



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

December 2, 1986

MEMORANDUM

SUBJECT: Urban/Rural Determinations

FROM: *Dean A. Wilson*  
Dean A. Wilson  
Techniques Evaluation Section

TO: Michael Koerber  
Regional Meteorologist, Region V

In response to your request, I have considered your concerns, and those of your States, regarding guidance on determining whether an area is urban or rural for modeling purposes. We have also had subsequent telephone conversations and you discussed the subject at the November 1986 Regional Modelers Mini-Workshop. My recommendation is that we not modify our urban/rural guidance at this time but continue to entertain exceptions to the guidance on a case-by-case basis.

You have listed several possible criteria for justifying exceptions to the guidance: heat flux, surface roughness, supporting monitoring data and overall classification of the area. Of these various criteria, a justification based on a comparison between monitored data and model estimates would probably be the most defensible. The overall classification of the area, while supportable from a consistency standpoint, could be a problem for justifying urban modeling of large sources in rural areas adjacent to urban areas. The first two criteria have been espoused in the past but generally have not prevailed, primarily because of their qualitative nature.

With these considerations in mind, let me comment briefly on your shoreline power plant and refinery problems. First, a much more complete justification would be needed in each case before we could offer an opinion. Second, I concur with your suggestion that monitoring data could be used to support a deviation from guidance. As we discussed on the telephone, while the spatial/temporal coverage of monitors may not necessarily be as rigorous as is the case for a performance evaluation, I believe that the same principles hold, e.g. monitors should exist at points of estimated maximum concentration for both the urban and rural versions of the applicable model. Finally, I suggest that the justification in each case discuss the discrepancy between monitored data and estimates as attributable to the urban/rural question and not to some other phenomena such as downwash, fumigation, etc.

In summary, I have been reminded that the current policy, based on land use, was decided upon by consensus with the Regions playing a major role. I understand that many of the criteria you mention were considered at that time but were not included in the final policy by our mutual agreement. However, because they were considered does suggest that they have merit and, as with all of our guidance, there is room for a different interpretation, supported by these or other criteria, on a case-by-case basis.

If you have any further questions, please contact me.

cc: Reinders  
Rhoads  
Tikvart