring System Components
- 3.1.44 Engineering Change Package No. 16-0026: Pump/Motor Assembly Replacement
- 3.1.45 SAP Notification 601054826: Revise reference on 1/2-HPP-4.02.009.F01
- 3.1.46 CR-2017-04211, Lack of isokinetic sampling for ODCM requirements
- 3.1.47 CR-2018-02456, Rad. Effluents Inspection Preliminary Licensee Identified Green Noncited Violation
- 3.1.48 Engineering Change Package No. 17-0378: Retirement of Radiation Monitors at Beaver Valley Unit #1
- 3.1.49 ATA-2019-3863, 1/2-ODC-3.03 Attachment D Channel Operational Testing Requirements
- 3.1.50 Engineering Change Package No. ECP-13-0829: Install Blank-Off Flanges on the Inlet and Outlet of Unit 2 Condensate Polishing System

7-17-19

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	Beaver Valley Power Station	Procedure N	<u>1/2-ODC-3.03</u>	
Title:		Unit: 1/2	Level Of Use: General Skill Reference	
ODCM: C	ontrols for RETS and REMP Programs	Revision:	Page Number: 8 of 83	
3.2 <u>Co</u>	mmitments			
3.2.1	10 CFR Part 20, Standards for Protection Against Radiation	n		
3.2.2	10 CFR Part 50, Domestic Licensing of Production and Ut	ilization Fa	acilities	
3.2.3	40 CFR Part 141			
3.2.4	40 CFR Part 190, Environmental Radiation Protection Star Operations.	ndards For	Nuclear Power	
3.2.5	Regulatory Guide 1.109, Calculation Of Annual Doses To Of Reactor Effluents For The Purpose Of Evaluating Comj Appendix I, Revision 1, October 1977	Man From pliance Wi	Routine Releases th 10 CFR Part 50,	
3.2.6	Regulatory Guide 1.111, Methods For Estimating Atmosph Dispersion Of Gaseous Effluents In Routine Releases From Reactors, Revision 1, July 1977	neric Trans n Light-Wa	port And ater-Cooled	
3.2.7	3.2.7 Regulatory Guide 1.113, Estimating Aquatic Dispersion Of Effluents From Accidental And Routine Reactor Releases For The Purpose Of Implementing Appendix I, April 1977			
3.2.8	NUREG-0133, Preparation of Radiological Effluent Techn Nuclear Power Plants, October 1978	ical Specif	fications for	
3.2.9	NUREG-0737, Clarification of TMI Action Plan Requirem	nents, Octo	ber 1980	
3.2.10 NUREG-1301, Offsite Dose Calculation Manual Guidance; Standard Radiological Effluent Controls For Pressurized Water Reactors (Generic Letter 89-01, Supplement No. 1)				
3.2.11	NUREG-1431, Standard Technical Specifications - Westin	nghouse Pla	ants Specifications	
3.2.12	3.2.12 NUREG-0800, Standard Review Plan, Postulated Radioactive Releases Due to Liquid-Containing Tank Failures, July 1981			
3.2.13	3.2.13 Licensee Response to NRC Unresolved Item 50-334/83-30-05. The Radiation Monitor Particle Distribution Evaluation showed that the Licensee must continue to use correction factors to determine particulate activity in samples obtained from the effluent release pathways.			
3.2.14	10 CFR 72.104 Criteria for Radioactive Materials in Efflue an ISFSI or MRS.	ents and D	irect Radiation from	

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Beaver Valley Power Station	Procedure Nur 1	Procedure Number: 1/2-ODC-3.03	
Title:	Unit: 1/2	Level Of Use: General Skill Reference	
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number: 9 of 83	

#### 4.0 <u>RECORDS AND FORMS</u>

#### 4.1 <u>Records</u>

4.1.1 Any calculation supporting ODCM changes shall be documented, as appropriate, by a retrievable document (e.g.; letter or calculation package) with an appropriate RTL number.

#### 4.2 <u>Forms</u>

4.2.1 None.

### 5.0 PRECAUTIONS AND LIMITATIONS

- 5.1 The numbering of each specific ODCM Control, ODCM Surveillance Requirement and ODCM Table contained in this procedure does not appear to be sequential. This is intentional, as all ODCM Control, ODCM Surveillance Requirement and ODCM Table numbers remained the same when they were transferred from the Technical Specifications. This was done in an effort to minimize the amount of plant procedure changes and to eliminate any confusion associated with numbering changes.
- 5.2 The numbering of each specific ODCM Report contained in this procedure does not appear to be sequential. This is intentional, as all ODCM Report numbers remained the same when they were transferred from the Technical Specifications. This was done in an effort to minimize the amount of plant procedure changes and to eliminate any confusion associated with numbering changes.

#### 6.0 ACCEPTANCE CRITERIA

- 6.1 Any change to this procedure shall contain sufficient justification that the change will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, 10 CFR 72.104 and Appendix I to 10 CFR 50, and not adversely impact the accuracy or reliability of effluent dose or setpoint calculation.<sup>(3.2.10)</sup>
  - 6.1.1 All changes to this procedure shall be prepared in accordance with 1/2-ADM-0100<sup>(3.1.8)</sup> and 1/2-ADM-1640.<sup>(3.1.7)</sup>
  - 6.1.2 Pending changes to this procedure shall be provided to applicable station groups. For example, <u>IF</u> Control 3.11.1.1 is being changed, <u>THEN</u> the proposed changes shall be provided to the applicable station groups (i.e.; owner of the procedures), identified in the MATRIX of ODCM procedure 1/2-ODC-1.01. This will allow the station groups to revise any affected procedures concurrent with the ODCM change.<sup>(3.1.14)</sup>
  - 6.1.3 All changes to this procedure shall be reviewed and approved in accordance with NOP-SS-3001 <sup>(3.1.9)</sup> and 1/2-ADM-1640.<sup>(3.1.7)</sup>

Beaver Valley Power Station		Procedure Number: 1/2-ODC-3.03	
Title:	Unit: 1/2	Level Of Use: General Skill Reference	
ODCM: Controls for RETS and REMP Programs	Revision: 17	Page Number: 10 of 83	

#### 7.0 **PREREQUISITES**

7.1 The user of this procedure shall be familiar with ODCM structure and content.

#### 8.0 <u>PROCEDURE</u>

- 8.1 See ATTACHMENT A for a Table of Operational Modes and a Table of Frequency Notation.
- 8.2 See ATTACHMENT B for a list of defined terms used throughout the ODCM.
- 8.3 See ATTACHMENT C thru ATTACHMENT S for a complete description of all ODCM Controls.
- 8.4 See ATTACHMENT T for a description of the Annual Report required by the REMP Controls.
- 8.5 See ATTACHMENT U for a description of the Annual Report required by the RETS Controls.

- END -

Beaver Valley Power Station		Pr	rocedure N	lumber: 1/2-ODC-3.03	
Title:	<u> </u>		Ur	nit:	Level Of Use:
ODCM: Controls for RETS and REMP Programs					Page Number: 11 of 83
ATTACHMENT A Page 1 of 2 ODCM CONTROLS: OPERATIONAL MODES AND FREQUENCY NOTATION					
		<u>TABLE 1.1</u>			
·		MODES			
MODE	TITLE	REACTIVITY CONDITION (keff)	% RATED THERMAJ POWER <sup>(a</sup>	) L 9	AVERAGE REACTOR COOLANT TEMPERATURE (°F)
. 1	Power Operation	≥ 0.99	> 5		NA
2	Startup	≥ 0.99	≤ 5		NA
3	Hot Standby	< 0.99	NA		≥ 350
4	Hot Shutdown <sup>(b)</sup>	< 0.99	NA		$350 > T_{avg} > 200$
5	Cold Shutdown <sup>(b)</sup>	< 0.99	NA		≤ 200
6	Refueling <sup>(c)</sup>	NA	NA		NA

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(a) Excluding decay heat.
(b) All reactor vessel head closure bolts fully tensioned.
(c) One or more reactor vessel head closure bolts less than fully tensioned.

Beaver Valley I	Power Station	Procedure Nun 1	nber: /2-ODC-3.03
Title:		Unit: 1/2.	Level Of Use: General Skill Reference
ODCM: Controls for RETS and REI	MP Programs	Revision: 17	Page Number: 12 of 83
ODCM CONTROLS: OPP	UENCY N	IOTATION	
	TABLE 1.2		
	FREQUENCY NOTATION		
NOTATION	FREQUENCY		
S	At least once per 12 hours		
D	At least once per 24 hours		
W	At least once per 7 days		
М	At least once per 31 days		
Q	At least once per 92 days		
SA	At least once per 184 days		
R	At least once per 18 months		
s/U	Prior to each reactor startup		
Р	Completed prior to each release		
N.A.	Not applicable		

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Beaver Valley Power Station	Procedure Nu	umber: 1/2-ODC-3.03				
Title:	Unit: 1/2	Level Of Use: General Skill Reference				
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number:				
ATTACHMENT B Page 1 of 3 ODCM CONTROLS: DEFINITIONS	/	1.50185				
The defined terms of this section appear in capitalized type and are applicable throughout these CONTROLS.						
<u>ACTION</u> shall be those additional requirements specified as corollary s CONTROL and shall be part of the CONTROLS.	statements	to each principal				
<u>CHANNEL CALIBRATION</u> shall be the adjustment, as necessary, of tresponds with the necessary range and accuracy to known values of the monitors. The CHANNEL CALIBRATION shall encompass the entire and alarm and/or trip functions, and shall include the CHANNEL OPEI CHANNEL CALIBRATION may be performed by any series of seque channel steps such that the entire channel is calibrated.	he channe parameter channel i RATIONA ntial, over	l output such that it which the channel ncluding the sensor L TEST. The lapping, or total				
<u>CHANNEL CHECK</u> shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.						
<u>CHANNEL FUNCTIONAL TEST</u> shall be the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY including alarm and/or trip functions. <b>SINCE</b> these requirements are the same as those shown for <u>CHANNEL OPERATIONAL TEST</u> , <b>THEN</b> these definitions are considered equivalent.						
<u>CHANNEL OPERATIONAL TEST</u> shall be the injection of a simulate to the primary sensor as practicable to verify OPERABILITY including <b>SINCE</b> these requirements are the same as those shown for <u>CHANNEE</u> these definitions are considered equivalent.	d signal in alarm and <u>FUNCTI</u>	to the channel as close l/or trip functions. <u>ONAL TEST</u> , <b>THEN</b>				
<u>FREQUENCY NOTATION</u> specified for the performance of Surveillar correspond to the intervals defined in Table 1.2.	nce Requir	ements shall				
<u>GASEOUS RADWASTE TREATMENT SYSTEM</u> is any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.						
MEMBER(S) OF THE PUBLIC (10 CFR 20 and/or 10 CFR 50) means individual is receiving an occupational dose. This definition is used to CONTROL 3.11.1.1, 3.11.1.4, 3.11.2.1 and 3.11.2.5 that are based on definition is also used to show compliance to ODCM Controls 3.11.1 and 3.11.2.4 that are based on 10 CFR Part 50.	any indivi show com n 10 CFR l.2, 3.11.1	idual except when that npliance to ODCM Part 20. This .3, 3.11.2.2, 3.11.2.3				

Beaver Valley Power Station		Procedure Number: 1/2-ODC-3.03		
Title:	Unit: 1/2	Level Of Use: General Skill Reference		
ODCM: Controls for RETS and REMP Programs	Revision: 17	Page Number: 14 of 83		

#### ATTACHMENT B Page 2 of 3 ODCM CONTROLS: DEFINITIONS

<u>MEMBER(S) OF THE PUBLIC (40 CFR 190)</u> means any individual that can receive a radiation dose in the general **environment**, whether he may or may not also be exposed to radiation in an occupation associated with a nuclear fuel cycle. However, an individual is not considered a MEMBER OF THE PUBLIC during any period in which he is engaged in carrying out any operation which is part of the nuclear fuel cycle. This definition is used to show compliance to an ODCM CONTROL 3.11.4.1 that is based on 40 CFR Part 190.

<u>OFFSITE DOSE CALCULATION MANUAL</u> (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents (which is considered to include the onsite Independent Spent Fuel Storage Installation (ISFSI)), in the calculation of gaseous and liquid effluent monitoring Alarm/Trip Setpoints, and in the conduct of the Environmental Radiological Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by T.S. 5.5.2 and (2) descriptions of the information that should be included in the Radiological Environmental Operating and Annual Radioactive Effluent Release Reports that are also required by T.S. 5.6.1 and T.S. 5.6.2.

<u>OPERABLE/OPERABILITY</u> A system, subsystem, train, component, or device shall be <u>OPERABLE</u> or have <u>OPERABILITY</u> when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electric power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related safety function(s).

<u>MODE</u> shall correspond to any one inclusive combination of core reactivity condition, power level, and average reactor coolant temperature specified in ATTACHMENT A Table 1.1.

<u>PURGE</u> or <u>PURGING</u> is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration, or other operating conditions, in such a manner that replacement air or gas is required to purify the confinement.

<u>RATED THERMAL POWER</u> shall be a total reactor core heat transfer rate to the reactor coolant of 2900 MWt.

<u>REPORTABLE EVENT</u> shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

<u>SHUTDOWN</u> means reactor power change to 0% power.

<u>SITE BOUNDARY</u> shall be that line beyond which the land is neither owned, nor leased, nor otherwise controlled by the licensee. The Figure for Liquid Effluent Site Boundary is contained in 1/2-ODC-2.01. The Figure for Gaseous Effluent Site Boundary is contained in 1/2-ODC-2.02.

STARTUP means reactor power change from 0% power.

<u>SOURCE CHECK</u> shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

Beaver Valley Power Station	Procedure Number: 1/2-ODC-3.03		
Title:	Unit: 1/2	Level Of Use: General Skill Reference	
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number: 15 of 83	

#### ATTACHMENT B Page 3 of 3 ODCM CONTROLS: DEFINITIONS

THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

<u>UNRESTRICTED AREA</u> means any area access to which is neither limited nor controlled by the licensee.

<u>VENTILATION EXHAUST TREATMENT SYSTEM</u> is any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal absorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment (such a system is not considered to have any effect on noble gas effluents). Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

<u>VENTING</u> is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating conditions, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

	Beaver Valley Power Station	Procedure N	umber:						
Title	Beaver valley rower Station	Linit:	1/2-ODC-3.03						
The.	•	1/2	General Skill Reference						
ODCM	1: Controls for RETS and REMP Programs	Revision:	Page Number:						
	ATTACHMENT C Page 1 of 4 ODCM CONTROLS: APPLICABILITY AND SURVEILLANCE REQUIREMENTS								
CONT	TROLS: APPLICABILITY								
3.0.1	ODCM CONTROLS shall be met during the MODES or other Applicability; except as provided in ODCM CONTROL 3.0.2	conditions	specified in the						
3.02	Upon discovery of a failure to meet the ODCM CONTROL, the requirements shall be met, except as provided in ODCM CONTROL is met or no longer applicable prior to expiration of completion of the ODCM ACTION requirements is not require	e associate FROL 3.0.: f the specified unless of	d ODCM ACTION 5. If the ODCM fied time intervals, therwise stated.						
3.0.3	3.0.3 When an ODCM CONTROL is not met and the associated ODCM ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the ODCM CONTROL is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:								
	<ol> <li>MODE 3 within 7 hours,</li> <li>MODE 4 within 13 hours, and</li> <li>MODE 5 within 37 hours.</li> </ol>								
	Where corrective measures are completed that permit operation CONTROL or ACTIONS, completion of the actions required b required.	n in accord by ODCM	ance with the ODCM CONTROL 3.0.3 is not						
	Exceptions to these requirements are stated in the individual O	DCM CON	TROLS.						
3.0.4	When an ODCM CONTROL is not met, entry into a MODE or Applicability shall only be made:	specified	condition in the						
	a. When the associated ODCM ACTIONS to be entered perm MODE or other specified condition in the Applicability for	it continue an unlimit	ed operation in the red period of time, or						
	b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this ODCM CONTROL are stated in the individual ODCM CONTROLS, or								
	c. When an allowance is stated in the individual value, parameters	eter, or oth	er ODCM CONTROL.						
	This ODCM CONTROL shall not prevent changes in MODES the Applicability that are required to comply with ODCM ACT shutdown of the unit.	or other sp TIONS or t	pecified conditions in hat are part of a						

	Beaver Valley Power Station		Procedure Number: 1/2-ODC-3.03		
Title:		Unit:	 2	Level Of Use: General Skill Reference	
ODCM	1: Controls for RETS and REMP Programs	Revisio	2 on: 7	Page Number:	
	ATTACHMENT C	l	/	17 01 85	
	ODCM CONTROLS: APPLICABILITY AND SURV	EILLANCE R	EQU	JIREMENTS	
3.0.5	Equipment removed from service or declared inoperable be returned to service under administrative control solel demonstrate its OPERABILITY or the OPERABILITY to ODCM CONTROL 3.0.1 for the system returned to s perform the testing required to demonstrate OPERABIL	e to comply wi y to perform t of other equip ervice under a JTY.	ith O estin omen idmin	DCM ACTIONS may g required to t. This is an exception nistrative control to	
				2	

	Beaver Valley Power Station	Procedure N	umber: $1/2-ODC-3.03$
Title:		Unit:	Level Of Use:
ODCM	1: Controls for RETS and REMP Programs	<u>1/2</u> Revision:	Page Number:
		17	18 of 83
	Page 3 of 4		
	ODCM CONTROLS: APPLICABILITY AND SURVEILL	ANCE REQ	UIREMENTS
CONT	TROLS: SURVEILLANCE REQUIREMENTS		
4.0.1	Surveillance Requirements shall be met during the MODES of individual ODCM CONTROLS unless otherwise stated in the Failure to meet an ODCM Surveillance, whether such failure performance of the Surveillance or between performance of the meet the ODCM CONTROL. Failure to perform a Surveillar shall be failure to meet the ODCM CONTROL except as prov Requirement 4.0.3. Surveillances do not have to be performe variables outside specified limits.	or other cond e ODCM Su is experienc he Surveillan he within th vided in OD d on inopera	litions specified for rveillance Requirement. ed during the nce, shall be failure to he specified Frequency, CM Surveillance able equipment or
4.0.2	The specified Frequency for each ODCM Surveillance Requiperformed within $\pm 1.25$ times the interval specified in the Free previous performance or as measured from the time a specified met.	rement is mo equency, as r ed condition	et if the Surveillance is neasured from the of the Frequency is
	For Frequencies specified as "once," the above interval exten	sion does no	ot apply.
	If a Completion Time requires periodic performance or "once extension applies to each performance after the initial perform	e per" basis nance.	s, the above Frequency
	Exceptions to this Specification are stated in the individual Sp	pecifications	h <b>.</b> .
4.0.3	If it is discovered that an ODCM Surveillance was not perform then compliance with the requirement to declare the ODCM ( delayed, from the time of discovery, up to 24 hours or up to the interval, whichever is greater. This delay period is permitted ODCM Surveillance. A risk evaluation shall be performed for greater than 24 hours and the risk impact shall be managed.	med within i CONTROL 1 he limit of th to allow per or any ODCN	its specified Frequency, not met may be ne specified surveillance formance of the M Surveillance delayed
	If the ODCM Surveillance is not performed within the delay must immediately be declared not met, and the applicable OD	period, the O OCM ACTIO	DDCM CONTROL DN(s) must be entered.
	When the ODCM Surveillance is performed within the delay is not met, the ODCM CONTROL must immediately be decla ODCM ACTION(s) must be entered.	period and t ared not met	he ODCM Surveillance , and the applicable

Beaver Valley Power Station	Procedure N	Procedure Number: 1/2-ODC-3.03		
Title:	Unit: 1/2	Level Of Use: General Skill Reference		
ODCM: Controls for RETS and REMP Programs	Revision: 17	Page Number: 19 of 83		
ATTACHMENT C				

## Page 4 of 4

ODCM CONTROLS: APPLICABILITY AND SURVEILLANCE REQUIREMENTS

4.0.4 Entry into a MODE or other specified condition in the Applicability of a ODCM CONTROL shall only be made when the ODCM Surveillances have been met within their allowed surveillance interval, except as provided by ODCM Surveillance Requirement 4.0.3. When an ODCM CONTROL is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with ODCM CONTROL 3.0.4. This provision shall not prevent entry into MODES or other specified conditions in the Applicability, that are required to comply with ODCM ACTION requirements or that are part of a shutdown of the unit.

