

ILLINOIS POLLUTION CONTROL BOARD
December 13, 1979

VILLAGE OF ARLINGTON HEIGHTS,)
)
) Petitioner,)
)
) v.) PCB 79-132
)
ENVIRONMENTAL PROTECTION AGENCY,)
)
) Respondent.)

OPINION AND ORDER OF THE BOARD (by Dr. Satchell):

This matter comes before the Board upon a petition for variance filed on June 29, 1979 by the Village of Arlington Heights. The petition requests a variance from Rule 304(C)(1)(b) of Chapter 6: Public Water Supplies to permit water with a gross alpha emission rate in excess of 15 pCi/l until January 1, 1981. Several pleadings were filed by both Petitioner and the Environmental Protection Agency (Agency). The Agency recommendation was filed on October 24, 1979. No hearings were held.

The Village of Arlington Heights (Village) is a home rule municipality located in northwestern Cook County, Illinois and has a population of approximately 72,000 residents. The Village has its own public water supply system serving approximately 69,000 people from its deep well system. The Village maintains a complete public water distribution system including wells, pumps and distribution facilities. Petitioner has an ongoing program of extending the public water supply system throughout the corporate limits of the Village and any portions annexed. A water system is provided to residential, commercial, industrial and other users within the Village and charges as established by ordinance are made.

The Agency sample analyses indicate that the radiological content of Petitioner's water supply may be in excess of the 15 pCi/l standard. It is necessary to monitor further to measure radium 226 and radium 228. Since these tests are very expensive the Agency waits to analyze quarterly composite samples at one time (Agency letter of July 30, 1979). Thus it takes a minimum of nine months to do the analyses. The state maintains the only available laboratories. Consequently, more detailed information is not yet available.

Because of the radiological activity in the water supply source in excess of the standard the Agency has withheld those permits for extension of the water supply system for which application was made after May 1, 1979 to service either new or existing developments. Petitioner asserts that not extending the water system would inhibit the future development of the Village, including projects presently under way and would result in millions of dollars of loss to the developers and a substantial loss of potential tax base to the community. Petitioner further asserts that not extending the public water supply system would cause great hardship to the citizens of the Village, to property owners and developers engaged in approved projects.

The basic means of complying with the regulations is either to dilute the water from the deep well aquifers with shallow water or surface water, or to treat the water from the deep wells. Petitioner has been trying to obtain Lake Michigan water to supplement the source of supply from the deep well aquifers for twenty years. Petitioner is presently actively participating in the DAMP Water Commission and in SHARE + 3 Consortium to obtain water either from the City of Chicago or the City of Evanston. Through these efforts Petitioner anticipates that Lake Michigan water will be delivered to the community on or before January 1, 1983. This target date is subject to financing and cooperation of other communities involved in the joint undertaking for the supply of Lake Michigan water. When the Village receives its allocation it will be in a position to commence dilution of existing ground water supply.

The alternative to dilution is the treatment of the eleven individual well sites. Petitioner estimates a cost of at least \$500,000 at each site. After the community receives Lake Michigan water only four well sites are to be maintained in active service. If necessary these could be treated. The Agency does not agree with Petitioner's cost estimate. The Agency estimates a cost of \$150,000 to \$400,000 for each individual site. The total estimate for thirteen sites is \$4,200,000. [The record is not clear whether there are eleven (Pet. 3) or thirteen (Rec. 2) well sites.] These costs assume:

1. All wells must receive treatment;
2. A zeolite removal facility will be constructed at each well site; and
3. Raw water radium 226 and 228 is less than or equal to 7.5 pCi/l.

Treatment methods to remove radiological contamination are either zeolite softening or lime softening. The Agency would not oppose zeolite softening if the discharge can be handled by the sewage treatment plant. If the discharge cannot be so handled, lime softening might be required with costs substantially higher than those estimated by the Agency.

Petitioner notes that no formal assessment of the effects of the variance on the environment has been made; however, Petitioner feels that the variance will not cause harm to the environment or the citizens of Arlington Heights. The Agency recommendation states that gross alpha particle activity is a non-threshold carcinogen and poses a delayed threat to human health, usually from chronic ingestion over a long period of time. The Agency believes that continuing the exposure to alpha radiation for a few more years would not pose a significant health hazard to the users of Petitioner's public water supply. Analyses in the record indicate a de minimus violation of the gross alpha standard:

<u>PARAMETER</u>	<u>DATE OF SAMPLING</u>	<u>RADIOLOGICAL ASSAY</u>
Gross Alpha	March 29, 1979	19.1 ± 4.18 pCi/l
Gross Alpha	July 2, 1979	14.5 ± 3.92 pCi/l

Until more analytical results are obtained, it would seem premature to propose interim standards.

During the period of the proposed variance Petitioner will continue its efforts to obtain water to dilute the existing well water. Petitioner will work with the Agency to determine if other additional steps will be necessary in order to comply. Based upon these determinations Petitioner will engage outside consultants to make recommendations as to the possibility and practicality of using other techniques to comply. If necessary the Village will petition the Illinois Department of Transportation to increase allocation of Lake Michigan water so as to reduce the need for dilution of deep well water and thereby reduce the need for expenditure for other equipment.

Under Section 1416 of the United States Safe Drinking Water Act (Public Law 93-523), a variance could be granted to Petitioner until January 1, 1983 as a public water supply joining a regional system. The Agency doubts Petitioner's ability to be in compliance by January 1, 1981, considering the legal difficulties encountered by Petitioner in its past and present attempts to obtain additional water. The Agency does not believe Petitioner will be able to meet

the January 1, 1983 deadline for regional systems. The Agency further believes the January 1, 1983 deadline will probably be extended. The Agency is of the opinion that Petitioner should be able to comply with Rule 304(C)(1)(b) within a reasonably short time after January 1, 1983 and thus recommends the grant of a variance to that date.

The Board finds that Petitioner would suffer an arbitrary and unreasonable hardship if denied this variance. The costs of treatment by either Petitioner's or the Agency's estimates for immediate compliance are very high. The risk to public health is low. It is probable that Petitioner can achieve compliance by joining a regional water system in the not too distant future. Achieving compliance in this manner would render useless the treatment equipment added to wells that would no longer be in use. The Board will grant Petitioner a variance from Rule 304(C)(1)(b) of Chapter 6 until January 1, 1981. The Board is reluctant to extend the variance beyond this time because of the very limited analytical data presented herein.

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

ORDER

It is the Order of the Pollution Control Board that the Village of Arlington Heights is granted a variance from the 15 pCi/l limit for gross alpha particle activity listed in Rule 304(C)(1)(b) of Chapter 6: Public Water Supplies until January 1, 1981.

Mr. Jacob D. Dumelle dissents.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 13th day of December, 1979 by a vote of 3-1.


Christan L. Moffett, Clerk
Illinois Pollution Control Board