

ILLINOIS POLLUTION CONTROL BOARD  
May 24, 1990

UNITED CITY OF THE VILLAGE )  
OF YORKVILLE, )  
 )  
Petitioner, )  
 )  
v. ) PCB 90-21  
 ) (Variance)  
ILLINOIS ENVIRONMENTAL )  
PROTECTION AGENCY, )  
 )  
Respondent. )

OPINION AND ORDER OF THE BOARD (by R. C. Flemal):

This matter comes before the Board on a Petition for Variance ("Pet.") filed February 7, 1990 by the United City of the Village of Yorkville ("Yorkville"). Yorkville seeks extension of variance from 35 Ill. Adm. Code 602.105(a) "Standards For Issuance" and 602.106(b) "Restricted Status" to the extent those rules relate to violation by Yorkville's public water supply of the 5 picocuries per liter ("pCi/l") combined radium-226 and radium-228 standard of 35 Ill. Adm. Code 604.301(a). Variance is requested for five years.

The Illinois Environmental Protection Agency ("Agency") filed its Variance Recommendation ("Recommendation") on March 13, 1990. The Agency recommends that variance be granted, subject to conditions. On March 20, 1990 Yorkville filed a Response to Agency Recommendation, in which it notes that it has no disagreements with the facts as presented by the Agency and finds the conditions proposed by the Agency to be acceptable.

Yorkville waived hearing and none has been held.

Based on the record before it, the Board finds that Yorkville has presented adequate proof that immediate compliance with the Board regulations at issue would impose an arbitrary or unreasonable hardship. Accordingly, the variance will be granted, subject to conditions as set forth in this Opinion and Order.

BACKGROUND

Yorkville, a municipality located in Kendall County, provides a potable public water supply to a population of 3,422 persons (Pet. at p. 4). The water is derived from one shallow well and two deep wells and supplied through a system which includes chlorination, fluoridation, and distribution facilities

(Id.). Characteristics of the three wells are respectively:

Well #2	42 feet deep	placed in operation in 1954
Well #3	1335 feet deep	placed in operation in 1960
Well #4	1393 feet deep	placed in operation in 1976

Well #2 is used only sparingly due to its low capacity (Id. at p. 4-5).

An analysis of a quarterly sample of the radium isotopes was reported to Yorkville on January 25, 1984; this analysis showed a radium-226 content of 5.6 pCi/l and a radium-228 content of 2.2 pCi/l, for a combined value of 7.8 pCi/l (Recommendation at par. 10). A second analysis, reported to Yorkville on December 8, 1986, showed a combined radium content of 11.7 pCi/l (Id.). Based upon the initial result, Yorkville was placed on restricted status by the Agency on October 14, 1984 (Id. at par. 11). The restricted status pertains only to exceedance of the combined radium standard.

Yorkville has subsequently obtained additional radium analyses. Results from 1989, measured in pCi/l, are as follows (Pet. at p. 6).

Month	Well #3		Well #4	
	Ra-226	Ra-228	Ra-226	Ra-228
February	7.1	4.5	6.0	3.2
March	6.7	2.4	4.0	1.4
April	6.1	2.6	6.1	4.4
May	7.3	3.0	7.0	3.4
June	6.4	1.5	4.7	1.4
July	7.2	2.8	6.6	2.9
August	6.6	2.5	5.8	2.2
September	5.6	3.9	4.9	2.8
October	6.1	2.4	5.5	2.4
November	7.5	1.5	5.7	0.9
AVERAGE	6.7	2.7	5.6	2.5
COMBINED AVG.	9.4		8.1	

REGULATORY FRAMEWORK

In recognition of a variety of possible health effects occasioned by exposure to radioactivity, the USEPA has promulgated a maximum concentration limit for drinking water of 5 pCi/l of combined radium-226 and radium-228. Illinois subsequently adopted this same limit as the maximum allowable concentrations under Illinois law. Pursuant to Section 17.6 of the Illinois Environmental Protection Act (Ill. Rev. Stat. 1988 Supp., ch. 111 $\frac{1}{2}$ , par. 1017.6), any revision of the 5 pCi/l standard by the USEPA will automatically become the standard in

Illinois.

The action that Yorkville requests here is not variance from the maximum allowable concentration of radium. Regardless of the action taken by the Board in the instant matter, this standard will remain applicable to Yorkville. Rather, the action Yorkville requests is the temporary lifting of prohibitions imposed pursuant to 35 Ill. Adm. Code 602.105 and 602.106. In pertinent part these Sections 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. 1981, ch. 111½, 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.

