

ILLINOIS POLLUTION CONTROL BOARD  
February 15, 1979

ILLINOIS POWER COMPANY, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 79-7  
 )  
 ENVIRONMENTAL PROTECTION AGENCY, )  
 )  
 Respondent. )

CONCURRING OPINION (by Mr. Dumelle):

This proceeding evolved from R75-5 decided on December 14, 1978 with my concurring vote. I had advocated a 6.8 lbs./MBTU emission standard in lieu of the former 6.0 lbs./MBTU limit enacted in 1972. The 6.8 figure was a part of the Board's first draft of R75-5 but was dropped upon final enactment.

The instant Order holds Illinois Power (at their request) to 6.0 lbs./MBTU which is less than the 6.8 figure I had advocated. Thus I have no problem with this emission limit.

What the Board must do in this proceeding, however, is in essence to make a finding that a breach of the air quality standards will not ever occur under foreseeable meteorological conditions. To do this, actual monitoring data must be studied. In addition, since monitors are not always located at the "hot spots," modelling must be done.

Models are not absolutely accurate. The model used in the Baldwin study is "state of the art". There are two troublesome points. First, background concentrations were not taken into consideration in the model. The second point is that the Briggs plume rise equation, which was used, tends to overpredict plume rise from tall stacks, (which Baldwin has) and thus underpredicts ground-level concentrations. The fact that the modelled concentrations were lower than the monitored concentrations points out the need to take background concentrations and a more site specific plume-rise equation into account when determining if a power plant such as Baldwin will violate air quality standards or PSD increments.

Since the modelling was only done to a distance of 20 km. from the plant, Baldwin's impact on the St. Louis metropolitan area may not have been adequately considered. Even though the accuracy of a model is unknown at distances greater than 20 km. (especially for short averaging times), a "ball-park" estimate of Baldwin's annual average impact would have been useful.

Without this information it is difficult to determine if Baldwin could be contributing to air quality problems in the Carondelet or Wood River areas.

The Coalition for the Environment discussed long range transport and the conversion of sulfur dioxide to sulfates and to "acid rain". No Federal health standard has yet been promulgated for sulfates and thus it appears to me that the epidemiological and medical bases for one must be still under study.

A Midwest "acid rain" monitoring network was set up in 1978 and in a year or two should give valuable data on levels of acidity and trends in Illinois.

Under the instant Order, Illinois Power will have to apply for a new operating permit not more than 21 months from today. The ambient monitoring and dispersion modelling program results will show then the accuracy of the model and of the assumptions used.

Because of questions as to the accuracy of the meteorological models, I concur.

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Jacob D. Dumelle

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Concurring Opinion was filed on the 15<sup>th</sup> day of February, 1979.

Christan L. Moffett/so  
Christan L. Moffett, Clerk  
Illinois Pollution Control Board