

ILLINOIS POLLUTION CONTROL BOARD  
October 12, 1984

CITY OF KNOXVILLE, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 84-70  
 )  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

OPINION AND ORDER OF THE BOARD (by B. Forcade):

This matter comes before the Board on a Petition for Variance, filed on June 6, 1984, and an Amended Petition, filed July 19, 1984, by the City of Knoxville ("Knoxville"). Knoxville requests variance from the Board's finished drinking water standards for fluoride and gross alpha particle activity. The Environmental Protection Agency ("Agency") filed a Recommendation on August 2, 1984. The Agency recommends granting the variance subject to certain conditions. Knoxville waived hearing in this matter. No public comments or objections were received.

Knoxville has previously received variances from the 2.0 mg/l fluoride limitation of 35 Ill. Adm. Code 601.301 [old Rule 304(B)] and the 15 pCi/l gross alpha particle limitation of 35 Ill. Adm. Code 604.203(a) [old Rule 304(C)] in case numbers PCB 80-79, 80-80, and PCB 81-4. Knoxville's last variance expired on January 1, 1984. The Petitioner has generally complied with the conditions of the previous variances by continuing a sampling program to determine the level of radiological activity in their wells and finished water, submitting reports and communicating with the Agency regarding alternative water sources and current removal technology for fluoride and radiological contaminants, and notifying water users of the variances and the current radiological and fluoride content of the finished water (Pet. p. 2).

The Petition and Amended Petition contain no certain date for expiration of the variance and no compliance plan. Petitioner instead seeks relief from the finished water requirements until the U.S. Environmental Protection Agency reexamines these limitations (Am. Pet. p. 2).

The City of Knoxville owns and operates a public water system that services 1,215 households and 3,280 people. The system consists of three drilled rock wells, a 44,000 gallon collecting reservoir, chlorination equipment and two elevated storage tanks. Average daily pumpage is 345,000 gallons (Rec. p.

2). Recent sampling and lab analysis results indicate that finished water levels for gross alpha activity range from  $18.2 \pm 7.20$  pCi/l to  $23.5 \pm 7.57$  pCi/l (Rec. Attachment A). Fluoride concentrations between June of 1981 and November of 1983 averaged 2.10 mg/l (Pet. Exhibit 7). These elevated levels are naturally occurring.

Possible compliance strategies include installation of lime softening equipment, drilling new wells or purchasing water from another source for blending with the current supply. At the present time, however, there is no removal equipment specifically developed for small public water supplies such as Knoxville (Pet. Group Exhibit 5). Petitioner asserts, and the Agency agrees, that the most cost effective means of reducing the radiological and fluoride content of the City's water would be to purchase water from the City of Galesburg for blending. The 1981 cost figures provided in the petition indicate that such a program would cost \$4.00 per month per user (Pet. Exhibit 6). The City of Galesburg has set aside 10% of their capacity for sale to Knoxville (Pet. Group Exhibit 4).

Knoxville claims that applying the Board's limitations for fluoride and gross alpha particle activity at this time would impose an arbitrary and unreasonable hardship. Petitioner argues that the financial burden on the city and its water users would be unreasonable in light of the minimal to non-existent adverse environmental impact from the current fluoride and radiological levels in the water supply. Knoxville argues that U.S.E.P.A will review and possibly change the applicable federal standards in the near future and that any efforts to comply with existing standards could be wasteful. To the best of the Agency's knowledge, the fluoride standard revision would be completed in 1985 and the gross alpha particle activity standard revision would be completed in 1987 at the earliest (Rec. p. 3).

The Agency agrees that there is hardship, albeit not substantial. The Agency believes that the minimal adverse environmental impact balanced with this level of hardship warrants granting a variance at this time. The Agency is, however, concerned with long term exposure of the water users to gross alpha particle activity. To continue to grant Petitioner a series of variances with no plan for ultimate compliance will result in potentially harmful long term exposure (Rec. p. 5). The Recommendation suggests that variance be granted for approximately two years with the condition that Knoxville comply with the standards at the end of that period by obtaining water for blending from the City of Galesburg (Rec. p. 9). The Agency believes that these conditions are necessary to comply with the requirements of federal law concerning variances from the Safe Drinking Water Act (SDWA), 42 U.S.C. Section (f)-(j) (Rec. p. 6-8).

The Board may, to the extent consistent with the SDWA, grant a variance if compliance with the Board's standard would impose an arbitrary and unreasonable hardship. The Board finds that

there is hardship in the present case. Knoxville's present water supply is naturally contaminated with fluoride and radiological contaminants. The cost of compliance, through new treatment equipment, drilling new wells or purchasing water for blending does impose an unreasonable hardship in light of the minimal adverse environmental impact. However, Knoxville must make reasonable progress towards compliance. Variances cannot be continually granted as an alternative to compliance. Petitioner does have means available to ultimately comply. As time goes by and exposure to the contaminants increases, the risk of adverse health effects increases. Therefore, as a condition of the variance, Petitioner must comply within a reasonable time.

