

ILLINOIS POLLUTION CONTROL BOARD  
September 27, 1974

COMMONWEALTH EDISON COMPANY )  
PETITIONER )  
)  
)  
v. ) PCB 74-11  
)  
)  
ENVIRONMENTAL PROTECTION AGENCY )  
RESPONDENT )  
)

RICHARD POWELL, ATTORNEY, ISHAM, LINCOLN & BEALE, in behalf of COMMONWEALTH EDISON COMPANY  
MICHAEL GINSBERG, ATTORNEY, in behalf of the ENVIRONMENTAL PROTECTION AGENCY  
MARVIN MEDINTZ, ATTORNEY, representing the PEOPLE OF THE STATE OF ILLINOIS, INTERVENOR

OPINION AND ORDER OF THE BOARD (by Mr. Marder)

This action involves a request for variance filed January 4, 1974, by Commonwealth Edison, seeking relief from Rule 3-3.112 of the Rules and Regulations Governing the Control of Air Pollution and Rule 203 (g) of Chapter 2, Air Pollution Regulations. The variance request pertains to Edison's Waukegan and Sabrooke power generating facilities.

This matter was consolidated for hearing with PCB 74-16, which is a one-year request for Variance for Edison's five facilities. The combined record is very comprehensive, and a complete opinion on this matter will be incorporated within the Board's opinion on 74-16.

A brief discussion of each unit at the two stations is in order at this time.

Sabrooke #3 and #4 have either been converted to oil or are presently down for such conversion. Thus no variance is required for these units.

Sabrooke #1 and #2 were also scheduled for conversion to oil. However, on November 27, 1973, the Federal Government published regulations forbidding the use of oil in units which were presently coal-fired. Edison's appeal of this regulation was denied when the State Environmental Protection Agency did not certify that the conversion of Units 1 and 2 to oil was needed to maintain the primary air quality. Edison has now appealed to the Federal Government, and that appeal is still pending.

Large sums of money have already been spent by Edison in preparation for conversion of Sabrooke Units 1 and 2. This sudden turn of events was certainly beyond Edison's control, and variance will be granted.

Waukegan #8 is presently running with a flue gas conditioning system. The purpose of this system is to allow the burning of low sulphur coal while retaining top efficiency of the electrostatic precipitator. This concept utilizes liquid SO<sub>3</sub> flue gas injection. Although it is hoped that Unit #8 is presently in compliance, the novelty of the technology and the recent startup of the process would suggest that a variance would be in order.

Because this technique (SO<sub>3</sub> injection) is a major part of Edison's future compliance plans, the Board would encourage the running and testing of Unit #8 so as to expedite future compliance plans.

Waukegan #7, 6, 5:

Unit #5 was planned for a shutdown by about September 15 (R. 4/15/74 Pg. 10). This shutdown was anticipated to facilitate duct work modifications between the existing Unit 5 ESP and the unused Unit 1,2, and 3 ESP (Units 1,2, and 3 had been previously retired by Edison). This shutdown was to encompass the approximate period of September 15 to November 15. According to efficiency tests on this unit, the modifications will increase capture efficiency from about 65% to about 90% or from 2.0#/mm BTU to 0.5#/mm BTU. (See Ex. W-1.)

Unit #6 is presently controlled by an ESP which allows emissions of from 0.402 - 0.181 #/mm BTU while running on 2.4% sulphur coal (See Ex. W-2). Compliance plans call for SO<sub>3</sub> injection to be completed by June 1976.

Unit #7 is presently controlled by an ESP. The unit, when burning low sulphur coal (1.9%), has a very low capture efficiency and a high rate of particulate escape (from 1.27 to 1.87#/mm BTU). Unit #7 is a fairly large (338 mw) unit and will therefore contribute a total load in excess of 3720#/day of particulates at full load.

Compliance for this unit is the installation of a new "hot" ESP with a shutdown date (for installation) of October 1976.

As mentioned above the instant matter has been consolidated with PCB 74-16. Because of the complexity of the situation and the need for lengthy hearings in the combined matters, the Board has previously granted interim variances (at the Petitioner's request) up to and including October 4, 1974. Therefore this order can only grant variance from October 4, 1974, to October 15, 1974.

The Board has in the past expressed serious concern over the impact upon the citizens of Edison's emissions in the Waukegan area. In an attempt to get a firmer grip on the actual air quality surrounding the Waukegan station, the Board ordered the establishment of a nine-station air monitoring network. Edison informed the Board that this network was put into operation on April 17, 1974.

When the last interim extension was granted by this Board (see August

1, 1974, Order), we expressed concern as to the lack of data from the monitoring network and stated:

"The Board again emphasized that the availability of air quality data was a key consideration in the original variance grant. This provision was specifically included to allow for public notification of high pollutant levels, and to allow the Agency and Edison to take immediate corrective actions. By not supplying such information Edison made this decision much more difficult for the Board. This Board will carefully review the complete record on PCB 74-11 to ascertain why such data was not available."

