

ILLINOIS POLLUTION CONTROL BOARD
October 14, 1971

COMMONWEALTH EDISON COMPANY)
)
 v.) PCB 71-129
)
 ENVIRONMENTAL PROTECTION AGENCY)

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Opinion of the Board (by Mr. Kissel):

On May 28, 1971, Commonwealth Edison ("Edison") filed a variance petition with the Pollution Control Board ("Board") seeking permission to continue violating Rule 2-2.11 of the Rules and Regulations Governing the Control of Air Pollution, regarding particulate emissions of various units at three of its coal-fired stations. Edison sought the variance for its Fordam Station in Rockford (which consists of six units), for units 1, 2, 3 and 4 of Powerton Station in Pekin, and for units 1, 2 and 3 of the Will County Station near Romeoville. Edison's Air Contaminant Emission Reduction Program ("ACERP") for bringing the above facilities into compliance was approved by the Air Pollution Control Board in 1968, and it provided for a long-term schedule for bringing the various coal-fired units into compliance with the applicable particulate regulations. (Ex. 7). However, this Board decided that such an ACERP program for Edison's Joliet facility was, in effect, a variance and hence demanded annual reapproval (Environmental Protection Agency v. Commonwealth Edison Company, PCB 70-4, February 17, 1971). Therefore, Edison filed this petition concerning these three facilities. Edison contends that its ACERP was not a variance under the Air Pollution Control Act and is, therefore, still in effect, thereby nullifying the need for reapproval by this Board. But, in the event such approval is necessary due to changes in the original program, the company asks that the Board grant the affected facilities variances in order to permit their continued operation during the completion of the abatement program.

[The Fordam Station]

The Fordam Station near downtown Rockford is scheduled to be retired by October 31, 1971 in accordance with the approved ACERP. From the time of the application for the variance until the unit's retirement, Edison has a firm contract for off-peak natural gas; except for those days when the average daily temperature is 32° or less, Fordam will be operated at its maximum gas burning capability. All but one of the Fordam boilers is capable of operating with gas, but the remaining five do not have sufficient capability to operate with maximum power solely on natural gas. Only two of the boilers are equipped with mechanical dust collectors which will bring them into compliance with the Illinois standard. When using only coal the uncontrolled units do not meet the standard. The Fordam Station presently has a capacity of 60 megawatts. Edison contends that this station's availability is essential in order to provide zone protection to the downtown area of the City of Rockford. This downtown area has an aggregate peak demand of about 50 megawatts. With Fordam unavailable, load reductions during periods of peak demand might be necessary if there were outages in the connection system. The problems in the connection system are being alleviated, so that retirement can be accomplished by October 31, 1971. We are satisfied that to deny the variance and thereby force a premature shutdown at Fordam would impose an unreasonable hardship upon Edison and upon the downtown area of Rockford dependent upon this plant. In granting the variance we will continue to insist that Edison maintain its plans to use natural gas whenever available. On appropriate conditions, the variance as to the Fordam plant is granted.

The Agency also asks that the Board impose a penalty for Edison's failure to transfer the multiclone presently installed on boiler 10 to boiler 9. The multiclone was installed on boiler 10 in 1940; boiler 10 has not been operated since 1961. Boiler 9 is still in operation with 100% coal. The precipitator on boiler 10 is designed for a negative operating pressure. The only possible location on boiler 9 for the precipitator would be after the induced draft fan, a positive pressure area. The Fordam plant superintendent stated that in this location the precipitator would not perform its function competently. We believe that the different pressures on the units would significantly mar any compatibility, thereby making transfer unfeasible. A penalty is not in order on this account.

[The Powerton Station]

The Powerton Station is located southwest of Pekin. The ACERP program approved in 1968 provided that the four units at Powerton would all be eventually shut down; the phaseout schedule for the units was as follows: Units 1 and 2, October, 1974; unit 3, October, 1976; and unit 4, October, 1977. Edison has revised its phaseout schedule so as to retire units 3 and 4 each one year earlier than originally scheduled. The Powerton facility consists of twelve pulverized coal-fired boilers, with no control equipment, served by three stacks all over 300 feet tall. Powerton has available 364 megawatts generating capability.

