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Category: 36 – Long Term Averaging

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

December 5, 1983

MEMORANDUM

SUBJECT: Meeting Report on Long-Term Averaging for VOC Sources

FROM: Bill Polglase, Environmental Engineer
Technical Guidance Section, CPOB (MD-15)

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

THRU: Brock Nicholson, Chief
Technical Guidance Section

I. Purpose

This meeting was held for the purpose of discussing how EPA should handle requests for long-term emissions averaging for volatile organic compound (VOC) sources.

II. Place and Date

U.S. EPA Office
Fifth Floor Conference Room
N.C. Mutual Building
411 West Chapel Hill Street
Durham, North Carolina
November 1, 1983

III. Attendees

See attached list

IV. Discussion

A. Darryl D. Tyler, Director, Control Programs Development division (CPDD), began the meeting with a general review of the problems associated with long-term averaging for VOC sources. He stressed that the meeting was intended to clarify EPA policy through consensus. He pointed out potential problems with greater than a 24-hour average and the fact that some Federal new source performance standards (NSPS) have been issued with 30-day averages. He stated that his October 12, 1983, memorandum to B.J. Steigerwald

on this subject was to be the basis for the discussion and that the group should review the five options included in the memorandum for the purpose of making a recommendation for clarifying EPA policy on long-term averaging for VOC sources. (Participants were also encouraged to recommend any other options that they felt were appropriate.)

B. Brock Nicholson then presented a detailed summary of background information related to long-term averaging in VOC RACT compliance determinations. A summary of high points of this review is as follows:

- The original CTG documents did not include time averaging but contemplated constant compliance.
- EPA policy and guidance provided in the December 8, 1980, Federal Register notice related to VOC emission limitations for can coating operations recommended 24-hour averages.
- The 24-hour average did not require the State to submit a SIP revision. Some States favored tighter averaging times. For example, the State of Maryland wanted an hourly average. The State of New Jersey's generic rule provides for both a one-hour and a weekly average.
- Some recent source-specific bubbles and some generic VOC regulations present long-term averaging problems as they are not consistent with past Agency policy.
- Some exceptions to the 24-hour average that EPA has approved to date are:
 1. Alabama Tire Company originally requested an annual average. Negotiations with the company resulted in this being reduced to a monthly average. (Alabama has an accommodative SIP; the regulation was not necessary as a part of its attainment SIP for its urban areas. Thus, the regulation was not adopted as part of a required nonattainment ozone SIP.)
 2. 3-M Company – To prevent explosive mixtures when purged, ovens are blanketed with inert gas. Large amounts of VOC are emitted during purging. Purging only occurred weekly and thus any daily cap was probably irrelevant. A 30-day average was allowed to mitigate this situation (special case).
- Ohio and other States are submitting time bubbles (i.e., emission limits not related to production). These have not been approved as yet.
- It appears that, in some instances, companies are using averaging time to avoid the degree of control contemplated by the CTG's and the approved SIP. Averages extend to quarterly and annual.
- Federal NSPS have been issued with 30-day averages and apply to the specific processes involved, not the entire plant. NSPS are developed under Section 111 of the Clean Air Act and reflect the best demonstrated

technology on a line-by-line basis. Currently, no bubbling is allowed in NSPS.

C. John Calcagni reviewed the original basis required for control in the CTG's and the subsequent developments that have resulted in a decrease of their effectiveness in air pollution control. A summary of high points in this review is as follows:

- When the CTG documents were originally issued in 1977 and 1978, compliance with the presumptive norm in surface coating operations was intended to be instantaneous.

Compliance could be achieved by:

1. an 81 percent reduction in emissions with add-on controls (90 percent capture efficiency and 90 percent control);
2. a conversion from high-solvent coatings to low-solvent coatings, with comparable real-time emission reductions.

- In many instances, companies elected to comply with emission limits by going to low-solvent coatings. Problems arise with the availability, acceptability, etc., with such coatings and EPA, in an April 25, 1980, memorandum ¹(Footnote 1), provided guidance by allowing extended compliance schedules provided the companies met specific requirements. It was anticipated that VOC reductions beyond that achievable by add-on controls would result from this control program.

- The thrust of the CTG's was offset when the Agency implemented the emissions trading policy (including bubbles, alternate compliance schedules, etc.). This resulted in a basic change in Agency interpretation of VOC emission limits. Originally, a company could not emit more than RACT which was a SIP emission limit generally consistent with the CTG presumptive norm. Control systems normally are designed to provide a margin of safety to ensure compliance during normal operating conditions. With the advent of the emission trading policy, a company could now be allowed to consider the full presumptive norm or RACT for trading (including bubbling) purposes.