Der VIII Der Station	Procedure Nu	imber:						
Beaver Valley Power Station	1/2-ODC-3.03							
Title:	Unit: 1/2	Level Of Use: General Skill Reference						
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number:						
1/ 20 of 83								
Page 1 of 8								
ODCM CONTROLS: RADIATION MONITORING INS	TRUMEN	TATION						
CONTROLS: RADIATION MONITORING (HIGH RANGE INSTRU	JMENTA	TION)						
3.3.3.1 The radiation monitoring instrumentation channels show OPERABLE with their alarm/trip setpoints within the sp	n in Table ecified lin	e 3.3-6 shall be nits.						
<u>APPLICABILITY:</u> As shown in Table 3.3-6.								
ACTION:								
a. With a radiation monitoring channel alarm/trip setpoint ODCM Control 3.3.3.1, Table 3.3-6, adjust the setpoint or declare the channel inoperable.	a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in ODCM Control 3.3.3.1, Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.							
b. With one or more radiation monitoring channels inopera ODCM Control 3.3.3.1, Table 3.3-6.	ble, take t	he ACTION shown in						
c. The provisions of ODCM Control 3.0.3 are not applicab	le.							
SURVEILLANCE REQUIREMENTS								
4.3.3.1 Each radiation monitoring instrumentation channel shall by the performance of the CHANNEL CHECK, CHAN CHANNEL OPERATIONAL TEST operations during t shown in ODCM Control 3.3.3.1, Table 4.3-3.	be demor NEL CAL he modes	nstrated OPERABLE IBRATION and and at the frequencies						

Beaver Valley Power Station	Procedure Num	aber:
Title:	Unit:	Level Of Use:
	1/2	General Skill Reference
ODCM: Controls for RETS and REMP Programs	17	Page Number: 21 of 83
ATTACHMENT D		• • • • • • •
Page 2 of 8		
ODCM CONTROLS: RADIATION MONITORING INS	IRUMENT	ATION
TABLE 3.3-6		
<b>BV-1 RADIATION MONITORING INSTRUME</b>	ENTATION	1
Pri = Primary Instruments, PMM = Preplanned Metho	od of Monit	oring <sup>(a)</sup>
		U
MINIMUM ADDI ICARI E SETPONIT (1	) NOM	<b>/INAL</b>
<u>INSTRUMENT</u> CHANNELS ATTEICABLE <u>SETTOINT</u> OPERABLE <u>MODES</u> (b)	MEASU	REMENT <u>ACTION</u>
1. Noble Gas Effluent Monitors – PINGS <sup>(3)</sup>	<u>KA</u>	INGE
a. Reactor Building/SLCRS (CV-1; Also called Elevated Release)		
<b><u>High Range Noble Gas</u></b> (1) 1, 2, 3, & 4		35
$Pri: (RM-1VS-110 HRNG Rel) \leq 1.56E+7$	1E-4 to 1E	E+5 uCi/cc <sup>(2)</sup>
2nd PMM: (RM-1VS-100 LKNG Kei) uCi/s		
3rd PMM: Grab Sampling every 12 hours		
b. Auxiliary Building Ventilation System (VV-1; Also called Ventilation Vent)	)	
$\frac{\text{High Range Noble Gas}}{\text{Priv}(\text{RM}_1\text{VS}_100 \text{ HRNG Rel})} $ (1) 1, 2, 3, & 4	/= 1E / to 1E	35 2+5 vCi/ac <sup>(2)</sup>
1 1.18 $E^+$ / uci 1st PMM: (RM-1VS-109 LRNG Rel)	/SIE-4 10 IE	
2nd PMM: (RM-1VS-101B)		
3rd PMM: Grab Sampling every 12 hours		
High Range Noble Gas (1) 1. 2. 3. & 4		35
Pri: (RM-1GW-109 HRNG Rel) $\leq$ 7.84E+9 uCi	/s1E-4 to 1E	$E+5 \text{ uCi/cc}^{(2)}$
1st PMM: (RM-1GW-109 LRNG Rel)		
3rd PMM: Grab Sampling every 12 hours		
(a) Instruments or actions shown as PMM are the preplanned methods to be used	I when the pri	mary instrument is
Inoperable. <u>SINCE</u> the PMM instruments shown are not considered compara THEN the ODCM Surveillance Requirements do not apply to the PMM. The	ible alternate i	monitoring channels,
Action 35b would still apply when inoperability of the primary instrument ex	ceeds 30 day	s.
(b) Setpoints are calculated in calculation package ERS-MPD-93-007.		

Beaver Valley Power Station	Procedure Num	ber: /2-ODC-3.03					
Title:	Unit:	Level Of Use:					
	1/2 Revision	Page Number					
ODCM: Controls for RETS and REMP Programs	17	22 of 83					
ATTACHMENT D							
Page 3 of 8							
ODCM CONTROLS: RADIATION MONITORING	INSTRUMENT	ATION					
TABLE 3.3-6 (Continued)							
<b>BV-1 RADIATION MONITORING INSTRU</b>	JMENTATION	-					
Pri = Primary Instruments, PMM = Preplanned M	lethod of Monit	oring <sup>(a)</sup>					
MINIMUM INSTRUMENT CHANNELS SETPO	NU NINT <sup>(1)</sup> MEAS	MINAL UREMENT ACTION					
<u>OPERABLE</u> <u>MODES</u>	<u>R</u>	ANGE					
2. Noble Gas Effluent Steam Monitors							
a. Atmospheric Steam Dump Valve and Code Safety Relief Valve Discha	arge						
Pri: (RM-1MS-100A) (1) 1, 2, 3, & 4 $\leq 50$	cpm 1E-1 to	1E+3 uCi/cc 35					
PMM: (rom 1/2-EN v-03.03.r0/)							
Pri: (RM-1MS-100B) (1) 1, 2, 3, & 4 $\leq 50$	com 1E-1 to	1E+3 uCi/cc 35					
PMM: (Form 1/2-ENV-05.05.F07)	1						
Pri: (RM-1MS-100C) (1) 1, 2, 3, $\&$ 4 $\leq$ 50	cpm 1E-1 to	1E+3 uCi/cc $33$					
PMM: (Form 1/2-ENV-05.05.F07)							
b. Auxiliary Feedwater Pump Turbine Exhaust							
Pri: (RM-1MS-101) (1) 1, 2, 3, & 4 $\leq 170$	cpm 1E-1 to	1E+3 uCi/cc 35					
PMM: (Form 1/2-ENV-05.05.F07)							
(a) Instruments or actions shown as PMM are the preplanned methods to he	e used when the nr	imary instrument is					
inoperable. SINCE the PMM instruments shown are not considered con	mparable alternate	monitoring channels,					
THEN the ODCM Surveillance Requirements do not apply to the PMM	I. Therefore, the re	porting requirement of					
Action 35b would still apply when inoperability of the primary instrume	ent exceeds 30 day	S.					
· · · · · · · · · · · · · · · · · · ·							
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Beaver Valley F	Beaver Valley Power Station			Procedure Number: 1/2-ODC-3.03		
Title:		<del></del>		Unit:	Level Of Use:	
ODCM. Controls for RETS and REN	MP Pro	arome		<u>1/2</u> Revision:	General SKIII Page Number:	Reference
			]	17	23 of	<u>`83</u>
	A	TTACHMENT	Ď			-
ODCM CONTROLS: R	RADIA	Page 4 of 8 TION MONIT	ORING INST	<b>FRUMENT</b>	ATION	
		<u>TABLE 3.3-6</u>	(Continued)			
BV-2 RADIAT	<u>FION N</u>	<u>MONITORING</u>	<u>INSTRUME</u>	<u>INTATION</u>	1	
Pri = Primary Instrum	ients,	PMM = Prep!	lanned Metho	d of Monit	toring <sup>(a)</sup>	
MININ <u>INSTRUMENT</u> CHAN <u>OPER</u>	MUM JNELS <u>ABLE</u>	APPLICABLE MODES	<u>SETPOINT</u> ()	NC 1) MEAS <u>F</u>	)MINAL 3UREMENT <u>&amp;ANGE</u>	ACTION
1. NODIE GAS EIHuent Monitors	taa aalla	- Flowered Deleg	)			
a. SLUNS filleren Fallway (UF-2, An Midrange Noble Gas (Xe-133)	80 сапсо	I Elevated Reicas	e)			
Pri: (2HVS-RQ109C) (1 1st PMM: (2HVS-RQ109D) 2nd PMM: (2HVS-RQ109B) 3rd PMM: Grab Sampling every 12 h	l)	1, 2, 3, & 4	NA	1E-4 to	1E+2 μCi/cc	35
High Range Noble Gas (Xe-133)Pri: (2HVS-RQ109D)(11st PMM: (2HVS-RQ109C)2nd PMM: (2HVS-RQ109B)3rd PMM: Grab Sampling every 12 ho	l) <sup>^</sup>	1, 2, 3, & 4	NA	1E-1 to	1E+5 μCi/cc	35
2. Noble Gas Effluent Steam Monitors						
a. Main Steam Discharge (Kr-88) Pri: (2MSS-RQ101A) PMM: (Form 1/2-ENV-05.05.F07)	1/SG	1, 2, 3, & 4	≤3.9E-2 μCi/	'cc 1E-2 to	1E+3 μCi/cc	35
Pri: (2MSS-RQ101B) PMM: (Form 1/2-ENV-05.05.F07)	1/SG	1, 2, 3, & 4	$\leq$ 3.9E-2 $\mu$ Ci/	cc 1E-2 to	1E+3 μCi/cc	35
Pri: (2MSS-RQ101C) PMM: (Form 1/2-ENV-05.05.F07)	1/SG	1, 2, 3, & 4	$\leq$ 3.9E-2 $\mu$ Ci/	cc 1E-2 to	1E+3 μCi/cc	35
						ι

(a)

l

Instruments or actions shown as PMM are the preplanned methods to be used when the primary instrument is inoperable. <u>SINCE</u> the PMM instruments shown are not considered comparable alternate monitoring channels, <u>THEN</u> the ODCM Surveillance Requirements do not apply to the PMM. Therefore, the reporting requirement of Action 35b would still apply when inoperability of the primary instrument exceeds 30 days.

I	Beave	er Valley	Power	Station	1	Procedure Nu	imber: 1/2-ODC-3.03
Title:						Unit: 1/2	Level Of Use: General Skill Reference
ODCM: Cont	rols for	RETS and RI	EMP Progr	ams		Revision: 17	Page Number: 24 of 83
О	DCM (	CONTROLS:	AT	TACHME Page 5 of ION MON	NT D 8 IITORING INS	TRUMEN	TATION
			TABL TAB	<u>LE 3.3-6 ((</u> LE NOTA	<u>Continued)</u> ATIONS		
(1) Above	e backgi	round					
<sup>(2)</sup> Nomir	nal rang	e for High.					
<sup>(3)</sup> Other	PING c	channels are n	ot applicab	le to this	ODCM Control		
			<u>ACTIO</u>	<u>ON STAT</u>	EMENTS		
ACTION 35	With t OPER within	the number of ABLE require 72 hours, or:	OPERAB ement, eith	LE channe her restore	els less than req the inoperable	uired by th Channel(s)	e Minimum Channels to OPERABLE status
	a)	Initiate the p parameter(s)	oreplanned), and	alternate	method of moni	toring the	appropriate
	b)	Return the c report and e inoperability	thannel to ( xplain in th y was not c	OPERABI ne next Ra corrected in	LE status within dioactive Efflu n a timely manr	1 30 days, c ent Release her.	or generate a condition Report why the
				-			
				•			

Beaver Valley Power Station	Procedure N	umber: 1/2-ODC-3.03
Title:	Unit:	Level Of Use: General Shrill Deference
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number:
	17	25 of 83
Page 6 of 8		
ODCM CONTROLS: RADIATION MONITORIN	G INSTRUMEN	TATION
TABLE 4 3-3 (Continued)		
BV-1 RADIATION MONITORING INSTRUMENTATION SI	URVEILLANCE :	REQUIREMENTS
Pri = Primary Instruments, PMM = Preplanned	Method of Monit	toring <sup>(a)</sup>
INSTRUMENT CHANNEL CHANNE	L CHANNE	L MODES IN WHICH
<u>CHECK</u> CALIBRATI	ION OPERATION	REQUIRED
1. Noble Gas Effluent Monitors - PINGS		
a. Reactor Building/SLCRS (Cv-1; Also called Elevated Release) High Range Noble Gas S R	0	1, 2, 3, & 4
Pri: (RM-1VS-110 HRNG Rel)	× .	·, -, ·, ·· ·
2nd PMM: (RM-1VS-10 LRNG Rel) 2nd PMM: (RM-1VS-107B)		
3rd PMM: Grab Sampling every 12 hours		
b. Auxiliary Building Ventilation System (VV-1; Also called Ventilat High Pange Nable Cos	tion Vent)	1 2 2 8 4
Pri: (RM-1VS-109 HRNG Rel)	Q	$1, 2, 3, \alpha 4$
1st PMM: (RM-1VS-109 LRNG Rel)		
3rd PMM: Grab Sampling every 12 hours		
c. Gaseous Waste Process Vent System (PV-1,2)		
High Range Noble Gas S R Pri: RM-1GW-109 HRNG Rel)	Q	1, 2, 3, & 4
1st PMM: (RM-1GW-109 LRNG Rel)		
2nd PMM: (RM-1GW-108B) 3rd PMM: Grab Sampling every 12 hours		
:		
(a) Instruments or actions shown as PMM are the preplanned methods to	be used when the p	primary instrument is
inoperable. <u>SINCE</u> the PMM instruments shown are not considered of THEN the ODCM Surveillance Requirements do not apply to the PM	comparable alternat	e monitoring channels,
Action 35b would still apply when inoperability of the primary instru	ment exceeds 30 da	ys.
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4-25-19

Beaver Valley Po	wer Stati	on	Procedure Numb	er:		
Title:			Unit:	Level Of Use:		
ODOM Controls for DETS and DEM	Drograma		<u>1/2</u> Revision:	General Skill Reference Page Number:		
ODCM: Controls for RETS and REMP	Programs		17	26 of 83		
	ATTACHN Page 7	MENT D				
ODCM CONTROLS: RA	DIATION M	ONITORING IN:	STRUMENTA	ATION		
		1 2 2 (Continue)	/L			
<u>TABLE 4.3-3 (Continued)</u> <u>BV-1 RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS</u>						
Pri = Primary Instrumer	nts, PMM =	Preplanned Met	hod of Monito	ring <sup>(a)</sup>		
INSTRUMENT	CHANNEL <u>CHECK</u>	CHANNEL <u>CALIBRATION</u>	CHANNEL OPERATIONA <u>TEST</u>	MODES IN WHICH L SURVEILLANCE <u>REQUIRED</u>		
2. Noble Gas Effluent Steam Monitors						
a. Atmospheric Steam Dump Valve an	d Code Safety F	Relief Valve Dischar	rge	123&4		
PMM: (Form 1/2-ENV.05.05.F07)	6	K	×	1, 2, 3, 00 1		
· · ·						
Pri: (RM-1MS-100B) PMM: (Form 1/2-ENV 05 05 F07)	S	R	Q	1, 2, 3, & 4		
Pri: (RM-1MS-100C) PMM: (Form 1/2-ENV.05.05.F07)	S	R	Q	1, 2, 3, & 4		
b. Auxiliary Feedwater Pump Turbine	Exhaust	D	0	10284		
Pri: (RM-1MS-101) PMM: (Form 1/2-ENV.05.05.F07)	8	K	Q	1, 2, 3, & 4		
<sup>(a)</sup> Instruments or actions shown as PMM are <u>SINCE</u> the PMM instruments shown are r Surveillance Requirements do not apply to apply when inoperability of the primary in	e the preplanned not considered co o the PMM. The istrument exceed	methods to be used v omparable alternate n prefore, the reporting is 30 days.	when the primary nonitoring chann requirement of A	instrument is inoperable. els, <u>THEN</u> the ODCM Action 35b would still		

Beaver Valley Power Station				er: 2-0DC-3.03		
Title:			Unit:	Level Of Use:		
ODCM: Controls for RETS and REMI	Programs		Revision:	Page Number:		
	ATTACHN	/FNT D	17	<u> </u>		
	Page 8	of 8				
ODCM CONTROLS: RA	DIATION MO	ONITORING IN	STRUMENTA	ATION		
	TABLE 4	.3-3 (Continued)	· .			
<b>BV-2 RADIATION MONITORING</b>	INSTRUMEN	NTATION SURV	EILLANCE	REQUIREMENTS		
Pri = Primary Instrumer	nts, PMM =	Preplanned Metl	nod of Monite	ring <sup>(a)</sup>		
INSTRUMENT	CHANNEL <u>CHECK</u>	CHANNEL <u>CALIBRATION</u>	CHANNEL OPERATIONA <u>TEST</u>	MODES IN WHICH L SURVEILLANCE <u>REQUIRED</u>		
1. Noble Gas Effluent Monitors a. SLCRS Unfiltered Pathway (CV-2;	Also called Eleva	ated Release)				
Mid Range Noble Gas	S	R	Q	1, 2, 3, & 4		
1st PMM: (2HVS-RQ109C) 2nd PMM: (2HVS-RQ109D) 3rd PMM: (2HVS-RQ109B) 3rd PMM: Grab Sampling every 12 bd						
High Range Noble GasPri: (2HVS-RQ109D)1st PMM: (2HVS-RQ109C)2nd PMM: (2HVS-RQ109B)3rd PMM: Grab Sampling every 12 ho	S	R	Q	1, 2, 3, & 4		
2. Noble Gas Effluent Steam Monitors				<i>i</i>		
a. Main Steam Discharge (Kr-88) Pri: (2MSS-RQ101A) PMM: (Form 1/2-ENV.05.05.F07)	S	R	Q	1, 2, 3, & 4		
Pri: (2MSS-RQ101B) PMM: (Form 1/2-ENV.05.05.F07)	S	R	Q	1, 2, 3, & 4		
Pri: (2MSS-RQ101C) PMM: (Form 1/2-ENV.05.05.F07)	S	R	Q	1, 2, 3, & 4		
(a) Instruments or actions shown as PMM are the preplanned methods to be used when the primary instrument is inoperable. <u>SINCE</u> the PMM instruments shown are not considered comparable alternate monitoring channels, <u>THEN</u> the ODCM Surveillance Requirements do not apply to the PMM. Therefore, the reporting requirement of Action 35b would still apply when inoperability of the primary instrument exceeds 30 days.						

4-25-19

Beaver Valley Pow	er Station	Procedure Num	lber: /2-ODC-3.03
Title:		Unit: 1/2	Level Of Use: General Skill Reference
ODCM: Controls for RETS and REMP Pr	ograms	Revision:	Page Number:
	ATTACHMENT E	<u> </u>	<u> </u>
	Page 1 of 10		
ODCM CONTROLS: RETS IN	ISTRUMENTATION FOR L	IQUID EFI	FLUENTS
CONTROLS: RADIOACTIVE LIQUID			
3.3.3.9 In accordance with T.S. 5.4 instrumentation channels s OPERABLE with their ala CONTROL 3.11.1.1 are no monitoring channels shall	5.2.a, the radioactive liquid eff hown in ODCM Control 3.3.3 rm/trip setpoints set to ensure of exceeded. The alarm/trip se be determined in accordance v	fluent moni .9, Table 3 that the lim etpoints of t vith 1/2-OI	toring .3-12 shall be hits of ODCM he radiation DC-2.01.
Applicability - During Releases Through	the Flow Path:		
a. For all Gross Activity (6	e.g.; Beta or Gamma) Radioac	tivity Moni	itors
b. For all Flow Rate Meas	urement Devices		
Applicability - During Liquid Additions to	o the Tank:		
a. For all Tank Level Indic	ating Devices		
Action:			:
a. With a radioactive liquid effluent conservative than required by the radioactive liquid effluents monitor	monitoring instrumentation chabove specification, immediat bred by the affected channel or	nannel alarr cely suspender r correct the	n/trip setpoint less d the release of e alarm/trip setpoint.
b. With one or more radioactive liqu take the ACTION shown in ODCI alarm setpoint. Exert a best effort unsuccessful, generate a Condition Report why the inoperability was	id effluent monitoring instrum M Control 3.3.3.9, Table 3.3-1 to return the channel to opera n Report and explain in the ne not corrected in a timely manu	nentation ch 2 or conset ble status v xt Radioact ner. <sup>(a)</sup>	nannels inoperable, rvatively reduce the vithin 30 days, and if tive Effluent Release
c. The provisions of ODCM CONTR	ROL 3.0.3 are not applicable.		,
SURVEILLANCE REQUIREMENTS			
	······	· · · · ·	
4.3.3.9 Each radioactive liquid eff demonstrated operable by CHANNEL CALIBRATIO frequencies shown in ODO	Iuent monitoring instrumentat performance of the CHANNE ON, and CHANNEL OPERA CM Control 3.3.3.9, Table 4.3-	tion channe EL CHECK TIONAL T -12.	l shall be , SOURCE CHECK, EST operations at the
<sup>(a)</sup> Condition Report generation and reporting in t not apply when using an alternate to satisfy inc	he Radioactive Effluent Release Repoperability of the primary instrument	port (per Con it beyond 30 d	trol 3.3.3.9 Action b) do lays.

c

Beaver Valley Power Station	Procedure Num 1	nber: /2-ODC-3.03			
Title:	Unit:	Level Of Use: General Skill Reference			
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number:			
ATTACHMENT E					
Page 2 of 10 ODCM CONTROL S. DETE DISTRUMENTATION FOR LIQUUR FREI LENTS					
TADI E22 12	FOR LIQUID EF	reoen15			
<u>IABLE 3.3-12</u>					
<b>BV-1 RADIOACTIVE LIQUID EFFLUENT MONITO</b>	DRING INSTRUM	<u>IENTATION</u>			
Pri = Primary Instruments Alt = Altern	ate Instruments <sup>(a)</sup>				
MIN	IMUM CHANNEL	S			
	<u>OFERABLE</u>	ACTION			
<ol> <li>Gross Activity Monitors Providing Automatic Termination Of a. Liquid Waste Effluents Monitor Pri: [RM-11.W-104]</li> </ol>	(1)	23			
<ul> <li>b. Liquid Waste Contaminated Drain Monitor</li> <li>Pri: [RM-1LW-116]</li> </ul>	(1)	23			
c. Auxiliary Feed Pump Bay Drain Monitor Pri: [RM-1DA-100]	(1)	24			
2. Gross Activity Monitors Not Providing Termination Of Releas	se				
a. Component Cooling-Recirculation Spray Heat Exchangers River Water Monitor	(1)	24			
Pri: [RM-1RW-100]					
3. Flow Rate Measurement Devices					
a. Liquid Radwaste Effluent Line Pri: [FR-1LW-104] for [RM-1LW-104]	(1)	25			
<ul> <li>b. Liquid Waste Contaminated Drain Line</li> <li>Pri: [FR-1LW-103] for [RM-1LW-116]</li> </ul>	(1)	25			
c. Cooling Tower Blowdown Line Pri: [FT-1CW-101-1], or	(1)	25A			
2nd Alt: Perform 1MSP-31.06-I					
4. Tank Level Indicating Devices (for tanks outside plant building	g)				
a. Primary Water Storage Tank Pri: [LI-1PG-115A] for [1BR-TK-6A]	(1)	26			
<ul> <li>b. Primary Water Storage Tank</li> <li>Pri: [LI-1PG-115B] for [1BR-TK-6B]</li> </ul>	(1)	26			
c. Steam Generator Drain Tank Pri: [LI-1LW-110] for [1LW-TK-7A]	(1)	26			
d. Steam Generator Drain Tank Pri: [LI-1LW-111] for [1LW-TK-7B]	(1)	26			

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(a) Condition Report generation and reporting in the Radioactive Effluent Release Report (per Control 3.3.3.9 Action b) do not apply when using an alternate to satisfy inoperability of the primary instrument beyond 30 days.

