

ILLINOIS POLLUTION CONTROL BOARD  
April 20, 1995

VILLAGE OF NORTH AURORA, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 95-42  
 ) (Variance - PWS)  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

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

This matter is before the Board on a January 20, 1995 petition for extension of variance filed by the Village of North Aurora (Village, North Aurora or petitioner). North Aurora seeks an extension of its previously granted variance from the requirements of 35 Ill. Adm. Code 602.105(a), "Standards for Issuance", and 602.106(b), "Restricted Status", to the extent those rules are applicable to the maximum contaminant 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). North Aurora requests a five year extension of the variance granted in PCB 93-164, i.e., until January 20, 2000.

The Board's responsibility in this matter arises from the Environmental Protection Act (Act). (415 ILCS 5/1 et seq. (1992).) The Act authorizes the Board to grant variance from Board regulations whenever compliance would impose an arbitrary or unreasonable hardship upon petitioner. (415 ILCS 5/35(a) (1992).)

Initially, the Board granted North Aurora a three-year variance from the requirements of 35 Ill. Adm. Code 602.105(a) and 602.106(b) in PCB 87-83 on October 15, 1987. Subsequently, the Board granted an extension of variance until September 30, 1993, in PCB 89-66 on February 8, 1990. The Board granted a second extension of variance for one year in PCB 93-164 on January 20, 1994, which expired on January 20, 1995. In the present proceeding, the Village requests a third extension of variance from January 21, 1995, until January 20, 2000, or until analysis pursuant to 35 Ill. Adm. Code 605.104(a) shows compliance with the combined radium standard, whichever comes first.

On February 27, 1995, the Illinois Environmental Protection Agency (Agency) filed its variance recommendation concerning the original variance petition. The Agency recommended that the variance be granted, subject to certain conditions. The Village waived hearing and none was held. Subsequently, on March 29, 1995, the Village filed an amended petition for extension of

variance requesting a five-year extension of the variance granted in PCB 93-164, i.e., until January 20, 2000. The Agency then filed its amended recommendation for extension of variance on April 11, 1995, recommending that the variance be granted until January 20, 2000, or until two years after USEPA action, but only as the regulations relate to radium-226 and radium-228.

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 impose an arbitrary or unreasonable hardship. Accordingly, the variance is granted for a period of five years beginning on the date of this opinion, subject to conditions set forth in the attached order.

#### BACKGROUND

The Village is a municipality located in Kane County, Illinois. (Rec. at 3.)<sup>1</sup> The Village provides potable water for residential, commercial, governmental and industrial customers. (Pet. at 3.) Petitioner maintains the public water distribution system which includes 4 deep aquifer wells, two one-half million gallon reservoirs, pumps and distribution facilities. (Id.) Petitioner's average daily water use in 1994 was greater than one million gallons per day, resulting in an approximate annual use of 413 million gallons. (Id.) The total population served by the Village is approximately 9,000 persons. (Id.)

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. (Pet. at 5.) Recent tests indicate that petitioner's combined radium level consistently exceeds 5 pCi/l. (Pet. Exh. C.) 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 1993, construction permits have been issued for 300 single family residences, 29 multifamily residences, four commercial and five industrial establishments. (Pet. at 9.) Plans for the construction of an additional 288 residential units were approved, and construction has started. (Id.) As a result of this growth, North Aurora needs to apply for and obtain construction permits in order to expand or extend the water distribution system to meet the new user demand. (Rec. at 3.)

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

According to the most recent analyses which were completed on June 28, 1994, the combined radium levels in North Aurora's water supply are as follows:

<u>Location</u>	<u>Radium-226</u>	<u>Radium-228</u>	<u>Combined</u>
Well #3	4.0	5.2	9.2 pCi/l
Well #4	3.4	3.8	7.2 pCi/l
Well #5	2.5	1.0	3.5 pCi/l

(Pet. Exh. C; Rec. at 5.) The results were obtained from analyses of composite samples compiled from four consecutive quarterly samples; the levels in wells #3 and #4 exceed the 5 pCi/l combined standard for radium-226 and radium-228. (Rec. at 5.)

