

ILLINOIS POLLUTION CONTROL BOARD
October 15, 1987

VILLAGE OF NORTH AURORA,)
)
 Petitioner,)
)
 v.) PCB 87-83
)
 ILLINOIS ENVIRONMENTAL)
 PROTECTION AGENCY,)
)
 Respondent.)

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

This matter is before the Board on the June 17, 1987 petition for variance filed by the Village of North Aurora (Village). The Village seeks a three year variance from 35 Ill. Adm. Code 602.105(a), Standards for Issuance, and from 35 Ill. Adm. Code 602.106(b), Restricted Status, but only to the extent those rules involve 35 Ill. Adm. Code 604.301(a) (combined radium-226 and radium-228 concentration). On June 25, 1987, the Board found the petition deficient for lack of sufficient information, and on July 28, 1987, the Village filed an amendment to the petition. The Illinois Environmental Protection Agency (Agency) filed its Recommendation in support of grant of variance, subject to conditions, on September 3, 1987. Hearing was waived, and none has been held.

The Village, located in Kane County, provides drinking water for 1,646 residential and 115 industrial and commercial utility customers, representing some 5,300 residents and 115 industries and businesses employing approximately 3,000 people. The water supply system includes four deep wells, two 500,000 gallon elevated water storage tanks, pumps and distribution facilities. A user charge is imposed by ordinance.

By letter dated December 8, 1986, the Village was advised by the Agency that the maximum allowable concentration of combined radium-226 and radium-228 (combined radium) was exceeded. An analysis of four quarterly samples showed a combined radium concentration of 12.4 pCi/l. (35 Ill. Adm. Code 604.301(a) provides for a maximum allowable concentration for combined radium of 5 pCi/l.) Although the Village states at one point that all previous radium samples showed it to be in compliance (Petition at 6), it also states that no additional radium sampling and analysis data exists (Petition at 5). In its amendment to the petition, the Village reiterates that no additional data exists (Amendment at 1-2). On January 8, 1987,

the Agency notified the Village that it would be placed on restricted status.

The Village has identified five possible compliance options. The first is the purchase of water from the City of Aurora (Aurora). The estimated annual cost of this alternative is \$307,000 to \$763,000 per year, based upon a cost of \$.84 to \$2.09 per 1,000 gallons. The estimated time of implementation is 3 years and is dependent upon the approval and construction of Aurora's new water system. The Village estimates that the average cost to each of its 1,761 customers would be \$19 per year for 20 years for capital costs and \$163 to \$417 per year indefinitely for water purchase costs. (See Petition, Attachment 3.)

The Village apparently prefers this first alternative, and has begun negotiations with Aurora for the purchase of water from Aurora's proposed new water system. The Village states that Aurora has over-sized the proposed plant to service the Village. Aurora's new plant is apparently scheduled for completion in July 1990.

The second compliance option involves blending water from two of the existing deep sandstone wells with water from four new dolomite wells. The Village estimates construction costs at \$860,000 and annual operation and maintenance (O&M) costs at \$160,000. This results in a total cost of \$.70 per 1,000 gallons. The annual cost to each of the Village's 1,761 customers is estimated at \$54 per year for 20 years for capital costs, and \$91 per year indefinitely for O&M costs. The estimated time for implementation is 3 years. (See Petition, Amended Attachment 4.)

The third alternative involves replacing the existing deep sandstone wells with shallow sand and gravel aquifer wells, with associated treatment facilities for iron and hardness removal. The estimated construction cost is \$2,300,000, and annual O&M costs are estimated at \$250,000 per year. This results in a total cost of \$1.38 per 1,000 gallons. The annual cost to each of the Village's 1,761 customers is estimated at \$143 per year for 20 years for capital costs, and \$142 per year indefinitely for O&M costs. The estimated implementation time is 3 years. (See Petition, Attachment 5.)

The fourth option is the replacement of the existing deep sandstone wells with water from the Fox River, with associated treatment facilities. The Village estimates construction costs at \$1,900,000, and annual O&M costs at \$290,000. This results in a total cost of \$1.36 per 1,000 gallons. The annual cost to each of the Village's 1,761 customers is estimated at \$118 per year for 20 years for capital costs, and \$165 per year indefinitely

for O&M costs. The estimated implementation time is again 3 years. (See Petition, Attachment 6.)

The final compliance option involves the construction of treatment facilities in order to properly treat all water supplied by the existing wells. The Village estimates construction costs at \$1,400,000, and annual O&M costs at \$300,000. This results in a total cost of \$1.24 per 1,000 gallons. The annual cost to each of the Village's 1,761 customers is estimated at \$87 per year for 20 years for capital costs, and \$170 per year indefinitely for O&M costs. The estimated implementation time is 3 years. (See Petition, Attachment 7.)

