

ILLINOIS POLLUTION CONTROL BOARD  
January 20, 1994

VILLAGE OF NORTH AURORA, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 93-164  
 ) (Variance)  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

OPINION AND ORDER OF THE BOARD (by M. Nardulli):

This matter is before the Board on the September 3, 1993, filing by petitioner Village of North Aurora (Village, North Aurora or petitioner) of a petition for extension of variance. North Aurora seeks an extension of the variances granted in PCB 89-66 and PCB 87-83. In PCB 89-66 and PCB 87-83, the Board granted North Aurora a variance from 35 Ill. Adm. Code 602.105(a), "Standards for Issuance", and 602.106(a), "Restricted Status", to the extent those rules are applicable to the maximum concentration level (MCL) for combined radium-226 and radium-228 of 5 picocuries per liter (pCi/l). That standard is set forth at 35 Ill. Adm. Code 611.330(a). The Village requests an extension of variance for one year from the date of this Board order or until analysis pursuant to 35 Ill. Adm. Code 605.104(a) shows compliance with the standard regulating the contaminant, whichever comes first.

On October 20, 1993, the Illinois Environmental Protection Agency (Agency) filed its variance recommendation. On November 16, 1993, the Agency filed an amended recommendation. The Agency recommends that the variance be granted, subject to certain conditions. The Village waived hearing and none was held.

For the following reasons, the Board finds that the Village has presented adequate proof that immediate compliance with the Board's regulations for "Standards for Issuance" and "Restricted Status" would result in the imposition of an arbitrary or unreasonable hardship. Accordingly, the variance is granted, subject to conditions set forth in the attached order.

BACKGROUND

The Village is a municipality located in Kane County, Illinois. The Village provides potable water for residential, commercial, governmental and industrial customers. Petitioner maintains the public water distribution system which includes 4 deep wells, two one-half million gallon reservoirs, pumps and

distribution facilities. (Pet. at 3.)<sup>1</sup> Petitioner's average daily water use in 1992 was approximately 900,000 to one million gallons per day, resulting in an approximate annual use of 365 million gallons. (Pet. at 4.) The total population served by the Village is approximately 9,000 persons. (Pet. at 3.) As of June 1, 1987, petitioner was not part of a regional public water supply. (Pet. Attachment A at 5.)

By letter dated December 8, 1986, the Agency first advised North Aurora that the Village's water supply exceeded the maximum allowable concentration for combined radium. Recent tests indicate that petitioner's combined radium level consistently exceeds 5 pCi/l. (Pet. Exhibit C at 1, 2.) North Aurora currently has no equipment in place to control the radium levels in the water supplied to its customers who receive water from petitioner's deep wells. (Pet. at 4.)

Since January 1991, construction permits have been issued for 277 single family residences, one multifamily residence, seven commercial and four industrial establishments. Plans are under review for the construction of an additional 288 residential units. (Pet. at 10.)

#### REGULATORY FRAMEWORK

The instant variance request concerns two features of the Board's public water supply regulations: "Standards for Issuance" and "Restricted Status". These features are found at 35 Ill. Adm. Code 602.105 and 602.106, which in pertinent part read:

##### Section 602.105          Standards for Issuance

- a) The Agency shall not grant any construction or operating permit required by this Part unless the applicant submits adequate proof that the public water supply will be constructed, modified or operated so as not to cause a violation of the Environmental Protection Act (Ill. Rev. Stat. 1989, ch. 111 ½, pars. 1001 et seq.) (Act), or of this Chapter.

##### Section 602.106          Restricted Status

- b) The Agency shall publish and make available to the public, at intervals of not more than six months, a comprehensive and up-to-date list of supplies subject to restrictive status and the reasons why.

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<sup>1</sup> The petition shall be cited as (Pet. at .) and the Agency's recommendation shall be cited as (Ag. Rec. at .).

The principal effect of these regulations is to provide that public water supply systems are prohibited from extending water service, by virtue of not being able to obtain the requisite permits, unless and until their water meets all of the standards for finished water supplies. In this case, a denial of the construction permit would prevent the Village from building and operating new water main extensions.