- With the advent of the bubble, other problems have arisen that greatly complicate compliance determinations such as daily weighted average, recordkeeping, daily "caps," shutdown considerations, downtime considerations, and long-term averaging.

D. Following the background reviews, the general group discussion centered on the subject under consideration, i.e., long-term averaging for VOC sources and SIP regulations. The following were discussed.

¹ H&H Plastics memorandum.

1. A possible problem considered was that existing SIP guidance recommends a 24-hour average as cited in the can coating Federal Register notice dated 12/8/80 while some NSPS allow 30-day averaging times. Tom Helms pointed out that some Regions could be significantly impacted whichever way an averaging time policy was recommended. Further, he stressed the need to have a common understanding as to why "NSPS averaging times differ from CTG averaging times."

2. A summary of considerations cited by ESED and other personnel related to a 30-day average for NSPS is as follows:

- NSPS relate only to individual affected facility emissions such as a single coating line. CTG's relate to plant emissions.
- In developing NSPS, it was felt that a wide variation in low-solvent coatings and high-solvent coatings required for production may exist resulting in a day-by-day problem for scheduling and recordkeeping.
- ESED has a lot of comment urging them to reduce recordkeeping requirements.
- The NSPS program was approached in a manner such that the data base for NSPS was not determined on a short-term (24-hour) basis. In the case of rubber tires, records reviewed were mainly on an annual average.
- The NSPS test procedures (Method 25) for testing add-on incinerators requires a 3-hour performance test. Compliance with the standard can be determined over a calendar-month averaging period by Reference Method 24 or by manufacturer's data.
- A major survey or "hard engineering analysis" was not made in determining that a 30-day average should or should not be used for NSPS.
- Even with extended averaging times, NSPS emission limits are at least as stringent or more so than CTG's because of tighter numbers.

3. In summary, for a specific situation, the effect of using a 30-day average as compared to a 24-hour average is that you have a less stringent emission limit. If you use a 24-hour average you cannot recoup the credit for emissions not used for that day. If you use a monthly average, the full allowable emissions for each day can be considered.

There are a number of reasons why NSPS and SIP numbers cannot be directly compared. A partial list of reasons is as follows:

- NSPS emission limits (numbers) are as stringent or are more stringent than CTG emission limits.
- A longer averaging time can be used (as is the case in NSPS) where you have more stringent emission limits. (The longer averaging times

and more stringent numbers compensate for each other.)

- SIP emission limits allow bubbling between plants as well as across lines. NSPS currently do not allow such bubbling.
- NSPS relate to affected facilities such as a single coating line, while CTG's relate to plant emissions.

4. Following this discussion, there was considerable discussion related to the long-term averaging memorandum from Darryl D. Tyler to B. J. Steigerwald, dated October 12, 1983. The options/approaches to potentially deal with averaging times that were listed in the memorandum are as follows:

(a) Require sources/States/Regions to rigorously comply with "Sydnor" memo.

(b) As for compliance with memo, however, any "noncompliance" will be discussed in the Federal Register proposal for public reaction. EPA would use public reaction as input to final decision.

©) Develop more explicit criteria for granting extended averaging ("Sydnor" memo is basically subjective). Criteria would probably be arbitrary.

(d) Allow up to 30 days averaging without specific justification.

(e) Adhere to 24-hour averaging but allow for case-by-case RACT for individual sources where compliance with the 24-hour requirement is a real problem. Case-by-case RACT would obviate the need for long-term averaging.

A poll of Regional personnel concerning the options indicated the following:

- Region I — Wants some way of approving meaningful 30-day averages. Would want something generally between options (a) and ©)-- option ©) preferred. Option (e) would probably place a resource burden on the Region.
- Region IV — Recommend options ©), (a), and (e) in this order of preference. The Region is uncomfortable with option (d). Region IV commented on all five options in a memorandum to Darryl Tyler dated October 31, 1983 (attached).
- Region V — Prefers option ©) - additional technical studies required if followed explicitly. The Region currently has 12 proposed SIP revisions in draft or final form which include monthly averaging.
- Region III — Prefers option ©) - however, additional technical studies required if followed explicitly.

In light of the above poll, it was suggested that a generic set of criteria be adopted that would satisfy the requirements of option ©). Region III felt that there was not enough technical information to make a decision on this suggestion. ESED indicated that they agreed with this since they recently were requested to make a RACT determination for a plant and felt that they needed to make a plant inspection for a proper determination.

Tom Helms indicated that it would take approximately one year to develop such criteria. In light of the current actions facing the Agency, it simply is not practical to do.

