ATTACHMENT 2

ivan a hall
<info@ivanhall.com>
02/01/2006 09:50 PM

To KnaufPermit@EPA
cc
bcc
Subject Proposed revised PSD

History: This message has been replied to.

To Whom it may Concern:

I read the public notice regarding Knauf's proposed revised PSD in the Redding Record Searchlight. The notice stated "these documents are also available" on line: The proposed revised PSD permit and Air Quality Impact Report. I wasn't able to locate them however. Can you provide the link or instructions please?

Likewise the public notice states, "The Administrative Record for the proposed permit, which consists of the proposed revised PSD permit, all data submitted by the applicant in support of the permit revision, and correspondence between EPA and the applicant is available for public inspection." Where is the information available at please?

The public notice also states: "All public documents that are available in electronic form may be requested via email." Please e-mail me all public documents available in electronic form.

Thank you.
Sincerely,
Ivan Hall

Next person is Ivan Hall.

MR. HALL: Good evening. My name is Ivan Hall. I live at 2575 Star Drive. Thanks for finally coming up here and squaring aware this NOx issue that's been going on for quite some time.

My comments concern the top down back analysis for the NOx emissions, now that NOx is under PSD control. What I noticed is that the low NOx burners, no cost analysis was given for the low NOx burners. Rather it was listed as baseline. And specifically in your document here you say that you're going to consider -- under the regulations you're going to consider the PSD requirements as if the construction of the source had not commenced. Clearly if we're using low NOx burners already in operation as baseline, that's not the case. Selective catalytic reduction, if I'm saying that right, just familiarizing myself with that terminology, you mention that's used in Quiet Flex operation of fiberglass facility in Texas. Yet when we look at the cost analysis given for Knauf using it, it's astronomical. So astronomical as to be ridiculous. Which makes me wonder why would anyone use it? So doesn't seem to be -- doesn't seem to jibe there.

One of the things I noted though is you're considering the SCR analysis in conjunction with the low NOx burners in operation. And I'm not sure that that's appropriate. Rather, should be looking at the selective catalytic reducers operating separately from the LNBs. And the low NOx burners, we should be getting emission reduction, a total capital cost, and total annualized cost to compare these things. We should be seeing what are the NOx emissions without pollution control devices and then each pollution control device matched against the pollution coming out to see which one is the most effective. Just in terms of reducing the pollution and then how much each one costs, and then we can see how much each ton is actually being reduced. I'm not sure this analysis is correct if we're calling low NOx burners a best available control technology, but we're only considering selected catalytic reduction after the low NOx burners have already been put into operation. So they're being unfairly evaluated in terms of their cost effectiveness in reducing pollution because they're having to reduce the pollution once it's already been considered to be a reduced by the low NOx burners.

It may be that the low NOx burners are ultimately the best available control technology. But I don't understand from this analysis that that's clear. And it seems to me that -- we've already given them four years, what's another six months. Whatever it takes to get this thing so it comes out straight here so that we understand.

If it comes down to, well, we don't want to make Knauf rip out their low NOx burners and put in selective catalytic reducers because it doesn't seem to make sense, at least let's get that in black and white. If it's because low NOx burners are the best available control technology and that's what they have on it, well great. Seems like they could have been forthcoming with their pollution emissions from the beginning and they would have had low NOx burners and everybody's time would not have been wasted up to this point.

So I'm a little skeptical of the whole process. Knauf has went to great lengths to try to do away with PSD permit to try to avoid some things. Fortunately, EPA Region 9 didn't allow them to do that. Now that we're here and we're considering a revised permit, I would ask that the Region 9 would consider my request and review the top down analysis for NOx facts and look at the technologies individually as if this factory truly had not been built yet, instead of looking at it, well, the factory has been built, it does have low NOx burners in place.

Thank you.

MS. DeLUCIA: Thank you. Next speaker is Colleen Leavitt.

MS. LEAVITT: Hi. We must kind of seem like a

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Permits Office Air-3
U.S. EPA, Region 9

Shaheerah Kelly
Air Division (AIR-3)
EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901

Dear Ms. Kelly: March 25, 2006

Thank you for the opportunity to comment on Knauf's revised PSD permit and Ambient Air Quality Impact Report.

A top down BACT analysis for NOx control equipment was a significant component missing from Knauf's very first PSD application. That is because, according to the EPA, Knauf initially underestimated their NOx emissions to a level below the PSD threshold of 40 tons per year. Now that Knauf has been operational for over four years and has been consistently emitting Nox well above the PSD threshold of 40 tons per year, EPA as part of a revised Knauf PSD permit has done a top down BACT analysis for NOx control equipment.

EPA region 9's Knauf NOx BACT top down analysis is critical in that it must be done "as if the construction of the source had not yet commenced", 40CFR52.21(r)(4). Additionally, EPA region 9 in its Feb. 3, 2006 Knauf Air Impact Report p. 9 of 37 states, " EPA considers Knauf a major source for NOx and will review the proposed NOx emissions limit in accordance with our PSD requirements as if the source had not yet been constructed."