Illinois regulations thus provide that communities are prohibited from extending water service, by virtue of not being able to obtain the requisite permits, if their water fails to meet any of the several standards for finished water supplies. This provision is a feature of Illinois regulations not found in federal law. It is this prohibition which Yorkville requests be lifted. Moreover, as Yorkville correctly notes, grant of the requested variance would not absolve Yorkville from compliance with the combined radium standard, nor insulate Yorkville from possible enforcement action brought for violation of those standards (Pet. at p. 39).

In consideration of any variance, the Board determines whether a petitioner has present adequate proof that immediate compliance with the Board regulations at issue would impose an arbitrary or unreasonable hardship (Ill. Rev. Stat. 1987, ch. 111½, par. 1035(a)). 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 (1977), 135 Ill.App.3d, 481 N.E.2d, 1032). Only with such showing can the claimed hardship rise to the level of arbitrary or unreasonable hardship.

Lastly, a variance by its nature is 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 achieved compliance within the term of the variance.

#### COMPLIANCE PROGRAM

Yorkville intends to achieve compliance with a 5 pCi/l combined radium standard by developing a new shallow well, the water from which would be blended with the water from Wells #3 and #4 to achieve a distribution system radium concentration in compliance with the radium standard. Yorkville's choice of compliance programs is based on consideration of seven alternatives presented to Yorkville by its consultants (Pet. Exh. D).

In addition to construction of the shallow well itself, Yorkville contends that compliance with the 5 pCi/l combined radium standard requires purchase, construction, and/or modification of pumping equipment, a new well house, existing Well #4, transmission watermains, additional water storage, and standby softening equipment. Yorkville estimates the total capital costs of these improvements at \$2,346,000 (Pet. at p. 11) and the time necessary to fully implement them at 30 months (Id. at p. 12).

The Board questions whether costs for compliance with the 5 pCi/l standard are as large as Yorkville contends. The Board notes, for example, that two of the most substantial cost items in Yorkville's total estimated cost are related to providing facilities for iron filtration and filter residue disposal. It is not obvious that either is required to achieve compliance with the radium standard.

Should the USEPA alter the radium standard to 5 pCi/l for each of the two radium isotopes<sup>1</sup> Yorkville observes that it would then be out of compliance with only the standard for Ra-226 (Pet. at p. 12). Under this scenario, Yorkville contends that compliance could be achieved at approximately 56% of the cost of

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<sup>1</sup> As the Board has noted elsewhere (e.g., Village of North Aurora v. IEPA, PCB 89-66, Feb. 8, 1990, Slip Op. at 7-8), this is one of the options apparently under consideration by the USEPA.

compliance with the current standard, and that compliance could be achieved within a shorter 25-month period (Id. at 14-15). The Board notes that the estimated costs of this option again include iron removal facilities.

Lastly, Yorkville considers the circumstance should the USEPA adopt a 10 pCi/l standard for combined radium. In this case, Yorkville contends that it would be in compliance with the new standard and there would therefore be no costs for compliance.

Given the uncertainties associated with USEPA action and the substantially different compliance program which would be warranted depending upon USEPA's particular action, Yorkville contends that it would be premature to complete final design and construction of any of the compliance options at this time (Pet. at p. 19). Rather, Yorkville agrees to commit to complete final design and construction upon promulgation of (or the determination not to promulgate) revised standards, dependent on the form of those standards.

#### HARDSHIP

Yorkville believes that denial of variance would constitute an arbitrary or unreasonable hardship in that denial would delay or preclude significant development in and around Yorkville, whereas the granting of variance would cause little or no adverse environmental impact (Pet. at p. 31). The Agency also notes that by virtue of Yorkville's inability to receive permits for water main extensions, any economic growth dependent on those water main extensions would not be allowed (Recommendation at par. 19).

Yorkville cites several proposed developments, the loss of which it contends could have a serious economic impact upon Yorkville which would far outweigh any health effects associated with the consumption of Yorkville's water for the limited period of time covered by their requested variance (Pet. at p. 31-2). These proposed developments are:

- 1) County buildings: a Kendall County building complex located west of Yorkville. Kendall County has a permit for the first one-half mile of the water main to serve the complex, but will need a permit for the additional mile during 1990. The County has already purchased the land for these buildings which includes a county jail which the County is required by law to build.
- 2) Wildwood: a single family residential subdivision in six phases. Only phase I is currently permitted. Phases 2-6 will include 103 units. Final plat approval is presently being sought for these units and approval is

anticipated. Construction could commence as early as the summer of 1990.