#### 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, respectively.

The principal effect of these regulations is that public water suppliers are prohibited from extending water service due to their inability 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 Board is required 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 petitioner must show that compliance with the regulations would result in an arbitrary and unreasonable hardship which outweighs the public's interest in preserving the environment and protecting the public. (Willowbrook Motel v. Pollution Control Board, (1st Dist. 1985) 135 Ill.App.3d 343, 349, 481 N.E.2d 1032, 1037.) Only with such showing will the claimed hardship rise to the level of arbitrary or unreasonable hardship.

Further, a variance is, by its nature, a temporary reprieve from compliance with the Board's regulations, and compliance is to be sought regardless of the hardship which eventual compliance presents an individual polluter. (Monsanto Co. v. Pollution Control Board, (1977) 67 Ill.2d 276, 287, 367 N.E.2d 684, 688.) Accordingly, 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,

unless certain special circumstances exist.

A grant of variance from "Standards for Issuance" and "Restricted Status" neither absolves a petitioner from compliance with the drinking water standards at issue, nor insulates a petitioner from possible enforcement actions for violation of those standards. The underlying standards remain applicable to the petitioner regardless of whether variance is granted or denied.

Pursuant to Section 36 of the Act, the Board may grant an extension of variance where the petitioner has demonstrated satisfactory progress. (415 ILCS 5/36(b) (1992).) Section 36(b) states in pertinent part that a "variance may be extended from year to year by affirmative action of the Board, but only if satisfactory progress has been shown." (Id.)

#### 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 U.S. Environmental Protection Agency (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 MCLs nevertheless are the maximum allowable concentrations under both federal and Illinois law, and will remain so unless modified by USEPA.<sup>2</sup>

Since their original promulgation, the current radium and gross alpha particle activity standards have been under review at the federal level. USEPA first proposed revision of the standards in October 1983 in an Advance Notice of Proposed Rulemaking. (48 Fed. Reg. 45502 (1983).) It later republished this advance notice in September 1986. (51 Fed. Reg. 34836 (1986).) By publication on June 18, 1991, USEPA announced a proposal to modify both standards. (56 Fed. Reg. 33050 (1991).) USEPA proposes to replace the 5 pCi/l combined radium standard by separate standards of 20 pCi/l for both radium-226 and radium-228. (Id. at 33082, 33126.) The gross alpha particle activity standard is proposed to be replaced by an adjusted gross alpha particle activity standard which would still have a 15

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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.

pCi/l value, but would no longer include alpha particle activity associated with radium or uranium decay. (Id. at 33102, 33126.) Under USEPA's current calendar, these standards are scheduled to be promulgated after September, 1995. (Rec. at 7.)

#### 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 as a result of this variance extension. (Pet. at 4-5.) The Agency agrees with that assessment:

"While radiation at any level creates some risk, the risk associated with this level is very low." (Rec. at 7.) The Agency believes that an increase in the allowable concentration levels should not cause any significant health risk for the limited population served by new water main extensions for the time period of the recommended variance. (Rec. at 9.)

#### PAST COMPLIANCE EFFORTS

In its October 15, 1987 order granting the initial variance (PCB 87-83), 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 5.) 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. (Id.) As a result, North Aurora was able to complete the designs for, but not begin, construction of the distribution system. (Id.) 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 radium standard of 5 pCi/l. (Pet. at 5-6.; Rec. at 8.)

North Aurora was granted a variance extension until September 30, 1993, (PCB 89-66) on February 8, 1990. In August 1990, the City terminated negotiations with North Aurora. (Pet. at 6.) Thus, North Aurora's compliance plan, which relied on receiving treated water from the City, was no longer a viable final compliance alternative. (Id.) 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. (Id.)

On September 3, 1993, North Aurora filed an amended petition for variance with the Board seeking a further extension of the variance granted in PCB 89-66. (Rec. at 4.) In PCB 93-164, the Board granted North Aurora a one-year extension of variance for the period of January 20, 1994, to January 20, 1995. (Id.)