In determining whether any variance is to be granted, the Act requires the Board to determine whether a petitioner has presented adequate proof that immediate compliance with the Board regulations at issue would impose an arbitrary or unreasonable hardship. (415 ILCS 5/35(a) (1992).) Furthermore, the burden is upon the petitioner to show that its claimed hardship outweighs the public interest in attaining compliance with regulations designed to protect the public (Willowbrook Motel v. Pollution Control Board (1st Dist. 1977), 135 Ill.App.3d 343, 481 N.E.2d. 1032). Only with such showing can the claimed hardship rise to the level of arbitrary or unreasonable hardship.

A further feature of a variance is that it is, by its nature, a temporary reprieve from compliance with the Board's regulations (Monsanto Co. v. IPCB (1977), 67 Ill.2d 276, 367 N.E.2d 684), and compliance is to be sought regardless of the hardship which the task of eventual compliance presents an individual polluter (Id.). Accordingly, except in certain special circumstances, a variance petitioner is required, as a condition to grant of variance, to commit to a plan which is reasonably calculated to achieve compliance within the term of the variance.

A grant of variance from "Standards for Issuance" and "Restricted Status" does not absolve a petitioner from compliance with the drinking water standards at issue, nor does it insulate a petitioner from possible enforcement action brought for violation of those standards. The underlying standards remain applicable to the petitioner regardless of whether variance is granted or denied.

Section 36(b) of the Act allows the Board to grant an extension of variance where satisfactory progress has been demonstrated. Section 36(b) states:

Section 36            Variances

- b.    Except as provided by Section 38 of this Act, any variance granted pursuant to the provisions of this Section shall be granted for such period of time, not exceeding five years, as shall be specified by the Board at the time of the grant of such variance, and upon the condition that the person who receives such variance shall make such periodic progress reports as

the Board shall specify. Such variance may be extended from year to year by affirmative action of the Board, but only if satisfactory progress has been shown.

#### FEDERAL STANDARDS

Standards for radium and gross alpha particle activity in drinking water were first adopted as national Interim Primary Drinking Water Regulations (NIPDWRs) by the USEPA in 1976. The standards adopted were 5 pCi/l for the sum of the two isotopes of radium, radium-226 and radium-228 (combined radium), and 15 pCi/l for gross alpha (particle activity). Shortly thereafter Illinois adopted the same limits. Although characterized as "interim" limits, these standards MCLs nevertheless are the maximum allowable concentrations under both federal and Illinois law, and will remain so unless modified by the USEPA.<sup>2</sup>

Over much of the fifteen years since their original promulgation, the current radium and gross alpha particle activity standards have been under review at the federal level. The USEPA first proposed revision of the standards in October 1983 in an Advance Notice of Proposed Rulemaking (48 Fed. Reg. 45502). It later republished this advance notice in September 1986 (51 Fed. Reg. 34836). On June 19, 1991, USEPA announced a proposal to modify both standards.<sup>3</sup> USEPA proposes to replace the 5 pCi/l combined radium standard by separate standards of 20 pCi/l each for radium-226 and radium-228. The gross alpha particle activity standard is proposed to be replaced by an adjusted gross alpha particle activity standard; the latter would still have a 15 pCi/l value, but would no longer include alpha particle activity associated with radium or uranium decay. Under the USEPA's calendar, these standards are scheduled for an effective date of October 1994.

#### ENVIRONMENTAL IMPACT

North Aurora has made no formal assessment of the effect of this variance extension upon the environment. However, North Aurora referenced the testimony and exhibits presented by Richard E. Toohey and Dr. James Stebbings on July 30 and August 2, 1987 in R85-14, In the Matter of: Proposed Amendments to Public Water Supply Regulations, 35 Ill. Adm. Code Sections 602.105 and 602.106. Based on Drs. Toohey and Stebbings' testimony, North Aurora believes that there will be little, if any, adverse impact

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<sup>2</sup> In anticipation of USEPA revision of the radium standard, the legislature amended the Illinois Environmental Protection Act at Section 17.6 in 1988 to provide that any new federal radium standard immediately supersedes the current Illinois standard.