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Beaver Valley Power Station	Procedure Num	lber: /2-ODC-3.03		
Title:	Unit: 1/2	Level Of Use: General Skill Reference		
ODCM: Controls for RETS and REMP Programs	Revision: 17	Page Number: 30 of 83		
ATTACHMENT E	<u>* '</u>	<u> </u>		
ODCM CONTROLS: RETS INSTRUMENTATION FOR L	IQUID EFI	FLUENTS		
TABLE 3.3-12 (continued)				
BV-2 RADIOACTIVE LIQUID EFFLUENT MONITORING	INSTRUM	<u>ENTATION</u>		
Pri = Primary Instruments Alt = Alternate Instr	ruments <sup>(a)</sup>			
MIN	NIMUM			
CH. INSTRUMENT OPP	ANNELS ERABLE	ACTION		
1 Come De lies sticite Maritan Duaviding Alarm And Automatia	Torminati	on Of Polooso		
1. Gross Radioactivity Monitor Providing Alarm, <u>And</u> Automatic	Terminau			
a. Liquid Waste Process Effluent Monitor Pri: [2SGC-RQ100]	(1)	23		
2. Gross Radioactivity Monitors Providing Alarm, <u>But Not</u> Provid	ing Termi	nation Of Release		
a. None Required				
3. Flow Rate Measurement Devices				
a. Liquid Radwaste Effluent Pri: [2SGC-FS100]	(1)	25		
b. Cooling Tower Blowdown Line	(1)	25A		
Pri: [FT-1CW-101-1], or 1st Alt: [FT-1CW-101] and [2CWS-FT101], or				
2nd Alt: Perform 1MSP-31.06-I				
4. Tank Level Indicating Devices (for tanks outside plant building	s)			
a. None Required				
(a) Condition Report generation and reporting in the Radioactive Effluent Release Report apply when using an alternate to satisfy inoperability of the primary instrument	port (per Cont t beyond 30 d	trol 3.3.3.9 Action b) do 🦈 lays.		
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	Beav	er Valley Pow	er Station		Procedure N	umber: 1/2-ODC-3.03
Title:				1	Unit:	Level Of Use: General Skill Rafa
ODCM: Co	ntrols fo	RETS and REMP P	rograms	I I	Revision:	Page Number:
			ATTACHMENT F		17	<u> </u>
			Page 4 of 10			
0	DCM C	ONTROLS: RETS IN	ISTRUMENTATIO	N FOR LIC	QUID EI	FFLUENTS
		TA	BLE 3.3-12 (continu	ued)		
		<u>A</u>	CTION STATEMEN	<u>NTS</u>		
Action 23	With OPE prior	the number of channe ABLE requirement, to release:	els OPERABLE less effluent releases ma	than requin y be initiate	red by th ed (or re:	e Minimum Chanr sumed) provided th
	1.	At least two indepe SURVEILLANCE qualified members calculations <sup>(1)</sup> and c	ndent samples are ar REQUIREMENT 4. of the Facility Staff lischarge valving, or	nalyzed in a .11.1.1.1, a independen	accordan nd at lea atly verif	ce with ODCM st two technically y the release rate
	2.	Initiate monitoring Surveillance require comparable alternat CONTROL require	with the comparable ements applicable to e monitoring channe ment.	alternate n the inopera el when use	nonitorir able char ed to sati	ng channel. ODCM nnel shall apply to sfy this ODCM
	Other	wise, suspend release	of radioactive efflue	ents via this	s pathwa	y.
Action 24	With OPEI	he number of channe ABLE requirement,	ls OPERABLE less effluent releases via	than requir this pathwa	ed by th ay may c	e Minimum Chann continue provided:
	1.	That at least once p (beta or gamma) at	er 12 hours grab sam a Lower Limit of De	ples are an etection (LI	alyzed f .D) of at	or gross radioactiv least 1E-7 uCi/mI
	2.	Initiate monitoring Surveillance require comparable alternat CONTROL require	with the comparable ements applicable to e monitoring channe ment.	alternate n the inopera el when use	nonitorin able char d to satis	ng channel. ODCM nnel shall apply to sfy this ODCM
		,	ъ. — .			
						,
<sup>(1)</sup> Since the rate calcu "reviewer independ	comput lations, " satisfy ently ve	er software used for d then the independent the requirement for ify the release rate ca	lischarge permit gen signatures on the dis 'two technically qu lculations"	eration auto scharge per ualified me	omatical mit for " mbers of	ly performs the rel preparer" and f the Facility Staff

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· ]	Beaver Valley Power Station	Procedure N	umber: 1/2-ODC-3.03		
Title:		Unit: 1/2	Level Of Use: General Skill Reference		
ODCM: Cont	rols for RETS and REMP Programs	Revision:	Page Number: 32 of 83		
ATTACHMENT E Page 5 of 10 ODCM CONTROLS: RETS INSTRUMENTATION FOR LIQUID EFFLUENTS					
	Table 3.3-12 (continued)	-			
	ACTION STATEMENTS				
Action 25	With the number of channels OPERABLE less than OPERABLE requirement, effluent releases via this	n required by the pathway may o	e Minimum Channels continue provided:		
	1. The flow rate is estimated at least once per 4 curves may be used to estimate flow), or	4 hours during	actual releases. (Pump		
	2. Initiate monitoring with the comparable alternate monitoring channel. ODCM Surveillance requirements applicable to the inoperable channel shall apply to the comparable alternate monitoring channel when used to satisfy this ODCM CONTROL requirement.				
Action 25A	With the number of channels OPERABLE less than OPERABLE requirement, effluent releases via this method required for the 1st Alternate, or by using the Alternate, as follows:	n required by th pathway may he instruments	e Minimum Channels continue by using the required by the 2nd		
	1. <u>1st Alternate:</u> Initiate monitoring with the comp which includes both [FT-1CW-101] and [2CWS requirements applicable to the inoperable chann alternate monitoring channel when used to satis requirement, or	oarable alternat S-FT101]. OD hel shall apply f fy this ODCM	e monitoring channel, CM Surveillance to the comparable CONTROL		
	2. <u>2nd Alternate:</u> The dilution flow rate is calculat actual releases using the methods described in p	ed at least onco procedure 1MS	e per 4 hours during P-31.06-I <sup>(1)</sup> .		
Action 26	With the number of channels OPERABLE less than OPERABLE requirement, liquid additions to this ta	n required by th ank may contin	ne Minimum Channels ue provided:		
	1. The tank liquid level is estimated during all	liquid addition	s to the tank, or		
	2. Initiate monitoring with the comparable alter Surveillance requirements applicable to the comparable alternate monitoring channel wh CONTROL requirement.	ernate monitori inoperable cha hen used to sat	ng channel. ODCM nnel shall apply to the isfy this ODCM		
<sup>(1)</sup> <b>NOTE:</b> The flow rate. value 22,8 operation evaporation	his MSP requires local water height measurements to calcu As a guide, the combined flow rate result of this procedur 300  gpm (i.e., BV-1 flow rate = 15,000 gpm, + BV-2 flow of a BV-1 Turbine Plant RW Pump, a BV-1 Rx Plant RW on via the cooling tower plume.	ulate the total co re should be sim rate = 7,800 gpr Pump, a BV-2 S	oling tower blowdown ilar to the ODCM design n) which assumes SWS Pump, and normal		

Beaver Valley Power Station			Procedure Nu	mber: 1/2-ODC-3.03	
Title:	Title:				
ODCM: Controls for RETS and REMP	Programs		Revision:	Page Number:	
	ATTACHMEN	ГЕ		33 01 83	
	Page 6 of 10				
ODEM CONTROLS: REIS INSTRUMENTATION FOR LIQUID EFFLUENTS					
	<u>TABLE 4.3-</u>	<u>12</u>			
BV-1 RADIOACTI	VE LIQUID EFF	LUENT MO	NITORING	<u>1</u>	
INSTRUMENTATI	<u>ON SURVEILLA</u>	NCE REQU	IREMENT	<u>S</u>	
Pri = Primary Ins	struments, Alt	= Alternate In	struments		
<u>INSTRUMENT</u>	CHANNEL <u>CHECK</u>	SOURCE <u>CHECK</u>	CHANN <u>CALIBRA</u>	NEL CHANNEL ATION TEST	
1. Gross Beta or Gamma Radioactivity Moni	itors Providing Alar	m And Automa	atic Termina	tion Of Release	
a. Liquid Radwaste Effluent Line Pri: (RM-1LW-104)	D	P <sup>(5)</sup>	R <sup>(3)</sup>	Q <sup>(1)</sup>	
<ul> <li>b. Liquid Waste Contaminated Drain Line Pri: (RM-1LW-116)</li> </ul>	D	P <sup>(5)</sup>	R <sup>(3)</sup>	Q <sup>(1)</sup>	
c. Auxiliary Feed Pump Bay Drain Monitor Pri: (RM-1DA-100)	D	D	R <sup>(3)</sup>	Q <sup>(1)</sup>	
2. Gross Beta Or Gamma Radioactivity Mon Release	itors Providing Ala	m But Not Pro	viding Auto	matic Termination Of	
a. Component Cooling - Recirculation Spra Heat Exchangers River Water Monitor Pri: (RM-1RW-100)	ay D	M <sup>(5)</sup>	R <sup>(3)</sup>	Q <sup>(2)</sup>	
3. Flow Rate Monitors					
a. Liquid Radwaste Effluent Lines Pri: (FR-1LW-104) for (RM-1LW-104)	D <sup>(4)</sup>	NA	R	Q	
b. Liquid Waste Contaminated Drain Line Pri: (FR-1LW-103) for (RM-1LW-116)	D <sup>(4)</sup>	NA	R	Q	
c. Cooling Tower Blowdown Line Pri: [FT-1CW-101-1), or 1st Alt: [FT-1CW-101] and [2CWS-FT1]	D <sup>(4)</sup> 01]	NA	R	Q	
<b>NOTE:</b> <u>SINCE</u> the 2nd Alternate to the Cooling Tower Blowdown Line is a procedure, (i.e., 1MSP-31.06-I), <u>THEN</u> Surveillance Requirements do not apply to the 2nd Alternate.					

Beaver Valley Pow	Procedure Number 1/2-	ODC-3.03				
Title:			Unit: Le 1/2 G	vel Of Use: eneral Skill Reference		
ODCM: Controls for RETS and REMP Pr	Revision: Pa	ge Number: 34 of 83				
ATTACHMENT E Page 7 of 10 ODCM CONTROLS: RETS INSTRUMENTATION FOR LIQUID EFFLUENTS TABLE 4.3-12 (continued)						
<u>BV-1 RADIOACTIV</u> <u>INSTRUMENTATIC</u> Pri = Primary Instr	/ <u>E LIQUID EFF</u> <u>N SURVEILLA</u> ruments, Alt =	LUENT MO NCE REQU	<u>NITORING</u> IREMENTS struments			
<b>INSTRUMENT</b>	CHANNEL <u>CHECK</u>	SOURCE <u>CHECK</u>	CHANNEL <u>CALIBRATIO</u>	CHANNEL OPERATIONAL <u>N</u> TEST		
4. Tank Level Indicating Devices (for tanks	outside plant build	lings)				
a. Primary Water Storage Tank Pri: (LI-1PG-115A) for (1BR-TK-6A)	D*	NA	R	Q		
<ul> <li>b. Primary Water Storage Tank</li> <li>Pri: (LI -1PG-115B) for (1BR-TK-6B)</li> </ul>	D*	NA	R	Q		
c. Steam Generator Drain Tank Pri: (LI-1LW-110) for (1LW-TK-7A)	D*	NA	R	Q		
d. Steam Generator Drain Tank Pri: (LI-1LW-111) for (1LW-TK-7B)	D*	NA	R	Q		

\*During liquid additions to the tank.

Beaver Valley I	Power Station		Procedure Nur	mber: 1/2-0DC-3-03
Title:			Unit:	Level Of Use:
ODCM: Controls for RETS and REI	MP Programs		1/2 Revision:	Page Number:
		<b>m</b> T	17	35 of 83
	AIIACHMEN Page 8 of 10	IE )		
ODCM CONTROLS: RE	TS INSTRUMENTA	, TION FOR L	IQUID EF	FLUENTS
	TABLE 4.3-12 (con	tinued)		
BV-2 RADIOA	CTIVE LIQUID FF	FI UENT MC	NITORINI	G
INSTRUMENT	CATION SURVEILL	ANCE REQU	IREMENT	<u>S</u>
Pri = Primar	y Instruments, Alt	= Alternate Ir	struments	
				CHANNE
<b>INSTRUMENT</b>	CHANNEL <u>CHECK</u>	SOURCE <u>CHECK</u>	CHANN <u>CALIBRA</u>	VEL OPERATION <u>TION</u> TEST
1. Gross Radioactivity Monitor Providin	g Alarm And Automati	c Termination (	Of Release	
a. Liquid Waste Process Effluent Pri: (2SGC-RQ100)	D	P <sup>(5)</sup>	R <sup>(7)(3</sup>	<sup>(6)</sup> Q <sup>(6)</sup>
2. Flow Rate Measurement Devices				
a. Liquid Radwaste Effluent Pri: (2SGC-FS100)	D <sup>(4)</sup>	NA	R	Q
<ul> <li>b. Cooling Tower Blowdown Line</li> <li>Pri: [FT-1CW-101-1], or</li> <li>1st Alt: [FT-1CW-101] and [2CWS</li> </ul>	-FT101]	NA	R	Q
<b><u>NOTE</u></b> : SINCE the 2nd Alternate to Blowdown Line is a procedure, (i.e. THEN Surveillance Requirements d	o the Cooling Tower , 1MSP-31.06-I), o not apply to the 2nd			
Alternate. 3. Tank Level Indicating Devices (for tar a. None Required	ıks outside plant buildin	ıgs)		
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	]	Beaver Valley Power Station	Procedure Nu	umber: 1/2-ODC-3.03	
Title:			Unit: 1/2	Level Of Use: General Skill Reference	
ODCM	A: Cont	rols for RETS and REMP Programs	Revision:	Page Number:	
		ATTACHMENT E	L <i>I</i>		
	OD	Page 9 of 10 CM CONTROLS: RETS INSTRUMENTATION FOR L	IQUID EI	FFLUENTS	
		TABLE 4.3-12 (continued)			
		TABLE NOTATION			
(1)	The C pathw	HANNEL OPERATIONAL TEST shall also demonstrate ray and Control Room Alarm Annunciation occurs if any o	that autor of the follo	matic isolation of this owing conditions exist:	
	1.	Instrument indicates measured levels above the alarm/tr	ip setpoint	•	
	2.	Downscale failure.			
	3.	Instrument controls not set in operate mode.			
(2)	<sup>(2)</sup> The CHANNEL OPERATIONAL TEST shall also demonstrate that Control Room Alarm Annunciation occurs if any of the following conditions exist:				
	1.	Instrument indicates measured levels above the alarm/tr	ip setpoint		
	2.	Downscale failure.			
	3.	Instrument controls are not set in operate mode.			
(3)	The in perfor Stand partic calibr CHA used, refuel for th	nitial CHANNEL CALIBRATION for radioactivity measured using one or more of the reference standards certifier ards and Technology (NIST) or using standards that have ipate in measurement assurance activities with NIST. The ating the system over its intended range of energy and rate NNEL CALIBRATION, sources that have been related to at intervals of at least once per 18 months. This can norm ling outages. (Existing plants may substitute previously es is requirement).	urement in d by the N been obtaines e capabilit the initial hally be ac stablished	strumentation shall be ational Institute of ined from suppliers that rds should permit ies. For subsequent calibration should be complished during calibration procedures	
(4)	CHA CHA or bat	NNEL CHECK shall consist of verifying indication of flo NNEL CHECK shall be made at least once daily on any d ch releases are made.	w during p ay on whie	periods of release. ch continuous, periodic,	
(5)	A SO with a respo	URCE CHECK may be performed utilizing the installed rate portable source to obtain an upscale increase in the exist nse.	neans or f ing count i	lashing the detector rate to verify channel	
		Beaver Valley Power Station	Procedure Nur 1	nber: /2-ODC-3.03	
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Title:			Unit:	Level Of Use: General Skill Reference	
ODCM	A: Con	trols for RETS and REMP Programs	172 Revision: 17	Page Number: 37 of 83	
	OE	ATTACHMENT E Page 10 of 10 OCM CONTROLS: RETS INSTRUMENTATION FOR L	IQUID EF	FLUENTS	
		TABLE 4.3-12 (continued)			
		TABLE NOTATION			
(6)	The C and C the al	CHANNEL CALIBRATION shall also demonstrate that au ontrol Room Alarm Annunciation occurs if the instrument arm/trip setpoint.	tomatic isc indicates r	blation of this pathway measured levels above	
(7)	The C	CHANNEL CALIBRATION shall also demonstrate that Co s if either of the following conditions exist:	ontrol Roor	n Alarm Annunciation	
	1.	Downscale failure.			
	2.	Instrument controls are not set in operate mode.			
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	Beaver Valley Power Station	Procedure N	umber: 1/2-ODC-3.03
Title:		Unit: 1/2	Level Of Use: General Skill Reference
ODCM: Con	trols for RETS and REMP Programs	Revision:	Page Number:
	ATTACHMENT F Page 1 of 13 ODCM CONTROLS: RETS INSTRUMENT FOR GAS	EOUS RE	LEASES
CONTROLS	: RADIOACTIVE GASEOUS EFFLUENT MONITORI	NG INSTR	UMENTATION
3.3.3.10	In accordance with T.S. 5.5.2.a, the radioactive gaseous e instrumentation channels shown in ODCM Control 3.3.3. with their alarm/trip setpoints set to ensure that the limits are not exceeded. The alarm/trip setpoints of the radiatio determined in accordance with 1/2-ODC-2.02.	ffluent mo 10, Table 3 of ODCM n monitori	nitoring 3.3-13 shall be operable CONTROL 3.11.2.1 ng channels shall be
Applicability	: During releases through the flow path.		
Action:			
a. With a setpoin 3.11.2. the affe	radioactive gaseous process or effluent monitoring instru- t less conservative than a value which will ensure that the l are met, immediately suspend the release of radioactive ected channel or correct the alarm/trip setpoint.	nentation of limits of C gaseous ef	channel alarm/trip DDCM CONTROL fluents monitored by
b. With or take the alarm s unsucc Report	ne or more radioactive gaseous effluent monitoring instru- e ACTION shown in ODCM Control 3.3.3.10, Table 3.3- etpoint. Exert a best effort to return the channel to operate essful, generate a Condition Report and explain in the nex- why the inoperability was not corrected in a timely mann	mentation 13 or conse ble status w tt Radioact er. <sup>(a)</sup>	channels inoperable, ervatively reduce the vithin 30 days, and if ive Effluent Release
c. The r	provisions of ODCM CONTROL 3.0.3 are not applicable.		
SURVEILLA	ANCE REQUIREMENTS		
4.3.3.10	Each radioactive gaseous effluent monitoring instrumenta demonstrated operable by performance of the CHANNEI CHANNEL CALIBRATION, and CHANNEL OPERAT frequencies shown in ODCM Control 3.3.3.10, Table 4.3	ation chanr L CHECK, IONAL TI -13.	nel shall be SOURCE CHECK, EST operations at the
<sup>(a)</sup> Condition R not apply w	eport generation and reporting in the Radioactive Effluent Release Ronen using an alternate to satisfy inoperability of the primary instrume	eport (per Co nt beyond 30	ntrol 3.3.3.10 Action b) do days.