#### 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. (Pet. at 6.) In general, the blending alternative would blend treated shallow well water, which contains little, if any radium, with deep well water to meet the combined radium standard of 5 pCi/l. (Id.) This compliance alternative requires North Aurora to construct the following: three 700 gpm shallow wells, each requiring a one acre site; 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. (Id.) In addition, existing deep well No. 4 would be modified to reduce capacity from 1200 gpm to 700 gpm. (Id.) North Aurora estimates the cost to complete the blending project is \$11,541,000 based on January 1995 cost data. (Pet. at 7.) 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 6-7.)

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. (Pet. at 7.) 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. (Id.)

North Aurora has also authorized Rempe-Sharpe to develop a preliminary design to locate feasible routing of the transmission main. (Id.) In order to construct the transmission main, North Aurora needed to 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. (Id.) In September 1992, North Aurora performed a study to ensure there would be no adverse impact on wetlands. (Id.) The successful study alleviated Commonwealth Edison's concerns and resulted in the grant of the necessary easement to

North Aurora for \$80,000. (Pet. at 8.)

On August 16, 1993, North Aurora received a permit from the Agency to construct "Phase I" of the water main extension. (Pet. Exh. F.) The construction was completed in August 1994. (Pet. at 8.) North Aurora estimates that the transmission line, water treatment plant and necessary storage and related equipment required to extract water from the shallow wells will cost over \$11.8 million based upon January 1995 cost data. (Id.)

The Agency believes that petitioner has demonstrated continuing progress and will continue its good faith efforts towards compliance while awaiting final promulgation of the federal standard. (Rec. at 7.)

#### 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. (Pet. at 4-5, 9.) Additionally, 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 9.)

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 time period of the requested variance extension. (Pet. at 9-10.) North Aurora claims denial of the extension of variance will result in an unreasonable hardship due to the level of growth and development that the Village is experiencing, the expense it will incur in completing the proposed water treatment system, the low level of radium activity in North Aurora's water, and the positions of the Agency and USEPA regarding combined radium standards. (Pet. at 10.)

Moreover, North Aurora believes continued construction of the water treatment system 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 which USEPA revised the MCLs for radium. (Pet. Exh. G.) If USEPA enacts a 20 pCi/l standard for both radium-226 and radium-228, North Aurora believes it would be in immediate compliance with the regulations and would not need to build the new water treatment system. (Pet. at 9.)

The Agency's position is that a grant of the extension of variance would not impose significant injury to the public or to the environment for the limited time period requested. (Rec. at 9.) Additionally, the Agency believes that denial of the

recommended extension of variance would impose an arbitrary and unreasonable hardship on petitioner. (Id.)

#### CONSISTENCY WITH FEDERAL LAW

A grant of the requested variance is consistent with the Safe Drinking Water Act (42 U.S.C. 300(f) et seq. (1992)) and corresponding regulations (40 CFR Part 141 (1991)) because the variance does not apply to the national primary drinking water standards. (Rec. at 10.)

#### CONCLUSION

Pursuant to Section 36(b) of the Act, the Board may grant an extension of variance where petitioner has made satisfactory progress toward achieving compliance. (415 ILCS 5/36(b) (1992).) The record indicates that North Aurora has been diligent in its efforts to comply with the conditions of the initial variance granted on October 15, 1987. The Board finds that 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 are affected by the variance, assuming that compliance is timely forthcoming.

Timely compliance by the Village may be affected by pending USEPA action to promulgate new standards for radionuclides in drinking water, now anticipated after September, 1995. USEPA is under an amended consent order to take final action with respect to the proposed radium-226 and radium-228 standards by April 30, 1995. (Miller v. Browner, No. 89-6328-HO (D.Or. June 25, 1990), Pet. Exh. B at 4.) However, Congress has prohibited funding for promulgation of final radon standards for federal fiscal years 1994 and 1995. (Rec. at 8.) As a result, USEPA is unable to promulgate new standards for radium-226 and radium-228. (Rec. at 9.) Thus, USEPA will seek an interim extension of the consent order deadline until September 15, 1995, to reflect the congressional prohibition. (Id.) During the extension, USEPA will not take action regarding the substance of the combined radium standard for radium-226 and radium-228, but it will attempt to negotiate a new schedule for release of the final rule with the plaintiffs in Miller. (Id.) USEPA's proposal of separate 20 pCi/l standards for both radium-226 and radium-228, (56 Fed. Reg. 33082, 33126 (1991)), if adopted, could significantly alter the Village's need for a variance or alternatives for achieving compliance.



