

# How to Complete the Second Stage Filtration Worksheet of the SWMOR-Alt

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## **General Information about the Spreadsheets**

The Surface Water Monthly Operating Report for Alternative Technologies (SWMOR-Alt) is for public water systems that produce drinking water from surface water or groundwater under the direct influence of surface water using alternate technologies. The EPA's Long Term 2 Enhanced Surface Water Treatment Rule (LT2) defines the alternate technologies that can receive credit for removal or inactivation of pathogens.

As you work with the SWMOR-Alt spreadsheets, you will find many features that make it easier for you to use. The following general information will help you use the spreadsheets.

An Excel spreadsheet is also called a workbook which is made up of separate worksheets. After you open the workbook, you will find a series of tabs at the bottom of the screen. Each of these tabs identifies one of the worksheets in the workbook. When you click on one of these tabs, the tab will change from gray to white and the program will take you to the worksheet for the pages shown on the tab.

Because the SWMOR-Alt is an electronic file, we have been able to place many instructions and comments directly in the two spreadsheets. Those electronic comments will help you immediately while you are completing the form.

## **“We” and “You” in This Guide**

“We” as used in this guide refers to the Texas Commission on Environmental Quality—specifically, the TCEQ's Water Supply Division.

In this guide, “you” means the person who must sign the SWMOR or SWMOR2 each month. Under the rules, this person must be the certified surface water treatment plant operator who is responsible for the daily supervision of the plant.

# 2ND STAGE FILTERS MONTHLY OPERATING REPORT WORKSHEETS

Among the treatment options that the LT2 allows *Cryptosporidium* removal credit for is a second-stage filtration process. To qualify for this credit, the first stage filter must be preceded by a coagulation step and meet all of the requirements for IFE monitoring. If your plant has a second-stage granular media filtration process in place and the process has been approved by TCEQ for log-removal credit of *Cryptosporidium*, the SWMOR-Alt spreadsheet customized for your plant should contain the **2ndStageFilters** worksheet. The SWMOR-Alt spreadsheet automatically determines if this worksheet needs to be displayed based on the information you supplied when you customized the SWMOR-Alt for your plant. If your MOR requires this sheet, it appears as a tab at the bottom of the SWMOR-Alt spreadsheet, as shown in **Figure 1.1**.



**Figure 1.1. Tabs at Bottom of the SWMOR-Alt Indicating the 2ndStageFilters Worksheet**

The **2ndStageFilters** worksheet will not be visible if you indicated in the customizing step that your plant does not have any second stage filters. On the other hand, if you indicated you use second stage filters as a non-conventional treatment/program in the customizing step, the SWMOR-Alt will display the **2ndStageFilters** worksheet.

If your plant does use second stage filters that have been approved by TCEQ for *Cryptosporidium* removal credit and the appropriate **2ndStageFilters** worksheet tab is not visible, you will need to close the file, reopen it, and re-customize your spreadsheet. See Chapter 2 for more information about customizing the SWMOR-Alt for your particular plant.

At the top of the **2ndStageFilters worksheet**, there is a block of information that describes your system, plant, and reporting period as shown in **Figure 1.2**. The spreadsheet copies this information from the data you entered on the **P.2-Turbidity Data** worksheet, and the data cannot be re-entered or edited on **2ndStageFilters** worksheet.

**SURFACE WATER MONTHLY OPERATING REPORT**  
 FOR PUBLIC WATER SYSTEMS THAT ARE USING SURFACE WATER SOURCES  
 OR GROUND WATER SOURCES UNDER THE INFLUENCE OF SURFACE WATER (cont.)  
*Second Stage Filters Data Page*

PUBLIC WATER SYSTEM NAME: \_\_\_\_\_ PLANT NAME OR NUMBER: \_\_\_\_\_  
 PWS ID No.: \_\_\_\_\_ Plant ID No.: \_\_\_\_\_ Month: \_\_\_\_\_ Year: \_\_\_\_\_

**Figure 1.2. General Plant Information at the Top of the 2ndStageFilters Worksheet**

The **2ndStageFilters** worksheet contains only one section, the **Performance Data** table. **Figure 1.3** shows the heading for this table. The first column of the table asks the question is “100% of Plant Flow Treated by 2nd Stage?” on daily basis. After you answer this question as described below, the rest of table will automatically be filled.

<i>Second Stage Filtration</i>			
<b>Performance Data</b>			
Date	100% of Plant Flow Treated by 2nd Stage? (Yes/No)	Stage 1 Filter Performance Criteria Met? (Yes/No)	Giardia and Crypto Removal Credit Allowed
1			
2			
3			
4			
5			

**Figure 1.3. Performance Data Section Heading**

## 1.1 PERFORMANCE DATA TABLE

### 100% of Plant Flow Treated by 2nd Stage? (Yes/No)

From the drop-down list provided in each cell under this column, choose **[Yes]** if all the flow treated by the plant on that particular day passed through the second stage filtration process. Choose **[NO]** if some or all the flow treated by the plant on that particular day did not pass through the second stage filtration process.

### Stage 1 Filter Performance Criteria Met? (Yes/No) **CALC**

This column notes whether the flow entering the second stage filters meets the filtration criteria for the stage one filtration process. The SWMOR-Alt automatically completes this portion of the table based on the stage one filter performance data that you entered on **P.3-Filter Data** worksheet; because of this automatic calculation, you must fill out the data for the stage-one filter before filling out the

**2ndStageFilters** worksheet. You cannot edit any information under this column by entering data directly in the **2ndStageFilters** worksheet; the SWMOR-Alt uses the following logic to fill out this column

If the raw water pumpage for a day is zero, the corresponding cell under this column will display **X**.

If, on a particular day, the Individual Filter Effluent (IFE) turbidity for any of the stage 1 filters is greater than 1.0 NTU, the cell corresponding to that day will display **No, IFE > 1.0** in this column.

If, on a particular day, the Maximum IFE turbidity reading value for any of the stage 1 filters is missing or not specified, the cell corresponding to that day will display **MD** in this column.

If none of the above situations occur, then the cells under this column will display **YES**.

### **Giardia and Crypto Removal Credit Allowed** **CALC**

This column lists the *Giardia* and *Cryptosporidium* removal credit allowed as a result of using second stage filtration at your plant. The SWMOR-Alt automatically completes this portion of the table based on the values in the preceding two columns of the second stage filtration performance data table. You cannot edit any information under this column by entering data directly in the **2ndStageFilters** worksheet.

If, on a particular day, the plant treats no water at all, the corresponding cell under this column will display an **X**.

If, on a particular day, all of the water treated by your plant passes through second stage filtration and all the performance criteria attached with stage one filtration have been met, then the corresponding cell under this column will display **0.5**. This means your plant will get a log-removal credit of 0.5 towards *Giardia* and *Cryptosporidium* removal due to your use of second stage filtration on that day.

If, on a particular day, all of the water treated by your plant passes through second stage filtration and it cannot be determined whether all the performance criteria attached with stage one filtration have been met, then the corresponding cell under this column will display **0.5 (Assumed)**. This result means that, after review by TCEQ, your plant is likely to get a credit of 0.5 towards *Giardia* and *Cryptosporidium* removal due to your use of second stage filtration on that day.

If, on a particular day,

- all of the water treated by your plant passes through the second stage filtration process but the performance criteria for stage one filtration have not been met, or,
- some or all of the water treated by your plant does not pass through the second stage filtration process,

then the corresponding cell under this column will display a **0**. This result means that your plant will not earn any credit towards *Giardia* and *Cryptosporidium* removal for second-stage filtration on that day.