UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: APR 2 8 2000

SUBJECT: Request for Concurrence to Use Existing Meteorological Data Base as On-Site for the Grassy Point Energy Project

FROM:
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TO:
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Thru: Steven C. Riva, Chief
Permitting Section, EPA Region 2

The purpose of this memorandum is to request your concurrence on an EPA Region 2 position regarding the use of a one year meteorological data base as on-site for use in a PSD permit application. The facility, namely the Grassy Point Energy Project is a proposed 550 MW natural gas with oil as backup fuel generating facility in Haverstraw, New York. The meteorological data that the source would like to use for their PSD permit application was collected between June 1985 and May 1986 at another facility, namely the Southern Energy Bowline facility, located in the same town approximately 1 kilometer away. In a letter to NYSDEC we made a preliminary determination that this data was not considered on-site for the Grassy Point Energy Project. Since then, the Grassy Point Energy Project has provided us with more detailed information so that we may reconsider the earlier determination. Given the reasons below, we believe the request to use this data is reasonable but would like your concurrence on this position.

Background:

There are 2 PSD proposals for power plants in the same town approximately 1 kilometer apart. One is a new unit at an existing facility, namely the Southern Energy Bowline facility. During the 1980's this facility collected several years of meteorological data at their site. The data was collected at a monitor instrumented at 10, 50 and 100 meters and met the appropriate QA/QC criteria including the 90% data capture requirements for use in PSD permit modeling. Although several years of data were collected, only one year of data still exists that is usable (June 1985 to May 1986). For their current proposal, Southern Energy Bowline requested to use this one year of data to determine impacts in their PSD permit application. On January 27, 2000 EPA Region 2 informed the NYSDEC that the data would be appropriate for use in Southern Energy Bowline's PSD permit application.

During this review process, NYSDEC verbally informed us that another nearby facility, namely the Grassy Point Energy Project, would also like to use the same meteorological data and also consider it as "on-site". In the January 27, 2000 letter to NYSDEC we noted that we did not believe this data would be "on-site" for the Grassy Point Energy Project. We did, however, state that it could be used as off-site data for use in ISC3 flat terrain impacts since it is more representative than any of the closest NWS stations. The complex terrain impacts could be assessed with a screening model such as CTSCREEN. Furthermore, we stated that given that there was only one year of data (rather than 5 years of off-site data), the Grassy Point Energy Project would have to use the Highest rather than the High-Second-High impact to determine compliance with any short term PSD increment or NAAQS analysis (as per section 8 of the Guideline on Air Quality Models).

Approvability of the Bowline Meteorological Data for the Grassy Point Energy Facility:

On February 28 and March 15, 2000 we received additional information from the Grassy Point Energy Project with additional details which lead us to believe that the data, although not technically "on-site", would be an appropriate surrogate for on-site data. The facility provided us with topographic maps and further information regarding stack location and orientation with geographical features. This showed that the meteorological tower and the Grassy Point stack are located in similar air sheds and as such should experience similar atmospheric conditions. Although they are about 1.2 kilometers apart, they are both in the same valley along the foothills of some complex terrain and both have the Hudson River to their east. There is also no intervening terrain between the facility and the meteorological tower. Although the applicant has not finalized the actual stack height, the GEP stack height is 288 feet (or 88 meters) above MSL. They claim that it may be lower but not higher than this. Therefore, the meteorological measurements at the 100 meter tower level (plus 3 meter base elevation) reasonably describes the dispersive conditions at the proposed stack height. If the actual stack height is much lower, they would be required to use the data collected at either the 10 or 50 meters, which ever is closest to the actual stack height. The only notable difference is that the Grassy Point stack would be approximately 1 kilometer further inland from the Hudson River and be located about 1 kilometer further away than the meteorological tower from some significant terrain features to their south (that peak out at around 670 feet). We do not believe these differences are so great to significantly alter the air shed.

Given these facts, we believe that the Bowline data are as equally representative of dispersive conditions and plume behavior for the Grassy Point plant as if the data had been collected on site. However, given the temporal factor of 15 years separation, we would like to retain the original determination that the Highest rather than the High-Second-High concentration be used to determine compliance with the PSD increment or NAAQS standards should one be required (As per section 8 of the Guideline on Air Quality Models.)

Environmental Justice Considerations:

There is another issue which needs to be addressed in this case in which the use of a single meteorological data base would facilitate the fair assessment of two new sources locating in the same neighborhood in the same time period. That is, the data may be used for possible evaluation of Environmental Justice in the community. Region 2 is experiencing a wave of new sources (in addition to Southern Energy Bowline and Grassy Point) that are proposing to locate in pockets throughout New York State. Most of these sources have agreed to permit limits which restrict their emissions so that the air quality impacts of the individual sources are below the "significant impact levels". As such, a cumulative assessment of the air quality standards (i.e., PSD increment or NAAQS) are not required by EPA regulations. However, as per the Executive Order on Environmental Justice, we are recommending to NYSDEC that the cumulative effect of these clustered sources be evaluated to assess whether they disproportionately and adversely effect a minority or low income community. This recommendation will apply in this Bowline-Grassy Point case and it would lead to a better assessment if the two sources use the same meteorological data base.

Conclusion:

We agree that the one year of meteorological data collected at the Southern Energy Bowline site during June 1985 to May 1986 would be an appropriate surrogate for on-site meteorological data to determine impacts from the Grassy Point Energy Project's stack using the ISC3 model (with Complex I in refined mode) to assess their air quality impacts. This conclusion is further supported by the fact that there may be a need to perform a cumulative assessment of environmental justice by Grassy Point and other sources in the area which should use the same data base. We have enclosed a copy of the topographic map and some of the documentation so that you may review. Please let us know if you concur with our position.

cc: L. Sedefian, NYSDEC