

ILLINOIS POLLUTION CONTROL BOARD
January 10, 1980

VILLAGE OF HANOVER PARK,)
)
) Petitioner,)
)
) v.) PCB 79-199
)
) ENVIRONMENTAL PROTECTION AGENCY,)
)
) Respondent,)
)
) MR. JOSEPH D. LAKE,)
)
) Intervenor.)

MR. KERRY W. PEARSON, SAMUELSON, KNICKERBOCKER & SCHIROTT;
appeared on behalf of Petitioner.

MS. ANNE K. MARKEY, ASSISTANT ATTORNEY GENERAL; appeared on
behalf of the Agency.

MR. JOSEPH P. LAKE appeared pro se.

OPINION AND ORDER OF THE BOARD (by Mr. Dumelle):

Petitioner has requested an extension of the variance from the standard for barium granted in Village of Hanover Park v. EPA, PCB 77-348, 29 PCB 439, March 30, 1978. The Agency has recommended that the extension be granted subject to conditions. A hearing was held on November 21, 1979 in the Pollution Control Board Conference Room in Chicago.

In Village of Hanover Park v. EPA, PCB 77-348, the Board noted that Petitioner was operating four finished wells with three more under construction. At that time, only Well #4 was known to be pumping water which exceeded the 1.0 mg/l barium standard. The Board ordered Petitioner to initiate a program of data collection on the barium levels in this well. If a violation in fact existed, Petitioner was to achieve compliance either by commingling water from its other wells or by the installation of barium removal equipment.

Petitioner is presently operating four deep wells and two shallow wells which provide drinking water for a

population of approximately 26,000. Two of these wells (#2 & #4) contain barium in excess of the 1.0 mg/l standard. Samples of Well #4 show a range of barium samples from 0.42 mg/l to 5.69 mg/l in raw water with one sample of ground storage at 8.04 mg/l (Ex.1). Samples of Well #2 show a range of barium samples from 1.16 mg/l to 2.52 mg/l (Ex.2). Two initial tests on Well #5, which is not yet in operation, show levels of less than 0.1 mg/l and 0.5 mg/l (R.28).

Petitioner feels that it needs all of its present wells to meet its present high demand and provide for fire protection (R.15). Well #5 will be needed to provide for peak demand anticipated during Summer, 1980 (R.25). Water from Well #2 and Well #4 is mixed with water from the rest of Petitioner's system (R.23).

Petitioner feels that commingling without barium removal will not achieve compliance unless Well #4 is used only for limited daytime periods and a complex mixing system with additional transmission lines is installed (R.40). If Well #2 and Well #4 are removed, the central portion of Hanover Park will experience a significant pressure drop during periods of peak demand (R.43) and the remaining wells will be overtaxed (R.44). Removing these wells would increase operating costs since they would have to be prepared for operation in times of emergency (R.40); however, operation for a few hours per day would probably keep these wells ready (R.49).

In a report prepared for Petitioner (Ex.3), two treatment methods were recommended for further study. They are chemical coagulation and precipitation followed by buffer filtration and sodium zeolite ion exchange (Ex.3, p.28). Capital costs for either of these alternatives are approximately \$500,000 (R.62-63). Capital costs for lime softening are estimated at \$800,000 assuming that a lagoon could be installed and sludge could be disposed at a nearby landfill (R.63). All treatment alternatives are based on treatment of water from Well #4 only (R.42). Petitioner has tentatively approved another study to explore these alternatives (R.67).

The Agency feels that lime softening is the most effective alternative since it can achieve 95% barium removal. The Agency prefers lime softening because no sodium is added and some hardness remains (R.73). Chemical coagulation and precipitation is not being used for barium removal because removal efficiency of only 20-35% can be expected (R.74). The Agency discourages the use of sodium zeolite softening because of its effect on people who must limit their sodium intake (R.74). Local medical authorities would have to be alerted to warn these

people (R.74). The Agency admits that there are higher installation and sludge disposal costs associated with lime softening and that high barium levels may inhibit spreading this sludge on farmland (R.76).

The Agency feels that the present 1.0 mg/l standard for barium is unduly restrictive and that a standard of 2-4 mg/l would be appropriate (R.78-79). Still the Agency knows of no movement in the United States Environmental Protection Agency to change the 1.0 mg/l standard (R.75, 80). The Agency feels that no threat to human health exists at the barium levels presently found in Petitioner's system (R.81).

In its Recommendation the Agency states its belief that Congress is likely to extend the present deadline of January 1, 1981 for compliance with the barium standard. Because of the levels observed in Well #2 and Well #4, the Agency feels that this variance should cover both of these wells or the system as a whole. The Agency notes some inconclusive data on radioactivity in Petitioner's system but feels that barium removal would also solve this problem. A forthcoming USEPA standard for sodium would rule out the use of ion exchange softening. The Agency contends that lime softening, with its shortcomings, or the development of additional well sources, are Petitioner's best alternatives. The Agency feels that with the use of Well #5, Petitioner should be required to minimize the use of Well #2 and Well #4 during this variance. The Agency has analyzed the sewage plants which serve Petitioner and feels that no violation of the 2.0 mg/l effluent standard in Rule 408(a) of Chapter 3: Water Pollution is anticipated from granting this variance. The Agency has recommended that Petitioner report its decision on selection of a treatment alternative within 150 days so that opportunity for a public hearing can be made to conform to Federal requirements. The Agency has pointed out that recent changes in Federal guidance recommend interim levels of 2.0 mg/l barium during any variance.

The Board concludes that denial of a variance would constitute arbitrary or unreasonable hardship. Petitioner has made significant progress in resolving its problems with barium levels in its public water supply. The Board agrees with the Agency's contention that the incorporation of Well #5 should enable Petitioner to minimize the use of Well #2 and Well #4 during this variance. By requiring the use of sound engineering practices, these two wells should be kept ready for use during times of peak demand. The Board does not feel it would be appropriate to dictate which treatment alternative Petitioner should employ. This variance shall expire on December 31, 1980 to conform with the mandate of Section 35 of the Act and the Safe Drinking Water Act. This variance shall apply to Petitioner's system as a whole.

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

ORDER

Petitioner is hereby granted a variance from the 1.0 mg/l standard for barium in Rule 304 B4 of Chapter 6: Public Water Supplies until December 31, 1980 subject to the following conditions:


- a. Within 150 days of the date of this Order, Petitioner shall notify the Agency of the method Petitioner will employ to comply with the barium standard by December 31, 1980.
- b. To the extent consonant with sound engineering practices and without jeopardizing Petitioner's needs during periods of peak demand and provided that Well #5 maintains levels of barium below 1.0 mg/l, Petitioner will use Well #5 in place of Well #2 and Well #4 during the term of this variance.
- c. Within 45 days of the date of this Order, Petitioner shall execute a certification of acceptance and agreement to be bound to the terms and conditions of this variance. This 45 day period shall be held in abeyance if this matter is appealed. The certification shall be forwarded to the Illinois Environmental Protection Agency, Division of Public Water Supplies, 2200 Churchill Road, Springfield, Illinois 62706 and shall read as follows:

I (We), _____, having read and fully understanding the Order in PCB 79-199, hereby accept that Order and agree to be bound by all of its terms and conditions.

SIGNED _____
TITLE _____
DATE _____

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 10th day of January, 1980 by a vote of 4-0.


Christan L. Moffett, Clerk
Illinois Pollution Control Board