<sup>3</sup> Publication occurred at 56 Fed. Reg. 33050, July 18, 1991.

caused by a grant of this variance extension. (Pet. at 4.) The Agency agrees with that assessment and states:

While radiation at any level created some risk, the risk associated with this level is very low... . The Agency believes that the grant of this variance should cause no significant health risk for the limited population served by new water main extensions for the time period of the recommended variance.

(Ag. Rec. at 9.)

#### PAST COMPLIANCE EFFORTS

In its October 15, 1987 order, the Board directed North Aurora to negotiate a contract with the City of Aurora (City) to obtain water service and to begin construction of a water treatment facility starting no later than October 15, 1989. (Pet. at 6.) However, contract negotiations between North Aurora and the City were delayed due to revisions by the City of the design and engineering of its new water treatment system. As a result, North Aurora was able to complete the designs for, but not begin, construction of the distribution system. On March 16, 1989, during the discussions between North Aurora and the City, USEPA announced that it would not force any municipality to spend funds preparing a final design or constructing a treatment system to comply with the interim combined Standard of 5 pCi/l. (Pet. at 6.)

North Aurora was granted a variance extension on February 8, 1990. In August 1990, the City terminated negotiations with North Aurora. Thus, North Aurora's compliance plan, which relied on receiving treated water from the City, was no longer a viable final compliance alternative. In September 1990, North Aurora retained Rempe-Sharpe & Assoc. Inc. (Rempe-Sharpe) to pursue a compliance alternative that would require the blending of treated shallow well water existing deep well water. (Pet. at 7.)

#### COMPLIANCE ALTERNATIVES

Rempe-Sharp has concluded that the blending of shallow well water with existing deep well water is the most practical and cost-effective alternative for North Aurora to achieve compliance with the radium standards in its deep well water. In general, the blending alternative would blend treated shallow well water, which contains little, if any radium, with deep well water to achieve compliance. This compliance alternative requires North Aurora to construct the following: three 700 gpm shallow wells, each requiring a one acre site; and two MGD lime-softening water treatment plant and sludge lagoons; a 16-inch shallow well water transmission main from the shallow wells to the water treatment plant site; a 16-inch potable water transmission main from the

blending tank at the water treatment plant site to two elevated tanks; and an altitude valve at the west elevated tank. In addition, existing deep well No. 4 would be modified to reduce capacity from 1200 gpm to 700 gpm. North Aurora estimates the cost to complete the blending project is \$10,786,000 based on August 1993 cost data. This figure does not include the cost of acquiring the six to eight acre site for the treatment plant, the one acre sites for each of the new wells or the easements for the transmission and distribution mains. (Pet. at 7.)

In October 1990, North Aurora received a grant from Kane County to conduct both the necessary preliminary engineering to route the 16 inch water transmission main and the required Seismic Refraction Survey (SRS) to locate an aquifer suitable for the siting of the shallow wells. On March 22, 1991, North Aurora contracted with the Illinois State Geological Survey (ISGS) to determine the location of the necessary aquifer. ISGS completed the SRS in November 1991. (Pet. at 8.)

North Aurora has also authorized Rempe-Sharpe to develop a preliminary design to locate feasible routing of the transmission main. In order to construct the transmission main, North Aurora must obtain an easement from Commonwealth Edison for the placement of the transmission main. Discussions between North Aurora and Commonwealth Edison regarding the easement began in May 1992 and are continuing. (Pet. at 8.) On August 16, 1993, North Aurora received a construction permit from the Agency to begin Phase I of the transmission main project. Depending upon the outcome of discussions with Commonwealth Edison, North Aurora reports it will solicit bids for Phase I until the end of March 1994 and estimate Phase I will be completed by August 1994. (Pet. at 9.) North Aurora estimates that the transmission line, water treatment plant and necessary storage and related equipment required to obtain water from the shallow well will cost over \$11 million based upon August 1993 cost data. (Pet. at 9.)

The Agency believes that petitioner has demonstrated continuing process towards compliance while awaiting final promulgation of the federal standard. (Ag. Rec. at 9.)

