

Ohio EPA

Division of Air Pollution Control

Engineering Guide #11

(The following questions were submitted by Otto Faber of the Cleveland Division of Air Pollution Control on April 30, 1980.)

Consider several (small) similar emissions units that are each subject to OAC rule 3745-17-11. Assume that each of the individual emissions units has an uncontrolled mass rate of emission of less than ten pounds per hour; therefore, by Ohio EPA, DAPC Engineering Guide 31, Grouping Determinations for Similar Process Units Subject to Figure II, the emissions units cannot be grouped together to determine the maximum allowable mass rate of emission of particulate matter via Figure II in OAC rule 3745-17-11. Accordingly, the allowable rate of particulate emission must be based on the maximum hourly process weight rate (PWR), as given in Table I of OAC rule 3745-17-11.

Question (1):

If the similar emissions units are covered by a single Permit to Install (PTI), shall the PWR and allowable emission rate be determined for the permit as a whole by:

- a. determining the allowable emission rates for each of the emissions units separately based on their separate maximum hourly PWRs, and then adding these separate allowable emission rates (as shown in the table below); or

Emissions Unit	Max. PWR (lbs/hr)	Table I Allowable (lbs/hr)
1	400	1.40
2	600	1.83
3	1000	2.58
		5.81 total

- b. by first adding the separate maximum hourly PWRs of each emissions unit and then determining the collective allowable

emission rate for the permit as a whole based on the total process weight rate (as shown in the table below)?

Emissions Unit	Max. PWR (lbs/hr)	Table I Allowable (lbs/hr)
1,2, and 3	2000	4.10

Answer :

The allowable mass rate of emission from Table I of rule 3745-17-11 for the above emissions units under a single permit is determined using the approach in 1.a above. In short, the maximum hourly PWR of each emissions unit is used to determine an allowable mass rate of emission for each emissions unit.

The total allowable mass rate of emission for the permit as a whole is simply the sum of the allowable mass rates of emission for all of the emissions units. However, this total allowable mass rate of emission for the permit as a whole has no practical meaning in terms of compliance, since each emissions unit must comply with an allowable mass rate of emission based on its own maximum process weight rate. In fact, the use of such a total allowable mass rate of emission may give the erroneous impression that a facility containing many such emissions units only has to meet that total allowable mass rate of emission rather than the allowable rate for each individual emissions unit.

Therefore, the allowable mass rates of emission for the emissions units would be as follows:

EU 1: 1.40 lbs/hr

EU 2: 1.83 lbs/hr

EU 3: 2.58 lbs/hr

Question (2):

Shall it be construed to be Ohio EPA policy that the maximum hourly PWR of an emissions unit is to be determined by the maximum capacity of the equipment in question unless:

- a. the company has provided written information proving that the emissions unit is constrained by physical and/or

- operational limitations to operate at less than its maximum equipment capacity; or,
- b. the emissions unit's maximum hourly PWR is currently constrained to be less than its maximum equipment capacity by special terms and conditions (T&Cs) in a currently valid PTI or Permit to Operate (PTO)?

Answer :

The maximum hourly PWR of an emissions unit must be determined by using the maximum capacity of the emissions unit unless a written request is submitted for a lower value which contains written technical support that demonstrates that the emissions unit is constrained by physical and/or operational limitations to operate at a value less than the previously documented "maximum capacity".

Also, if the PWR for an emissions unit is limited to a rate less than the maximum capacity by the special T&Cs of a PTI or PTO, such a limitation does not change the determination of the allowable mass rate of emission from Table I. The maximum hourly PWR must be used for purposes of Table I. Therefore, specifying a lower maximum PWR in the special T&Cs of a PTI or PTO, which is unsupported by an adequate showing of a physical and/or operational constraint, and using such value to determine the allowable mass rate of emission from Table I, will "derate" the emissions unit and is not permitted by OAC Chapter 3745-17.

Note: There may be situations where the operation of a new or modified existing emissions unit is limited by the special T&Cs of a PTI (and subsequently a PTO) in order to avoid the requirements of the emission offset (Nonattainment NSR), Prevention of Significant Deterioration (PSD), Title V, or Maximum Achievable Control Technology (MACT) regulations through the issuance of a synthetic minor permit. Other types of situations where the operation of an emissions unit is limited would include when the facility wants to avoid minor source modeling and/or air toxics modeling. However, such conditions generally establish a limitation on the annual allowable emission rate (TPY), and in effect limit the annual operating schedule of the emissions unit rather than its maximum hourly PWR. Therefore, such cases do not "derate" an emissions unit and are consistent with the above discussion.

TK/JO/RO/ZD

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