KEN KY ALPLNT

RECORD OF COMMUNICATION

__x_TELEPHONE CALL ___MEETING ___CONFERENCE CALL x___OTHER- Lan messages

INFORMATION COPIES TO: Dennis

TO: D. Wilson
FROM: B. Johnson, Region IV
DATE: 10/8-9/96
TIME:
SUBJ: Kentucky Aluminum Plant

SUMMARY OF COMMUNICATION:
10/8/96
Issue: In Kentucky, the PSD modeling for this aluminum smelter showed NAAQS violations for the 24-hr period for SO2 using the highest 24-hr concentrations for a local monitor. Influences from the source in question were removed in determining the background. However, there is a power plant, Big Rivers, within 6-7 km away (106 m stacks). Not sure if the conditions leading to the maximum concentration were from this plant, yet. However, the plant was specifically modeled. The applicant wants to review the background concentrations and remove all ambient concentrations when the wind was blowing from the power plant also. If this is done, does one determine the 24-hour period with only those hours (e.g., 12, 18, 20, etc.) remaining in this period? Or can the second highest 24 hr background concentration be used? Also, if the highest-second-high concentrations doesn't involve a direction from the power plant at all then my question on using the second high background remains?

C/H Comments:
If we understand what the source wants to do here, we would say that it is not covered in any guidance and don't think it has been asked before. In general, a problem with eliminating directions based on impacts of a background source is that the same argument could be made for a second background source and a 3rd etc. At some point in time one would eliminate all of the directions.
However, it is up to Region IV if you want to entertain their proposal, specific to the source in question. We would say that it should be formally proposed to the State/Region IV with enough detail so that you can determine where maximum concentrations are and whether background values are being thrown out that would otherwise significantly affect these concentrations. Or, whether so many measured background values are being thrown out as to make the average of the remainder questionable as a useful number. We would ask them to carefully and completely follow the guidance in Section 9.2.2 (Option 1) of the Guideline on Air Quality Models, using the same rationale to discard measured background values associated with the sectors where the large background source has an effect. (Section 9.2.2 is cross

referenced from 9.2.3, last paragraph).

We would shy away from using the high second high in non excluded sectors. Difficult to logically defend.

10/9/96
Issue: After talking with KY again it turns out that the State already has the modeling and permit application in hand. It also turns out that the situation is different than what was described above. The source in their modeling actually discarded monitored background values for sectors where any of the modeled background sources had an effect, leaving only one small sector that was free from modeled impacts. Thus there were only a limited amount of data that could be used to determine the effects of "other background sources." Then they used the same background (very small) value for all averaging times. They also neglected impacts on a Class I area 90 km away.
Region IV suggested that they reject the procedure and send the permit back.
C/H Comment:
Agree with Region IV. The above C/H comments are also relevant to this change in the issue as well.

FOLLOWUP ANTICIPATED:
Brenda will call KY back and suggest that they declare the application incomplete, or whatever procedure is appropriate to prevent approval.

MODEL CLEARINGHOUSE RECORDS INFORMATION:
SOURCE NAME: KY Aluminum Plant
LOCATION: KY
SOURCE TYPE: Aluminum Plant
POLLUTANTS: SO2
REGULATION(S) INVOLVED: PSD
MET. DATA BASES (ON/OFF-SITE): Off
MODEL(S) USED: unknown