

## 6. Additional Guidance for 2-Filter Plants

This chapter of the guidance is for conventional plants with only two filters that use conventional treatment (i.e., sedimentation and media filtration), with no innovative or alternate technology. Some small SWTPs can operate without a turbidimeter on each filter if all of the following conditions apply:

- The plant serves fewer than 10,000 people, including those served through wholesale connections.
- The plant has no more than two filters.
- The filters were constructed prior to October, 2000.
- The filters do not have (or never had) IFE turbidimeters.
- The plant has a CFE turbidimeter installed prior to the clearwell.

The information in this chapter for customizing, saving, and entering data in an SWMOR workbook should be used with information in other chapters. This information is cross referenced as applicable.

### 6.1 Entering Data in Customized SWMOR for 2-Filter Plants

To begin entering data, open your SWMOR workbook master file and if applicable, select [Enable Content]. If your plant has not changed, indicate so in the **Customize Workbook** dialog box. Also, select [Cancel] any time you open a saved file during the month.

To avoid overwriting data, always start each monthly report using your customized master file. Do not use the previous month's workbook as a starting point.

#### ***Creating a Monthly Workbook File***

Refer to Chapter 3.1, for instructions on creating monthly workbook files and entering the information for the month, year, population, and number of connections. Use the drop-down lists as applicable.

#### ***Monitoring and Data Entry***

Every day your plant treats water or sends water to the distribution system, you must monitor and enter operational data.

Operators for 2-Filter plants enter CFE data on the **P. 6-9 CFE Turbidity Data** worksheet rather than on **P.2**. This is addressed in this chapter; otherwise, refer to Chapter 3.2 for information on entering other performance data on **P.2**.

Another difference relates to how you report IFE turbidity and CFE Summary data. For all plants, this data is entered on the **P. 3 Filter Data** worksheet. However, **P.3** of the workbook for 2-Filter plants is different. Completing this version of **P.3** is also addressed in this chapter.

All other SWMOR workbook data is entered as described in Chapter 3. Refer to the following for instructions:

- Chapter 3.4 Entering Disinfection Process Performance Data (**P.4& 5**)
- Chapter 3.5 Entering TOC Data (**P.6, 7, 8, and SUVA**)

## Finished Water Turbidity Data (P.6~9 CFE Turbidity Data)

You must measure CFE turbidity every day your plant treats water and enter the data on **P.6~9 CFE Turbidity Data**. To open the worksheet, select the **P.6~9 CFE Turbidity Data** tab at the bottom of the workbook as shown in Figure 6.1.



Figure 6.1. 2-Filter Plant Workbook Tabs

### *CFE Finished Water Turbidity Monitoring Requirements*

CFE turbidity readings must be recorded using an online turbidimeter at regular 15-min. intervals when the plant is in operation. For example, readings may be taken at midnight, 00:15, 00:30, and so on throughout the day until 23:45. Use the same schedule every day. Only readings recorded at the designated times can be used to determine your plant's compliance.

If there is a continuous monitoring turbidimeter failure, you can collect grab samples every four hours for no more than 14 working days. If the grab sample result is greater than 1.0 NTU, the plant must collect a confirmation sample 15 minutes later.

CFE turbidity samples must be collected at a point between the filters and the clearwell. We do not approve other sampling points for plants without IFE turbidimeters. For plants using two filters, the sampling point must be at a site after the water leaving the two filters is blended.

### *CFE Finished Water Turbidity Data Entry*

The workbook contains 31 columns and 96 rows for entering CFE turbidity data. Each column represents a day of the month and each row represents a daily 15-min. time period. For example, the midnight row represents midnight to 00:15.

If your plant is in operation during any part of a 15-min. period, you must enter the {turbidity (in NTU)} in the appropriate cell. Enter {X} if your plant is offline during the entire 15-min. period.