- 3) Prairie Lands, Phase 3: a permit application for the construction and operation of this 31-unit development was filed with the Agency in mid-December and is presently pending. Prairie Lands hopes to commence construction in the spring of 1990.
- 4) Woodworth, Phase 3: a single family development of 18 units. Phases 1, 2, and 4 are already permitted, and Yorkville anticipates a permit application for phase 3 during 1990.
- 5) Commercial development: a commercial development is proposed near the intersection of Ill. Rtes. 47 and 71. The developer is currently negotiating with Yorkville for annexation and use of city services. Construction may commence during 1990.

#### PUBLIC INTEREST

Although Yorkville has not undertaken a formal assessment of the environmental effect of its requested variance, it contends that there will be little or no adverse impact caused by the granting of variance (Pet. at p. 19). The Agency contends likewise (Recommendation at par. 18). In support of these contentions, Yorkville and the Agency reference testimony presented by Richard E. Tooney, Ph.D. and James Stebbins, Ph.D., both of Argonne National Laboratory, at the hearing held on July 30 and August 2, 1985 in R85-14, Proposed Amendments to Public Water Supply Regulations, 35 Ill. Adm. Code at 602.105 and 602.106.

The Agency believes that while radiation at any level creates some risk, the risk associated with Yorkville's water is low (Recommendation at par. 14). In summary, the Agency states:

The Agency believes that the hardship resulting from denial of the recommended variance from the effect of being on Restricted Status would outweigh the injury of the public from grant of that variance. In light of the cost to the Petitioner of treatment of its current water supply, the likelihood of no significant injury to the public from continuation of the present level of the contaminants in question in the Petitioner's water for the limited time period of the variance, and the possibility of compliance with the MAC standard due to blending or new shallow wells, etc., the Agency concludes that denial of a variance from the effects of Restricted Status would

impose an arbitrary or unreasonable hardship upon Petitioner.

The Agency observes that this grant of variance from restricted status should affect only those users who consume water drawn from any newly extended water lines. This variance should not affect the status of the rest of Petitioner's population drawing water from existing water lines, except insofar as the variance by its conditions may hasten compliance. In so saying, the Agency emphasizes that it continues to place a high priority on compliance with the standards.

(Recommendation at par. 25 and 26).

#### PRIOR VARIANCES

The matter of Yorkville's requests for variance from restricted status has a rather complex history. The matter originally came before the Board in PCB 86-24, within which on May 9, 1986 the Board granted Yorkville variance until May 9, 1989. Among the conditions of this variance was that Yorkville develop a workable compliance plan. By Order of April 16, 1987 the Board modified certain internal dates in the PCB 86-24 variance in response to Yorkville's desire to allow its then leading compliance candidate, the Iso-Clear filtering system, further trial.

There then followed two abortive petitions for further modification of the PCB 86-24 variance. In the first, docketed as PCB 87-158, the Board on January 21, 1988 dismissed the petition for failure to correct certain deficiencies. In the second, docketed as PCB 89-7, the Board on March 27, 1989 dismissed the petition for failure to pay the required filing fee.

On May 5, 1989 Yorkville again petitioned for variance in PCB 89-84, with request that variance be granted until May 9, 1992. On September 13, 1989 the Board granted this variance, but only until December 31, 1989.

Yorkville contends that it has diligently and reasonably pursued compliance throughout the time of these various variance requests (Pet. at 26). As evidence thereto, Yorkville submits a summary of its activities respecting radium since 1984 (Id. at 21-6), as well as interim measures it has taken (Id. at 28-31). Yorkville also contends that it has encountered unanticipated delays due to the desire to fully consider the once-promising Iso-Clear System, difficulties in finding an acceptable shallow well for blending, and others (Id. at 25).

CONSISTENCY WITH FEDERAL LAW

The Agency believes that Yorkville may be granted variance consistent with the requirements of the Safe Drinking Water Act (42 U.S.C. §300(f)) and corresponding regulations because the requested relief is not variance from a national primary drinking water regulation (Recommendation at par. 21).

CONCLUSION

The Board finds that, in light of all the facts and circumstances of this case, denial of variance would impose an arbitrary or unreasonable hardship upon Petitioner. The Board also agrees with the parties that no significant health risk will be incurred by persons who are served by any new water main extensions, assuming that compliance is timely forthcoming.

