UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: FEB 06 1985 REGION IV - ATLANTA, GEORGIA

SUBJECT: Modelling Analysis of Existing Sources with Mass/Time Emission Limits

FROM: Director, Air, Pesticides, and Toxics Management Division

TO: G. T. Helms, Chief (MD-15)
Control Programs Operation Branch

In our conference call of November 28, 1984, we discussed the issue of how to perform the annual modelling analysis of existing sources with different forms of emission limits. For comparison of air quality levels with annual NAAQS, we understand it is OAQPS policy, in general, to model an existing source assuming it operates at its maximum allowable emission rate, as stated in applicable regulations, but at its actual annual operating capacity and schedule. For example, if the allowable emission rate of a 100 mm Btu/hr. capacity boiler is 2.0 lbs/mm Btu, and it actually operates at 80 mm Btu/hr., for 5000 hrs./year, the model input would be 2.0 x 80 x 5000 ÷ 8760 = 91.3 lbs/hr. for the annual modelling analysis. This would be the case even if the source capacity is 100 mm Btu/hr. and 8760 hours per year.

The problem we discussed occurs when the allowable emission rate in the applicable regulation is not tied to capacity. For example, for the boiler described above, suppose the allowable emission rate is 200 lbs/hr., which is equivalent to 2.0 lbs/mm Btu when the boiler is operating at full capacity. According to the policy as we understand it, the emission rate to use in the annual modelling is 200 x 5000 ÷ 8760 = 114.2 lbs/hr. Thus, for two identical situations, a different figure would be used in the modelling due to the different form of emission limit for the two sources. This would be the case even if the sources were identical in every way, including actual emission rates, with the sole exception being the form of emission limit. The chart below illustrates the situation more clearly.

Boiler Designation	A	B
Size	100 mm Btu/hr.	100 mm Btu/hr.
Allowable Emissions, From Regulation	2.0 lbs/mm Btu	200 lbs/hr.
Actual Operating Rate	80 mm Btu/hr.	80 mm Btu/hr.
Annual Operating Hours	5000 hours	5000 hours
Actual Mass Emission Rate	160 lbs/hr.	160 lbs/hr.
Maximum Allowable Mass Emission Rate, Based on Allowable Rate in Regulation	200 lbs/hr.	200 lbs/hr.
Hourly Emission Rate to Use in Annual Model	91.3 lbs/hr.	114.2 lbs/hr.

Although the procedure for these two situations may seem inconsistent, we can see good reason for requiring it, and have no objection to using it. We merely wish to make sure it is the correct procedure according to OAQPS policy.

Please advise us as to whether the procedure outlined above is the correct one in the circumstance described.

Winston A. Smith