Beaver Valley Power Stat	tion	Procedure Nu	mber: 1/2-ODC-3.03
Title:	· · · · · · · · · · · · · · · · · · ·	Unit:	Level Of Use:
ODCM: Controls for RETS and REMP Programs		1/2 Revision:	Page Number:
ATTACH	IMENT F	<u>    1   17      </u>	<u> </u>
Page 2	2 of 13		
ODCM CONTROLS: RETS INSTRU	JMENT FOR GA	SEOUS REL	EASES
TABL	<u>E 3.3-13</u>		
By-1 KADIOACHIVE GASEOUS EFFLU	$\frac{\text{ENT} \text{ MONITORING}}{\text{A lt} = \text{A lt} \text{are a to I}$	<u>i INSTRUMEN</u>	<u>TATION</u>
FII – Fillinary instruments	Alt – Alternate I	nstruments ···	<b>,</b>
	MINIMUM CHANNELS		
INSTRUMENT	OPERABLE	<u>APPLICABII</u>	<u>ITY</u> <u>ACTION</u>
1. Gaseous Waste/Process Vent System (PV-1/2)			
a. Noble Gas Activity Monitor	(1)	*	27,29,30A,30B
Alt For Continuous Release: [RM-1GW-109 LRN0	G Rel] may only be us	sed as the comp	arable alternate
Monitoring channel for continuous releases via this pa <u>Alt For Batch Releases:</u> [NONE, see Action 27]; For used as the comparable alternate monitoring channel is Specifically, <u>SINCE</u> this channel does not perform the <u>THEN</u> ACTION 27 shall be followed for batch release	athway. or information, [RM-1 for batch releases of t e same automatic isol es of the BV-1 GWD	GW-109 LRN0 he BV-1 GWD' ation function a Ts or the BV-2	G Rel] SHALL NOT be Ts or the BV-2 GWSTs. Is the primary channel, GWSTs via this pathway.
b. Particulate and Iodine Sampler	(1)	*	32
Pri: Filter Paper & Charcoal Cartridge for [RM-1GW- 1st Alt: Filter Paper & Charcoal Cartridge for [RM-10 2nd Alt: Continuous collection with portable sampling	-109], or GW-108] <sup>(b)</sup> , or g equipment		
<ul> <li>c. System Effluent Flow Rate Measuring Device Pri: [FR-1GW-108], or Alt: [RM-1GW-109 LR STK FL]</li> </ul>	(1)	*	28A
<ul> <li>d. Sampler Flow Rate Measuring Device Used for Particulate and Iodine Sample Collection (see 1.b) Pri: [ABPM-1GW-109-PISFlow], or 1st Alt: Rotameter for [RM-1GW-108] 2nd Alt: Calibrated Flow Instrument</li> </ul>	(1)	*	28B
			,
* During Release	s via this pathway.		
(a) Condition Report generation and reporting in the Radioaction not apply when using an alternate to satisfy inoperability of	ve Effluent Release R f the primary instrum	eport (per Cont ent beyond 30 d	rol 3.3.3.10 Action b) do ays.
<sup>(b)</sup> May be used as a sampled flow path provided flow is verify	ied. Radiation monite	or operability is	not required.
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7-17-19

	Beaver Valley Power Statio		Procedure Nu	mber:
Title	Beaver valley 1 over Statio	· · · · · · · · · · · · · · · · · · ·	Unit:	Level Of Use:
1110.			1/2	General Skill Reference
ODCM	1: Controls for RETS and REMP Programs		Revision:	Page Number: 40 of 83
	ATTACHM Page 3 of ODCM CONTROLS: RETS INSTRUM	ENT F f 13 ENT FOR GAS	EOUS REL	LEASES
	<u>TABLE 3.3-13</u> <u>BV-1 RADIOACTIVE GASEOUS EFFLUEN</u> Pri = Primary Instruments A	(continued) IT MONITORIN .lt = Alternate In	NG INSTRI	J <u>MENTATION</u> a)
	INSTRUMENT	MINIMUM CHANNELS <u>OPERABLE</u>	APPLICAB	ILITY <u>ACTION</u>
2. Aux	iliary BuildingVentilation System (VV-1; Also called V	(1)		20.204
а.	Noble Gas Activity Monitor Pri: [RM-1VS-109 LRNG Rel], or Alt: [RM-1VS-101B]	(1)	*	29,30A
b.	Particulate and Iodine Sampler Pri: Filter Paper & Charcoal Cartridge for [RM-1VS-10	(1) 9], or 2.1011 <sup>(b)</sup> or	*	32
с.	2nd Alt: Continuous collection with portable sampling of System Effluent Flow Rate Measuring Device Pri:, [FR-1VS-101] or	equipment (1)	*	28A
d.	Alt: [RM-1VS-109 LR STK FL] Sampler Flow Rate Measuring Device Used for Particulate and Iodine Sample Collection (see 2.b) Pri: [ABPM-1VS-109-PISFlow], or 1st Alt: [FT-1RM-101] & [FI-1RM-101] 2nd Alt: Calibrated Flow Instrument	(1)	*	28B
3. Rea	ctor Building/SLCRS (CV-1; Also called Elevated Rele	ease)		
a.	Noble Gas Activity Monitor Pri: [RM-1VS-110 LRNG Rel], or Alt: [RM-1VS-107B]	(1)	*	29,30A
b.	<b>Particulate and Iodine Sampler</b> Pri: Filter Paper & Charcoal Cartridge for [RM-1VS-11 1st Alt: Filter Paper & Charcoal Cartridge for [RM-1VS 2nd Alt: Continuous collection with portable sampling of	(1) .0], or S-107] <sup>(b)</sup> , or equipment	*	32
c.	System Effluent Flow Rate Measuring Device Pri:, [FR-1VS-112] <sup>(b)</sup> or Alt: [RM-1VS-110 LR STK FL]	(1)	*	28A
d.	Sampler Flow Rate Measuring Device Used for Particulate and Iodine Sample Collection (see 3.b) Pri: [ABPM-1VS-110-PISFlow], or 1st Alt: Rotameter for [RM-1VS-107] 2nd Alt: Calibrated Flow Instrument	(1)	*	28B
	* During Releases v	via this pathway.		
<sup>(a)</sup> Cor not	ndition Report generation and reporting in the Radioactive apply when using an alternate to satisfy inoperability of the	Effluent Release R	eport (per Con ent beyond 30	ntrol 3.3.3.10 Action b) do days.
<sup>(b)</sup> Ma	y be used as a sampled flow path provided flow is verified	1. Radiation monito	or operability i	is not required.

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Beaver Valley Power Static	on	Procedure Num	ber: /2 ODC 2 02	]
Title:		Unit:	Level Of Use:	1
ODCM: Controls for RETS and REMP Programs		1/2 Revision:	General Skill Reference Page Number:	{
		17	41 of 83	
ATTACHM Page 4 o	IENT F f 13			
ODCM CONTROLS: RETS INSTRUM	IENT FOR GA	SEOUS RELI	EASES	
TABLE 3.3-13 (continued)				
<b>BV-2 RADIOACTIVE GASEOUS EFFLUEN</b>	IT MONITORI	NG INSTRUME	ENTATION	ľ
Pri = Primary Instruments	Alt = Alternate	Instruments <sup>(a)</sup>		
	MINIMUM CHANNELS			
<u>INSTRUMENT</u> 1. SLCRS Unfiltered Pathway (VV-2: Also called Ventilation	<u>OPERABLE</u> n Vent)	<u>APPLICABILI</u>	<u>TY</u> <u>ACTION</u>	
a. Noble Gas Activity Monitor Pri: [2HVS-RQ101B]	(1)	*	29, 30B	
<ul> <li>b. Particulate and Iodine Sampler</li> <li>Pri: Filter Paper &amp; Charcoal Cartridge for [2HVS-RQ10]</li> <li>Alt: Continuous collection with portable sampling equips</li> </ul>	(1) I], or ment	*	> 32	
c. Process Flow Rate Monitor Pri: Monitor Item 29 for [2HVS-VP101]	(1)	*	28A	
d. Sampler Flow Rate Monitor Used for Particulate and Iodine Sample Collection (see 1.b) Pri: [2HVS-FIT101-1], or Alt: Calibrated Flow Instrument	(1)	*	28B	
2. SLCRS Filtered Pathway (CV-2; Also called Elevated Rel	ease)			
a. Noble Gas Activity Monitor Pri: [2HVS-RQ109B]	(1)	*	29, 30B	
b. Particulate and Iodine Sampler Pri: Filter Paper & Charcoal Cartridge for [2HVS-RQ109 Alt: Continuous collection with particula counting action	(1) 9] High Flow Path	* I, Or	32	
<ul> <li>c. Process Flow Rate Monitor</li> <li>Pri: Monitor Item 29 for [2HVS-FR22], or</li> <li>1st Alt: [2HVS-FI22A and FI22C], or</li> <li>2nd Alt: [2HVS-FI22B and FI22D]</li> </ul>	(1)	*	28A	
d. Sampler Flow Rate Monitor Used for Particulate and Iodine Sample Collection (see 2.b) Pri: Monitor Item 28 & 72 for [2HVS-DAU109B], or Alt: Calibrated Flow Instrument	(1)	*	28B	
3. Decontamination Building Vent (DV-2)				1
a. Noble Gas Activity Monitor Pri: [2RMQ-RQ301B]	(1)	*	29	•
<ul> <li>b. Particulate and Iodine Sampler</li> <li>Pri: Filter Paper &amp; Charcoal Cartridge for [2RMQ-RQ30]</li> <li>Alt: Continuous collection with portable sampling equipm</li> </ul>	(1) I], or nent	*	32	
c. Process Flow Rate Monitor	None	None	None	
d. Sampler Flow Rate Monitor Used for Particulate and Iodine Sample Collection (see 3.b) Pri: [2RMQ-FIT301-1], or Alt: Calibrated Flow Instrument	(1)	*	28B	:
<ul> <li>* During Releases via</li> <li>(a) Condition Report generation and reporting in the Radioactive E not apply when using an alternate to satisfy inoperability of the</li> </ul>	a this pathway. Effluent Release R primary instrum	Report (per Contro ent beyond 30 day	ol 3.3.3.10 Action b) do	ł

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Beaver Valley Power Stat	ion	Procedure Nun 1	1ber: /2-ODC-3.03
Title:		Unit:	Level Of Use: General Skill Reference
ODCM: Controls for RETS and REMP Programs		Revision:	Page Number:
ATTACH	IMENT F	<u> </u>	42 of 83
Page 5	5 of 13		
ODCM CONTROLS: RETS INSTRU	JMENT FOR GASE	EOUS REL	EASES
<u>TABLE 3.3-</u>	13 (continued)		
<b>BV-2 RADIOACTIVE GASEOUS EFFLU</b>	ENT MONITORIN	<u>G INSTRU</u>	<u>MENTATION</u>
Pri = Primary Instruments	Alt = Alternate Ins	struments <sup>(a)</sup>	
	MINIMUM		
ኩ የረግሞንን ፤ ኬ ብርኩ ተር	CHANNELS ODED A DLE		
4. DELETED	OFENABLE	AFLICADI	<u>ACHON</u>
5. Waste Gas Storage Vault Vent (WV-2)		N.	
a. Noble Gas Activity Monitor	(1)	*	29
PTI: [2KMQ-KQ303B] b Particulate and Indine Sampler	(1)	*	32
Pri: Filter Paper & Charcoal Cartridge for [2RMQ-RQ Alt: Continuous collection with portable sampling equi	303], or ipment		
c. Process Flow Rate Monitor	None	None	None
d. Sampler Flow Rate Monitor Used for Particulate and Iodine Sample Collection (see 5.b) Pri: [2RMQ-FIT303-1], or Alt: Calibrated Flow Instrument	(1)	*	28B
* During Release (a) Condition Report generation and reporting in the Radioact	es via this pathway. ive Effluent Release Re	port (per Con	trol 3.3.3.10 Action b) do
not apply when using an alternate to satisfy inoperability o	of the primary instrumer	nt beyond 30 c	lays.
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	Door	or Valley Dowor Station	Procedure Nu	umber:
Title	Beav	er valley Power Station		1/2-ODC-3.03
1106.			1/2	General Skill Reference
ODCM: Cont	trols for	RETS and REMP Programs	Revision: 17	Page Number: 43 of 83
	ODCM	ATTACHMENT F Page 6 of 13 CONTROLS: RETS INSTRUMENT FOR GASE	EOUS REI	LEASES
· .		TABLE 3.3-13 (continued)		
		ACTION STATEMENTS		
Action 27	<u>APPL</u>	ICABLE FOR BATCH RELEASES OF BV-1 GA	SEOUS V	VASTE DECAY
	TAN	KS OR BV-2 GASEOUS WASTE STORAGE TA	NKS_	
	With OPER (GWI enviro	the number of channels OPERABLE less than requ ABLE requirement, the contents of the Unit 1 Gas DT's) or the Unit 2 Gaseous Waste Storage Tanks ( onment provided that prior to initiating (or resumin	ired by th eous Was GWST's)-1 g) the rele	e Minimum Channels te Decay Tanks may be released to the ase:
	1.	At least two independent samples of the tank's co two technically qualified members of the Facility release rate calculations and discharge value lines	ntent are a Staff inde up, or	analyzed and at least ependently verify the
	2.	Initiate continuous monitoring with the comparate ODCM Surveillance requirements applicable to t apply to the comparable alternate monitoring cha ODCM Control requirement.	ble alternat he inopera nnel when	te monitoring channel. ble channel shall used to satisfy this
	Other	wise, suspend releases of radioactive effluents via t	his pathw	ay.
Action 28A	<u>APPL</u> DEVI	ICABLE FOR BV-1 SYSTEM EFFLUENT FLOV CES OR BV-2 PROCESS FLOWRATE MONITO	<u>V RATE N</u> D <u>RS</u>	MEASURING
	With t OPER	he number of channels OPERABLE less than requ ABLE requirement, effluent releases via this pathy	ired b <u>y</u> the vay may c	e Minimum Channels ontinue provided:
	1.	The system/process flow rate is estimated at least be at the ODCM design value $^{(1)}$ ), or	once per	4 hours (or assumed to
	2.	Initiate continuous monitoring with the comparable ODCM Surveillance requirements applicable to the apply to the comparable alternate monitoring char ODCM Control requirement.	le alternat he inopera nnel when	e monitoring channel. ble channel shall used to satisfy this
<sup>(1)</sup> In lieu flow ra	of estin ate can 1 1,450 62,000 49,300 23,700 59,000	nating the system/process flow rate at least once per be assumed to be at the following ODCM design v ) cfm = BV-1 Gaseous Waste/Process Vent System ) cfm = BV-1 Auxiliary Building Ventilation Syste ) cfm = BV-1 Reactor Building/SLCRS (CV-1) ) cfm = BV-2 SLCRS Unfiltered Pathway (VV-2) ) cfm = BV-2 SLCRS Filtered Pathway (CV-2)	er 4 hours, alues: 1 (PV-1,2) m (VV-1)	the system/process

· · · ·	Rear	er Valley Power Station	Procedure N	umber:
- Title:			Unit:	1/2-ODC-3.03 Level Of Use:
			1/2	General Skill Reference
ODCM: Con	trols for	RETS and REMP Programs	17	44 of 83
		ATTACHMENT F	<i></i>	
	ODCM	CONTROLS: RETS INSTRUMENT FOR GASI	EOUS RE	LEASES
		TABLE 3.3-13 (continued)		
		ACTION STATEMENTS		
Action 28B	<u>APPL</u> 2 SAN	ICABLE FOR BV-1 SAMPLER FLOW RATE M MPLER FLOWRATE MONITORS	<u>IEASURI</u>	NG DEVICES OR BV-
	With OPER	the number of channels OPERABLE less than requABLE requirement, effluent releases via this path	uired by th way may	ne Minimum Channels continue provided:
	1.	The sampler flow rate is estimated at least once	per 4 hour	s, or
	2.	Initiate continuous monitoring with the compara ODCM Surveillance requirements applicable to apply to the comparable alternate monitoring cha ODCM Control requirement.	ble alterna the inoper annel whe	ate monitoring channel. Table channel shall n used to satisfy this
Action 29	<u>APPL</u>	ICABLE FOR CONTINUOUS RELEASES		
	With OPEF	the number of channels OPERABLE less than req ABLE requirement, effluent releases via this path	uired by th way may	ne Minimum Channels continue provided:
	1.	Grab samples (or local monitor readings) <sup>(1)</sup> are to grab samples are taken, these samples are to be a 24 hours, or	aken at lea analyzed f	ast once per 12 hours. If or gross activity within
	2.	Initiate continuous monitoring with the compara ODCM Surveillance requirements applicable to apply to the comparable alternate monitoring cha ODCM CONTROL requirement.	ble alterna the inoper annel whe	ate monitoring channel. rable channel shall n used to satisfy this
<sup>(1)</sup> For E the in case, least	W-2, the attended the loca once pe	ere are situations where the local monitor (e.g.; the monitoring function, but the communications are l il monitor can be read at least once per 12 hours in r 12 hours.	e RM-80) ost to the -lieu of ob	is capable of performing Control Room. In this otaining grab samples at

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	Reave	er Valley Power Station	Procedure Nu	imber:
Title:		ci valicy i ower Station	Unit:	1/2-ODC-3.03
			1/2	General Skill Reference
ODCM: Con	trols for	RETS and REMP Programs	Revision: 17	Page Number: 45 of 83
	ODCM	ATTACHMENT F Page 8 of 13 CONTROLS: RETS INSTRUMENT FOR GASE	EOUS REI	LEASES
		TABLE 3.3-13 (continued)		
		ACTION STATEMENTS		
Action 30A	<u>APPL</u> <u>CONT</u>	ICABLE FOR THE INITIAL BATCH PURGE O	F THE BV	<u>/-1 REACTOR</u>
	With t OPER this pa system	he number of channels <u>OPERABLE</u> less than requ ABLE requirement, immediately suspend PURGD thway if both RM-1VS-104A and B are not OPER in in service. The following should also be noted:	uired by m NG of Rea RABLE wi	inimum Channels actor Containment via th the purge/exhaust
	1.	As stated, this Action is applicable for INOPERA performing the initial batch purge of the reactor of immediately after reactor containment atmosphere	ABLE mor containmer re equaliza	nitors only when nt atmosphere (i.e.; tion).
	2.	Since all other releases of reactor containment at batch purge) are considered continuous releases, applicable. Therefore, Action 29 is applicable for performing a continuous release of the reactor co	mosphere then this A r INOPER ntainment	(i.e.; after the initial Action is not ABLE monitors when atmosphere.
Action 30B	<u>APPL</u> CONT	ICABLE FOR THE INITIAL BATCH PURGE OF AINMENT	F THE BV	-2 REACTOR
	With the operation of t	he number of channels OPERABLE less than requ ABLE requirement, immediately suspend PURGI thway if both 2HVR-RQ104A and 104B are not O exhaust system in service. The following should a	iired by M NG of Rea PERABL Ilso be not	inimum Channels octor Containment via E with the ed:
	1.	As stated, this Action is applicable for INOPERA performing the initial batch purge of the reactor c immediately after reactor containment atmospher	BLE mon containmer e equaliza	itors only when nt atmosphere (i.e.; tion).
	2.	Since all other releases of reactor containment atr batch purge) are considered continuous releases, t applicable. Therefore, Action 29 is applicable for performing a continuous release of the reactor con	nosphere ( then this A r INOPER ntainment	(i.e.; after the initial Action is not ABLE monitors when atmosphere.
Action 32	<u>APPLI</u>	CABLE FOR CONTINUOUS RELEASES		
	With th OPERA sample ODCM	the number of channels OPERABLE less than reque ABLE requirement, effluent releases via this pathwes are continuously collected with auxiliary sampling A Control 3.11.2.1, Table 4.11-2, or sampled and an	ired by the vay may cong equipm nalyzed or	e Minimum Channels ontinue provided ent as required in nce every 12 hours.

	Beaver Valley Power S	tation		Procedure Num	ber: /2 <b>-</b> 0DC-3.03	
Title:				Unit:	Level Of Use:	1
ODCI	M: Controls for RETS and REMP Program	ns		<u>1/2</u> Revision: 17	Page Number: 46 of 83	1
	ATTA	ACHMENT I	7	_1/	<u>00005</u>	1
	Pa ODCM CONTROL S. DETS DIS	ige 9 of 13		OUS DELI	EASES	1
	ODCM CONTROLS: RETS INS		TOK UASE	OUS KELI	LASES	
	<u>T</u> A	ABLE 4.3-13				
	<u>BV-1 RADIOACTIVE GA</u> INSTRUMENTATION SU	<u>SEOUS EFF</u> JRVEILLAN	<u>LUENT M</u> ICE REQU	<u>ONITORIN</u> IREMENT	<u>IG</u> <u>S</u>	
	Pri = Primary Instrume	nts $Alt = A$	lternate In	struments		
1 Са	INSTRUMENT	CHANNEL <u>CHECK</u>	SOURCE <u>CHECK</u>	CHANNI <u>CALIBRAT</u>	CHANNEL EL OPERATIONAL ION <u>TEST</u>	
1. Ga.	Noble Gas Activity Monitor	Р	P <sup>(4)</sup>	R <sup>(3)</sup>	Q <sup>(1)</sup>	
	Pri: [RM-1GW-108B], or <u>Alt For Continuous Release:</u> [RM-1GW-109 L] alternate monitoring channel for continuous releas <u>Alt For Batch Releases:</u> [NONE, See Action 27] used as the comparable alternate monitoring chan Specifically, <u>SINCE</u> this channel does not perform <u>THEN</u> ACTION 27 shall be followed for batch re	RNG Rel] This ses via this path ]; For information nel for batch rel n the same autor leases of the BV	channel may way. on, [RM-1GV eases of the I matic isolatio /-1 GWDTs of	only be used a V-109 LRNG 3V-1 GWDTs n function as or the BV-2 G	as the comparable Rel] SHALL NOT be s or the BV-2 GWSTs. the primary channel, WSTs via this pathway	
b.	Particulate and Iodine Sampler Pri: Filter Paper & Charcoal Cartridge for [RM-10] 1st Alt: Filter Paper & Charcoal Cartridge for [RM 2nd Alt: Continuous collection with portable samp	W GW-109], or A-1GW-108] <sup>(b)</sup> , pling equipment	NA or	NA	NA	7-17
c.	<b>System Effluent Flow Rate Measuring Device</b> Pri: [FR-1GW-108], or Alt: [RM-1GW-109 LR STK FL]	Р	NA	R	Q	-19
d.	Sampler Flow Rate Measuring Device Used for Particulate and Iodine Sample Collection (see 1.b) Pri: [ABPM-1GW-109-PISFlow], or 1st Alt: Rotameter for [RM-1GW-108] 2nd Alt: Calibrated Flow Instrument	D*	NA	R	Q	7-17-19
	* During Re	eleases via this t	oathway.			
· .	<sup>(b)</sup> May be used as a sampled flow path provided	flow is verified.	Radiation m	nonitor operat	ility is not required.	