The Village also notes that the two primary treatment methods used for radium removal, lime or lime-soda softening and ion exchange softening, each produce large quantities of sludge. The removed radium is concentrated in this sludge, which can create disposal and handling problems. Additionally, if an ion exchange softener is regenerated with salt, the sodium content of the finished water is increased, creating health risks for those with hypertension or heart problems.

The Village has not made any formal assessment of the effect of the requested variance on the environment, but refers both the Board and the Agency to the testimony and exhibits presented by Dr. Richard E. Toohey, Ph.D. and Dr. James Stebbings, Ph.D., both of Argonne National Laboratory, on July 30 and August 2, 1985, in R85-14, Proposed Amendments to Public Water Supply Regulations, 35 Ill. Adm. Code 602.105 and 602.106. The Village does state that it "does not consider the radiological quality of this community water supply to be a significant health risk for the limited time period of the requested variance." (Petition at 10.) It is the opinion of the Village that the granting of the variance will not cause any significant harm to the environment or to the people served by potential water main extensions.

The Village asserts that since non-compliance with the combined radium standard does not significantly injure the public or environment for the limited period of the requested variance, the expenditure of significant sums of money to comply would be an arbitrary or unreasonable hardship. The Village also notes that the maximum allowable concentration for combined radium is currently under review at the federal level, and contends that "the substantial expenditure of public funds for treatment facilities which may become obsolete in the near future is not in the public interest and does not grant a corresponding benefit to the public." (Petition at 14.) Finally, the Village states that failure to obtain a variance means that the Agency must continue to deny construction and operating permits. The Village asserts that such an impediment to economic growth would be an unreasonable or arbitrary hardship, since there is no significant

risk of environmental harm or risk to the public health for the limited period of the requested variance.

The Agency recommends that the variance be granted, subject to conditions. The Agency feels that while radiation at any level creates some risk, the risk associated with the level involved here is very low. The Agency also agrees that denial of the variance, with the resulting denial of construction and operating permits, would indeed impose an arbitrary and unreasonable hardship on the Village. Furthermore, the Agency states that the Board may grant the variance consistent with federal requirements, since the requested relief is from restricted status and not a variance from national primary drinking water regulations. In sum, the Agency believes that the hardship resulting from denial of the requested variance would outweigh the injury to the public from the grant of the variance.

Based on all of the facts and circumstances here presented the Board finds that denial of variance would impose an arbitrary or unreasonable hardship. The Board notes that the Village admits that it has no immediate plans for extension of its water mains (Petition at 5). However, the fact that the Village is on restricted status is an impediment which may virtually eliminate the possibility of attracting new development. Therefore, the Board will grant the requested three-year variance subject to conditions. One of these conditions is that by October 15, 1988, the Village provide the Agency with a contract for delivery of water from Aurora. The Agency may extend this deadline by six months for good cause shown. If the Agency refuses such an extension, the Village may petition the Board for modification of this variance.

The Board agrees with the Agency that this grant of variance from restricted status will affect only those users who consume water drawn from any newly extended water lines. This variance will not affect the status of the rest of the Village's population which draws water from existing lines, except insofar as the variance by its conditions may hasten compliance. In so saying, the Board emphasizes that it continues to place a high priority on compliance with standards. The Village must achieve compliance with the combined radium standard by the expiration of the variance. If the Village is unable to comply through the purchase of water from Aurora, it must implement another alternative.

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

ORDER

1. Petitioner, the Village of North Aurora, is hereby granted a variance from 35 Ill. Adm. Code 602.105(a),

Standards of Issuance, and 602.106(b), Restricted Status, but only as they relate to the 5 pCi/l combined radium-226, radium-228 standard of 35 Ill. Adm. Code 604.301(a). The variance is subject to the following conditions:

- A) Compliance shall be achieved with the 5 pCi/l combined radium standard no later than three years from grant of this variance. The variance shall expire on October 15, 1990;
- B) The Petitioner shall continue to negotiate with the City of Aurora in an attempt to obtain water service;
- C) On October 15, 1988, Petitioner shall provide the Agency with a copy of a fully executed contract for delivery of water from the City of Aurora to the Village of North Aurora effective before the expiration of the variance. The Agency may extend the due date for submission of the contract upon the written request of the Petitioner for good cause shown. Any extension is not to exceed six months. If the Petitioner fails to provide said executed contract by October 15, 1988 or within an extension granted by the Agency, the Petitioner shall apply for all necessary permits for the construction of treatment facilities or wells by April 15, 1989, and have the treatment facilities or wells operational prior to the expiration of the variance on October 15, 1990;
- D) In consultation with the Agency, Petitioner shall continue its sampling program, which it began on June 28, 1987, to determine as accurately as possible the level of radioactivity in its wells and finished water. Until this variance expires, Petitioner shall collect quarterly samples of its water from its distribution system, shall composite such samples and shall have them analyzed annually by a laboratory certified by the State of Illinois for radiological analysis so as to determine the concentration of combined radium. The results of the analysis shall be reported to the Compliance Assurance Section, Division of Public Water Supplies, 2200 Churchill Road, IEPA, Springfield, Illinois 62794-9276, within 30 days of receipt of each analysis. At the option of Petitioner, the quarterly samples may be analyzed when collected. The running average of the most recent four quarterly sample results shall be

reported to the above address within 30 days of receipt of the most recent quarterly sample;