#### ARBITRARY OR UNREASONABLE HARDSHIP

North Aurora believes that denial of a variance extension would constitute an arbitrary or unreasonable hardship since the grant of a variance extension will cause little, if any, adverse environmental impact. In contrast, North Aurora believes denial of the variance extension would result in the termination of the significant development taking place in North Aurora that requires the extension of the water supply system. (Pet. at 10.) North Aurora argues that the adverse economic impact resulting from the compliance plans would far outweigh any health effects associated with the consumption of North Aurora's water for the

limited period covered by the requested variance extension. North Aurora argues that the growth and development that North Aurora is experiencing, the expense it will incur in completing a treatment system, the low level of radium activity in North Aurora's water, and the positions of the Agency and USEPA all demonstrate the hardship that North Aurora would suffer if the variance extension were denied. (Pet. at 10.)

Moreover, North Aurora believes continued construction is inconsistent with USEPA's position that it will not intervene in variances that trigger final design and construction of compliance equipment by the date on which USEPA revised the MCLs for radium. If USEPA enacts 20 pCi/l standard for both radium-226 and radium-228, North Aurora believes it would then be compliance and would not need to build the treatment system. (Pet. at 10.)

The Agency believes that grant of the requested variance would impose no significant injury to the public or to the limited time period of the requested variance extension and that denial of the recommended variance would be an arbitrary and unreasonable hardship to petitioners. (Ag. Rec. at 9.)

#### CONSISTENCY WITH FEDERAL LAW

The Agency states that the requested variance may be granted consistent with the Safe Drinking Water Act (42 U.S.C. 300(f)) and corresponding regulations (40 CFR Part 141) because the variance does not grant relief from national primary drinking water regulations. (Ag. Rec. at 10)

#### CONCLUSION

Pursuant to Section 36(b) of the Act, the Board may grant an extension of variance where satisfactory progress has been demonstrated. Here, the record indicates that the Village of North Aurora has been diligent in its efforts to comply with the conditions of the initial variance. The Board finds that the Village of North Aurora has presented adequate proof of satisfactory progress towards compliance.

In addition, based upon the record, the Board finds that immediate compliance with the "Standards for Issuance" and "Restricted Status" regulations would impose an arbitrary or unreasonable hardship on the Village of North Aurora. The Board also agrees with the parties that granting this variance does not pose a significant health risk to those persons served who will be affected by the variance, assuming that compliance is timely forthcoming.

The Board notes that timely compliance by the Village may be affected by pending USEPA action to promulgate new standards for

radionuclides in drinking water. USEPA has recommended a standard of 20 pCi/l for both radium-226 and radium-228. This proposed standard was published on July 18, 1991 (56 Fed. Reg. 33,050 (1991)), and the public hearings on the standard began on September 6, 1991. New radionuclide standards from USEPA could significantly alter the Village's need for a variance or alternatives for achieving compliance.

Accordingly, the Board hereby grants Village of North Aurora an extension of variance subject to the conditions stated below. Today's action is solely a grant of variance from standards of issuance and restricted status. The Village is not granted variance from compliance with the combined radium standard, nor does today's action insulate the Village in any manner against enforcement for violation of these standards.

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

#### ORDER

The Village of North Aurora is hereby granted a variance from 35 Ill. Adm. Code 602.105(a), "Standards for Issuance", and 602.106(b), "Restricted Status", as they relate to the standards for combined radium-226 and radium-228 in drinking water as set forth in 35 Ill. Adm. Code 611.330(a), subject to the following conditions:

- (A) For purposes of this Order, the date of USEPA action shall consist of the earlier date of the:
  - (1) Date of promulgation by the U.S. Environmental Protection Agency (USEPA) of any regulation which amends the maximum concentration level for combined radium, either of the isotopes of radium, or the method by which compliance with a radium maximum contaminant level is demonstrated; or
  - (2) Date of publication of notice by the USEPA that no amendments to the 5 pCi/l combined radium standard or the method for demonstrating compliance with the 5 pCi/l standard will be promulgated.
- (B) Variance shall terminate on the earliest of the following dates:
  - (1) One year from the date of this order;
  - (2) When analysis pursuant to 35 Ill. Adm. Code 611.720(d), or any compliance with standards then in effect, shows compliance with standards for radium in drinking water then in effect.



