



# Nebraska Department of Environmental Quality

## ENVIRONMENTAL GUIDANCE DOCUMENT

02-130

September 2002

### HOW TO CALCULATE YEARLY AND ROLLING TOTALS AND ROLLING AVERAGES

There are various ways in which a permit may limit the emissions from an operation. Although some limits may appear similar, they are calculated much differently. The following examples explain the differences between permit limits based on calendar years, rolling totals, and rolling averages.

The chart below provides an example of a painting operation, which began in March 1998. This operation has a permit that provides limitations on the amount of paint it can use. The monthly paint usage for 1998, 1999, and 2000 are indicated in the left column.

	3/98	7 gallons			
	4/98	8 gallons			
	5/98	6 gallons			
	6/98	8 gallons			
	7/98	9 gallons			
	8/98	5 gallons			
	9/98	9 gallons			
1998 Total 74 gallons	10/98	7 gallons			
	11/98	9 gallons			
	12/98	6 gallons			
	1/99	8 gallons			
	2/99	6 gallons			
	3/99	9 gallons	3/98 - 2/99	88 gallons	÷ 12 = 7.3 gallons
	4/99	7 gallons	4/98 - 3/99	90 gallons	÷ 12 = 7.5 gallons
	5/99	3 gallons	5/98 - 4/99	89 gallons	÷ 12 = 7.4 gallons
	6/99	4 gallons	5/99	86 gallons	÷ 12 = 7.2 gallons
	7/99	8 gallons	6/99	82 gallons	÷ 12 = 6.8 gallons
	8/99	5 gallons	7/99	81 gallons	÷ 12 = 6.8 gallons
	9/99	7 gallons	8/99	81 gallons	÷ 12 = 6.8 gallons
1999 Total 79 gallons	10/99	9 gallons	9/99	79 gallons	÷ 12 = 6.6 gallons
	11/99	8 gallons	10/99	81 gallons	÷ 12 = 6.8 gallons
	12/99	5 gallons	11/99	80 gallons	÷ 12 = 6.7 gallons
	1/00	8 gallons	12/99	79 gallons	÷ 12 = 6.6 gallons
2000 Total 20 gallons	2/00	7 gallons	1/00	79 gallons	÷ 12 = 6.6 gallons
	3/00	5 gallons	2/00	80 gallons	÷ 12 = 6.7 gallons
			3/00	76 gallons	÷ 12 = 6.3 gallons

A 12 month total is the sum of any consecutive 12 month period. A "rolling" 12 month total is a consecutive 12 month period moving over time. As the consecutive 12 month period "rolls" over time, each new month is added as its one year old counterpart is deleted

**Example 1:** "Yearly Total" – The permit limits the operation to no more than 100 gallons of paint use per calendar year.

**SOLUTION:** Add the usage for each month in 1998, 74 total gallons; add the usage for each month in 1999, 79 total gallons; and add the usage for each month in 2000, 20 total gallons.

**Example 2:** "Rolling Total" - The permit limits the operation to no more than 100 gallons of paint use per any consecutive 12 month period or 12 month rolling period.

**SOLUTION:** March 1998 through February 1999 is a 12 month period; the total for the operation during that period would be 88 gallons as noted in the 12 Month Total columns. At the end of March 1999, add the paint use number for March 1999 (9 gallons) to the existing 12 month total (88 gallons) and then subtract the March 1998 value (7 gallons) for a new 12 month total of 90 gallons as indicated for March 1999 in the Rolling 12 Month Total column. Do this for each successive month.

**Example 3:** "Rolling Average" – The permit limits the operation to no more than an average of 8 gallons of paint use per any month on a yearly or 12 month average or 12 month rolling average.

**SOLUTION:** Calculate the rolling totals as in example 2 above and divide the result by 12 to obtain the monthly averages as shown in the column on the right.