

ILLINOIS POLLUTION CONTROL BOARD
April 16, 1981

CITY OF CRYSTAL LAKE,)
)
) Petitioner,)
)
) v.) PCB 81-1
)
) ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)
)
) Respondent.)

OPINION AND ORDER OF THE BOARD (by J. Anderson):

This matter comes before the Board on the petition filed January 2, 1981, as amended February 23, 1981, for extension of the variance from the 1.0 mg/l barium concentration limitation of Rule 304(B)(4) of Chapter 6: Public Water Supplies which was granted in City of Crystal Lake v. IEPA, PCB 77-332, 33 PCB 185 (March 29, 1979). On March 20, 1981 the Illinois Environmental Protection Agency (Agency) filed its Recommendation in support of the petition. Hearing was waived and none has been held.

Consistent with the terms of the Board's prior Order, by use of its existing synthetic resin type ion exchange treatment equipment the City of Crystal Lake (City), McHenry County, has been providing its population of approximately 8,300 persons with finished water containing 4.0 mg/l barium. As previously stated, the finished water from three of the City's wells contains barium in excess of 1.0 mg/l, and two of these exceed 4.0 mg/l (33 PCB 186).

In exploring compliance options as required by the original variance, the City has identified three methods by which the barium content of its water could be further reduced: further ion exchange treatment, construction of new shallow wells, or use of water from the Fox River. The City argues that each treatment technique will be expensive to finance, and difficult to implement. (The Agency notes that a possible fourth option, blending, "would be a difficult proposition as well," given the nature of the City's system. Rec. 2.)

The City states that reducing the barium below the 4 mg/l by further ion-exchange treatment would produce an "aggressive and unstable" water requiring additional pumps, holding tanks and chemicals to stabilize. Annual operating costs would increase at least \$100,000; water supply would be reduced by 224,000 gallons per day and an additional well would be required together with softeners, pumps, and other appurtenances. Moreover, the ion-exchange water treatment facilities cannot produce a consistent finished water quality of 1.0 mg/l barium using the waters of the City's existing deep sandstone water supply wells.

Alternatively, the City could discontinue using its three primary high capacity deep sandstone wells and construct ten new low capacity shallow limestone wells and additional treatment facilities. The estimated construction cost of this is \$4,000,000 and the increase in the City's annual cost of operation, depreciation, and debt service is estimated to be approximately \$615,000 per year.

The City's other choice would be to discontinue using its three primary high capacity deep sandstone wells and pipe water from the Fox River. The estimated cost of construction for transmission lines, treatment plants and other appurtenances is estimated at \$8,000,000.

In addition to financial hardship, the City alleges that consumption of barium at these levels does not adversely affect the health of its water users (see 33 PCB 185-6) and notes that the federal barium standard has been the subject of continuing study. The Village therefore requests extension of variance until January 1, 1984, the deadline date for exemptions under Section 1416 of the Safe Drinking Water Act, 42 U.S.C. §300(g)-5.

The Board finds that to require immediate compliance would impose an arbitrary or unreasonable hardship, given the great expense of complying with a standard under review, and the existence of little, if any, threat to public health. Variance is accordingly granted until January 1, 1984 subject to the conditions outlined in the attached order.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter

ORDER

1. Petitioner, the City of Crystal Lake, is granted a variance from the 1.0 maximum barium concentration limit of Rule 304 of Chapter 6: Public Water Supply until January 1, 1984, subject to the following conditions:

A. Petitioner shall continue to investigate the compliance options it has identified, but shall also investigate the possibility of blending.

B. Beginning on or about June 1, 1981, and at six month intervals thereafter, the Petitioner shall communicate with the Agency in order to ascertain whether new barium removal techniques applicable to its system have been developed and identified.

C. As expeditiously after identification of a feasible compliance method as is practicable, but no later than January 1, 1983, Petitioner shall submit to the Agency a program (with increments of progress) for bringing its system into compliance with barium standards.

D. Petitioner shall take all reasonable measures with its existing equipment to minimize the level of barium in its water supply and shall not allow the barium concentration to exceed 4.0 mg/l.

E. Pursuant to Rule 313(D)(1) of Chapter 6, on or before June 30, 1981 and every three months thereafter, Petitioner will send to each user of its public water supply a written notice to the effect that Petitioner has been granted by the Pollution Control Board a variance from the 1.0 mg/l maximum barium standard. The notice shall state the average content of barium in samples taken since the last notice period during which samples were taken.

2. Within forty-five days of the date of this Order, Petitioner shall execute and forward to David L. Rieser, Technical Advisor, Illinois Environmental Protection Agency, Enforcement Programs, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the certificate shall be as follows:

CERTIFICATE

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 81-1, dated _____, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

Petitioner

By: Authorized Agent

Title

Date

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order were adopted on the 16th day of April, 1981 by a vote of 5-0.

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