- E) Within three months of the grant of the variance, the Petitioner shall secure professional assistance (either from present staff or an outside consultant) to investigate compliance options, including the possibility and feasibility of achieving compliance by obtaining an alternate water source, building treatment facilities or blending water from shallow wells with that of its deep wells;
- F) Within four months of the grant of the variance, the Petitioner shall submit evidence that such professional assistance has been secured to the Agency's Division of Public Water Supplies, FOS, at 2200 Churchill Road, Springfield, Illinois 62794-9276;
- G) Within nine months of the grant of the variance, the Petitioner shall complete investigating compliance methods, including those treatment techniques described in the Manual of Treatment Techniques for Meeting the Interim Primary Drinking Water Regulations, USEPA, May, 1977, EPA-600/8-77-005, and prepare a detailed Compliance Report showing how compliance shall be achieved within the shortest practicable time, but no later than three years from the date of this variance;
- H) Within ten months of the grant of the variance, the Village's Compliance Report shall be submitted to the Illinois Environmental Protection Agency, Division of Public Water Supplies;
- I) By April 15, 1989, the Petitioner shall apply to Illinois Environmental Protection Agency, Division of Public Water Supplies, Permit Section, for all permits necessary for construction of installations, changes or additions to the Petitioner's public water supply needed for achieving compliance with the maximum allowable concentration for combined radium;
- J) Within three months after each construction permit is issued by Illinois Environmental Protection Agency, Division of Public Water Supplies, the Petitioner shall advertise for bids, to be submitted within 60 days, from contractors to do the necessary work described in the construction permit. The Petitioner shall accept appropriate

- bids within a reasonable time. Petitioner shall notify the Illinois Environmental Protection Agency, Division of Public Water Supplies within 30 days of each of the following actions: (1) advertisement for bids; (2) names of successful bidders; and (3) whether Petitioner accepted the bids;
- K) Construction allowed on said construction permits shall begin within a reasonable time of bids being accepted, but in any case, construction of all installations, changes or additions necessary to achieve compliance with the maximum allowable concentration in question shall begin no later than two years from the grant of this variance and shall be completed no later than three years from the grant of this variance.
- L) Pursuant to 35 Ill. Adm. Code 606.201, in its first set of water bills or within three months after the date of the grant of variance, whichever occurs first, 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 35 Ill. Adm. Code 602.105(a), Standards of Issuance, and 35 Ill. Adm. Code 602.106(b), Restricted Status, as it relates to the combined radium standard;
- M) Pursuant to 35 Ill. Adm. Code 606.201, in its first set of water bills or within three months after the date of the grant of variance, whichever occurs first, and every three months thereafter, Petitioner will send to each user of its public water supply a written notice to the effect that Petitioner is not in compliance with the standard in question. The notice shall state the average content of combined radium in samples taken since the last notice period during which samples were taken;
- N) That Petitioner shall take all reasonable measures with its existing equipment to minimize the concentration of combined radium in its finished water; and
- O) The Petitioner shall provide written progress reports to Illinois Environmental Protection Agency, Division of Public Water Supplies, every six months concerning steps taken to comply with paragraphs B, C, G, I, J, K, and N. Progress

reports shall quote each of said paragraphs and immediately below each paragraph state what steps have been taken to comply with each paragraph.

- 2) Within forty-five days of the date of this Order, Petitioner shall execute and forward to Jose L. Gonzalez, Jr., Enforcement Programs, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62794-9276, a certificate of Acceptance and Agreement to be bound to all terms and conditions of the variance. This variance shall terminate if Petitioner fails to execute and forward the certificate within the forty-five day period. The forty-five day period shall be held in abeyance during any period that this matter is being appealed. The form of said Certification shall be as follows:

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 87-83, dated October 15, 1987, understand and accept said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

 Petitioner

 By: Authorized Agent

 Title

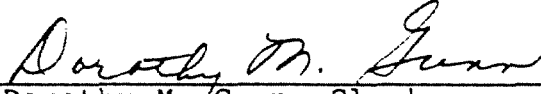
 Date

- 3. Section 41 of the Environmental Protection Act (Ill . Rev. Stat. 1985, ch. 111¹/₂ , par. 1041) provides for appeal of final Orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements.

IT IS SO ORDERED.

J. D. Dumelle and B. Forcade dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 15th day of October, 1987, by a vote of 4-2.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board