Edison claims that it needs the full generating capability of the Powerton Station in order to provide power during necessary maintenance outages. Even more critical for the Powerton Station is Edison's need for 160 megawatts of generating capability to provide first contingency protection for the Crawford substation serving downtown and mid-north Chicago on the 69 kv line. Edison defines first contingency protection as that generating capability necessary to tolerate the loss of (a) two major generating units, (b) one generating unit and one transmission line, or (c) one major transmission line. Edison has established a long-range program intended to eliminate its dependence upon the Powerton facility for first contingency protection. That program contemplates converting the outdated 69 kv transmission system to 138 kv. The first step in this changeover is to convert the Humboldt Park transmission substation to 138 kv; then it will be possible to add support to the Crawford Station by changing it over to Edison's 345 kv grid system. The Humboldt Park conversion will not be completed until mid-1974, with September, 1974 as the so-called "date of reliability". As of that date then, Edison intends to retire Powerton 1 and 2, the oldest units. Powerton 3 and 4, it estimates, will be necessary into 1975 in order to maintain system reserve at the then-projected 13.3%.

The Agency recommended that the petition as to Powerton be granted until June 1, 1972, subject to several conditions. It asked that Powerton not be allowed to operate above 160 megawatts and that no such power generated leave Illinois. The Agency also asked that Edison begin a program of design and construction for sulfur dioxide removal at the Powerton unit 5 which is now under construction. The Agency also sought the imposition of a penalty.

Neither the testimony at the several days of hearings nor the Agency's brief ever established any basis for the imposition of a penalty. Edison has maintained a commitment to its 1968 ACERP and, in fact, has improved upon it. The Board has consistently held that if a company is following the schedule detailed in a proposed ACERP, there is a shield against the imposition of a penalty, and no penalty shall be imposed. The Board also sustains the Hearing Officer's ruling that the subject of Powerton 5 and possible SO₂ removal was beyond the scope of this hearing. Powerton 5 is not presently on line and thus is in no need of a variation from the existing regulations.

The testimony of the Pekin and Peoria residents, however, established the effect of the heavy uncontrolled emissions from Powerton. Billy Keen of Pekin complained that the smoke would sometimes blot the sun out and that ash often covers his yard and house. Ray Riek described the grayish brown smoke emanating from the plant. The Tazewell County Director of Environmental Health indicated that his department had received numerous complaints regarding emissions from Powerton. William L. Rutherford described the plume from Powerton as extending several miles from the plant.

The hardship imposed upon the Pekin residents by such emissions is considerable. During the course of the hearing, Edison moved to significantly lessen the present and projected emissions from Powerton by amending its variance so as to provide for decreased use of the facility. With two exceptions, Edison indicated, Powerton will be the last facility on its system to be committed, and the first to be taken off after the daily peak period has passed. When it is committed, this will be done only with sufficient lead time to ensure availability for the peak daily period. The two exceptions are as follows: When the system load is expected to equal or exceed 70 or 80% of the estimated yearly peak load, Powerton must generate at least 160 megawatts as first contingency protection to Crawford; during ice formation conditions, Powerton must be operated at approximately 240 megawatts to prevent ice buildup on the transmission lines. It is expected that these operating conditions should reduce operating time at Powerton by two-thirds, thus bringing emissions down to one-third of present levels.

Under the operating conditions which Edison has applied to the Powerton facility, the hardship to the residents will be minimized. If the Board were to deny the variance, it would be

placing a large area of downtown Chicago in imminent jeopardy of losing its power source. In essence, Powerton will not be operated except under emergency conditions.