Beaver Valley Power Stat	ion		Procedure Numl 1/	Der:	
Title:			Unit:	Level Of Use:	· ·
ODCM: Controls for PETS and PEMP Programs		-	1/2 Revision:	General Skill Referen Page Number:	ice
ODCM. Controls for RETS and REWF Frograms			17	47 of 83	
ATTACE	IMENT F				
ODCM CONTROLS: RETS INSTRU	JMENT FO	OR GASE	OUS RELE	ASES	
TADI	E 4 2 1 2				
	<u>E 4.3-13</u>			<b>a</b>	
BV-I RADIOACTIVE GASEC	<u>US EFFL</u> FILLANC	<u>UENT MC</u> 'F REOLII	<u>DNITORIN</u> REMENTS	G	
Dri – Drimary Instruments	$\frac{1}{1} = \frac{1}{1}$	amata Ing	trumonta	2	
	All – All	emate ms	truments		
2. Auxiliary Building Ventilation System (VV-1; Also calle	d Ventilatio	n Vent)			
a. Noble Gas Activity Monitor	D	M <sup>(4)</sup> ,	R <sup>(3)</sup>	Q <sup>(2)</sup>	
Pri: [RM-1VS-109 LRNG Rel], or Alt: [RM-1VS-101B]		P <sup>(4)</sup> ***			
b. Particulate and Iodine Sampler	w	NA	NA	NA	
Pri: Filter Paper & Charcoal Cartridge for [RM-1VS-1(	)9], or				
2nd Alt: Continuous collection with portable sampling	equipment				
c. System Effluent Flow Rate Measurement	D	NA	R	Q	-19
Device Pri: [FR-1VS-101], or				ň	
Alt: [RM-1VS-109 LR STK FL]			U		
d. Sampler Flow Rate Measuring Device Used for Particulate and Iodine Sample Collection	D	NA	R	Q	
(see 2.b)					
Pri: [ABPM-1VS-109-PISFlow], or 1st Alt: [FT-1RM-101] & [FI-1RM-101]					
2nd Alt: Calibrated Flow Instrument					
3. Reactor Building/SLCRS (CV-1; Also called Elevated R	elease)				$\rangle$
a. Noble Gas Activity Monitor	D	$M^{(4)},$	* R <sup>(3)</sup>	Q <sup>(2)</sup>	:
Alt: [RM-1VS-107B]		1			
b. Particulate and Iodine Sampler	W	NA	NA	NA	
Pri: Filter Paper & Charcoal Cartridge for [RM-1VS-11 1st Alt: Filter Paper & Charcoal Cartridge for [RM-1V	10], or [S-107] <sup>(b)</sup> or				Ι.
2nd Alt: Continuous collection with portable sampling	equipment				1
c. System Effluent Flow Rate	D	NA	R	Q	- 19
Pri: [FR-1VS-112] <sup>(b)</sup> , or					
Alt: [RM-1VS-110 LR STK FL]					
d. Sampler Flow Rate Measuring Device Used for Particulate and Indine Sample Collection (see 3 b)	D	NA	R	Q	
Pri: [ABPM-1VS-110-PISFlow], or					
1st Alt: Rotameter for [RM-1VS-107] 2nd Alt: Calibrated Flow Instrument					7-17-
					19
*** During surging of Proster	Containman	t via thia nat	havoar		
<sup>(b)</sup> May be used as a sampled flow path provided flow is verifi	ed. Radiatic	on monitor of	uway. perability is n	ot required	
I show he was a stand of the st			(****)		1

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7-17-19

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ENT F 13 ENT FOR $($ <u>continued</u> ) <u>EFFLUEN</u> <u>LANCE RI</u> Alt = Alterr Alt = Alterr NNEL Se <u>IECK (</u> ent) D W or t D D e) D	GASEO GASEO <u>d)</u> <u>NT MONI</u> <u>REQUIRE</u> rnate Instr SOURCE <u>CHECK</u> M <sup>(4)</sup> , P <sup>(4)</sup> *** NA NA NA NA NA	IZ-O nit: Leve 1/2 Get evision: Page 17 US RELEAS US RELEAS <u>TORING</u> <u>MENTS</u> uments <u>CHANNEL</u> <u>CALIBRATION</u> R <sup>(3)(6)</sup> NA R R R	In the second se
ENT F 13 ENT FOR ( <u>continued</u> ) <u>EFFLUEN</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>D</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u>	R GASEO d) NT MONI REQUIRE rnate Instr SOURCE <u>CHECK</u> M <sup>(4)</sup> , P <sup>(4)</sup> *** NA NA NA NA	1/2 Get evision: Page 17 US RELEAS TORING MENTS uments CHANNEL CALIBRATION R <sup>(3)(6)</sup> NA R R R	Peral Skill Reference Number: 48 of 83 ES CHANNEL OPERATIONAL TEST Q(5) NA Q Q Q
ENT F 13 ENT FOR $($ <u>continued</u> <u>EFFLUEN</u> <u>LANCE RI</u> <u>Alt = Alterr</u> <u>NNEL Si</u> <u>ECK (</u> ent) D W or t D D e) D	GASEO <u>d)</u> <u>NT MONI</u> <u>REQUIRE</u> rnate Instr <u>SOURCE</u> <u>CHECK</u> M <sup>(4)</sup> , P <sup>(4)</sup> *** NA NA NA NA NA	17 US RELEAS TORING MENTS uments CHANNEL CALIBRATION R <sup>(3)(6)</sup> NA R R	48 of 83 ES CHANNEL OPERATIONAL TEST Q(5) NA Q Q Q
ENT F 13 ENT FOR ( <u>continued</u> ) <u>EFFLUEN</u> <u>LANCE RI</u> Alt = Alterr Alt = Alterr NNEL S <u>HECK (</u> ent) D W or t D D e) D	GASEO <u>MT MONI</u> <u>REQUIRE</u> rnate Instr SOURCE <u>CHECK</u> M <sup>(4)</sup> , P <sup>(4)***</sup> NA NA NA NA NA	US RELEAS <u>TORING</u> <u>MENTS</u> uments <u>CHANNEL</u> <u>CALIBRATION</u> R <sup>(3)(6)</sup> NA R R R	ES CHANNEL OPERATIONAL TEST Q(5) NA Q Q Q
ENT FOR $($ <u>continued</u> ) <u>EFFLUEN</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>LANCE RI</u> <u>D</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Continued</u> <u>Contin</u>	GASEC <u>d)</u> <u>NT MONI</u> <u>REQUIRE</u> rnate Instr <u>SOURCE</u> <u>CHECK</u> M <sup>(4)</sup> , P <sup>(4)</sup> *** NA NA NA NA NA	US RELEAS <u>TORING</u> <u>MENTS</u> uments <u>CHANNEL</u> <u>CALIBRATION</u> R <sup>(3)(6)</sup> NA R R R	ES CHANNEL OPERATIONAL TEST Q(5) NA Q Q Q
<u>continued</u> <u>EFFLUEN</u> <u>LANCE RI</u> Alt = Alterr Alt = Alterr NNEL Se <u>IECK (</u> ent) D W or t D D e) D	$\frac{1}{P}$ $\frac{M}{P}$	TORING MENTS uments CHANNEL CALIBRATION R <sup>(3)(6)</sup> NA R R	CHANNEL OPERATIONAL <u>TEST</u> Q(5) NA Q Q Q
continued EFFLUEN LANCE RI Alt = Alterr NNNEL Se ECK ( ent) D W or t D D e) D	d) <u>NT MONI</u> <u>REQUIRE</u> rnate Instr SOURCE <u>CHECK</u> M <sup>(4)</sup> , P <sup>(4)</sup> *** NA NA NA NA NA	TORING MENTS uments CHANNEL CALIBRATION R <sup>(3)(6)</sup> NA R R R	CHANNEL OPERATIONAL <u>TEST</u> Q(5) NA Q Q Q
$\frac{EFFLUEN}{LANCE RI}$ $\frac{LANCE RI}{LANCE RI}$ $Alt = Alterrised in NNEL Siener (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)$	NT MONI EQUIRE rnate Instr SOURCE <u>CHECK</u> M <sup>(4)</sup> , P <sup>(4)***</sup> NA NA NA NA	<u>TORING</u> <u>MENTS</u> uments <u>CHANNEL</u> <u>CALIBRATION</u> R <sup>(3)(6)</sup> NA R R R	CHANNEL OPERATIONAL <u>TEST</u> Q(5) NA Q Q Q
Alt = Alterr ANNEL S <u>HECK (</u> ent) D W or t D D D D	rnate Instr SOURCE <u>CHECK</u> $M^{(4)},$ $P^{(4)***}$ NA NA NA NA NA NA	IMENTS CHANNEL CALIBRATION R <sup>(3)(6)</sup> NA R R R	CHANNEL OPERATIONAL <u>TEST</u> Q(5) NA Q Q Q
Alt = Alterr INNEL S <u>IECK (</u> ent) D W or t D D e) D	rnate Instr SOURCE <u>CHECK</u> $M^{(4)},$ $P^{(4)***}$ NA NA NA NA NA NA	uments CHANNEL <u>CALIBRATION</u> R <sup>(3)(6)</sup> NA R R R	CHANNEL OPERATIONAL <u>TEST</u> Q(5) NA Q Q Q
ANNEL S <u>HECK (</u> ent) D W or t D D e) D	SOURCE <u>CHECK</u> M <sup>(4)</sup> , P <sup>(4)***</sup> NA NA NA NA	CHANNEL CALIBRATION R <sup>(3)(6)</sup> NA R R R	CHANNEL OPERATIONAL <u>TEST</u> Q(5) NA Q Q Q
ent) D W or t D D e) D	M <sup>(4)</sup> , P <sup>(4)***</sup> NA NA NA NA	R <sup>(3)(6)</sup> NA R R	Q(5) NA Q Q
D W or t D D <b>e</b> ) D	M <sup>(4)</sup> , P <sup>(4)</sup> *** NA NA NA NA	R <sup>(3)(6)</sup> NA R R	Q(5) NA Q Q
W or t D D e) D	NA NA NA M <sup>(4)</sup> , P <sup>(4)</sup> ***	NA R R	NA Q Q
e) D	NA NA M <sup>(4)</sup> ,	R R	Q Q
D D e) D	NA NA M <sup>(4)</sup> , P <sup>(4)</sup> ***	R R	Q Q
D e) D	NA M <sup>(4)</sup> , P <sup>(4)</sup> ***	R	Q
e) D	M <sup>(4)</sup> , P <sup>(4)</sup> ***		
D	M <sup>(4)</sup> , P <sup>(4)</sup> ***		
	T	R <sup>(3)(6)</sup>	Q <sup>(5)</sup>
W ligh Flow Pa t	NA Path, or	NA	NA
D	NA	R	Q
D	NA	R	Q
D		D(3)(6)	<b>C</b> (5)
ט	M <sup>(4)</sup>	K <sup>(3)(9)</sup>	Q
W or t	NA	NA	NA
NA	NA	NA	NA
		D	Q
]	D W or nt NA	D M <sup>(4)</sup> W NA or nt NA NA	D M <sup>(4)</sup> R <sup>(3)(6)</sup> W NA NA or nt NA NA NA D NA R

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Beaver Valley Power Station				ocedure Num	ber: /2-0D0	2-3.03	1
Title:			Ur	nit:	Level Of	Use:	1
ODC	CM: Controls for RETS and REMP Programs	Re	Revision: Page Number: 17 49 of 83				
	ATTACH Page 1 ODCM CONTROLS: RETS INSTRU	IMENT F 2 of 13 JMENT FOR	GASEO	US RELI	EASES		
	<b>TABLE 4.3-</b>	13 (continue	<u>d)</u>				
BV-2 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS							
	Pri = Primary Instruments	Alt = Alter	rnate Instr	uments			
	<u>INSTRUMENT</u>	CHANNEL <u>CHECK</u>	SOURCE <u>CHECK</u>	CHAI <u>CALIBI</u>	NNEL RATION	CHANNEL OPERATIONAL <u>TEST</u>	7
4. DI	ELETED						-17-1
5. wa a.	Noble Gas Activity Monitor	D	M <sup>(4)</sup>	R	(3)(6)	O <sup>(5)</sup>	
	Pri: [2RMQ-RQ303B]						
ь.	<b>Particulate and Iodine Samples</b> Pri: Filter Paper & Charcoal Cartridge for [2RMQ-RQ3 Alt: Continuous collection with portable sampling equi	W 303], or pment	NA	1	ŇA	NA	
c.	Process Flow Rate Monitor	NA	NA	1	ΝA	NA	
d.	Sampler Flow Rate Monitor Used for Particulate and Iodine Sample Collection (see 5.b) Pri: [2RMQ-FIT303-1], or Alt: Calibrated Flow Instrument	D	NA		R	Q	7-17-19

·	Beaver Valley Power Station	Procedure Nu	Imber: 1/2-0DC-3 03					
Title:		Unit:	Level Of Use: General Skill Reference					
ODCM	: Controls for RETS and REMP Programs	172 Revision: 17	Page Number:					
	ATTACHMENT F Page 13 of 13 ODCM CONTROLS: RETS INSTRUMENT FOR GASEOUS RELEASES							
	TABLE 4.3-13 (continued)							
	TABLE NOTATION							
(1)	The CHANNEL OPERATIONAL TEST shall also demonstrate pathway and Control Room Alarm Annunciation occurs if any o	e that autor of the follo	natic isolation of this wing conditions exist:					
	<ul> <li>a. Instrument indicates measured levels above the alarm/tri</li> <li>b. Downscale failure.</li> <li>c. Instrument controls not set in operate mode.</li> </ul>	ip setpoint						
(2)	The CHANNEL OPERATIONAL TEST shall also demonstrate Annunciation occurs if any of the following conditions exist:	e that Cont	rol Room Alarm					
	<ul> <li>a. Instrument indicates measured levels above the alarm/tr</li> <li>b. Downscale failure.</li> <li>c. Instrument controls not set in operate mode.</li> </ul>	ip setpoint	•					
(3)	(3) The initial CHANNEL CALIBRATION for radioactivity measurement instrumentation shall be performed using one or more of the reference standards certified be National Institute of Standards and Technology (NIST) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NIST. These standards should permit calibrating the system over its intended range of energy and rate capabilities. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration should be used, at intervals of at least once per 18 months. This can normally be accomplished during refueling outages.							
(4)	<sup>4)</sup> A SOURCE CHECK may be performed utilizing the installed means or flashing the detector with a portable source to obtain an upscale increase in the existing count rate to verify channel response.							
(5)	The CHANNEL OPERATIONAL TEST shall also demonstrate Annunciation occurs if the instrument indicates measured levels	e that Cont s above the	rol Room Alarm e alarm/trip setpoint.					
(6)	The CHANNEL CALIBRATION shall also demonstrate that C occurs if either of the following conditions exist:	ontrol Roc	om Alarm Annunciation					
	<ol> <li>Downscale failure.</li> <li>Instrument controls are not set in operate mode.</li> </ol>							

	Beaver Valley Power Station	Procedure Nu	umber: 1/2-ODC-3 03						
Title:		Unit:	Level Of Use: General Skill Deference						
ODCM: Con	trols for RETS and REMP Programs	Revision:	Page Number:						
	ATTACHMENT G Page 1 of 5 ODCM CONTROLS: LIQUID EFFLUENT CONCENTRATION								
CONTROLS	: LIQUID EFFLUENT CONCENTRATION								
3.11.1.1	In accordance with T.S. 5.5.2.b and T.S. 5.5.2.c, the correleased at any time from the site (see 1/2-ODC-2.01, F times the EC's specified in 10 CFR Part 20, Appendix E Column 2 for radionuclides other than dissolved or entreferred to as the ODCM Effluent Concentration Limit entrained noble gases, the concentration shall be limited	icentration igure 5-1) 3 (20.1001- ained noble (OEC). Fo I to 2E-4 u	of radioactive material shall be limited to 10 -20.2402), Table 2, e gases. This is or dissolved or Ci/mL total activity.						
<u>Applicability</u>	: At all times.								
Action:									
a. With excee	the concentration of radioactive material released from the ding the above limits; immediately restore the concentrati	e site to un on within t	restricted areas the above limits, and						
b. Subm 20.22	it a Special Report to the Commission within 30 days in a 03(a)(2)(v) and 10 CFR 50.4(b)(1).	ccordance	with 10 CFR						
c. The p	orovisions of ODCM CONTROL 3.0.3 are not applicable.		·						
4.11.1.1.1	Radioactive liquid wastes shall be sampled and analyzed analysis program of ODCM Control 3.11.1.1, Table 4.1	d according 1-1*.	g to the sampling and						
4.11.1.1.2	The results of radioactive analysis shall be used in accor assure that the concentration at the point of release are n ODCM CONTROL 3.11.1.1.	sed in accordance with 1/2-ODC-2.01 to elease are maintained within the limits of							
4.11.1.1.3	When BV-1 primary to secondary leakage exceeds 0.1 g Turbine Building Sump shall be obtained every 8 hours Building Sump concentration does not exceed 1 OEC. 0 is reached, the Turbine Building Sump shall be routed to	gpm (144 g to ensure t Once it is d the Chem	pd), samples of the hat the Turbine letermined that an OEC nical Waste Sump.						
	-								

	Beaver Valley Power Station	Procedure Nu	umber: 1/2-ODC-3.03
Title:		Unit: 1/2	Level Of Use: General Skill Reference
ODCM: Con	ntrols for RETS and REMP Programs	Revision:	Page Number: 52 of 83
	ATTACHMENT G	• <u>* /</u>	<u> </u>
	Page 2 of 5 ODCM CONTROLS: LIQUID EFFLUENT CON	ICENTRATI	ON
SURVEILL	ANCE REQUIREMENTS (continued)		
4.11.1.1.4	When BV-2 primary to secondary leakage exceeds 0. Turbine Building Sump shall be obtained every 8 hou Building Sump concentration does not exceed 1 OEC is reached, the Turbine Building Sump shall be routed hold tank (2SGC-TK21A or 2SGC-TK21B).	1 gpm (144 g urs to ensure t 2. Once it is d d to Steam Ge	pd), samples of the hat the Turbine letermined that an OEC enerator blowdown
4.11.1.1.5	Prior to the BV-2 Recirculation Drain Pump(s) (2DA catch basin 16, a grab sample will be taken. The sam activity at a sensitivity of at least 1E-7 uCi/mL. Wate estimated from the number of pump operations unless instrumentation is provided.	S-P215A/215 ples will be a er volume dis s alternate flo	B) discharging to nalyzed for gross charged shall be w or volume
<ul> <li>Radioactive as specified pump discha</li> </ul>	liquid discharges are normally via batch modes. BV-1 and BV-2 T in ODCM SURVEILLANCE REQUIREMENT 4.11.1.1.3 and 4.1 arge shall be monitored as specified in ODCM SURVEILLANCE R	urbine Building 1.1.1.4. The BV EQUIREMENT	Drains shall be monitored -2 Recirculation drain 74.11.1.1.5, respectively.
• • • •			
	<i>r</i>		

Beave	er Valley Po	wer Station		Procedur	re Number: 1/2-ODC-3 03
Title:				Unit:	Level Of Use:
ODCM: Controls for	RETS and REMP	Programs		1/2 Revision 17	Page Number: 53 of 83
OD	OCM CONTROLS	ATTACHME Page 3 of LIQUID EFFL	NT G 5 .UENT CONCE	ENTRA	ATION
		TABLE 4.1	<u>11-1</u>	• T 3701	
<u>KADIUA</u>	<u>CTIVE LIQUID</u>	WASTE SAMPL	<u>ING AND AN</u>	<u>ALYSI</u>	<u>S PROGRAM</u>
LIQUID RELEASE TYPE	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYPE OF ACTIVITY ANALYSIS	5	LOWER LIMIT OF DETECTION (LLD) (uCi/mL) <sup>(a)</sup>
A. Batch Waste Release Tanks <sup>(d)</sup>	P Each Batch <sup>(h)</sup>	P Each Batch <sup>(h)</sup>	Principal Gamma Emitters <sup>(f)</sup>		5E-7
			I-131		1E-6
	P One Batch/M <sup>(h)</sup>	М	Dissolved a Entrained Ga (Gamma Emit	nd ses ters)	1E-5
	P P	M .	H-3		1E-5
	Each Batch <sup>(11)</sup>	Composite <sup>(0)</sup>	Gross Alpha	a	1E-7
	P D I D I D	Q (h)	Sr-89, Sr-90	)	5E-8
	Each Batch <sup>(1)</sup>	Composite(0)	Fe-55		1E-6
B. Continuous Releases <sup>(e)(g)</sup>	Grab Sample <sup>(g)</sup>	W Composite <sup>(c)</sup>	Principal Gan Emitters <sup>(f)</sup>	nma	5E-7
			I-131		1E-6
	Grab Sample <sup>(g)</sup>	М	Dissolved an Entrained Ga (Gamma Emit	nd ses ters)	1E-5
· · · · · ·	Grab Sample <sup>(g)</sup>	M G (w)	H-3		1E-5
		Composite <sup>(c)</sup>	Gross Alpha		1E <b>-7</b>
	Grab Sample <sup>(g)</sup>	Q	Sr-89, Sr-90	)	5E-8
		Composite	Fe-55		1E-6

Beaver Valley Power Station	Procedure Ni	<sup>1mber:</sup> 1/2-ODC-3.03				
Title:	Unit: 1/2	Level Of Use: General Skill Reference				
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number: 54 of 83				
ATTACHMENT G Page 4 of 5 ODCM CONTROLS: LIQUID EFFLUENT CON	CENTRATI	ON				
TABLE 4.11-1 (continued)						
TABLE NOTATION						
(a) The LLD is the smallest concentration of radioactive material in with 95% probability with 5% probability of falsely concluding a "real" signal.	n a sample th that a blank	at will be detected observation represents				
For a particular measurement system (which may include radi	iochemical s	eparation):				
LLD = $4.66 \text{ Sb}$ (E)(V)(2.22)(Y) exp(- $\lambda\Delta T$ )						
where:						
LLD is the lower limit of detection as defined above (as pCi p	er unit mass	or volume);				
$S_b$ is the standard deviation of the background counting rate o sample as appropriate (as counts per minute);	r of the cour	ting rate of a blank				
E is the counting efficiency (as counts per transformation);						
V is the sample size (in units of mass or volume);						
2.22 is the number of transformations per minute per picocuri	e;					
Y is the fractional radiochemical yield (when applicable);						
$\lambda$ is the radioactive decay constant for the particular radionucl	lide;					
$\Delta T$ is the elapsed time between sample collection (or end of the time of counting (for environmental samples, not plant effluent efflue	$\Delta T$ is the elapsed time between sample collection (or end of the sample collection period) and time of counting (for environmental samples, not plant effluent samples).					
The value of $S_b$ used in the calculation of the LLD for a detection system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverified theoretically predicted variance. Typical values of E, V, Y and $\Delta T$ should be used in the calculations.						
The LLD is defined as an <u>a priori</u> (before the fact) limit represent measurement system and not as <u>a posteriori</u> (after the fact) lin	senting the canit for a parti	apability of a icular measurement.				

