How to Complete the LT2 Summary Worksheet of the SWMOR-Alt

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.

LT2 SUMMARY WORKSHEET

The SWMOR-Alt awards *Cryptosporidium* removal credit for a variety of treatment processes. In order for the SWMOR-Alt to properly calculate the removal credit for your plant, you must tell the spreadsheet which combination or combinations of treatment processes or technologies are used at the plant. You will enter this information on the **LT2-Summary** 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 Showing the LT2-Summary Worksheet

The **LT2-Summary** worksheet will not be visible if you indicated in the customizing step that your plant does not use any alternative treatment technologies. On the other hand, if you indicated you use a non-conventional treatment/process in the customizing step, the SWMOR-Alt will display the **LT2-Summary** worksheet.

If your plant does use one or more alternative technologies for *Cryptosporidium* removal credit and the **LT2-Summary** 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 **LT2-Summary** 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 the **LT2-Summary** worksheet.

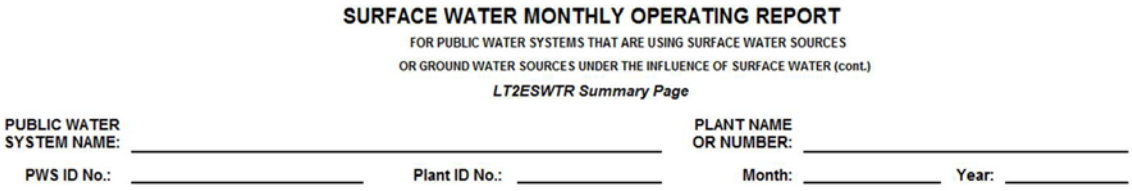

Figure 1.2. General Plant Information at the Top of the LT2-Summary Worksheet

The **LT2-Summary** worksheet contains two tables, the **Treatment Technologies** table and the **Cryptosporidium Treatment Credits** table. **Figure 1.3** shows the upper section of the **Treatment Technologies** table. You will need to enter the data described below in this table.

Note: Indicate the treatment processes in each train. (see comment)	TREATMENT TECHNOLOGIES																
	PRETREATMENT CREDITS				FILTRATION TECHNOLOGY CREDITS						ENHANCED PERFORMANCE CREDITS		DISINFECTION TECHNOLOGY CREDITS			OTHER TREATMENT CREDITS	
	Riverbank Filtration	Presed. with Coagul.	Two-stage Lime Softening	Conventional Sedimentation or Clarification	Conventional Granular Media Filters	Bag or Cartridge Filtration	Two-Stage Filtration	Membrane Filtration (PBT)	Membrane Filtration (QBT)	Membrane Filtration (MBT)	Enhanced CFE Perform.	Optimized IFE Perform.	Chemical Disinfect.	UV Disinfect. (ISA)	UV Disinfect. (CDA)	Watershed Protection	Perform. Demon.
Overall	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE			TRUE	FALSE	FALSE	FALSE		FALSE	FALSE
Train 1																	
Train 2																	
Train 3																	
Train 4																	
Train 5																	

Figure 1.3. Treatment Trains and Technologies Section Heading on the LT2-Summary worksheet of the SWMOR-Alt

Figure 1.4 shows the heading for the **Cryptosporidium Treatment Credits** table. After you enter your treatment technologies data and your daily performance data, the SWMOR-Alt will automatically complete this part of the **LT2-Summary** worksheet and transfer the applicable information to the **P.1-Summary** worksheet.