Option (d) was then discussed. Major points are as follows:

- The Regulator Reform Staff does not object to a 30-day cap provided that it is accompanied with a properly-structured daily cap. (See attached memorandum from Mike Levin to Tom Helms, undated.)

- Region IV believes wholesale 30-day averaging is a bad idea because it defeats the intent of the RACT regulations, which is to require continuous compliance. (See memorandum from Chief, AMB, Region IV to Darryl D. Tyler, Director, CPDD dated 10/31/83.)

- Meeting participants generally felt that blanketly going to 30-day averages would defeat the intent of the VOC RACT program.

5. Next, the importance and relevance of the requirement for a daily cap was discussed. It was pointed out that the "Sydnor" memorandum does not require a daily cap.

- Tom Helms and Brock Nicholson pointed out that, while a daily cap "looks good" on paper, many caps seen to date were not meaningful. Often the caps were unrealistically high, representing emission levels that would probably never be exceeded. Often the caps were developed at maximum operating levels which are not experienced in the real world. Therefore, for EPA to push to daily caps that "do not do anything" seems to be a waste of time and energy.

- Region V indicated that companies use varying production averages in determining a daily cap. In Region II, Massachusetts uses a two-year average to determine a daily cap.

- ESED suggested that an annual average plus ten percent be utilized in determining a daily cap.

- In the memorandum provided for consideration at the meeting, the Regulatory Reform Staff presented three alternatives for determining a daily cap that they felt would be acceptable. (See memorandum from Mike Levin to Tom Helms, undated).

- SSCD pointed out that long-term effects and a demonstration was required to determine a daily cap.

- It was also felt that in order to approve a monthly average, industry must show that a real reduction in emissions will occur and that RFP and nonattainment status must be considered.
 - It was the general consensus that monthly averages should be limited to areas with approved ozone SIP's. In addition, there should be no monitoring showing nonattainment.
6. With respect to longer-term averages (> 30 days), meeting participants generally felt that quarterly, semiannual, or annual averages were unacceptable; however, if they are to be used in conjunction with a daily (or monthly average where approvable) then there would be no problem.

V. Conclusions and Recommendations

It was the consensus of the group that a daily weighted average for VOC regulations is the preferred alternative where continuous compliance is not practicable. Longer averaging times (not to exceed a month) might be permitted provided certain principles are followed. These will be outlined in a revised policy memorandum to be issued by EPA in the future.

1. The OAQPS will draft the policy memorandum (modeled after the "Sydnor" memo). Terms such as "as practicable" will be removed and a paragraph stating that a demonstration must be made that emission averaging greater than 24-hour averaging will not jeopardize either ambient standards attainment or the RFP plan for the area.
2. Sources in areas lacking approved SIP's or in areas with approved SIP's showing measured violations cannot be considered unless such SIP's are revised (and submitted) demonstrating attainment and RFP.
3. Daily caps are desirable for sources subject to large fluctuations in emissions. Caps should limit daily emissions in some meaningful way. Caps that limit short-term emissions to less than average historical levels would be preferred. A daily cap is not absolutely required, however. A cap will provide a limitation that is more logically consistent with the ambient standard.
4. The EPA Regional Offices shall have the primary responsibility of determining the approvability of each application.
5. All SIP revisions involving long-term averaging (greater than 24 hours but not more than 30 days) must be proposed in the Federal Register along with a detailed explanation of how the principles of approvability contained in the final policy have been satisfied. No direct finals should be taken on such actions.

Attachments

1. Attendees VOC Averaging Meeting, Durham, NC, November 1, 1983

cc: Meeting Attendees

Attachment

ATTENDEES
VOC AVERAGING MEETING
DURHAM, NORTH CAROLINA
November 1, 1983

Joe Arena	Region III	597-4561
Jim Berry	ESED	629-5605
Rich Biondi	SSCD	382-2831
John Calcagni	CPDD	629-5665
Douglas Cook	Region IV	257-7654
Fred Dimmich	ESED	629-5578
John Hanisch	Region I	223-5130
Tom Helms	CPDD	629-5526
Brock Nicholson	CPDD	629-5516
Rich Ossias	OGC	382-7633
Joe Paisie	Region V	886-6046
Bill Polglase	CPDD	629-5516
Sims Roy	ESED	629-5578
Sharon Reinders	CPDD	629-5516
Steve Rosenthal	Region V	886-6052
Dave Salman	ESED	629-5605
Jim Sydnor	Region III	597-8991
Gil Wood	ESED	629-5578
Susan Wyatt	ESED	629-5671