	Beaver Valley Power Station	Procedure Nur	nber: /2-ODC-3.03		
Title:		Unit: 1/2	Level Of Use: General Skill Reference		
ODC	M: Controls for RETS and REMP Programs	Revision:	Page Number: 55 of 83		
	ATTACHMENT G Page 5 of 5 ODCM CONTROLS: LIQUID EFFLUENT CONCE	ENTRATIO	DN		
	TABLE 4.11-1 (continued)				
	TABLE NOTATION				
(b)	A composite sample is one in which the quantity of liquid sample of liquid waste discharged and in which the method of sampling which is representative of the liquids released.	led is prope employed	ortional to the quantity results in a specimen		
<sup>(c)</sup> To be representative of the quantities and concentrations of radioactive materials in liquid effluents, samples shall be collected continuously in proportion to the rate of flow of the effluent stream. Prior to analyses, all samples taken for the composite shall be thoroughly mixed in order for the composite sample to be representative of the effluent release.					
<sup>(d)</sup> A batch release exists when the discharge of liquid wastes is from a discrete volume. Prior to sampling for analyses, each batch shall be isolated, and then thoroughly mixed to assure representative sampling.					
<sup>(e)</sup> A continuous release exists when the discharge of liquid wastes is from a non-discrete volume; e.g., from a volume of a system having an input flow during the continuous release. Releases from the Turbine Building Drains and the AFW Pump Bay Drain System and Chemical Waste Sump are considered continuous when the primary to secondary leak rate exceeds 0.1 gpm (142 gpd).					
(f)	The principal gamma emitters for which the LLD specification v following radionuclides: Mn-54, Fe-59, Co-58, Co-60, Zn-65, M and Ce-144. This list does not mean that only these nuclides are Other peaks which are measurable and identifiable, together with be identified and reported. Nuclides which are below the LLD for reported as "less than" the nuclide's LLD, and should not be repor- level for that nuclide. The "less than" values should not be used calculations. When unusual circumstances result in LLD's higher be documented in the Radioactive Effluent Release Report.	vill apply a Ao-99, Cs- to be dete to the above or the anal orted as bei in the requ er than requ	tre exclusively the 134, Cs-137, Ce-141, cted and reported. e nuclides, shall also yses should be ing present at the LLD tired dose nired, the reasons shall		
(g)	When radioactivity is identified in the secondary system, a RWI monthly basis to account for the radioactivity that will eventuall River.	)A-L shoul y be discha	d be prepared on a rged to the Ohio		
(h)	Whenever the BV-2 Recirculation Drain Pump(s) are dischargin will be performed by means of a grab sample taken every 4 hour	g to catch l	pasin 16, sampling		

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-	Beav	er Valley Power Station	Procedure Number: 1/2-ODC-3-03					
Title:			Unit:	Level Of Use:				
ODCM: Con	trols for	RETS and REMP Programs	Revision:	Page Number:				
	ATTACHMENT H Page 1 of 1 ODCM CONTROLS: LIQUID EFFLUENT DOSE							
CONTROLS	: LIQU	ID EFFLUENT DOSE						
<ul> <li>3.11.1.2 In accordance with T.S.5.5.2.d and T.S. 5.5.2.c, the dose or dose commitment to MEMBER(S) OF THE PUBLIC from radioactive materials in liquid effluents released from the reactor unit (see 1/2-ODC-2.01 Figure 5-1), which is considered to include the onsite ISFSI, shall be limited:</li> <li>a During any calendar quarter to less than or equal to 1.5 mrem to the total body.</li> </ul>								
	b.	and to less than or equal to 5 mrem to any organ, During any calendar year to less than or equal to	and 3 mrem to	the total body and to				
		less than or equal to 10 mrem to any organ.						
<u>Applicability</u>	: A	t all times.						
Action:								
a. With consid the Co Specia action assure includ radiol CFR	a. With the calculated dose from the release of radioactive materials in liquid effluents, which is considered to include the onsite ISFSI, exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to 10 CFR 20.2203(a)(2)(v) and 10 CFR 50.4(b)(1), a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases, and the proposed corrective actions to be taken to assure the subsequent releases will be within the above limits. (This Special Report shall also include (1) the results of radiological analyses of the drinking water source and (2) the radiological impact on finished drinking water supplies with regard to the requirements of 40 CER 141. Sofo Drinking Water Act)*							
b. The p	rovisio	ns of ODCM CONTROL 3.0.3 are not applicable.						
SURVEILLA	NCE R	REQUIREMENTS						
4.11.1.2.1 <u>Dose Calculations</u> . Cumulative dose contributions from liquid effluents, which is considered to include the onsite ISFSI, shall be determined in accordance with 1/2-ODC-2.01 at least once per 31 days.								
* Applicable the plant di	* Applicable only if drinking water supply is taken from the receiving water body within three miles of the plant discharge (three miles downstream only).							

			Procedure N	umber:					
		Beaver Valley Power Station	1/2-ODC-3.03						
Title:			Unit: 1/2	Level Of Use: General Skill Reference					
ODCN	M: Con	trols for RETS and REMP Programs	Revision:	Page Number:					
		ATTACHMENT I		57 of 83					
	Page 1 of 1								
	ODCM CONTROLS: LIQUID RADWASTE TREATMENT SYSTEM								
CON	TROLS	: LIQUID RADWASTE TREATMENT SYSTEM							
3.11.	1.3	In accordance with T.S.5.5.2.f, the Liquid Radwaste Tre reduce the radioactive materials in each liquid waste bat projected doses due to liquid effluent releases from the r Figure 5-1) when averaged over 31 days would exceed 0 mrem to any organ.	atment Sy ch prior to reactor uni ).06 mrem	stem shall be used to the its discharge when the t (see 1/2-ODC-2.01 to the total body or 0.2					
Appli	icability	: At all times.							
<u>Actio</u>	<u>on</u> :								
a.	With and s 50.4(	liquid waste being discharged without treatment and exceed ubmit to the Commission within 30 days pursuant to 10 CI b)(1) a Special Report which includes the following inform	eding the 1 FR 20.220 nation:	imits specified, prepare 3(a)(2)(v) and 10 CFR					
	1.	Identification of the inoperable equipment or subsystems	s and the r	eason for inoperability.					
	2.	Action(s) taken to restore the inoperable equipment to op	the inoperable equipment to operational status, and						
	3.	Summary description of action(s) taken to prevent a recurrence.							
b.	The p	rovisions of ODCM CONTROL 3.0.3 are not applicable.							
SURV	VEILLA	ANCE REQUIREMENTS							
4.11.1	1.3.1	Doses due to liquid releases shall be projected at least or with 1/2-ODC-2.01.	nce per 31	days, in accordance					

	Beaver Valley Power Station	Procedure N	umber: 1/2-ODC-3.03
Title:		Unit:	Level Of Use: Conoral Skill Deference
ODCM: Co	ntrols for RETS and REMP Programs	Revision:	Page Number:
	ATTACUMENT I	17	58 of 83
	Page 1 of 1 ODCM CONTROLS: LIQUID HOLDU	P TANKS	
CONTROL	S: LIQUID HOLDUP TANKS		
3.11.1.4	In accordance with T.S.5.5.8, the quantity of radioac following tanks shall be limited to the values listed be dissolved or entrained noble gases.	tive material o below, excludi	contained in each of the ng tritium and
	<ul> <li>a. ≤ 18 Curies: 1BR-TK-6A (Unit 1 Primary Water Storesting)</li> <li>b. ≤ 18 Curies: 1BR-TK-6B (Unit 1 Primary Water Storestore)</li> <li>c. ≤ 7 Curies: 1LW-TK-7A (Unit 1 Steam Generator Drestore)</li> <li>d. ≤ 7 Curies: 1LW-TK-7B (Unit 1 Steam Generator Drestore)</li> <li>e. ≤ 6 Curies: 1QS-TK-1 (Unit 1 Refueling Water Stores)</li> <li>f. ≤ 62 Curies: 2QSS-TK21 (Unit 2 Refueling Water Stores)</li> <li>g. ≤ 10 Curies: Unit 1 and 2 miscellaneous temporary or</li> </ul>	rage Tank) rage Tank) rain Tank) rain Tank) ge Tank-RWS rorage Tank-RW utside radioact	T) VST) ive liquid storage tanks.
APPLICAB	ILITY: At all times.		
ACTION:			
a. With the complian performe (i.e.; at th to be exc hours rec	quantity of radioactive material in the tank exceeding the lin ince to the limits of 10 CFR Part 20, Appendix B, Table 2, Co ed at the nearest potable water supply, and the nearest surface the entrance to the Midland Water Treatment Facility). <u>IF</u> the weeded, <u>THEN</u> immediately suspend all additions of radioacti- duce the tank contents to within the limits set forth in 10 CFR	nit, perform cal lumn 2. These water supply i limits of 10 C ve material to t Part 20, and	culations to determine calculations shall be n the unrestricted area FR Part 20 are determined he tank and within 48
b. Submit a descriptio Part 20.	Special Report in accordance with 10 CFR 50.4 (b) (1) with on of activities planned and/or taken to reduce the contents to	in 30 days and within the lim	include a schedule and a its set forth in 10 CFR
c. The prov	visions ODCM Control 3.0.3 are not applicable.		
SURVEILL	ANCE REQUIREMENTS		
<u>_</u>			
4.11.1.4.1	The quantity of radioactive material contained in each of and 2 RWST's) shall be determined to be within the abov sample of the tank's contents at least once per 7 days whe to the tank.	the above liste e limit by analy n radioactive n	d tanks (except the Unit 1 vzing a representative naterials are being added
4.11.1.4.2	<u>SINCE</u> additions of radioactive material to the Unit 1 and end of a refueling outage (i.e.; drain down of the reactor of compliance to this limit shall be performed as follows:	2 RWST's are cavity back to t	normally made at the he RWST), <u>THEN</u>
	The quantity of radioactive material contained in the Unit be within the above limit by analyzing a representative sa days after transfer of reactor cavity water to the respectiv	t 1 and 2 RWS' imple of the tar e Unit's RWST	Γ's shall be determined to k's contents within 7

······································		Procedure N	umber					
-	Beaver Valley Power Station		1/2-ODC-3.03					
Title:		Unit: 1/2	Level Of Use: General Skill Reference					
ODCM: Con	trols for RETS and REMP Programs	Revision:	Page Number: 50 of 83					
	ATTACHMENT K Page 1 of 5 ODCM CONTROLS: GASEOUS EFFLUENT DOSE RATE							
CONTROLS	: GASEOUS EFFLUENT DOSE RATE							
3.11.2.1 In accordance with T.S.5.5.2.c and T.S. 5.5.2.g, the dose rate in the unrestricted areas (see 1/2-ODC-2.02 Figure 5-1) due to radioactive materials released in gaseous effluents which is considered to include the onsite ISFSI, from the site shall be limited to the following values:								
	a. The dose rate limit for noble gases shall be $\leq 500$ r 3000 mrem/yr to the skin*, and	mrem/yr to	the total body and $\leq$					
	b. The dose rate limit, inhalation pathway only, for I- radionuclides in particulate form (excluding C-14) eight days shall be $\leq$ 1500 mrem/yr to any organ.	131, tritiu with half-	m and all lives greater than					
<u>Applicability</u>	: At all times.							
Action:								
a. With th with the	e dose rate(s) exceeding the above limits, immediately dec above limits(s), and	rease the	release rate to comply					
b. Submit and 10	a Special Report to the Commission within 30 days pursua CFR 50.4(b)(1).	ant to 10 C	CFR 20.2203(a)(2)(v)					
c. The pro	visions of ODCM CONTROL 3.0.3 are not applicable.							
SURVEILLA	NCE REQUIREMENTS							
4.11.2.1.1 <sub>1</sub>	4.11.2.1.1 The dose rate due to noble gaseous effluents, which is considered to include the onsite ISFSI, shall be determined to be within the above limits in accordance with 1/2-ODC-2.02.							
4.11.2.1.2 The dose rate, inhalation pathway only, for I-131, tritium and all radionuclide particulate form (excluding C-14) with half-lives greater than eight days in ga effluents, which is considered to include the onsite ISFSI, shall be determined within the above limits in accordance with the methods and procedures of the obtaining representative samples and performing analyses in accordance with sampling and analysis program specified in ODCM Control 3.11.2.1, Table 4.								
*During contai	nment purge the dose rate may be averaged over 960 minutes.							

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Beaver V	Beaver Valley Power Station						
Title:				Unit: 1/2	Level Of Use: General Skill Reference		
ODCM: Controls for RET	OCM: Controls for RETS and REMP Programs						
ODC	ATTACHMENT K Page 2 of 5 ODCM CONTROLS: GASEOUS EFFLUENT DOSE RATE						
	<u>TABLE 4.11-2</u>						
RADIOACTIV	E GASEOUS WA	ASTE SAMPLI	NG AND AN	NALYSI	<u>S PROGRAM</u>		
GASEOUS RELEASE TYPE	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYP OF ACTIV ANALY	E ITY 'SIS	LOWER LIMIT OF DETECTION (LLD) (uCi/mL) <sup>(a)</sup>		
A. Waste Gas Storage Tank	P Each Tank Grab Sample	P Each Tank	Principal Gamma Emitters <sup>(g)</sup>		1E-4		
	Each Tank* Grab Sample	Each Tank*	H-3*		1E-6		
B. Containment Purge	P Each Purge <sup>(b)</sup>	P Each Purge <sup>(b)</sup>	Principal Gamma Emitters <sup>(g)</sup>		1E-4		
	Grab Sample		H-3		1E-6		
C. Ventilation Systems <sup>(h)</sup> VV-1 (UI PAB/Ventilation Vent)	M <sup>(b)(c)(e)</sup> Grab Sample	M <sup>(b)</sup>	Principal Gamma Emitters <sup>(g)</sup>		1E-4		
CV-1 (U1 Rx Cont/SLCRS Vent) PV-1/2 (U1/2 GW/Process Vent) VV-2 (U2 SLCRS Unfiltered Path) CV-2 (U2 SLCRS Filtered Path) DV-2 (U2 Decon Bldg Vent) WV-2 (U2 Waste Gas Vault Vent)			H-3		1E-6		

\* The H-3 concentration shall be estimated prior to release and followed up with an H-3 grab sample from the Ventilation System during release.

Beave	er Valley Pov	ver Station		Procedure	Number: 1/2-ODC-3.03
Title:			_	Unit: 1/2	Level Of Use: General Skill F
ODCM: Controls for	RETS and REMP P	rograms	-	Revision:	Page Number:
. (	ODCM CONTROL	ATTACHMEN Page 3 of 5 S: GASEOUS E	T K FFLUENT DO	SE RA	TE
	<u>T</u> 2	ABLE 4.11-2 (cc	ontinued)		
RADIOAC	CTIVE GASEOUS	WASTE SAMPI	LING AND AN	ALYSI	S PROGRAM
GASEOUS RELEASE TYPE	SAMPLING FREQUENCY	MINIMUM ANALYSIS FREQUENCY	TYPE OF ACTIVIT ANALYSI	Y	LOWER LIMI DETECTIO (LLD) (uCi/mL) <sup>(2</sup>
D. All Ventilation Systems Listed	Continuous <sup>(f)</sup>	W <sup>(d)</sup>	I-131		1E-12
Above (in C.) Which Produce	in C.) Produce	Charcoal Sample	I-133	.	1E-10
Continuous Release	Continuous <sup>(f)</sup>	W <sup>(d)</sup> Particulate Sample	Principal Gan Emitters <sup>(g)</sup> (I-131, Other	nma	1E-11
	Continuous <sup>(f)</sup>	M Composite Particulate Sample	Gross Alpha	a	1E-11
	Continuous <sup>(f)</sup>	Q Composite Particulate Sample	Sr-89, Sr-90	)	1E-11
	Continuous <sup>(f)</sup>	Noble Gas Monitor	Noble Gases Gross Beta ar Gamma	s nd	1E-6

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Beaver Valley Power Station		Procedure Nun	nber: /2-ODC-3.03		
Title:		Unit:	Level Of Use: General Skill Reference		
ODCM	I: Controls for RETS and REMP Programs	Revision:	Page Number: 62 of 83		
	ATTACHMENT K Page 4 of 5 ODCM CONTROLS: GASEOUS EFFLUENT DOSE RATE				
	TABLE 4.11-2 (continued)				
	TABLE NOTATION				
	·				
(a)	The Lower Limit of Detection (LLD) is defined in Table Notation (a) of 6 for ODCM Surveillance Requirement 4.11.1.1.	ODCM Cont	rol 3.11.1.1, Table 4.11-1		
(b)	(b) Samples (grab particulate, iodine & noble gas) and analysis shall also be performed following SHUTDOWN, STARTUP, or a THERMAL POWER change exceeding 15% of RATED THERMAL POWER within a 1 hour period. This requirement does not apply if (1) analysis shows that the Dose Equivalent I-131 concentration in the primary coolant has not increased more than a factor of 3; and (2) the noble gas monitor shows that effluent activity has not increased more than a factor of 3.				
	<u>Clarification</u> : All samples shall be obtained within 24 hours of reaching the intended steady state power level, and analyzed within 48 hours of reaching the intended steady state power level.				
	<u>Applicability:</u> Unit 1 Ventilation Systems (VV-1, CV-1 and/or PV-1/2), or Unit 2 Ventilation Systems (VV-2, CV-2 and/or PV-1/2), as appropriate. Specifically, sample the ventilation release path(s) that show a factor of 3 increase on the noble gas effluent monitor. <sup>(3.1.16)</sup> ( <sup>3.1.18)</sup>				
(c)	Tritium grab samples shall be taken at least once per 24 hours (from the a the refueling canal area) when the containment refueling canal is flooded completion of vessel defueling. Sampling shall resume upon commencer	appropriate v Sampling n ment of vesse	entilation release path of nay be terminated after el refueling.		
	Applicability - (MODE 6): Unit 1 Ventilation System (VV-1 or CV-1), or CV-2), that is aligned to the Reactor Containment Building atmospher release path, samples may be obtained from the Reactor Containment Bu	or Unit 2 Ve e. In lieu of ilding atmos	ntilation System (VV-2 sampling the ventilation phere. <sup>(3.1.11)</sup> (3.1.19)		
(d)	<u><b>Part 1:</b></u> Samples (continuous particulate & iodine) shall be changed at lease the completed within 48 hours after changing, or after removal from samples after changing at the completed within 48 hours at the completed within	ast once per ( pler.	7 days and analyses shall		
	Applicability for Part 1: Unit 1 and Unit 2 Ventilation Systems (VV-1, WV-2).	CV-1, PV-1/	/2, VV-2, CV-2, DV-2 &		
	<b>Part 2:</b> Samples (continuous particulate & iodine) shall also be changed 7 days following each SHUTDOWN, STARTUP, or THERMAL POWE THERMAL POWER within a 1 hour period and analyses shall be compl When samples collected for 24 hours are analyzed, the corresponding LL 10. This requirement does not apply if: (1) analysis shows that the DOSI in the reactor coolant has not increased more than a factor of 3; and (2) the effluent activity has not increased more than a factor of 3.	at least once R change ex eted within 4 .Ds may be in E EQUIVAL ne noble gas	per 24 hours for at least ceeding 15% of RATED 8 hours of changing. ncreased by a factor of ENT I-131 concentration monitor shows that		
	<b><u>Clarification</u></b> : All samples shall be changed within 24 hours of reaching and analyzed within 48 hours of reaching the intended steady state power	the intended r level.	steady state power level,		
	<b>Applicability for Part 2:</b> Unit 1 Ventilation Systems (VV-1, CV-1 and/o Systems (VV-2, CV-2 and/or PV-1/2), as appropriate. Specifically, change iodine samples for the ventilation release path(s) that show a factor of 3 i monitor. <sup>(3.1.16)</sup> (3.1.18)	or PV-1/2), o ge out the con increase on th	r Unit 2 Ventilation ntinuous particulate, ne noble gas effluent		

	Beaver Valley Power Station	Procedure Nu	mber:		
Title:		Unit:	Level Of Use:		
ODC	M: Controls for RETS and REMP Programs	<u>1/2</u> Revision: 17	Page Number: 63 of 83		
	ATTACHMENT K	• <i>i</i>			
	Page 5 of 5 ODCM CONTROLS: GASEOUS EFFLUENT D	OSE RATE	E		
(e)	Tritium grab samples shall be taken at least once per 7 days (from the appropriate ventilation release path of the spent fuel pool area) whenever spent fuel is in the spent fuel pool.				
	<b>Applicability:</b> Unit 1 Ventilation System (CV-1), or Unit 2 Ventilation System (CV-2) that is aligned to the Fuel Handling Building atmosphere. In lieu of sampling the ventilation release path, samples may be obtained from the Fuel Handling Building atmosphere. <sup>(3.1.11)</sup> ( <sup>3.1.19</sup> )				
(f)	f) The average ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with ODCM CONTROLS 3.11.2.1, 3.11.2.2, and 3.11.2.3.				
-	<b>Clarification:</b> The average ratio of the sample flow rate to the sampled stream flow rate can be determined, but it must not be used in dose and dose rate calculation. Specifically, use of this ratio would provide non-conservative dose calculations, and would compromise licensee response to NRC Unresolved Item 50-334/83-30-05. For information, a comprehensive three-year Radiation Monitor Particle Study was performed in response to the unresolved item's concern that the effluent monitors were not collecting representative samples per ANSI N13.1. The results of that study concluded that a correction factor (minimum CF of 2) must be applied to particulate sample volume calculations and subsequent dose and dose rate calculations. Specifically, the minimum CF of 2 must be utilized in-lieu of actual ratios of sample flow rate to the sampled stream flow rate. In summary, the minimum CF of 2 provides adequate compensation for any negative bias in particulate sample collection.				
	Applicability: Unit 1 Ventilation Systems (VV-1, CV-1 & PV-1/2), and CV-2).	Unit 2 Venti	ilation Systems (VV-2 &		
(g)	The principal gamma emitters for which the LLD specification will apply radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, and Xe-138 for 59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141, and Ce-144 for does not mean that only these nuclides are to be detected and reported. C identifiable, together with the above nuclides, shall also be identified and the LLD for the analyses should not be reported as being present at the L1 unusual circumstances result in LLD's higher than required, the reasons s Radioactive Effluent Release Report.	v are exclusive gaseous em or particulate other peaks v reported. N LD level for hall be docur	vely the following issions and Mn-54, Fe- e emissions. This list which are measurable and fuclides which are below that nuclide. When mented in the Annual		
(h)	Only when this release path is in use.				
	Applicability: Unit 1 and Unit 2 Ventilation Systems (VV-1, CV-1, PV-	1/2, VV-2, C	2V-2, DV-2 & WV-2).		