CRYPTOSPORIDIUM TREATMENT CREDITS											
Total Daily Credit By Train						Total Daily Bin 3 & 4 Credit by Train					
FALSE	FALSE	FALSE	FALSE	FALSE	Minimum	FALSE	FALSE	FALSE	FALSE	FALSE	Minimum

Figure 1.4. Cryptosporidium Treatment Credits heading on the LT2-Summary Worksheet

1.1 Treatment Technologies Table

As **Figure 1.3** indicates, the heading section for the **Treatment Technologies** table lists all of the 17 potential treatment credits covered in the SWMOR-Alt spreadsheet, identifies all of your plant's treatment technologies, and provides five rows where you can describe up to five different trains, or unique combinations of

treatment processes, used at your plant. Below this heading section, there are 31 rows for the daily or monthly log removal credits the plant receive for using specific technologies or processes, and a row for the minimum credit received for each specific technology.

Overall CALC

The SWMOR-Alt uses the information you entered when customizing the SWMOR-Alt to identify all of the treatment technologies and processes used at your plant. If you indicated that your plant includes a specific process or technology, the spreadsheet will enter ***TRUE*** in the cell immediately below the corresponding heading. If you did not indicate your plant uses a particular process or technology, the spreadsheet will enter ***FALSE*** in the corresponding cell.

If the information shown on the **Overall** row is incorrect, 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.

Trains 1 – 5

Use the drop down list in each cell to describe the different combinations of treatment technologies or processes you use at your plant. The SWMOR-Alt has room for you to describe up to five unique treatment trains. All water treatment plants contain at least one unique combination of treatment processes or technologies. Therefore, you must enter data on the **Train 1** row.

However, you will only need to enter information on the **Train 2** through **Train 5** rows if you have more than one unique combination of treatment processes. If you only have one train, you may leave the cells in the other rows empty.

> **IMPORTANT**
>
> On the **LT2-Summary** worksheet, the word "Train" is used to describe a unique combination of treatment technologies or processes rather than a series of disinfection zones.
>
> In other words, trains are different types of major treatment processes (such as convention filters and membrane filters) that operate in parallel rather than similar units (such as multiple conventional filters) that operate in parallel.

Use the drop-down list to choose [TRUE] if a particular train contains a particular treatment technology of process. If the train does not contain that specific process, you may either leave the cell blank or use the drop-down list to select [FALSE].

Daily Data and Monthly Minimum

With exception of the **Perform. Demon.** column, the SWMOR-Alt uses the data you enter on the other worksheets to automatically determine how much *Cryptosporidium* removal or inactivation credit each technology or process provides on a daily or monthly basis. It then uses the daily data to determine the minimum daily credit received by each technology or process your plant uses.

Demonstration of Performance

If your plant has received the TCEQ's written approval to use some other technology or process to remove or inactivate *Cryptosporidium*, you will need to summarize the daily removal credit that the plant receives in the column provided for **Perform. Demon.** data. You will also need to attach any supporting documentation that the TCEQ requires when you submit your monthly report.

1.2 Cryptosporidium Treatment Credits

After you enter your treatment technologies data and your daily performance data, the SWMOR-Alt will automatically calculate the total *Cryptosporidium* removal and inactivation credit you achieved each day. You will not be able to enter any data in this part of the **LT2-Summary** worksheet.

Total Daily Credit by Train CALC

After you enter your treatment technologies data and your daily performance data, the SWMOR-Alt will automatically calculate the total *Cryptosporidium* removal and inactivation credit you achieved in each of your treatment trains each day. The SWMOR-Alt will also determine the lowest total credit for any of your trains and enter the result in the **Minimum** column. The results shown in **Total Daily Credit by Train** section include cumulative, or total, log removal and inactivation credit achieved in each train.

Total Daily Bin 3 & 4 Credit by Train CALC

If the TCEQ assigned your treatment plant to Bin 3 or Bin 4, you must achieve at least a 1.0-log removal or inactivation of *Cryptosporidium* membrane filters, bag filters, cartridge filters, chlorine dioxide, ozone, or ultraviolet light. Consequently, the SWMOR-Alt also calculates the total daily treatment credit your plant receives for using one or more of these specific Bin 3 and Bin 4 technologies and determines the minimum daily credit achieved by any train and enters the result in the **Minimum** column.