Petitioner's argument that there may be a regulatory revision that may change the applicable limitations in the future is far too speculative. Such potential regulatory change cannot serve as a basis for an "open ended" variance, as the Petitioner desires in this case. The Board has stated in Citizens Utilities Company of Illinois v. IEPA, PCB 83-124 (April 19, 1984) that "every water proceeding before the Board could be halted by arguing that water quality standards could be revised in the future" and "the Board cannot grant variances based upon a petitioner's hope that a particular set of standards will be changed in the future."

To continue to grant a series of variances or an "open ended" variance with no plan for compliance would violate the intent of the Act and the case law in this area. The Supreme Court stated, in Monsanto Company v. Pollution Control Board, 67 Ill. 2d 276, 367 N.E. 2d 684, 688 (1977), that "the concept of a variance which permanently liberates a polluter from the dictates of a board regulation is wholly inconsistent with the purposes of the Environmental Protection Act." It is therefore appropriate to grant a variance for a period of time sufficient to comply with Board regulations. The variance will be granted with the condition that Knoxville proceed with the most cost effective method of compliance, in order to minimize the hardship on the City and the water users. Knoxville has stated in its petition that purchasing water from Galesburg is the most cost effective alternative. Knoxville will have until July 1, 1986, to complete all necessary measures to blend purchased water from Galesburg.

Because Illinois has been delegated primacy for enforcement of the SDWA, any state variances granted must be at least as stringent as federal variances. In granting a variance, this Board must find that:

- (1) Because of characteristics of the raw water sources which are reasonably available to the system, the system cannot meet the requirements respecting the maximum contaminant levels of the drinking water regulations despite application of the best technology, treatment techniques, or other means, which the Administrator finds are generally available (taking costs into consideration); and

- (2) The granting of a variance will not result in an unreasonable risk to the health of persons served by the system. (Section 1415 of the Safe Drinking Water Act, 42 U.S.C. Section 300 (g)-4).

In effect, under criterion number one, the Board must determine what is the best technology, treatment technique, or other means for Knoxville, taking costs into consideration. The Board finds, based on cost data provided by Knoxville, that development of a pipeline to Galesburg and blending of that water with the current water supply is an "other means" generally available to Knoxville. Further, the Board finds that the purchased water from Galesburg will constitute a raw water source that is reasonably available to the system by the end of the variance term.

The second criterion is also satisfied in this situation. The additional period of exposure that will result from granting the variance will not result in an unreasonable risk to the health of persons served by the system. By conditioning the variance on eventual compliance, long term exposure is avoided.

If a federal variance is granted, Section 1415(a)(1)(A) of the SDWA requires that the State prescribe a schedule for (i) compliance, including increments of progress and (ii) implementation of control measures. The conditions of this variance will comply with these requirements. The schedule of compliance will prescribe completion dates and final connection to Galesburg by July 1, 1987.

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

#### ORDER

The City of Knoxville is hereby granted a variance for its public water supply from the fluoride limitation of 35 Ill. Adm. Code 601.301 and the gross alpha particle activity limitation of 35 Ill. Adm. Code 604.203(a), subject to the following conditions:

1. This variance will expire July 1, 1987.
2. Pursuant to 35 Ill. Adm. Code 606.201, Petitioner shall send to each user of its public water supply a written notice to the effect that Petitioner has been granted a variance by the Pollution Control Board from the gross alpha particle activity and fluoride standards in the first set of water bills issued after the grant of this variance and every three months thereafter. The notice shall state the average content of gross alpha particle activity and fluoride in samples taken since the last notice period during which samples were taken.

- 3. Petitioner shall achieve compliance with the gross alpha particle activity and fluoride standards by obtaining water from the City of Galesburg in accordance with the following schedule:

<u>Item</u>	<u>Completion Date</u>
Submit permit application for construction and operating permits for pipeline connection	April 1, 1986
Begin construction	July 31, 1986
Complete construction and begin operation	July 1, 1987

CERTIFICATION

I, (We) \_\_\_\_\_, hereby accept and agree to be bound by all terms and conditions of the Order of the Pollution Control Board in PCB 84-70, October 12, 1984.

\_\_\_\_\_  
Petitioner

\_\_\_\_\_  
Authorized Agent

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

IT IS SO ORDERED.

Board Members J. D. Dumelle and J. Anderson concurred.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 12<sup>th</sup> day of October, 1984 by a vote of 6-0.

*Dorothy M. Gunn*  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board