

VERIF. DATE: _____

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REVISION/CHANGE LOG			
Revision/Change Letter	Description of Changes	Pages Affected	Date of Revision/Change
FR0	Initial Bluesheeting	All	10/20/2017
FR1	Non-Intent Revision to Incorporate Bluesheeting Changes and Update to Current Form	All	11/15/2017
FR2	Added last 2 bullet points in Section 6.2.1 and added Section 6.2.7 and general editorial changes.	All	3/7/2019
FR2A	Periodic Review has been completed with no changes identified in procedure technical content. Nonintent change to correct SMA, SME, approver and dates has been incorporated per CP3-NS-2001. Date for review cycle has been reset.	All	9/13/2021
FR2B	Periodic Review has been completed with no changes identified in procedure technical content. Nonintent changes have been incorporated per CP3-NS-2001. Date for review cycle has been reset	All	11/04/2024

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1.0 PURPOSE AND SCOPE

1.1 Purpose

The objective of this procedure is to define the required equipment and action steps necessary to perform a backwash of the sand filters at the Northwest Plume Groundwater System (NWPGS), Building C-612.

1.2 Scope

This procedure will be performed in response to a request by the Northwest/Northeast (NW/NE) Pump and Treat Project Manager (or designee) to perform a backwash of the sand filters in C-612.

2.0 REFERENCES

2.1 Use References

- CP2-ER-0067, *Health and Safety Plan for the Paducah Plumes Operations, Paducah, Kentucky*
- CP3-OP-0024, *Forms Control*
- CP3-OP-0207, *Use of Procedures*
- CP3-OP-0208, *Required Reading/Crew Briefing*
- CP3-SM-1101, *Work Package Development*
- CP4-ER-0011, *Solids Dewatering in the C-612 Northwest Plume Groundwater System*
- CP4-ER-0017, *Northwest/Northeast Plume Daily Operational Data Collection and Maintenance*
- CP3-TR-0102, *Conduct of Training*

Source References

- DOE/OR/07-1253, *Operations and Maintenance Plan for the Northwest Plume Groundwater System Interim Remedial Action Plan at PGDP Paducah, Kentucky.*
- Job Hazard Analysis (JHA)-10844, *Maintenance, Operations, and Testing for the Northwest and Northeast Plume and Water Treatment Operations*

3.0 COMMITMENTS

None

4.0 PRECAUTIONS AND LIMITATIONS

None

5.0 PREREQUISITES

5.1 Prior to performing any action steps identified in this procedure for the first time, users shall have reviewed this document based upon its level of use in accordance with CP3-OP-0207, *Use of Procedures*.

5.2 Prior to daily use, verify that the procedure is current.

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- 5.3 Prior to performing any action steps identified in this procedure, the performer shall have completed any required applicable training as per their Training Position Description (TPD).
- 5.4 Prior to using this procedure as a work control document, follow the requirements as defined in CP3-SM-1101, *Work Package Development* for the activities being performed.
- 5.5 All forms completed in the performance of this procedure shall be completed in compliance with CP3-OP-0024, *Forms Control*.
- 5.6 Obtain the approval of the NE/NW Pump and Treat Project Manager (or designee) before executing this procedure.
- 5.7 Technicians with performance responsibilities are trained according to thier Position Assignmemnt Form (PAF) for the position in accordance with CP3-TR-0102, *Conduct of Training* and CP3-OP-0208, *Required Reading/Crew Briefing*.

6.0 INSTRUCTIONS

6.1 Preparation Activities

NOTE:

Action steps are to be performed sequentially unless otherwise noted.

Technician

- 6.1.1 Don personal protective clothing as specified in the CP2-ER-0067, *Health and Safety Plan for the Paducah Plumes Operations, Paducah, Kentucky*.
- 6.1.2 Do **NOT** proceed with the backwash of the sand filters if one of the following situations exist:
 - The ion exchange columns are undergoing a backwash cycle
 - The backwash/slucice tank (F-002) level is less than 80% as indicated on the K-100 panel level indicator (LI-F002)
 - The settling tank (F-008) level is more than 5% as indicated on the K-100 panel level indicator (LI-F008)
- 6.1.3 Obtain direction from the NW/NE Pump and Treat Project Manager (or designee) to determine which sand filter(s) require backwash and, if applicable, in what order they should be backwashed

6.2 Backwash of Sand Filters

Technician

- 6.2.1 Open (or confirm opened) the following valves:
 - Backwash/slucice pump suction valve HV-057
 - Backwash/slucice pump discharge pressure gauge valve HV-058
 - Backwash/slucice pump recycle valve HV-059 (½ open)

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- Backwash/slucice pump discharge valve HV-060
- Sand filter skid air supply valve HV-032
- Sand filter skid backwash influent valve HV-152
- Sand filter vessel G-002 backwash effluent valve GHV-020A
- Sand filter vessel G-001 backwash effluent valve GHV-021A

6.2.2 Press the “ON” button for the backwash/slucice pump on the K-100 panel (HS-J008).

6.2.3 Confirm that the sand filter local status switches for G-001 and G-002 are in the “ON” position.

6.2.4 Set the backwash duration time on the sand filter skid local control panel to 5 minutes.

6.2.5 Set the surface wash duration on the local control panel to 0 minutes.

6.2.6 Push the local backwash start button for the appropriate sand filter vessel.

6.2.7 After backwash of the desired sand filter vessel(s) has been completed, close the following valves:

- Sand filter vessel G-001 backwash effluent valve GHV-021A
- Sand filter vessel G-002 backwash effluent valve GHV-020A

7.0 ACCEPTANCE CRITERIA

None

8.0 POST PERFORMANCE WORK ACTIVITIES

8.1 Post Backwash of Sand Filters

Technician

8.1.1 Record all operational activities according to CP4-ER-0017, *Northwest/Northeast Plume Daily Operational Data Collection and Maintenance* on CP4-ER-0017-F02, *Daily Northwest Northeast Plume Operational Data Collection and Maintenance Form*.

8.1.2 Perform solids dewatering as needed and/or as directed by the NW/NE Pump and Treat Project Manager (or designee) according to CP4-ER-0011, *Solids Dewatering in the C-612 Northwest Plume Groundwater System*.

9.0 RECORDS

None

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Appendix A – Acronyms/Definitions

ACRONYMS

NW/NE – Northwest/Northeast

NWPGS – Northwest Plume Groundwater System

PAF – Position Assignment Form

TPD – Training Position Description

DEFINITIONS

Technician - The person performing the technical aspects of this procedure. The person performing this work could have job functions including but not limited to the Frontline Supervisor or the Operator/Maintenance Mechanic.