Accordingly, the Board hereby grants the 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.

North Aurora has requested that the term of the variance begin January 21, 1995. It is well established that the term of a variance begins on the date the Board renders its decision, unless unusual or extraordinary circumstances are shown. (See, e.g. DMI, Inc. v. IEPA, PCB 90-227, 128 PCB 245 - 249, December 19, 1991.) While North Aurora is expanding the existing system to accommodate the current level of growth in the area, the Board finds that the instant circumstances are not sufficiently unusual to warrant the retroactive start of the extension of variance as requested by the Village and recommended by the Agency. Therefore, the extension of variance is effective from the date of this order.

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", only 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 USEPA of any regulation which amends the maximum contaminant level (MCL) for combined radium, either of the isotopes of radium, or the method by which compliance with a radium MCL is demonstrated; or
  - (2) Date of publication of notice by 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) Five years from the date of this order;
  - (2) Date of publication of notice by 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.
- (C) In consultation with the Agency, petitioner shall continue its sampling level of radioactivity in the wells and finished water. Until this variance terminates, petitioners shall collect quarterly samples of water from the distribution system at locations approved by the Agency. Petitioner shall composite the quarterly samples from each location separately 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 radium-226 and radium-228. At the option of petitioner, 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 sample to:

Illinois Environmental Protection Agency  
Compliance Assurance Section  
Drinking Water Quality Unit  
P.O. Box 19276  
Springfield, Illinois 62794-9276

- (D) Within three months of USEPA action, petitioner shall apply to the Agency at the address below for all permits necessary for the construction, installation, changes or additions to petitioner's 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 Program  
Permit Section  
2200 Churchill Road  
Springfield, IL 62794-9276

- (E) Within three months of the issuance of each construction permit issued by the Agency, petitioner 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.

Petitioner 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) whether petitioner 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 after completion of construction will be necessary to prove compliance.
- (G) Pursuant to 35 Ill. Adm. Code 611.851(b), 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, petitioner will send to each user of their 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 the contaminants in samples taken since the last notice period during which samples were taken.
- (H) Pursuant to 35 Ill. Adm. Code 611.851(b), 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, petitioner will send to each user of its public water supply a written notice to the effect that petitioner has been granted a variance by the Illinois Pollution Control Board from 35 Ill. Adm. Code 602.105(a), Standards of Issuance, and 35 Ill. Adm., Code 602.106(a), Restricted Status, as it relates to the MCL standard in question.
- (I) Until full compliance is achieved, petitioner shall take all reasonable measures with existing equipment to minimize the level of combined radium-2626 and radium-228, in its 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 paragraphs C, D, E, F, G and H 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

IT IS SO ORDERED.

If the Village chooses to accept this variance subject to the above order, within forty-five days of the grant of the variance, the Village must execute and forward the attached certificate of acceptance and agreement to:

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

Once executed and received, that certificate of acceptance and agreement shall bind the Village 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. The form of the certificate is as follows:

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 95-42, April 20, 1995.

\_\_\_\_\_  
Petitioner

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

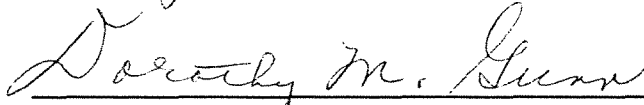
\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

Section 41 of the Environmental Protection Act, (415 ILCS 5/41 (1992)), provides for appeal of final Board orders within 35 days of the date of service of this order. The Rules of the Supreme Court of Illinois establish filing requirements. (See also 35 Ill. Adm. Code 101.246. "Motions for Reconsideration".)

also 35 Ill. Adm. Code 101.246. "Motions for Reconsideration".)

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 30<sup>th</sup> day of April, 1995, by a vote of 7-0.

  
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Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board