The variance shall be granted for all units until October 15, 1972, subject to extension until October 31, 1974. This variance is being granted on the basis of the hardship Edison alleges concerning the changeover on the 69 kv and 345 kv transmission lines. It is not clear on the record that the two changeovers will be completed by October 31, 1974, with the need for Powerton thereby ceasing as of that date. We hope that in its subsequent variance petition Edison can clarify this question for the Board.

[The Will County Station]

For the Will County Station, Edison seeks a variance for unit 1 until December 31, 1971; for unit 2 until March 1, 1973; and for unit 3 until June 1, 1973. On those respective dates, unit 1 will have particulate and sulfur dioxide controls, and units 2 and 3 particulate controls. These units have a capacity of 609 megawatts. All three units presently have precipitators which, prior to 1968, did not achieve their design efficiency. Edison's 1968 ACERP for Will County committed it to a program of interim improvement schedules to be completed in 1969 and costing \$500,000. The interim improvements were completed according to schedule. Edison also committed itself to a long-range improvement program intended to bring Will County into compliance as follows: Unit 1, spring, 1972; unit 2, fall, 1972; and unit 3, spring, 1973. The program for unit 1 is presently ahead of schedule, that for unit 2, four months behind.

As regards unit 1, Edison is presently completing the installation of a Babcock and Wilcox sulfur removal system with a Venturi scrubber designed for particulate collection efficiency of 98%. The sulfur removal system is designed to limit SO₂ emissions while burning 3.5% sulfur coal to those emissions experienced while burning .75% sulfur coal. Total installation cost for unit 1 is over \$7 million. The precipitator to be installed on unit 2 will be in series with the existing precipitator and is designed to achieve a 99% collection efficiency. Unit 2 installation cost is about \$4 million. On unit 3, Edison will install an additional precipitator, again in series, to achieve a collection efficiency of 99%. The estimated cost is \$7.8 million. Both units 2 and 3 will burn low sulfur coal.

The Agency recommended that the petition be granted until June 1, 1972. The Agency asked that any grant be subject to the condition that all units be operated at a capability factor

greater than 25% only when necessary to maintain a daily projected actual reserve of 10%. They also asked that Edison begin a program of sulfur dioxide control for units 2, 3 and 4 at Will County. Several citizens did testify regarding emissions from Will County, but we do not find their testimony conclusive that air pollution results from sulfur dioxide emissions from this facility. In the absence of such proof, this Board is constrained from holding that sulfur dioxide emission abatement equipment must be installed. (See Environmental Protection Agency v. City of Springfield, supra, and Illinois Power v. Environmental Protection Agency, supra).

The Agency's suggested limited operation of Will County would place the facility on an intermittent operation schedule. At present Will County represents about 10% of Edison's system capability. This Board realizes that Edison's reserve capacity has been severely strained over the past several years as a result of extended lag times before Dresden III and the Quad-Cities facilities were able to come on-stream. On the evidence in the record, it is clear that this tight reserve condition will persist at least for the next year. The Board realizes that heavy dose of emissions from the Will County facility has a strong adverse effect on the area around the plant. Nonetheless, this hardship must be balanced by the great need for the Will County facility in the Edison system. Further, a positive control program is proceeding at Will County which, within a short space of time, will bring the facility into compliance. With its new installations on units 2 and 3, Edison intends to burn low sulfur coal; by December 31, 1971, it will control sulfur emissions from unit 1. In addition, any intermittent operation of the facility may inflict serious metallurgical damage to the Will County units. In order that the Board may reexamine the variance in the light of changing reserve conditions, the variance, except for Will County 1, shall be granted for a period of one year subject to the appropriate conditions.