It is the Board's understanding that Yorkville will be ready to proceed with the final phases of their chosen plan immediately upon the effective date of any regulation promulgated by USEPA 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 concentration level is demonstrated.

The Board believes that the conditions as recommended by the Agency and agreed to by Yorkville are generally appropriate. However, the Board makes one substantive insertion. That is the placement at appropriate positions of the phrase "or with any standards for radium in drinking water then in effect", or like phrases, at appropriate places in the Order. The purpose is to assure that if the radium standard is altered during the term of variance by USEPA action and corresponding operation of Section 17.6 of the Act, the compliance target for Yorkville then becomes the revised radium standard or standards rather than the presently applicable 5 pCi/l combined standard.

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

ORDER

1. Petitioner, the United City of the Village of Yorkville, is hereby granted 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 and radium-228 standard of 35 Ill. Adm. Code 604.301(a), subject to the following conditions:



- (A) Compliance shall be achieved with the maximum allowable concentration of combined radium, or with any standards for radium in drinking water then in effect, no later than five years from the date of this Order.
- (B) Variance shall terminate on the earliest of the following dates:
- (1) Four years following the effective date of any regulation promulgated by the U.S. Environmental Protection Agency ("USEPA") 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 concentration level is demonstrated; or
  - (2) When analysis pursuant to 35 Ill. Adm. Code 605.104(a), or any compliance demonstration method then in effect, shows compliance with any standards for radium in drinking water then in effect; or
  - (3) Five years from the date of grant of this variance.
- (C) In consultation with the Illinois Environmental Protection Agency ("Agency"), Petitioner shall continue its sampling program to determine as accurately as possible the level of radioactivity in its wells and finished water. Until this variance terminates, Petitioner shall collect quarterly samples of its water from its distribution system at locations approved by the Agency. Petitioner shall composite the quarterly samples for 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 of radium-28. 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 analysis to:
- Illinois Environmental Protection Agency  
Compliance Assurance Section  
Division of Public Water Supplies  
2200 Churchill Road  
Springfield, Illinois 62794-9276
- (D) Within 6 1/2 months after the effective date of any revision in the USEPA's regulations governing radium in drinking water, Petitioner shall apply to the Agency at the address below for all permits necessary for construction of installations, changes, or additions to

Petitioner's public water supply needed for achieving compliance with the maximum allowable concentration for combined radium, or with any standards for radium in drinking water then in effect:

Illinois Environmental Protection Agency  
Division of Public Water Supply  
Permit Section  
2200 Churchill Road  
Springfield, Illinois 62794-9276.

- (E) Within three months after each construction permit is 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. Petitioner shall accept appropriate bids within a reasonable time. Petitioner shall notify the Agency at the address in condition (D) of each of the following actions: 1) advertisement for bids, 2) names of 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 maximum allowable concentration of combined radium, or with any standards for radium in drinking water then in effect, shall begin no later than three years from the effective date of any regulations promulgated by the USEPA and shall be completed ten months prior to expiration of this variance.
- (G) Pursuant to 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, Petitioner shall 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 they relate to the combined radium standard.
- (H) Pursuant to 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, Petitioner shall send to each user of its public water supply a written notice to the effect that Petitioner is not in compliance with standard for combined radium. The notice shall state the average

content of combined radium in samples taken since the last notice period during which samples were taken.

- (I) Until full compliance is achieved, Petitioner shall take all reasonable measures with its existing equipment to minimize the level of combined radium, radium-226, and radium-228 in its finished drinking water.
- (J) Petitioner shall provide written progress reports to the Agency at the address below every six months concerning steps taken to comply with paragraphs A-I. 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.

- 2) Within 45 days of the date of this Order, Petitioner shall execute and forward to Bobella Glatz, Enforcement Programs, Illinois Environmental Protection Agency, 2200 Churchill Road, Post Office Box 19276, Springfield, Illinois 62794-9276, a Certification of Acceptance and Agreement to be bound to all terms and conditions of this variance. The 45-day period shall be held in abeyance during any period that this matter is being 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 variance was granted. The form of said Certification shall be 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 90-21, May 24, 1990.

\_\_\_\_\_  
Petitioner

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1987 ch. 111 1/2 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.

Board Members J.D. Dumelle 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 24th day of July, 1990, by a vote of 4-3.

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