- (C) In consultation with the Illinois Environmental Protection Agency ("Agency"), petitioners shall continue their sampling level of radioactivity in their wells and finished water. Until this variance terminates, petitioners shall collect quarterly samples of their water from their distribution system at locations approved by the Agency. Petitioners shall composite the quarterly samples from each location separately and shall analyze them annually by a laboratory certified by the State of Illinois radiological analysis so as to determine the concentration of radium-226 and radium-228. At the option of petitioners, the quarterly samples may be analyzed when collected. The results of the analyses shall be reported within 30 days of receipt of the most recent result to:

Illinois Environmental Protection Agency  
Compliance Assurance Section  
Division of Public Water Supplies  
2200 Churchill Road  
Springfield, Illinois 62794-9276

- (D) Within three months of USEPA action, petitioners shall apply to the Agency at the address below for all permits necessary for the construction, installation, changes or additions to petitioners' public water supply needed for achieving compliance with the MCL for combined radium or with any other standard for radium in drinking water then in effect:

Illinois Environmental protection Agency  
Public Water Supply System  
Permit Section  
P.O. Box 19276  
2200 Churchill Road  
Springfield, IL 62794-9276

- (E) Within six months of USEPA action after each construction permit is issued by IEPA, petitioners shall advertise for bids, to be submitted within 60 days, from contractors to do the necessary work described in the construction permit. The petitioners shall accept appropriate bids within a reasonable time. Petitioners shall notify the Agency, Division of Public Water Supplies, within 30 days, of each of the following actions: 1) advertisements for bids, 2) names of the successful bidders, and 3) whenever petitioners accepted the bids.
- (F) 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 MCL in question shall be completed no later than two years following USEPA action. One year will be necessary to prove compliance.

- (G) Pursuant to 35 Ill. Adm. Code 611.851(b) (formerly 35 Ill. Adm. Code 606.201), in the first set of water bills or within three months after the date of this Order, whichever occurs first, and every three months thereafter, petitioners will send to each user of their public water supply a written notice to the effect that petitioners have 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(a) Restricted Status, as they relate to the radium standard.
- (H) Pursuant to 35 Ill. Adm. Code 611.851(b) (formerly 35 Ill. Adm. Code 606.201), in its first set of water bills or within three months after the date of this Order, whichever occurs first, and every three months thereafter, petitioners will send to each user of their public water supply a written notice to the effect that petitioners are not in compliance with the standard in question. The notice shall state the average content of the contaminants in question in samples taken since the last notice period during which samples were taken.
- (I) Until full compliance is achieved, petitioners shall take all reasonable measures with their existing equipment to minimize the level combined radium-266 and radium-228, in their finished drinking water.
- (J) Petitioners shall provide written progress reports to the Agency at the address below every six months concerning steps taken to comply with the paragraphs of this Order. Progress reports shall quote each of said paragraphs and immediately below each paragraph state what steps have been taken to comply with each paragraph:

Illinois Environmental Protection Agency  
Division of Public Water Supply  
Field Operations Section  
2200 Churchill road  
Springfield, Illinois 62794-9276

Within forty-five days of the date of this Order, petitioners shall execute and forward to:

Stephen C. Ewart  
Division of Legal Counsel  
Illinois Environmental Protection Agency  
P.O. Box 19276  
2200 Churchill Road  
Springfield, Illinois 62794-9276

a Certificate of Acceptance and agreement to be bound to all terms and conditions of the granted variance. The 45-day period shall be held in abeyance during any period that this matter is appealed. Failure to execute and forward the Certificate within 45-days renders this variance void and of no force and effect as a shield against enforcement of rules from which this variance is granted. The form of Certificate is as follows:

I (We), \_\_\_\_\_,  
hereby accept and agree to be bound by all terms and conditions of the Order of the Pollution Control Board in PCB 93-164, January 20, 1994.

\_\_\_\_\_  
Petitioner

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

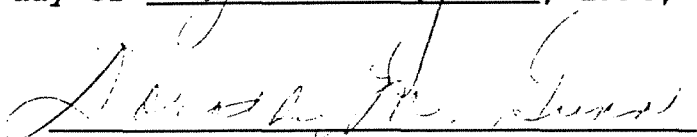
\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

Section 41 of the Environmental Protection Act, 415 ILCS 5/41, 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.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 20th day of January, 1994, by a vote of 7-0.

  
\_\_\_\_\_  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board