Though the Agency has not sought a penalty for the delay in the implementation of the ACERP for Will County, we feel that this Board should face that question. The original date given by Edison in the 1968 ACERP for compliance on unit 2 was fall, 1972. That compliance date has now been delayed until March 1, 1973; this was occasioned by Edison's taking several months out of the implementation schedule in early 1971 to study whether a wet scrubber system could be used on unit 2 as a means of controlling particulate emission instead of the precipitator. Due to cost, weight, water treatment, and waste

disposal problems with the wet scrubber, Edison elected to proceed with the precipitator as originally planned. Not until this hearing did Edison notify the Agency or the Board that it was undertaking a scrubber feasibility study which would delay the implementation of the ACERP. This is a four month delay in an implementation plan spread over several years. The precipitator which Edison intends to install obtains 99% particulate collection efficiency rather than the 98% under the original ACERP. The Board has previously stated its disinclination to impose money penalties on anyone who in good faith adhered to an approved program. (Environmental Protection Agency v. Commonwealth Edison Company, PCB 70-4, and Moody v. Flintkote Company, PCB 70-36, 71-67). Edison's overall program for these three units shows substantial compliance with the ACERP dates, with advancement of the date on some of the units, including Will County 1.

This case is not so serious as Illinois Power Company v. EPA, PCB 71-198 (September 30, 1971), where the company had departed from its ACERP by substantially increasing rather than decreasing its use of certain ill-controlled boilers. But here too there was an unapproved deviation from the promised schedule, which exposes the neighbors of the Will County plant to an additional four months of pollution. It may well be that if Edison had asked permission to risk a few months' delay in order to test an experimental scrubber, the delay would have been approved. But it is important that such permission be requested rather than that a company unilaterally decide whether or not the experiment is in the public interest. The decision whether or not the delay is justified is for the Board and not for the company to make. For the above reasons, we do not believe that a penalty should be imposed for the delay occasioned on the Will County units.

[The One-Year ACERP Issue]

In the instant case, Edison asks that the Board disaffirm its holding in EPA v. Commonwealth Edison, PCB 70-4, that the Air Contaminant Emission Reduction Program was not a variance under the Air Pollution Control Act and is, therefore, not subject to automatic cancellation one year after it has been granted. Edison contends that the ACERP program was enacted under Section 5 of the prior Act and not under Section 11. But, as this Board reaffirmed most recently:

" . . . an ACERP is a variance whose duration is explicitly limited to one year by statute. The ACERP authorizes emissions in excess of regulation limits, and on the ground that immediate compliance

would cause unreasonable hardship; this is the very essence of a variance. . . . any doubt on this issue is resolved by the specific statutory provision that all variance requirements apply to ACERPs. This does not mean all programs must be completed in one year. Renewals are authorized on adequate proof. But a prudent reexamination of such dispensations is rightly required by statute." (Illinois Power Co. v. EPA, PCB 71-193, 195-8).

[One-Year Limitation on Variances]

Also, Edison contends that under the present Act the Board can grant variances for more than one year.

Section 36(b) of the Environmental Protection Act states:

"Any variance granted pursuant to the provisions of this section shall be granted for such period of time, not exceeding one year, as shall be specified by the Board . . ." (Emphasis supplied)

But Edison contends that the word "section" in 36(b) limits the Board to that type of case set forth under Section 36(a). Thus, a Section 36 variance would be one where the "hardship complained of consists solely of the need for a reasonable delay in which to correct a violation"; a Section 35 variance would be one necessary to avoid an "arbitrary or unreasonable hardship". It is clear that the Act did not intend to establish two different variances, each requiring different proof. It is also clear that the word "section" refers to the entire variance section, or Title IX of the Act, and we so hold.

In addition, Section 38 provides in part:

"All the provisions of this Title shall apply to petitions for extensions of existing variances and to proposed contaminant reduction programs designed to secure delayed compliance with the Act or with Board regulations."