## Daily IFE Turbidity Data and CFE Summary Data Entry (P.3)

You must collect at least one grab sample from each filter at least once each day the filter is in service. The section of **Performance Data** table on **P.3** shown in Figure 6.2 contains columns for entering the grab sample turbidity data for the two filters.

PERFORMANCE DATA												
INDIVIDUAL FILTER GRAB SAMPLE TURBIDITY												
Date	Filter No. 1		Filter No. 2									
	Grab Sample	Grab Sample										
1												

Figure 6.2. Individual Filter Grab Sample Turbidity

### IFE Turbidity Monitoring Requirements

At least once per day, you must collect the IFE turbidity sample at the outlet of each operational filter before that water is mixed with the water from any other filter. The sample must be collected when the filter is in normal operation mode and is sending filtered water to the clearwell. Do not collect a sample under any of the following situations:

- During a filter backwash cycle.
- When the filter is idling.
- When operating in a filter to waste mode.
- During the first 15 minutes of a filter run.

### IFE Turbidity Data Entry

For each date water is treated, enter the {turbidity (in NTU)} from each filter. Turbidity results must be reported each day there is a raw water pumpage above 0.000 MGD.

### Summary and Compliance Actions

The **Summary and Compliance Actions** table at the bottom of **P.3** contains columns for summarizing historical CFE turbidity data. Figure 6.3 shows this table.

SUMMARY & COMPLIANCE ACTIONS	Criteria	CFE		
	Number of events above 1.0 NTU this month			
	Number of events above 1.0 NTU last month			
	Number of events above 1.0 NTU two months ago			
	Total number of events above 1.0 NTU in three months			
	Number of events above 2.0 NTU this month			
	Number of events above 2.0 NTU last month			
	Does the plant have an approved Corrective Action Plan?			
	Is the plant required to submit a Filter Profile Report?			
	Is the plant required to submit a Filter Assessment Report?			
Is the plant required to submit a Request for Compliance CPE?				

Figure 6.3. Summary and Compliance Actions Table on P.3 of the SWMOR

The example at the end of this subsection section demonstrates how to complete the **Summary and Compliance Actions** section on **P.3**, and what additional reporting is required.

**Number of Events Above 1.0 NTU this Month** CALC

The **P.3** worksheet reports the number of events when two or more consecutive 15-min. turbidity readings were above 1.0 NTU. The calculation is based on the CFE turbidity data you entered on **P.6-9**.

An uninterrupted series of readings above 1.0 NTU is considered a single event. For example, an event starting at 4:15 a.m. with a confirmed reading of 1.1 NTU and ending at 5:15 am with a reading of 0.93 NTU is considered a single event. An event cannot be called complete until there is a single reading below 1.0 NTU.

**Number of Events Above 1.0 NTU last Month**

Enter the {number of events} above 1.0 NTU during the previous month. Use the information from the previous month’s **Number of events above 1.0 NTU this month** cell.

**Number of Events Above 1.0 NTU Two Months ago**

Enter the {number of events} above 1.0 NTU during the previous two months ago. Use the information from the previous month’s **Number of events above 1.0 NTU last month** cell.

**Total Number of Events Above 1.0 NTU in Three Months** CALC

The workbook automatically reports the total number of events above 1.0 NTU during the last three reporting months using information from the three cells above.

### Number of Consecutive Events Above 2.0 NTU this Month **CALC**

The workbook automatically reports the number of events when two or more consecutive 15-min. turbidity readings were above 2.0 NTU based on the CFE turbidity data you entered on **P.6-9**.

### Number of Consecutive Events Above 2.0 NTU last Month

Enter the {number of consecutive events} above 2.0 NTU during the previous month. Use the information from the previous month's **Number of consecutive events above 2.0 NTU last month** cell.

