ERC CONTROLLED MANUAL TRANSMITTAL

Date Prepared: 06/06/95

EDMC
007
H4-79

Transmittal Number: BHI-OP-00010-TR79

Document Number: BHI-OP-00010, Rev. 01

Title: 200-UP-1 Pilot-Scale Groundwater Treatment System Operating Procedures

Instructions: (1) Remove and/or insert indicated procedure/section into manual as shown.
(2) Sign this form and return it to Procedures Coordination **within 10 working days of receipt.**

Procedure/Section Numbers and Titles	Remove		Insert	
	Rev	Date	Rev	Date
Revision Order A to BHI-OP-00010, Rev. 01	--	---	A	06/06/95

If you have any questions about this release, please contact Kathy Carter (509) 372-9555.

Receipt Acknowledgment

I have inserted this material into the manual per the above instructions:

Signature _____ Date _____

New address or MSIN if different than listed above: _____

FOLD DOWN TO THE DOTTED LINE--PLEASE DO NOT STAPLE OR TAPE.

RETURN TO: Procedures Coordination, MSIN H4-79
Bechtel Hanford, Inc., P.O. Box 969, Richland, Washington 99352

BHI-DC-001 (04/95)

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Controlled Copy No. 7

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REVISION ORDER

DOCUMENT TO BE CHANGED:	BHI-OP-00010	01	2/13/95	A
	Document Type/No.	Rev. No.	Date	Rev. Order ID (Assigned by DCC)

Change Type: [X] General [ ] Site Spec., Site No. __ [ ] Exception [x] Revision

Approval of this revision shall alter the document identified above for:

[X] Sites [ ] the project as detailed below in Section 2.

Initiated by: F.W. Gustafson 5/24/95 Revision Required by: 5/31/95

Name Date Date

Reason for change: A section discussing instrument calibration requirements is needed to ensure that the required calibrations are performed to ensure the treatment system is operated in a safe manner and is performing within design specifications.

DESCRIPTION OF CHANGE:

Section	Description
Insert new section 4.0.	~~Insert~~ Add new section 4.0 into document (Attached). Sequentially re-number existing sections as necessary (eg. old section 4.0 becomes section 5.0 etc.)

KC 6/6/95

REVIEWED: Scotty DeLeeuw 5/31/95

Project Quality Assurance Date

CONCUR: (CDW) 5/31/95 M.C. Hanf 6/2/95

Functional/Area/Project Manager Date

BHI-PC KC 6/6/95

4.0 INSTRUMENT CALIBRATION

Instrumentation utilized on the pilot scale system requires periodic maintenance and calibration to ensure it is operating as required. The instruments are calibrated according to the schedule outlined below following the manufacturers calibration procedures. All instrument calibrations shall be documented in the field log-book. Calibration information shall be recorded in a calibration log book to be maintained on-site. Calibration of instruments identified as indicator only, meaning they are not used to control system operating parameters, is not considered to be critical and is only completed periodically to ensure that is it performing as necessary.

4.1 Digital Process Indicators

The digital process indicators are used within the control room building to provide a remote display of operational conditions in one location. The digital indicators shall be calibrated according to the same schedule as that of the individual instrument they are associate with.

4.2 Flow Controllers

The flow controllers are used to monitor the flow rates from each of the extraction wells, through the process treatment system and into the return well. These parameters are not critical to the operation of the treatment system (indicator only) but do provide information on system productivity. For this reason, the flow controllers are to be calibrated semi-annually.

4.3 Level Transmitters

The level transmitters are used to monitor and control water levels in the influent and effluent storage tanks. The operation of these instruments controls the systems pumps to ensure that the tanks are not overflowed or that pumps are run in a dry state. The level transmitters shall be calibrated semi-annually.

4.4 Temperature Loop

The temperature loops provide a signal to a digital process indicator which displays the water temperature for that particular temperature loop. The temperature of the extracted water and the return water are monitored. The temperature loop instruments are considered to be indicator only and are not required for system operation (indicator only). The temperature loops shall be calibrated annually.

4.5 Turbidity Meter

The turbidity Meters are used to indicated the turbidity of the extracted water from well 1-A and the return water. The turbidity meters are considered to be indicator only and are not required for system operations. The turbidity meters shall be calibrated annually.

4.6 pH Meters

The ph meters are used to monitor the ph of the water prior to and post treatment. The ph meters are considered to be indicator only and are not required for system operations. The ph meters shall be calibrated semi-annually.

4.7 Differential Pressure Transmitters

The differential pressure transmitters are used to monitor the pressure drop across the ion-exchange and filter columns. High differential pressures across these columns indicate when a filter changeout is required or if an operational problem exists within the ion-exchange columns. These meters are connected to the annunciator panel and are set to alarm when high differential pressure conditions exist. The differential pressure information can also be obtained from the individual pressure gauges installed on the inlet and outlet of each column. The differential pressure transmitters are to be calibrated semi-annually, if calibration of these instruments lapses, the pressure gauges (with valid calibrations) can be used to monitor the appropriate pressure drops until the calibration of the DPT is completed.

4.8 Oil-filled Pressure Gauges

Oil filled pressure gauges are used to provide point pressure information throughout the treatment system. These gauges are used to ensure that the operational pressures are maintained within design specifications. The pressure gauges shall be calibrated semi-annually.