This reference to "all provisions of this Title . . ." refers to Title IX variances, which Title contains Section 36(b) within its one-year limitation. The instant case indeed concerns an extension of a proposed contaminant reduction program and thus be reference.

comes under the one-year limitation. Finally, Section 36(a) of the Act directs that the Board in granting a variance "may impose such conditions as the policies of the Act may require". In this case, we find that the policies of the Act require an annual review of the variance and the progress toward compliance. As Edison has often reminded the Board, the power industry is one that is subject to daily, even hourly, changes. Faced with such a volatile situation, we have no choice but to conduct an annual review. In the hypothetical future, it is entirely possible that Powerton 3 and 4 can yet be retired earlier than Edison now projects, or that a further extension may be necessary at Will County 3 in order to provide for the additional installation of a sulfur dioxide removal unit. Thus, the grant of the variance shall be for one year, with appropriate extensions. We would also remind Edison, in their expressed concern over the multiplicity of hearings which may be called for, that in a variance case hearings need not be scheduled if either the Board in its discretion does not conclude that one is advisable or if the Agency or other person does not object to the grant of the variance. (Section 37). Of course, once compliance is attained, no further hearings will be necessary.

The above constitutes the Board's findings of fact and conclusions of law.

O R D E R

Upon examination of the record, Commonwealth Edison is hereby granted a variance to emit particulate matter in excess of regulation limits as follows:

1. For the Fordam Station until October 31, 1971, provided that:

(a) Edison shall operate this facility so as to make maximum use of gas. Edison may use coal to avoid a voltage reduction in the Rockford area when power is unavailable for purchase from another facility. Edison may use coal if necessary to keep these units fired up so that they can be used as ready reserves.

(b) Edison shall submit a report by November 15, 1971, to the Agency stating for the month of October the amounts of electricity produced and coal burnt at Fordam.

2. For unit 1 at the Will County Station until December 31, 1971.

3. For unit 2 at the Will County Station until October 15, 1972, subject to extension to March 1, 1973.

4. For unit 3 at the Will County Station until October 15, 1972, subject to extension to June 1, 1973.

5. At the Powerton Station, for units 1, 2, 3 and 4 to October 15, 1972, subject to extension until October 31, 1974, provided that:

(a) Powerton shall be the last units on the Edison system committed to service and the first taken off after the daily peak period has passed. Powerton shall be committed only with sufficient lead time to ensure the unit's availability for the daily peak period. When Powerton capacity is required to meet the predicted daily peak load plus the operating reserve, the station will be initially loaded to approximately 50% capacity. Before the remaining capability of the Powerton units will be utilized, all other units on the Edison system -- including the fast-start peaking units -- will be brought to full operating load, exclusive of emergency capability.

(b) The restrictions set forth in paragraph 5(a) above shall not apply if weather conditions which may cause icing on the transmission lines exist or if Edison's predicted daily peak load equals or exceeds 70% of the projected annual peak load.

(c) In the absence of such conditions as described in paragraph 5(b) of this order, Powerton shall not be operated above 160 megawatt capacity.

6. Commonwealth Edison shall make maximum use of available gas to minimize the necessity for burning coal in units not meeting standards when coal is used.

7. All existing emission control equipment shall be maintained and fully utilized.

8. The company shall within 35 days after receipt of this order post with the Agency a personal bond or other security in the amount of \$500,000 in a form satisfactory to the Agency, which sum shall be forfeited to the State of Illinois in the event that the conditions of this order are not complied with or the facilities in question are operated after expiration of these variances in violation of regulation limits. The Agency shall remit such portions of the bond as it deems suitable upon the completion of the installation of the control unit on Will County 2.

9. The company shall file quarterly reports, commencing December 31, 1971, with the Agency, detailing its progress toward completion of its program. Such reports shall also detail Edison's projected annual peak load, its daily projected peak load, and the Powerton Station generation for each day in each month compared to the power generation for the same day in the same month in the previous two years, prepared much in the manner as Commonwealth Edison Ex. No. 53.

10. Failure to adhere to the program as presented or to the conditions of this order shall be grounds for revocation of this variance.

11. The company shall apply for any desired extensions of these variances to complete programs approved in this variance not later than 90 days before the expiration of these variances.

I, Regina E. Ryan, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above Opinion and Order on the 14 day of October, 1971.



Regina E. Ryan, Clerk
Illinois Pollution Control Board