### If the Plant Has an Approved Corrective Action Plan

Using the drop-down lists, specify if the plant has an approved CAP. The drop-down list options are based on data you entered on the **P.3** and the **P.6-9** worksheets. Select the answer that applies to your plant as follows:

- If your plant is not required to conduct additional monitoring this month, select one of the following:
  - [NA] if your plant does not have an approved CAP.
  - [Y] if your plant has an approved CAP.
- If your plant is required to complete additional monitoring, select one of the following:
  - [Y] if your plant has an approved CAP and there is no need to complete the special study and develop a new CAP; or,
  - [N] if your plant does not have an approved CAP. The worksheet will tell you what follow-up action to take.

*Note:* You do not have an approved CAP unless you have an approval letter from us. Contact an SWTR Coordinator if you do not have an approval letter.

### If the Plant is Required to Submit an FPR **CALC**

The worksheet automatically reports Y or N whether you are required to conduct a filter profile study and submit an FPR with your MOR.

### If the Plant is Required to Submit a Filter Assessment Report **CALC**

The worksheet automatically reports Y or N whether you are required to conduct a filter assessment and submit an FAR with your MOR.

### If the Plant is Required to Submit a Request for Compliance CPE **CALC**

The worksheet automatically reports Y or N whether you are required to submit a copy of your CPE request with your MOR and participate in an mCPE.

### *Summary and Compliance Actions Section Example*

The example in Figure 6.4 demonstrates how to use a previous month's MOR to complete a **Summary and Compliance Actions** section of a **P.3** worksheet for the current month; and what additional reporting is required. In this example, the top

table is from a hypothetical treatment plant report from June (current month) and the bottom table is from May (previous month).

SUMMARY & COMPLIANCE ACTIONS	Criteria	Combined Filter Summary					Plant
		CFE					
	Number of events above 1.0 NTU this month	2					
	Number of events above 1.0 NTU last month	4					
	Number of events above 1.0 NTU two months ago	1					
	Total number of events above 1.0 NTU in three months	7					
	Number of events above 2.0 NTU this month						0
	Number of events above 2.0 NTU last month						2
	Does the plant have an approved Corrective Action Plan?	N					NA
	Is the plant required to submit a Filter Profile Report?	Y					
	Is the plant required to submit a Filter Assessment Report?	N					
	Is the plant required to submit a Request for Compliance CPE?						N

  

SUMMARY & COMPLIANCE ACTIONS	Criteria	Combined Filter Summary					Plant
		CFE					
	Number of events above 1.0 NTU this month						
	Number of events above 1.0 NTU last month	4					
	Number of events above 1.0 NTU two months ago	1					
	Total number of events above 1.0 NTU in three months	6					
	Number of events above 2.0 NTU this month						2
	Number of events above 2.0 NTU last month						0
	Does the plant have an approved Corrective Action Plan?	N					NA
	Is the plant required to submit a Filter Profile Report?	Y					
	Is the plant required to submit a Filter Assessment Report?	Y					
	Is the plant required to submit a Request for Compliance CPE?						N

Figure 6.4. Summary and Compliance Actions Section of the P.3 Worksheet

The following information in the May P.3 worksheet is used in the June worksheet:

- Number of days with events above 1.0 NTU last month.
- Number of days with events above 1.0 NTU two months ago.
- Number of days with events above 2.0 NTU last month.

An FPR is required with the June MOR for two reasons:

- There was at least one event when a CFE turbidity reading was above 1.0 NTU.
- we have not approved a CAP for the plant.

An FAR is not required with the June MOR for two reasons:

- The CFE turbidity level did not exceed 1.0 NTU on at least three occasions during the month.
- An FAR was required with the May MOR because the CFE turbidity level exceeded 1.0 NTU on four occasions. *Note:* Once an FAR is required, the three event counter resets to zero and a new count begins.

An FPR and an FAR were required with the May MOR because there was at least one event when the CFE turbidity was above 1.0 NTU. The FAR was required because there were at least three events in the month before when CFE turbidity rose above 1.0 NTU. Also, we have not approved a CAP for the plant.

## **6.2 Compiling Summary Data**

Refer to Chapter 4.

## **6.3 Printing, Signing, and Submitting Your MOR**

Refer to Chapter 10.