

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: PSD Issues (Federal Paperboard Plant)

DATE: December 17, 1976

FROM: Richard G. Rhoads, Director
Control Programs Development Division

TO: Tom Helms, Deputy Director
Air & Hazardous Materials Division, Region IV

Per your request (attached), I have reviewed the material you provided and offer the following guidance in regard to the PSD issues associated with Federal Paperboard. I apologize for the delay, but your questions turned out to be more encompassing than originally envisioned at first glance

Many of the questions that you have raised are a direct result of your recent and continued experiences with a planned modification to a Kraft - pulp mill where four boilers are involved. One of the three existing boilers is to be replaced by a new fourth boiler while the other two existing boilers are to be modified to burn oil (that is, they are to cease burning bark). The net result of these actions was predicted to be a net reduction in particulate matter emissions. You asked me first how I thought the PSD regulation would apply in this situation.

Under the existing PSD regulation, the applicable source would be the existing Kraft pulp mill which is one of the 19 source types covered under §52.21. Each of the boilers would be a facility within the Kraft pulp mill (§52.21(b)(1) states that a source is comprised of one or more pollutant emitting facilities). Consequently, there must be a net emission increase in either particulate matter (PM) or SO₂ from any source modification for it to be covered under PSD (52.21(d)(1)).

Your memo stated that there is likely to be a net reduction in terms of particulate emissions. You did not discuss the expected change to plant SO₂ emissions in your memo, but contact with your staff indicates that they are expected increase. Your staff further stated that the source did not provide sufficient details to ascertain if the respective SO₂ increase and PM decrease occurred independently of the named fuel switch. The intent of PSD is to exclude the impact of fuel switching in determining source applicability except where the switch is an integral part of a plant action to expand its production. Thus, you should probably focus your attention on the emissions due to the replacement of the existing boiler by the fourth new one. If a net increase of either SO or PM results from this replacement, then the new boiler is likely covered under the current PSD regulations

Given that the new boiler is part of a subject modification due only to anticipated increases in SO₂ (this may or may not be true), the intent of PSD is to require BACT for only SO₂. Conversely, BACT for only PM would be required under PSD if increased emissions of PM and not SO₂ are likely from the modification. Although §52.21(d)(2)(ii) states that the subject

new or modified source must meet a BACT requirement for PM and SO₂ the intent of this regulation is not to require pollutant-specific best controls on a project that would otherwise lower emissions of that pollutant and improve the relevant air quality associated with it. (This will be clarified in forthcoming amendments.) Thus, the existing regulations do not afford you a clear opportunity to levy a BACT requirement for PM on the new boiler if there is no appropriate increase in PM emissions from the source (Kraft Pulp Mill).

The draft amendments to §52.21 may provide an additional means to subject the new boiler (facility) to review. That is, if it were to release more than 50 tons per year (TPY) (allowable emissions) of either SO₂, or PM, the new facility would be subject even though net emissions from the Kraft Pulp Mill may decrease for either or both pollutants. If you find that the existing regulations do not directly or adequately cover the new boiler for a given pollutant, whereas the forthcoming amendments would, then you might consider inclusion by intent. This, of course, is worth considering. In any event, a 50 TPY release of PM from the new boiler would be necessary before BACT for PM could be required.

You also asked five general questions concerning PSD which no doubt came to mind while considering the proposed Kraft pulp mill modifications. I shall attempt to answer each in the same order it was asked. Please bear with some repetition of my earlier thoughts.

1. Yes, EPA can force BACT (for a particular pollutant) on a "new facility" constructed at the site of an existing source provided that (1) there is a net increase of that pollutant at the source due to the modification, and (2) the existing source or new facility is one of the PSD 19. [The new regulations under consideration would subject applicable new facilities to BACT if it would emit over 50 tons per year of allowable SO₂ or particulate matter emissions.]

2. Under the current regulations, we probably cannot subject a source modification to PSD and subsequent pollutant-specific BACT requirements if there is no net increase of the applicable pollutant from the source after the modification. [The new regulations again would catch 50 TPY source modifications (new facilities, etc.) of SO₂ or particulate matter.]

3. Yes, in several cases I expect that BACT will be equivalent to NSPS when prescribed for subject boilers that are less than 250 x 10⁶ BTU/hr capacity. This, however, must be determined on a case-by-case basis. Combination boilers are typically a significant and quantifiable emission point for SO₂ and particulate matter within a Kraft pulp mill and will normally be subject to the BACT requirement. The exclusion of this facility type from NSPS consideration does not necessarily affect its applicability under PSD.