(PCB 74-11, August 1, 1974,  
Pg. 6)

A review of the 74-11, 16 record, including final briefs, shows the record to be silent on the subject. However, on September 24, 1974, Edison filed with the hearing officer a Motion to Include Data. This Motion would have included said data with the record of 74-11. The hearing officer did not rule on this motion prior to our final action in this matter, and it thus could not be considered in our deliberations. Furthermore it was found that Edison had indeed filed monthly reports with the Board, and the reports were filed under PCB 73-40.

The Board still maintains that the proper course of action would have been to file the data in the record during hearing, and discuss on the record whether such data would have aided the Board in its decision. Lacking this data the Board has no way of using real time information to assess the impact on the community, and must turn to modeling data instead. Were it not for the very short duration of this variance, the Board would deny Edison's request for a variance regarding Waukegan on this point alone. However, in light of the short duration of this variance, we feel it better to grant the variance and condition the same on a clear definitive order regarding the submission of all available data to the Board as well as the Agency.

In making this decision the Board has relied on the data provided by the Agency and Edison regarding projected air quality. Melvin Exhibit #2 was instrumental in this decision. Table 13 of such exhibit relates Edison's predicted contribution to air quality from the Waukegan station. A review of this table shows potential violations of the three hour standard about once every three years under fumigation conditions. However, these predictions are based upon emission data which are somewhat higher than one would expect to exist on October 4, 1974. Unit #8 was projected at 0.427#/mm BTU, while with flue gas conditioning the figure is more likely 0.07#/mm BTU. Unit #5 is projected at 1.27#/mm BTU, while there is an excellent possibility that the unit will be shut down on October 4, 1974, and thus will generate no particulates.

Taking all into account the Board will grant conditional variances for Waukegan units 6, 7 and 8. No variance will be granted to Unit #5.

Although the lack of variance will not force Edison to shut down Unit #5, it is the intent of the Board by this denial to prod the conversion of Unit #5 to a dual ESP system. We are aware that this unit may already be down, and as such a variance would not be required.

In writing this Order, the Board is aware that Powerton 1-4 will be retired during October 1974. However, we do not know the exact shutdown date, and for purposes of this Order we will assume that Powerton 1-4 will be running up until October 15, 1974.

This Opinion constitutes the findings of fact and conclusions of law of the Board.

ORDER

IT IS THE ORDER of the Pollution Control Board that:

1. Variance for Sabrooke Units #3 and #4 is dismissed as moot.
2. Variance is granted for Sabrooke Units #1 and #2 until October 15, 1974, from Rules 203 (g) and 3-3.112.
3. Variance for Waukegan Unit #5 is denied.
4. Variance is granted for Waukegan Units #6, 7, and 8 until October 15, 1974, from Rules 203 (g) and 3-3.112.

The above variances are conditioned on the following:

- A) Waukegan Unit #8 shall run in the normal sequence of Edison's system capacity, provided that Edison make every reasonable effort to continually operate its SO<sub>3</sub> injection system.
- B) Data as to the effectiveness of the SO<sub>3</sub> injection system shall be supplied to the Agency and the Board by October 15, 1974.
- C) Waukegan Unit #6 shall be operated only after all available Edison capacity has been utilized (including Waukegan #8), but before Powerton Units 1 to 4, Sabrooke 1 and 2, Waukegan 7, and Edison's fast start peakers are utilized.
- D) Sabrooke Units #1 and 2 shall be operated only after all available Edison capacity has been utilized, including Waukegan 8 and 6, but before Powerton Units 1 to 4, Waukegan 7, and Edison's fast start peakers are utilized. However, one of the Sabrooke units (1 or 2) may be operated at the minimal level necessary to provide steam for water demineralizers, heating the station, or to prevent stack deterioration in the event that Units 3 or 4 cannot be used for this purpose.
- E) Waukegan Unit #7 shall be operated only after all available Edison capacity has been utilized, including Waukegan 8 and 6, Sabrooke 1 and 2, but before Powerton 1 to 4 and Edison's fast start peakers are utilized.

- F) Edison shall continue to maintain and operate its nine-station network of air quality monitors as ordered in PCB 73-40. All data generated to date shall be submitted to the Board by October 15, 1974. Data submitted during the period of this variance shall be submitted to the Agency and the Board by November 1, 1974.
- G) The bond required in Condition 6 of the Board's Order in PCB 73-40 (Opinion date October 4, 1973) shall remain in full force and effect for the duration of this variance.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, certify that the above Opinion and Order was adopted by the Board on the 27<sup>th</sup> day of September, 1974, by a vote of 5 to 0.