Title: ODCM: Controls for RETS and REMP Programs ATTACHMENT L Page 1 of 1 ODCM CONTROLS: DOSE- NOBLE GA CONTROLS: DOSE-NOBLE GASES 3.11.2.2 In accordance with T.S. 5.5.2.e and T.S. 5.5.2.h, the air unrestricted areas (see 1/2-ODC-2.02 Figure 5-1), due t effluents, which is considered to include the onsite ISFS following: a. During any calendar quarter, to ≤ 5 mrad for gamm beta radiation. b. During any calendar year, to ≤ 10 mrad for gamm radiation	Unit: 1/2 Revision: 	Level Of Use: General Skill Reference Page Number: 64 of 83
<ul> <li>ODCM: Controls for RETS and REMP Programs ATTACHMENT L Page 1 of 1 ODCM CONTROLS: DOSE-NOBLE GASE </li> <li>CONTROLS: DOSE-NOBLE GASES 3.11.2.2 In accordance with T.S. 5.5.2.e and T.S. 5.5.2.h,, the air unrestricted areas (see 1/2-ODC-2.02 Figure 5-1), due t effluents, which is considered to include the onsite ISFS following: <ul> <li>a. During any calendar quarter, to ≤ 5 mrad for gamm beta radiation.</li> <li>b. During any calendar year, to ≤ 10 mrad for gamm radiation</li> </ul></li></ul>	ASES r dose from o noble gas SI, shall be ma radiatio	Page Number: 64 of 83
ATTACHMENT L Page 1 of 1 ODCM CONTROLS: DOSE- NOBLE GA CONTROLS: DOSE-NOBLE GASES 3.11.2.2 In accordance with T.S. 5.5.2.e and T.S. 5.5.2.h,, the air unrestricted areas (see 1/2-ODC-2.02 Figure 5-1), due t effluents, which is considered to include the onsite ISFS following: a. During any calendar quarter, to ≤ 5 mrad for gamm beta radiation. b. During any calendar year, to ≤ 10 mrad for gamm radiation	ASES dose from o noble gas SI, shall be ma radiatio	a the reactor unit in ses released in gaseous limited to the
<ul> <li>CONTROLS: DOSE-NOBLE GASES</li> <li>3.11.2.2 In accordance with T.S. 5.5.2.e and T.S. 5.5.2.h,, the air unrestricted areas (see 1/2-ODC-2.02 Figure 5-1), due t effluents, which is considered to include the onsite ISFS following: <ul> <li>a. During any calendar quarter, to ≤ 5 mrad for gamm beta radiation.</li> <li>b. During any calendar year, to ≤ 10 mrad for gamm radiation.</li> </ul> </li> </ul>	dose from o noble gas SI, shall be ma radiatio	the reactor unit in ses released in gaseous
<ul> <li>3.11.2.2 In accordance with T.S. 5.5.2.e and T.S. 5.5.2.h,, the air unrestricted areas (see 1/2-ODC-2.02 Figure 5-1), due t effluents, which is considered to include the onsite ISFS following:</li> <li>a. During any calendar quarter, to ≤ 5 mrad for gamm beta radiation.</li> <li>b. During any calendar year, to ≤ 10 mrad for gamm radiation.</li> </ul>	dose from o noble gas SI, shall be ma radiatio	the reactor unit in ses released in gaseous
<ul> <li>a. During any calendar quarter, to ≤ 5 mrad for gamme beta radiation.</li> <li>b. During any calendar year, to ≤ 10 mrad for gammer adjustion</li> </ul>	ma radiatio	limited to the
b. During any calendar year, to $\leq 10$ mrad for gamm radiation		on and $\leq 10$ mrad for
Turiution.	a radiation	and $\leq 20$ mrad for beta
Applicability: At all times.		
Action:		
a. With the calculated air dose from radioactive noble gases in gase to include the onsite ISFSI, exceeding any of the above limits, pr Commission within 30 days, pursuant to 10 CFR 20.2203(a)(2)(v Special Report which identifies the cause(s) for exceeding the lin actions taken to reduce the releases and the proposed corrective a subsequent releases will be within the above limits.	ous effluer repare and s ) and 10 C nit(s) and c actions to b	nts, which is considered submit to the CFR 50.4(b)(1), a lefines the corrective be taken to assure the
b. The provisions of ODCM CONTROL 3.0.3 are not applicable.		
SURVEILLANCE REQUIREMENTS		
4.11.2.2.1 <u>Dose Calculations</u> . Cumulative dose contributions shall with 1/2-ODC-2.02 at least once every 31 days.	l be determ	nined in accordance

Beaver Valley Power Station	Procedure N	umber: 1/2-ODC-3.03
Title:	Unit:	Level Of Use:
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number:
ATTACHMENT M Page 1 of 1 ODCM CONTROLS: DOSE - RADIOIODINES AND	PARTICU	LATES
CONTROLS: DOSE-RADIOIODINES, RADIOACTIVE MATERIA AND RADIONUCLIDES OTHER THAN NOBLE GA	AL IN PAR' ASES	TICULATE FORM,
3.11.2.3 In accordance with T.S. 5.5.2.e and T.S. 5.5.2.i, the dop PUBLIC from radioiodines and radioactive materials in and radionuclides (other than noble gases) with half-liv gaseous effluents releases from the reactor unit (see 1/2 considered to include the onsite ISFSI, shall be limited	se to MEMI n particular yes greater t 2-ODC-2.02 to the follo	BER(S) OF THE form (excluding C-14) han eight days in 2 Figure 5-1), which is wing:
a. During any calendar quarter to $\leq$ 7.5 mrem to a	ny organ, ai	nd
b. During any calendar year to $\leq 15$ mrem to any c	organ.	
Applicability: At all times.		
Action:		
a. With the calculated dose from the release of radioiodines, radio form, (excluding C-14), and radionuclides (other than noble ga eight days, in gaseous effluents, which is considered to include of the above limits, prepare and submit to the Commission wit 20.2203(a)(2)(v) and 10 CFR 50.4(b)(1), a Special Report, wh exceeding the limit and defines the corrective actions taken to proposed corrective actions to be taken to assure the subsequen limits.	bactive mathematics back with his the onsite hin 30 days ich identifie reduce the r nt releases v	erials in particulate alf-lives greater than ISFSI, exceeding any , pursuant to 10 CFR es the cause(s) for releases and the vill be within the above
b. The provisions of ODCM CONTROL 3.0.3 are not applicable.		
SURVEILLANCE REQUIREMENTS		, .
4.11.2.3.1 <u>Dose Calculations</u> . Cumulative dose contributions shall with 1/2-ODC-2.02 at least once every 31 days.	l be determ	ined in accordance

	Beaver Valley Power Station		mber: 1/2-ODC-3.03			
Title:		Unit: 1/2	Level Of Use: General Skill Reference			
ODCM: Controls for RETS and REMP Programs			Page Number: 66 of 83			
	ATTACHMENT N Page 1 of 1 ODCM CONTROLS: GASEOUS RADWASTE TREATMENT SYSTEM					
CONTR	OLS: GASEOUS RADWASTE TREATMENT SYSTEM					
3.11.2.4	In accordance with T.S. 5.5.2.f, Item 6, the Gaseous Rad Ventilation Exhaust Treatment System shall be used to r gaseous waste prior to their discharge when the projecte to gaseous effluent releases from the reactor unit (see 1/ averaged over 31 days, would exceed 0.2 mrad for game beta radiation. The appropriate portions of the Ventilati shall be used to reduce radioactive materials in gaseous when the projected doses due to gaseous effluent release 1/2-ODC-2.02 Figure 5-1) when averaged over 31 days organ.	dwaste Tre reduce radi ed gaseous 2-ODC-2.0 ma radiatic ion Exhaus waste prio es from the would exc	atment System and the loactive materials in effluent air doses due 02 Figure 5-1), when on and 0.4 mrad for at Treatment System r to their discharge r reactor unit (see seed 0.3 mrem to any			
Applical	bility: At all times.					
Action:						
a. F	With gaseous waste being discharged without treatment and in prepare and submit to the Commission within 30 days, pursuan 0 CFR 50.4(b)(1), a Special Report which includes the follow	excess of t t to 10 CFI ing inform	he above limits, R 20.2203(a)(2)(v) and ation.			
1	. Identification of the inoperable equipment or subsystem	is and the r	eason for inoperability,			
2	2. Action(s) taken to restore the inoperable equipment to o	perational	status, and			
3	3. Summary description of action(s) taken to prevent a rec	urrence.				
b. 7	The provisions of ODCM CONTROL 3.0.3 are not applicable.					
SURVE	ILLANCE REQUIREMENTS					
4.11.2.4	.1 Doses due to gaseous releases from the site shall be proj accordance with 1/2-ODC-2.02.	jected at le	ast once per 31 days, in			

Beaver Valley Power Station			Procedure Number: 1/2-ODC-3.03			
Title:		Unit:	Level Of Use: General Skill Reference			
ODCM: Co	ontrols for RETS and REMP Programs	Revision:	Page Number:			
	ATTACHMENT 0					
	Page 1 of 1 ODCM CONTROLS: GAS STORAGE TA	NKS				
CONTROI	LS: GAS STORAGE TANKS					
3.11.2.5	In accordance with T.S. 5.5.8, the quantity of radioactivi storage tanks(s) shall be limited to the noble gas values 1 133).	ity contain listed belo	ed in the following gas w (considered as Xe-			
	a. <a>  </a> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> <b>Solution</b> 	k (1GW-T	K-1A, or 1GW-TK-			
	b. ≤19,000 Curies: Any connected group of BV-2 Gas (2GWS-TK25A thru 2GWS-TK25G)	seous Was	ste Storage Tanks			
APPLICAT	BILITY: At all times.					
ACTION:						
a.	With the quantity of radioactive material in any gas storag immediately suspend all additions of radioactive material reduce the tank contents to within the limit, and	e tank exc to the tank	eeding the above limit, and within 48 hours			
b.	Submit a Special Report in accordance with 10 CFR 50.4 ( a schedule and a description of activities planned and/or ta within the specified limits.	(b)(1) with ken to red	nin 30 days and include luce the contents to			
с.	The provisions of ODCM Control 3.0.3 are not applicable.					
SURVEILI	ANCE REQUIREMENTS					
4.11.2.5.1	For BV-1 Waste Gas Decay Tanks: The quantity of radie each BV-1 Waste Gas Decay Tank shall be determined to least once per 24 hours when radioactive materials are be Performance of this surveillance is required when the gro coolant is greater than 100 uCi/mL. For BV-2 Gaseous Waste Storage Tanks: The quantity of contained in any connected group of BV-2 Gaseous Waste determined to be within the above limit at least once per materials are being added to the tanks.	oactive ma o be within eing added oss concent of radioact te Storage 24 hours v	aterial contained in n the above limit at l to the tank. atration of the primary ive material Tanks shall be when radioactive			

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	Beaver Valley Power Station	Procedure N	umber: 1/2-ODC-3.03
Title:		Unit:	Level Of Use:
ODCM: Cor	ntrols for RETS and REMP Programs	Revision:	Page Number:
	ATTACHMENT P Page 1 of 1 ODCM CONTROLS: TOTAL DO	<u>I 17</u> DSE	<u>68 of 83</u>
CONTROL	S: TOTAL DOSE		
3.11.4.1	In accordance with T.S. 5.5.2.j, the annual (calendar any MEMBER OF THE PUBLIC due to releases of uranium fuel cycle sources, which is considered to in limited to $\leq 25$ mrems to the whole body or any orga limited to $\leq 75$ mrems.	year) dose or radioactivity nclude the ons an, except the	dose commitment to and to radiation from ite ISFSI, shall be thyroid, which shall be
Applicabilit	<u>y</u> : At all times.		
Action:	N		
a. With t which 3.11.1 includ ISFSI, exceed 10 CF action limits Report expost ISFSI, release radioa estima CFR P varian consid	he calculated doses from the release of radioactive mate is considered to include the onsite ISFSI, exceeding tw .2a, 3.11.1.2b, 3.11.2.2a, 3.11.2.2b, 3.11.2.3a, or 3.11.2 ing direct radiation contributions from the units (includ etc.) to determine whether the above limits of ODCM led. If such is the case, prepare and submit to the Comm R 20.2203(a)(2)(v) and 10 CFR 50.4(b)(1), a Special R to be taken to reduce subsequent releases to prevent red and includes the schedule for achieving conformance w t, as defined in 10 CFR 20.405(c), shall include an anal- ure (dose) to a MEMBER OF THE PUBLIC from urani- including all effluent pathways and direct radiation, for e(s) covered by this report. It shall also describe levels ctive material involved, and the cause of the exposure 1 ted dose(s) exceeds the above limits, and if the release Part 190 has not already been corrected, the Special Rep ce in accordance with the provisions of 40 CFR Part 19 lered a timely request, and a variance is granted until st	erials in liquid ice the limits .3b, calculatic ing outside sto CONTROL 3 mission within eport that defi currence of ex vith the above ysis that estimute ium fuel cycle r the calendar of radiation are evels or conce condition resu- port shall inclue 0. Submittal aff action on the	or gaseous effluents, of ODCM CONTROL ns shall be made orage tanks, the onsite 11.4.1 have been a 30 days, pursuant to nes the corrective ceeding the above limits. This Special lates the radiation sources and the onsite year that includes the nd concentrations of entrations. If the liting in violation of 40 de a request for a of the report is he request is complete.
b. The	provisions of ODCM CONTROL 3.0.3 are not applical	ole.	
SURVEILL	ANCE REQUIREMENTS		
4.11.4.1.1	Cumulative dose contributions from liquid and gase include the onsite ISFSI, shall be determined in acco SURVEILLANCE REQUIREMENTS 4.11.1.2.1, 4	ous effluents, ordance with ( .11.2.2.1, and	which is considered to DDCM 4.11.2.3.1.
4.11.4.1.2	Cumulative dose contributions from direct radiation storage tanks, the onsite ISFSI, etc.) shall be determ 2.04. This requirement is applicable only under con ODCM CONTROL 3 11 4 1	from the unit: ined in accord ditions set for	s (including outside ance with 1/2-ODC- th in Action a. of

Beaver Valley Power Station	Procedure Number:	
Title	1/2-ODC-3.03	
THE.	1/2 General Skill Re	ference
ODCM: Controls for RETS and REMP Programs	Revision: Page Number:	
ATTACHMENT O	)	)
Page 1 of 9		
ODCM CONTROLS: REMP-PROGRAM	M REQUIREMENTS	
CONTROLS: RADIOLOGICAL ENVIRONMENTAL MON	NITORING PROGRAM	
A program shall be provided to monitor the radiation and radi	ionuclides in the environs of the plant	t. The
program shall provide (1) representative measurements of rad	monitoring program and modaling of	osure
environmental exposure pathways. The program shall $(1)$ be	contained in the ODCM (2) conform	to the
guidance of the Appendix I to 10 CFR Part 50 and (3) includ	le the following:	to me
1. Monitoring, sampling, analysis, and reporting of radiatio	on and radionuclides in the environme	ent in
accordance with the methodology and parameters in the	ODCM,	
2. A Land Use Census to ensure that changes in the use of a	areas at and beyond the site boundary	' are
identified and that modifications to the monitoring progra	am are made if required by the result	s of
the census, and		.1
3. Participation in an interlaboratory Comparison Program i	to ensure that independent checks on	the
matrices are performed as part of the quality assurance p	rogram for environmental monitoring	nple
matrices are performed as part of the quanty assurance pr	rogram for environmental monitoring	<u>s</u> .
3.12.1 The radiological environmental monitoring program sl	shall be conducted as specified in OD	СМ
Control 3.12.1, Table 3.12-1.		
Applicability: At all times.		
Action:		
a With the radiological environmental monitoring progr	am not being conducted as specified	in
ODCM Control 3.12.1 Table 3.12-1 prepare and sub-	mit to the Commission in the Appual	10 1
Radiological Environmental Report, a description of the	he reasons for not conducting the pro	gram
as required and the plans for preventing a recurrence.	Deviations are permitted from the	0
required sampling schedule if specimens are unobtaina	able due to hazardous conditions, sea	sonal
unavailability, malfunction of automatic sampling equ	ipment and other legitimate reasons.	If
specimens are unobtainable due to sampling equipmen	nt malfunction, every effort shall be n	nade
to complete corrective action prior to the end of the ne	ext sampling period.	
b. With the level of radioactivity in an environmental sam	mpling medium at one or more of the	
locations specified in ODCM Control 3.12.1, Table 3.2	12.1 exceeding the limits of ODCM	

b. With the level of radioactivity in an environmental sampling medium at one or more of the locations specified in ODCM Control 3.12.1, Table 3.12.1 exceeding the limits of ODCM Control 3.12.1, Table 3.12-2 when averaged over any calendar quarter, prepare and submit to the Commission within 30 days from the end of affected calendar quarter a Special Report pursuant to 10 CFR 20.2203(a)(2)(v) and 10 CFR 50.4(b)(1) which includes an evaluation of any release conditions, environmental factors or other aspects which caused the limits of ODCM Control 3.12.1, Table 3.12-2 to be exceeded. This report is not required if the measured level of radioactive was not the result of plant effluents; however, in such an event, the condition shall be reported and described in the Annual Radiological Environmental Report.

When more than one of the radionuclides in ODCM Control 3.12.1, Table 3.12-2 are detected in the sampling medium, this report shall be submitted if:

Beaver Valley Power Station	Procedure Nun 1	nber: /2-ODC-3.03
Title:	Unit:	Level Of Use:
ODCM: Controls for DETS and DEMD Drograms	<u>1/2</u> Revision:	General Skill Reference Page Number:
ODCM: Controls for RETS and REMP Programs	17	70 of 83
ATTACHMENT Q		
Page 2 of 9 ODGM CONTROL S. DEMO DOCEDAM DEOLU		
UDCM CONTROLS: REMP-PROGRAM REQUI	KEMENIS	
Concentration (1) Concentration (2)		
Limit Level (1) + Limit Level (2) + $\ldots \ge 1.0$		
c. With milk or fresh leafy vegetable samples unavailable from the selected in accordance with ODCM CONTROL 3.12.2 and listed	required n d in the OL	umber of locations DCM, obtain
replacement samples. The locations from which samples were u	inavailable	may then be deleted
from those required by ODCM Control 3.12.1, Table 3.12-1 and	the ODCN	A provided the
locations from which the replacement samples were obtained are	e added to 1	the environmental
The provisions of ODCM CONTROL 2.0.2 are not emploable.		
d. The provisions of ODCM CONTROL 5.0.5 are not applicable.		
SURVEILLANCE REQUIREMENTS		
4 12 1 1 The radiological environmental monitoring samples shall	l be collect	ed nursuant to ODCM
Control 3.12.1, Table 3.12-1 from the locations given in pursuant to be requirements of ODCM Control 3.12.1, Table	the ODCM ables 3.12-	and shall be analyzed 1 and 4.12-1.

Beaver	Valley Power St	ation	Procedure Nur 1	nber: /2-ODC-3.03
Title:			Unit: 1/2	Level Of Use: General Skill Reference
ODCM: Controls for RETS and REMP Programs			Revision:	Page Number: 71 of 83
ATTACHMENT Q Page 3 of 9 ODCM CONTROLS: REMP-PROGRAM REQUIREMENTS <u>TABLE 3.12-1</u> <u>RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM</u> EXPOSURE NUMBER OF SAMPLING AND TYPE AND FREQUENCY PATHWAY AND/OR SAMPLES AND COLLECTION ANALYSIS (a)				
SAMPLE	LOCATIONS	FREQUENCY		
1. AIRBORNE a. Radioiodine and Particulates	<ul> <li>5 locations</li> <li>1. One sample from a control location 10-20 miles distant and in the least prevalent wind direction</li> <li>2. One sample from vicinity of community having the highest calculated annual average ground level D/Q.</li> </ul>	Continuous operation of sampler with sample collection at least weekly.	Each rad Analyze Particula Analyze beta wee Perform analysis location) quarterly	for I-131; the sampler. for gross kly <sup>(b)</sup> ; gamma isotopic on composite (by ) sample at least 7.
2. DIRECT RADIATION	40 locations ≥ 2 TLDs or a pressurized ion chamber at each location.	Continuous measurement with collection at least quarterly.	Gamma	dose, quarterly.

<sup>(a)</sup>Analysis frequency same as sampling frequency unless otherwise specified.

(b)Particulate samples are not counted for ≥ 24 hours after filter change. Perform gamma isotopic analysis on each sample when gross beta is >10 times the yearly mean of control samples.

\*\*Sample locations are given on figures and tables in 1/2-ODC-2.03.

Regiver	Valley Power St	ation	Procedure Nur	nber:	
Deaver			1	<u>/2-ODC-3.03</u>	
Title:			Unit: 1/2	Level Of Use: General Skill Reference	
ODCM: Controls for RETS and REMP Programs				Page Number: 72 of 83	
ATTACHMENT Q Page 4 of 9 ODCM CONTROLS: REMP-PROGRAM REQUIREMENTS <u>TABLE 3.12-1 (continued)</u> <u>RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM</u>					
PATHWAY AND/OR SAMPLE	SAMPLES AND LOCATIONS**	COLLECTION FREQUENCY	TYPE AND FREQUENCYO ANALYSIS (a)		
3. WATERBORNE a. Surface	<ol> <li>2 locations</li> <li>1. One sample upstream.</li> <li>2. One sample downstream.</li> </ol>	Composite* sample collected over a period not to exceed 1 month.	Gamma composi monthly Tritium a sample a	isotopic analysis of te sample by location analysis of composite tt least quarterly.	
b. Drinking	2 locations	Composite* sample collected over a period not to exceed 2 weeks.	I-131 analysis of each composite sample; Gamma isotopic analysis of composite sample (by location) monthly; Tritium analysis of composite sample quarterly.		
c. Groundwater	N/A - No wells in lower	elevations between plant	and river		
d. Sediment From Shoreline	1 location	Semi-annually.	Gamma semi-anr	isotopic analysis nually.	

<sup>(a)</sup>Analysis frequency same as sampling frequency unless otherwise specified.

\*Composite samples shall be collected by collecting an aliquot at intervals not exceeding two hours. For the upstream surface water location, a weekly grab sample, composited each month based on river flow at time of sampling, is also acceptable.