4. Yes, there is an apparent inconsistency here but closing this "loophole" might precipitate a substantial and perhaps unmanageable number of additional PSD reviews with little compensation in terms of controlled emissions.

5. Both the new and existing PSD regulations do not allow the source to begin any on-site construction prior to obtaining preconstruction approval. Pouring footings appears to be an obvious infraction of this requirement.

I hope that these comments have been responsive to your needs. Please feel free to call on me or my staff at any time.

cc: Ed Reich, DSSE (with attachment)
Dick Stoll, OGC '' ''
Kent Berry '' ''
Don Goodwin '' ''

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: PSD Requirements for Federal Paperboard Plant

DATE: Nov. 5, 1976

FROM: G. T. Helms, Jr., P.E., Chief
Air Programs Branch

TO: Files

SUMMARY

On November 3, 1976, I met with representatives from the State of North Carolina and the Federal Paperboard Company to discuss tile possible application of Federal PSD requirements to a new combination boiler to be built at the source. A description of points, issues, and facts discussed at this meeting follows:

1. Basically, the Company questions the applicability of the PSD regulations. After carefully reviewing the definition of "source" and "facility" (40 CFR 52.21), I told them that I felt their source (Kraft Pulp Mill) was one of those described in 52.21(d) and that the new boiler as a "facility" in the source was subject to the regulations. The Company opposed this interpretation because they do not want to meet the BACT limits.
2. There are three other boilers at the plant plus the new one, all of which figure into the overall modification/new source scheme. One existing boiler will be closed down, two others modified to burn only oil (cease burning bark), and the fourth is the new boiler. Citing the following, CFR reference, I told them that I felt the three existing boilers would not be covered by PSD:

"A source which is modified, but does not increase the amount of sulfur oxides or particulate matter emitted, or is modified to utilize an alternative fuel, or higher sulfur content fuel, shall not be subjected to this paragraph."

(Paragraph was Review of New Sources.)

3. The Company feels that their new, fourth boiler (facility) should not be covered by PSD because of the CFR statement:

"With respect to modified sources, the requirements of sub-paragraph shall be applicable only to the facility or facilities from which emissions are increased."

Since modifying two boilers and closing the third will cause a greater reduction in particulate emissions than the new emissions from tile fourth boiler, the Company

feels that 'tile boiler shoul~ not be subject to BACT for particulate control

4. When questioned about BACT requirements for the new, fourth boiler, I indicated that in tile previous case of a similar combination boiler in Region IV, we used the basic NSPS limits of 0.1# particulate/10⁶ BTU and 0.8 or 1.2# SO₂/10⁶ BTU to establish limits for this boiler. This facility is located near Claiborne, Alabama. The following approach was employed for SO₂.

- Boiler Heat Input $\left\{ \begin{array}{l} 240 \times 10^6 \text{ BTU/Hr.} \longrightarrow \text{Coal} \\ 230 \times 10^6 \text{ BTU/Hr.} \longrightarrow \text{Bark} \end{array} \right.$
- Total $470 \times 10^6 \text{ BTU/Hr.}$

- Pro-rating the NSPS limit (0.75% sulfur fuel) based upon heat input from fossil fuel.

$$X = \frac{470}{240} \times 0.75\% \text{ S} = 1.5\% \text{ S} \dots \text{ This was the coal limit established as BACT.}$$

I suggested that. EPA would probably take this same kind of approach with Federal Paper Board, but we'd have to see the application first.

Besides the issues raised at the meeting, the following are items needing additional clarification and resolution:

1. Can EPA force BACT on a new "facility" being constructed at an old source?
2. Can we force BACI for a new "facility" at an existing source if old "facilities" are closed down and the closures more than compensate for the new facility's emissions?
3. Can we force NSPS type limits through the PSD programs on boilers smaller than 250 X 10⁶ BTU/Hr? Further, since combination boilers were not addressed in the recent CFR proposal for Kraft Pulp hills, can we force BACT on this kind of boiler?
4. An apparent inconsistency exists in the PSD regs with respect to small boilers (<250 X 10⁶ BTU/Hr.). They appear subject to PSD's BACT requirement if built at one of 19 source categories. However, if built alone or at a category of source not listed, then there is no BACT requirement? Is this so, and if it is what can be done to close tile loop hole?

5. Just how far can a source go toward construction without our approval? Three have now contacted me wanting to pour footings and begin work while we're reviewing their application.

ACTION

Assistance from Regional Counsel and Headquarters is needed and will be sought to resolve the issues addressed in this memo.

BACKGROUND

November 3, 1976, meeting in Raleigh, North Carolina.