Region 9's Feb. 3, 2006 Air Impact Report is particularly informative to the public in that it clearly states on p.4 of 37, "Most of the NOx emitted from the Main Stack is associated with the thermal decomposition of ammonia." Hitherto the public's attention had been focused on Knauf's NOx emissions as largely a by-product of natural gas combustion occurring in the curing

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Knauf Insulation
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Docket Index #: VII-A-20

ovens and the thermal oxidizers. I recall Knauf officials explaining their higher NOx emissions to the public as the result of an engineering error made by the manufacturer of the thermal oxidizers. Indeed, Knauf initially sought to minimize their NOx emissions by reducing the operating temperature of their thermal oxidizers, the consequence though was unacceptably higher PM-10 and VOC emissions.

Additionally Knauf's Revised Draft Environmental Impact Report p. 3-26 states, "The curing process would use low NOx burners to reduce NOx emissions from approximately 60 tons per year to approximately 13 tons per year." No mention of NOx emissions occurs, to my knowledge, in public documents as a result of the thermal breakdown of ammonia until now.

Ammonia and urea are key ingredients in Knauf's process. Ammonia emissions are projected at 166 tons per year per Knauf's Environmental Impact Report(s).

In considering EPA region 9's top down BACT analysis for Knauf's NOx emissions it's important to point out that the analysis uses low NOx burners as a baseline in their Table 7: NOx BACT Control Hierarchy, Table 8: Economic Impact Analysis, and Table 9: Environmental and Energy Impacts.

Clearly the rationale for the basis of this type of analysis, whereby a pollution control technology (in this case low NOx burners) is not analyzed for Range of Control percentage, BACT Analysis Control Level percentage, Emissions Reductions (tpy), Total Capital Costs ($), Total Annualized Cost ($/yr), Average Cost Effectiveness ($/ton), and Energy Impacts is the fact that the facility is both operational and already using low NOx burners in the curing oven section. (pg. 22 of 37 EPA region 9 Knauf Air Quality Report states, "Since the curing oven already uses LNBs, the baseline NOx emissions from this operation will be based on the use of LNBs.)

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One cannot analyze pollution control technologies "as if the source had not yet been constructed", and also from a perspective of technology in use at a built and operational facility as being considered baseline.

Conclusion:

EPA region 9's NOx BACT top down analysis is inadequate.

NOx emission levels need to be established using standard burners. Then low NOx burners need to be evaluated just as the other pollution control technologies are, rather than as a baseline.

Page 23 of 37 Air Quality Report states, "Table 7 shows the emission levels that could be achieved using LNB (i.e., baseline) and SCR at the three points in the process listed above." In other words the analysis does not provide the information necessary to evaluate Selective Catalytic Reduction as a stand alone NOx pollution control device. SCRs potential effectiveness is compromised because it is only evaluated in tandem with LNBs.

Thank you for your consideration in this matter. I look forward to your response.

Sincerely,

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cc dbenda r/searchlight

3.6.7.2 Molten Glass Transformation

The weighed and blended raw materials would be heated to a temperature of appro mately 2,500°F in the electric-fired melting furnace. Heating would transform the materials into molten glass. All glass melting would occur electrically without fuel combustion.

Trace amounts of PM_{10} would be emitted from the furnace. These emissions would be controlled by two dust collectors with greater than a 99 percent efficiency.

3.6.7.3 Fiber Formation and Binder Application

The molten glass from the furnace would be spun. Centrifugal force would cause the molten glass to flow through small holes in disks (spinners). The glass fibers that would result from this process would flow through a high velocity air stream, where binder would be applied to bond the fibers. The quantity of binder sprayed into the glass fibers depends on the type of product being manufactured. Typically, about 85 percent of the binder that is applied to the fiberglass would remain on the product, and the other 15 percent would remain on the conveyer or would be collected by the pollution control equipment. The binder typically consists of a solution of phenol-formaldehyde resin, water, urea, organo-silane, ammonium sulfate, and ammonia. The phenol-formaldehyde resin would be stored at a 50 to 55 percent solid concentration, and would be mixed with water and the other ingredients in vented mixing tanks, as needed.

The fiberglass would be pulled onto a perforated conveyer belt directly below the spinners by fans pulling air through the conveyor belt. Air temperature along the conveyor belt would be approximately 130°F. The fibers would be collected on the conveyer to form a fiberglass mat. Each spinner would contribute fiberglass to the mat, causing the mat to increase in thickness as it travels along the conveyor belt. The thickness of the mat would be controlled by the conveyer speed.

The forming and binder application process would emit reactive organic gases (ROG) and particulate matter less than 10 microns in aerodynamic diameter (PM_{10}) through the stack, greater than 95 percent of which are organic solids and the balance of which are inorganic solids and minute amounts of entrained glass fibers.

3.6.7.4 Mat Curing

After the mat is formed, it would proceed on the conveyer belt to the curing oven. The purpose of the curing oven is to remove the moisture remaining in the fibers and thermally set the binder (known as curing). The oven temperature would range from 450°F to 550°F. Upper and lower conveyers in the oven would compress and cure the fiberglass to the desired final thickness. The space between the conveyers would be adjusted for different products.

The curing process would use low NO_x burners to reduce NO_x emissions from approximately 60 tons per year to approximately 13 tons per year. These emissions would be exhausted through the stack.

7

Knauf Revised Draft EIR

Ivan Hall
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03/25/2006 12:59 PM

To KnaufPermit@EPA
cc dbenda@redding.com
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Subject Knauf's Revised PSD Permit

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