\*\*Sample locations are given on figures and tables in 1/2-ODC-2.03.
Beaver Valley Power Station			Procedure Ni	umber: 1/2_ODC_3_03
Title:			Unit:	Level Of Use:
ODCM: Controls for R	ETS and REMP Program	S	<u>1/2</u> Revision: 17	General Skill Reference           Page Number:           73 of 83
OD	ATTA Pag CM CONTROLS: REM	CHMENT Q ge 5 of 9 P-PROGRAM REOUI	REMENT	`S
	TABLE 3	.12-1 (continued)		
RADI	OLOGICAL ENVIRONN	MENTAL MONITORI	NG PROC	<u>GRAM</u>
EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF SAMPLES AND LOCATIONS**	SAMPLING AND COLLECTION FREQUENCY	TYPE A ANALY	AND FREQUENCYOF (SIS <sup>(a)</sup>
4. INGESTION a. Milk	<ul> <li>4 locations <sup>(b) (c)</sup></li> <li>1. Three samples selected on basis of highest potential thyroid dose using milch census data.</li> <li>2. One local large dairy.</li> </ul>	Atleast bi-weekly when animals are on pasture; at least monthly at other times.	Gamma analysis	isotopic and I-131 of each sample.
b. Fish	2 locations	Semi-annual. One sample of available species.	Gamma portions	isotopic analysis on edible
c. Food Products (Leafy Vegetables)	<ol> <li>4 locations <sup>(e)</sup></li> <li>Three locations within 5 miles.</li> <li>One control location.</li> <li>Two locations based on highest predicted annual avg. ground D/Q when milk locations are unavailable. <sup>(e)</sup></li> </ol>	Annually at time of harvest. <sup>(c)</sup>	Gamma 131 ana	isotopic analysis and I- lysis on edible portion.

<sup>(a)</sup>Analysis frequency same as sampling frequency unless otherwise specified.

<sup>(b)</sup>Other dairies may be included as control station or for historical continuity. These would not be modified on basis of milch animal census.

(c) When ODCM milk sample requirements are met, one type of broad leaf vegetation is to be sampled from the three (3) indicator locations and one (1) control location. When there are not enough milk sample locations available to meet the ODCM requirements, three (3) different types of broad leaf vegetation are to be sampled at each of two (2) indicator locations based on the highest predicted annual average ground D/Q (as determined from the previous year's Land Use Census), in addition to those samples described above. Three (3) different types of broad leaf vegetation shall also be sampled at one (1) control location when in this condition. The primary sources of broad leaf vegetation are cabbage or lettuce. However, other acceptable substitutes are vegetables having leaves with large surface area, to be combined with the edible portion of the plant for analysis.

\*\*Sample locations are given on figures and tables in 1/2-ODC-2.03.

Beaver Valley Power Station			n	Procedure Numbe 1/2	r. -ODC-3.03		
Title:				Unit: I 1/2	evel Of Use: General Skill Reference		
ODCM: Contro	ols for RETS	and REMP Programs	ī	Revision: F	age Number: 74 of 83		
ATTACHMENT Q Page 6 of 9 ODCM CONTROLS: REMP-PROGRAM REQUIREMENTS							
		TABLE 3	<u>.12-2</u>				
	REPORTIN	IG LEVELS FOR RADIO	ACTIVITY CONC	ENTRATIO	<u>ONS</u>		
		IN ENVIRONMEN	TAL SAMPLES				
			REPORTING LEVI	ELS			
ANALYSIS	WATER (pCi/L)	AIRBORNE PARTICULATE OR GASES (pCi/m <sup>3</sup> )	FISH (pCi/kg, WET)	MILK (pCi/L)	BROAD LEAF VEGETABLES (pCi/kg, WET)		
H-3	20,000 <sup>(a)</sup>						
Mn-54	1,000		30,000				
Fe-59	400		10,000				
Co-58	1,000		30,000				
Co-60	300		10,000				
Zn-65	300		20,000				
Zr/Nb-95	400						
I-131	2 <sup>(b)</sup>	0.9		3	100		
Cs-134	30	10	1,000	60	1,000		
Cs-137	50	20	2,000	70	2,000		
Ba/La-140	200			300			

(a) For drinking water samples. This is a 40 CFR Part 141 value. If no drinking water pathway exists, a value of 30,000 pCi/L may be used.

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 $^{(b)}$   $\,$  If no drinking water pathway exists, a value of 20 pCi/L may be used.

I	Beaver	Valley Pow	ver Station		Procedure Numb	er: 2-ODC-3.03
fitle:					Unit:	Level Of Use: General Skill Reference
ODCM: Cont	rols for RE	TS and REMP P	rograms		Revision:	Page Number:
·			ATTACHMENT	`0 ·	<u> </u>	<u>75 of 83</u>
			Page 7 of 9	× .		
ODCM CONTROLS: REMP-PROGRAM REQUIREMENTS						
-			<u>TABLE 4.12-</u>	<u>1</u>		
MA	XIMUM	VALUES FOR T	<u>THE LOWER LIN</u>	<u>AITS OF D</u>	ETECTION (I	LLD) <sup>(a)(e)</sup>
	WATER	AIRBORNE	FISH	MILK	FOOD	SEDIMENT
ANALYSIS	(pCi/L)	PARTICULATE OR GAS (pCi/m <sup>3</sup> )	(pCi/kg, WET)	(pCi/L)	PRODUCTS (pCi/kg, WET	(pCi/kg, DRY)
Gross Beta	4	0.01			<b></b>	
Н-3	2,000 <sup>(d)</sup>					
Mn-54	15		130			
Fe-59	30		260			
Co-58,60	15		130			
Zn-65	30		260			,
Zr-95	30 <sup>(c)</sup>					
Nb-95	15 <sup>(c)</sup>					
I-131	1 (b)	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-1 <u>4</u> 0	60 <sup>(c)</sup>			60		
La-140	15 <sup>(c)</sup>			15		

Beaver Valley Power Station	
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Procedure Nu	mber:				
1/2-ODC-3.03					
Unit:	Level Of Use:				
1/2	General Skill Reference				
Revision:	Page Number:				
17	76 of 92				

## ODCM: Controls for RETS and REMP Programs

## ATTACHMENT Q Page 8 of 9 ODCM CONTROLS: REMP-PROGRAM REQUIREMENTS

## TABLE 4.12-1 (continued)

## TABLE NOTATION

 a) The LLD is the smallest concentration of radioactive material in a sample that will be detected with 95% probability with 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system (which may include radiochemical separation):

LLD = 
$$4.66 \text{ Sb}$$
  
(E)(V)(2.22)(Y) exp(- $\lambda\Delta T$ )

where:

Title

LLD is the lower limit of detection as defined above (as pCi per unit mass or volume);

 $S_b$  is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute);

E is the counting efficiency (as counts per transformation);

V is the sample size (in units of mass or volume);

2.22 is the number of transformations per minute per picocurie;

Y is the fractional radiochemical yield (when applicable);

 $\lambda$  is the radioactive decay constant for the particular radionuclide;

 $\Delta T$  is the elapsed time between sample collection (or end of the sample collection period) and time of counting (for environmental samples, not plant effluent samples).

The value of  $S_b$  used in the calculation of the LLD for a detection system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverified theoretically predicted variance. In calculating the LLD for a radionuclide determined by gamma-ray spectrometry, the background shall include the typical contributions of other radionuclides normally present in the samples (e.g., potassium-40 in milk samples). Typical values of E, V, Y and  $\Delta T$  should be used in the calculations.

	Beaver Valley Power Station	Procedure Number: 1/2-ODC-3.03				
Title:		Unit:	Level Of Use: General Skill Reference			
ODC	M: Controls for RETS and REMP Programs	Revision:	Page Number:			
	ATTACHMENT Q Page 9 of 9 ODCM CONTROLS: REMP-PROGRAM REQUIREMENTS					
	TABLE 4.12-1 (continued)					
	TABLE NOTATION					
	The LLD is defined as an <u>a priori</u> (before the fact) limit representing the capability of a measurement system and not as <u>a posteriori</u> (after the fact) limit for a particular measurement. Analyses shall be performed in such a manner that the stated LLD's will be achieved under routine conditions. Occasionally, background fluctuations, unavoidable small sample sizes, the presence of interfering nuclides, or other uncontrollable circumstances may render these LLD's unachievable. In such cases, the contributing factors shall be identified and described in the Annual Radiological Environmental Report.					
(b)	If no drinking water pathway exists, a value of 15 pCi/L may be u	sed.				
(c)	If parent and daughter are totaled, the most restrictive LLD should	l be applied				
(d)	If no drinking water pathway exists, a value of 3000 pCi/L may be	e used.				
(e)	This list does not mean that only these nuclides are to be detected are measurable and identifiable, together with the above nuclides, Radiological Environmental Report.	and reporte shall be ide	ed. Other peaks which entified in the Annual			
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	Beaver Valley Power Station	Procedure Ni	Imber: 1/2-0DC-3 03				
Title:		Unit:	Level Of Use:				
ODCM: Con	trols for RETS and REMP Programs	1/2 Revision:	Page Number:				
	ATTACHMENT R Page 1 of 1 ODCM CONTROLS: REMP - LAND USE CENSUS						
CONTROLS	RADIOLOGICAL ENVIRONMENTAL MONITORIN	G - LAND	USE CENSUS				
3.12.2	A land use census shall be conducted and shall identify animal, the nearest residence, and the nearest garden of producing broad leaf vegetation in each of the 16 meteo of five miles. For elevated releases as defined in Regula 1977, the land use census shall also identify the location gardens of greater than 500 square feet producing fresh meteorological sectors within a distance of three miles.	the location greater tha rological se atory Guide is of all mil- leafy veget	n of the nearest milk n 500 square feet ectors within a distance e 1.111, (Rev. 1), July, lk animals and all tables in each of the 16				
Applicability	: At all times.						
Action:							
a. With a commit REQUI CFR 20 location	land use census identifying a location(s) which yields a ca ment greater than the values currently being calculated in REMENT 4.11.2.3.1, prepare and submit to the Commission 0.2203(a)(2)(v) and 10 CFR 50.4(b)(1), a Special Report, v n(s).	lculated do ODCM SU ion within which ident	ose or dose JRVEILLANCE 30 days, pursuant to 10 tifies the new				
b. With a commit are curr the Corr Special radiolog program calculat program	b. With a land use census identifying a milk animal location(s) which yields a calculated dose or dose commitment (via the same exposure pathway) 20% greater than at a location from which samples are currently being obtained in accordance with ODCM CONTROL 3.12.1 prepare and submit to the Commission within 30 days, pursuant to 10 CFR 20.2203(a)(2)(v) and 10 CFR 50.4(b)(1), a Special Report, which identifies the new location. The new location shall be added to the radiological environmental monitoring program within 30 days, if possible. The milk sampling program shall include samples from the three active milk animal locations, having the highest calculated dose or dose commitment. Any replaced location may be deleted from this monitoring program after October 31 of the year in which this land use census was conducted.						
c. The pro	visions of ODCM CONTROL 3.0.3 are not applicable.						
SURVEILLA	ANCE REQUIREMENTS						
4.12.2.1 * Confirmation	The land use census shall be conducted at least once per June 1 and October 1 using that information which will by a door-to-door survey*, aerial survey, or by consultin on by telephone is equivalent to door-to-door.	12 months provide the g local age	between the dates of best results, such as culture authorities.				

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	Beaver Valley Power Station	Procedure Nu	imber: 1/2-ODC-3.03
Title:		Unit:	Level Of Use:
	ntrols for RETS and REMP Programs	1/2 Revision:	Page Number:
<u> </u>		17	79 of 83
	ATTACHMENT S		
OD	Page 1 of 1 CM CONTROLS, DEMD, DITERLADORATORY CO.		
UD	CM CONTROLS: REMP - INTERLABORATORY CO.	MPARISON	PRUGRAM
CONTROL	S: RADIOLOGICAL ENVIRONMENTAL MONITORI	NG - INTER	LABORATORY
. <u> </u>	COMPARISON PROGRAM		
3 17 3	A polyces shall be performed on radioactive meterials		art of on
J.12.J	Interlaboratory Comparison Program.	supplied as p	art of an
<u>Applicabilit</u>	<u>y</u> :		
At all times.	•		
Action:			
a. With a a recur	inalyses not being performed as required above, report the rrence to the Commission in the Annual Radiological Env	e corrective a vironmental I	actions taken to prever Report.
b. The pr	ovisions of ODCM CONTROL 3.0.3 are not applicable.		х.
SURVEILL	ANCE REQUIREMENTS		
<u> </u>			
4.12.3.1	The results of analyses performed as part of the above Comparison Program shall be included in the Annual I Report.	required Inte Radiological	erlaboratory Environmental
4.12.3.1	The results of analyses performed as part of the above Comparison Program shall be included in the Annual I Report.	required Inte Radiological	erlaboratory Environmental
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Beaver Valley Power Station	Procedure Num	ber: /2-000-3.03
Title:	Unit:	Level Of Use:
ODCM: Controls for RETS and REMP Programs	Revision:	Page Number:
ATTACHMENT T	17	<u> </u>
Page 1 of 2		
ODCM CONTROLS: ANNUAL REMP REI	PORT	
CONTROLS: ANNUAL REMP REPORT		
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REI	PORT <sup>(3)</sup>	
6.9.2 In accordance with T.S. 5.6.1, the Radiological Environm	mental Ope	rating Report
the operation of the unit during the previous calendar ye	ar shall be s	submitted before May
15 of each year. The report shall include summaries, int trends of the results of the Radiological Environmental	erpretations	s, and analyses of Program for the
reporting period. The material provided shall be consist	ent with the	e objectives outlined
in the ODCM and in 10 CFR Part 50 Appendix I Section	ns IV.B.2, I	V.B.3, and IV.C.
The annual radiological environmental reports shall inclu	ude:	
• Summaries, interpretations, and statistical evaluation	of the resu	lts of the radiological
with pre-operational studies, operational controls (as	appropriate	ang a comparison and previous
environmental surveillance reports, and an assessment	nt of the obs	served impacts of the
plant operation on the environment.		
• The results of the land use censuses required by ODO	CM CONTR	ROL 3.12.2.
• If harmful effects or evidence of irreversible damage	are detecte	d by the monitoring,
alleviate the problem.	id a planned	course of action to
• Summarized and tabulated results in the format of O	DCM Contr	col 6.9.2, Table 6.9-1
of all radiological environmental samples taken durin that some results are not available for inclusion with	ng the report	t period. In the event
submitted noting and explaining the reasons for the r	nissing resu	ilts. The missing data
shall be submitted as soon as possible in a supplement	ntary report	
• A summary description of the radiological environm	ental monit	oring program.
• A map of all sampling locations keyed to a table give one reactor.	ing distance	s and directions from
The monster of licensee portion of the Interdation	ntom Com	origon Drogram
required by ODCM CONTROL 3.12.3.	awry Comp	anson riogram
(3) A single submittal may be made for a multiple unit site. The submittal are common to all units at the station.	should comb	ine those sections that

	<u>ENVIRC</u> Name Of F	<u>DNMENTAL R</u> acility	<u>TABLI</u> ADIOLOGICAL	<u>E E:6.9-1</u> MONITORING PRO Dock	OGRAM SUM	MARY			ODCM: Controls for RET	Title
	Location O	f Facility(	County, State)	Repo	rting Period			ODCM	'S and F	
MEDIUM OF PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPE AND TOTAL NUMBER OF ANALYSES PERFORMED	LOWER LIMITS OF DETECTION <sup>a</sup> (LLD)	ALL INDICATOR LOCATIONS MEAN(F) <sup>b</sup> RANGE <sup>b</sup>	LOCATIONS WITH ANNUAL M NAME DISTANCE AND DIRECTION	I HIGHEST EAN MEAN(F) <sup>b</sup> RANGE <sup>b</sup>	CONTROL LOCATIONS MEAN(F) <sup>b</sup> RANGE <sup>b</sup>	NONROUTINE REPORTED MEASUREMENTS	ATTA Pa CONTROLS:	<b>EMP</b> Program	
					,			CHMENT T ge 2 of 2 ANNUAL REJ	S	
								MP REPORT	Unu: 1/2 Revision: 17	
<ul> <li>Nominal Lower limit</li> <li>Mean and range base</li> </ul>	is of Detection (LLD) a d upon detectable mea	as defined in Table surement only. Fr	Notation <sup>a</sup> of Table action of detectable	4.12-1 of ODCM CONTR measurement at specified	ROL 3.11.1.1. locations is indi	cated in parenthesis (f).	· · · ·		General Skill Reference Page Number: 81 of 83	

	Beaver Valley Power Station		umber: 1/2-ODC-3.03				
Title:		Unit:	Level Of Use: General Skill Reference				
ODCM: C	Controls for RETS and REMP Programs	Revision:	Page Number:				
	ATTACHMENT U Page 1 of 2 ODCM CONTROLS: ANNUAL RETS I	REPORTS					
CONTRC	LS: RETS REPORT						
RADIOA	CTIVE EFFLUENT RELEASE REPORT <sup>(4)</sup>						
6.9.3	In accordance with T.S. 5.6.2, the Radioactive Effluctive covering the operation of the unit during the previous May 1 of each year in accordance with 10 CFR 50.3 summary of the quantities of radioactive liquid and released from the unit. The material provided shall outlined in the ODCM and Process Control Program CFR 50.36a and 10 CFR Part 50, Appendix I Section	tent Release R us year shall be 66a. The report gaseous efflue be consistent n (PCP) and in on IV.B.1.	eport (RERR) e submitted prior to rt shall include a ents and solid waste with the objectives conformance with 10				
	This report is prepared and submitted in accordance with 1/2-ENV-01.05, and at a minimum, shall contain the following:						
	<ul> <li>A summary of the quantities of radioactive liquid waste released from the unit as outlined in Regul 1974, "Measuring, Evaluating, And Reporting R Releases Of Radioactive Materials In Liquid An Water-Cooled Nuclear Power Plants," with data following the format of Appendix B thereof.</li> </ul>	d and gaseous latory Guide 1 adioactivity Ir d Gaseous Eff summarized o	effluent and solid .21, Revision 1, June, a Solid Wastes And luents From Light- on a quarterly basis				
	• An assessment of radiation doses from the radioa released, which is considered to include the onsit calendar quarter as outlined in Regulatory Guide area boundary maximum noble gas gamma air as The assessment of radiation doses shall be performed.	active liquid a te ISFSI, from 1.21. In addi nd beta air dos rmed in accord	nd gaseous effluents the unit during each tion, the unrestricted ses shall be evaluated. dance with this manua				
	• Any licensee initiated changes to the ODCM ma	de during the	12 month period.				
	• Any radioactive liquid or gaseous effluent monit returned to OPERABLE status within 30 days, a corrected in a timely manner. This applies to the monitoring instrumentation channels required to CONTROLS 3.3.3.9 and 3.3.3.10.	oring instrume nd why the ine e liquid or gase be OPERABI	entation channels not operability was not eous effluent LE per ODCM				
	<ul> <li>Any ODCM SURVEILLANCE REQUIREMENt monitoring, sampling and analysis and dose proj</li> </ul>	T deficiencies ection.	s. This applies to				
	• The reasons when unusual circumstances result in ODCM CONTROL 3.11.1.1, Table 4.11-1 and C 4.11-2.	in LLD's highe DDCM CONT	er than required by ROL 3.11.2.1, Table				
(4) A si sect syst	ngle submittal may be made for a multiple unit site. The tions that are common to all units at the station; however, firms, the submittal shall specify the releases of radioactive $f$	submittal shou for units with a material fron	uld combine those separate radwaste n each unit.				

Beaver Valley Power Station		Procedure Nu	imber:			
Title:		I Init	1/2-ODC-3.03			
		1/2	General Skill Reference			
ODCM: Controls	s for RETS and REMP Programs	Revision:	Page Number: 83 of 83			
	ATTACHMENT U	<u> </u>				
	Page 2 of 2	ADTO				
	ODCM CONTROLS: ANNUAL KETS KEP	0K15				
CONTROLS: A	CONTROLS: ANNUAL RETS REPORT (continued)					
•	The following information for each type of solid was report period:	ste shipped	l offsite during the			
	<ul> <li>container volume</li> <li>total curie quantity (determined by measurement or</li> <li>principal radionuclides (determined by measurement</li> <li>type of waste (e.g., spent resin, compacted dry was bottoms)</li> <li>type of container (e.g., LSA, Type A, Type B, Larg</li> <li>solidification agent (e.g., cement)</li> <li>classification and other requirements specified by 1</li> </ul>	r estimate) nt or estim te, evapora ge Quantity 10 CFR Pa	ate) ator V) rt 61			
	• An annual summary of hourly meteorological data collected over the previous year This annual summary may be either in the form of an hour-by-hour listing of wind speed, wind direction, atmospheric stability, and precipitation (if measured) on magnetic tape, or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.					
•	An assessment of the radiation doses due to the radio effluents, which is considered to include the onsite Is station during the previous calendar year.	oactive liqu SFSI, relea	uid and gaseous used from the unit or			
•	An assessment of the radiation doses from radioactive to include the onsite ISFSI, to MEMBER(S) OF THI inside the site boundary see 1/2-ODC-2.01 Figure 5. during the report period. All assumptions used in ma- specific activity, exposure time, and location) shall be assessment of radiation doses shall be performed in a	ve effluents E PUBLIC 1 and 1/2-0 aking these be included accordance	s, which is considered due to their activities ODC-2.02 Figure 5-1 e assessments (e.g., in these reports. The e with 1/2-ODC-2.04.			
•	An assessment of radiation doses to the likely most ereactor releases, which is considered to include the or calendar year to show conformance with 40 CFR 190 Protection Standards For Nuclear Power Operation. calculating the dose contribution from liquid and gas Regulatory Guide 1.109, Revision 1. The SKYSHIN Radiation Shielding Information Center, (ORNL)) is dose contribution from direct radiation due to N-16.	xposed rea nsite ISFS 0, Environ Acceptabl seous efflu VE Code (a acceptabl	al individual from I, for the previous mental Radiation e methods for ents are given in available from e for calculating the			
•	If quantities of radioactive materials released during significantly above design objectives, the report mus	the reporti t cover thi	ng period are s specifically.			