

ILLINOIS POLLUTION CONTROL BOARD  
July 11, 1991

CITY OF LOCKPORT,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 90-122
	)	(Variance)
ILLINOIS ENVIRONMENTAL	)	
PROTECTION AGENCY,	)	
	)	
Respondent.	)	

OPINION AND ORDER OF THE BOARD (by J.C. Marlin):

This matter comes before the Board upon a petition for variance extension filed by the City of Lockport ("Lockport") on June 29, 1990. Lockport seeks a variance from the Board's public water supply regulations, namely from 35 Ill. Adm. Code 602.105(a) (Standards for Issuance) and 35 Ill. Adm. Code 602.106(b) (Restricted Status) but only to the extent that those rules involve 35 Ill. Adm. Code 604.301(a) (combined Radium - 226 and Radium - 228) and 604.301(b) (gross alpha particle activity).<sup>1</sup> Lockport requests this variance extension until December 31, 1995. Pursuant to policy, the Board treated Lockport's request for variance extension as a request for new variance.

On September 17, 1990, the Illinois Environmental Protection Agency (Agency) filed its Recommendation that the variance be granted. On December 31, 1990, Lockport filed a Motion to Extend Time to File an Amended Petition and a waiver of decision deadline. Then, on February 28, 1991, Lockport filed its Amended Petition for Extension of Variance ("Am. Pet."). On May 6, 1991, the Agency filed its Amended Variance Recommendation ("Am. Rec.") accompanied by a motion to file instanter, which the Board granted. Lockport filed its Response to Amended Variance Petition on May 21, 1991. Hearing was waived and none has been held. Based on the record before it, the Board grants Lockport's variance request, subject to conditions.

PROCEDURAL HISTORY

The Board granted Lockport variance from the combined radium and gross alpha particle standards on June 10, 1987, subject to conditions. The variance expired on December 31, 1990, (PCB 87-

<sup>1</sup> These standards were recodified at 611.330(a) and 611.330(b) respectively, effective September 20, 1990. (See Illinois Register, Volume 14, Issue 40; October 5, 1990).

proceeding found that denial of variance would impose an arbitrary or unreasonable hardship upon Petitioner but voiced several caveats. Specifically, the Board stated:

[T]he Board is concerned about Lockport's apparent lack of progress in bringing about compliance, and therefore questions whether the assumption that compliance will be timely is warranted. Lockport has known of its gross alpha problem since October 1980, a period of over six years, and of its combined radium problem since October, 1985, a period of a year-and-a-half. This notwithstanding, all Lockport offers is four general compliance possibilities, three of which it does nothing more than list, and the fourth of which it discusses only to the extent of apparently dismissing two options. The Board would have liked to have seen a greater manifestation of Lockport's sincerity about achieving compliance than this meager action to date implies.

The Board then discussed the Agency's "Enhanced Enforcement Program", concluding that adherence to its guidelines should produce the desired result: ultimate compliance.

According to the terms of the Board's Order in PCB 87-16, Lockport was to investigate compliance methods and submit a detailed compliance plan report to the Agency's Division of Public Water Supplies within 18 months. Construction of installations, changes or additions to Lockport's public water supply (PWS) were to begin at a time which would ensure Lockport's compliance with the standard by December 31, 1990. Detailed timelines for component steps for these two actions were included in the Board Order. Progress reports to the Agency were an additional requirement. According to its amended petition, Lockport believes a variance extension is now warranted based upon its continuing efforts toward compliance, major new circumstances affecting Lockport's choice of a compliance method, and the change in the policy of the Agency and the USEPA regarding compliance with the current radium standards (Am. Pet., p.16-17).

#### BACKGROUND

Lockport, located in Will County, provides a chlorinated potable water supply and distribution to residential, industrial governmental and commercial customers. The present total population supplied water by Lockport is approximately 10,150 persons. In addition, Lockport supplied water to 245 industrial, governmental and commercial customers. Lockport's water distribution system consists of three deep wells, a shallow well, pumps and distribution facilities. The four wells are described below:

<u>Well No.</u>	<u>Depth</u>	<u>Placed in Operation</u>	<u>Gallons Per Minute</u>	<u>Location</u>
2	1550 feet	1927	750	Commerce St.
3	1571 feet	1940	(not in use)	E. 14th St.
4	1572 feet	1954	950	S. Madison St.
5	330 feet	1973	400	Farrell Rd.

The only material used is the raw water which is treated with chlorine prior to distribution. The average daily water use for Lockport in 1989 was approximately one million gallons per day resulting in an annual use of approximately 370 million gallons.

The raw water from the deep wells contains levels of combined radium-226 and radium-228 which exceed the current standard of 5 picocuries per liter (pCi/L) set forth at 35 Ill. Adm. Code Section 604.301(a). Additionally, the raw water contains levels of gross alpha particle activity which exceed the current standard of 15 pCi/L set forth at 35 Ill. Adm. Code 604.301(b). An October 1985 analysis of Lockport's quarterly sampling showed a combined radium-226 and radium-228 content of 11.7 pCi/L and a gross alpha particle activity concentration of 19.0 pCi/L. The most recent analysis, dated February 13, 1991 showed a combined radium content of 15.6 pCi/L and a gross alpha particle activity concentration of 18.4 pCi/L. (Am. Rec., p.4).

Lockport currently has no equipment in place to control the radium levels or gross alpha particle levels in the water supplied to its customers. In addition, Lockport has insufficient blending capabilities using radium free water from its existing shallow well. Lockport, in accordance with the conditions of the variance granted in PCB 87-16, has investigated several compliance alternatives.

#### REGULATORY FRAMEWORK

As stated previously, in recognition of a variety of possible health effects occasioned by exposure to radioactivity, the U.S. Environmental Protection Agency (USEPA) has promulgated maximum concentration limits for drinking water of 5 pCi/L of combined radium-226 and radium-228. Illinois subsequently adopted the same limit as the maximum allowable concentration under Illinois law. Ill. Rev. Stat. 1989, ch. 111 1/2, par. 1017.6. The maximum concentration limit for gross alpha particle activity is 15.0 pCi/L.

The action that Lockport requests here is not variance from these maximum allowable concentrations. Regardless of the action taken by the Board in the instant matter, these standards will remain applicable to Lockport. Rather, the action Lockport 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. 1989, ch. 111 1/2, 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.

Board 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 Board regulations not found in federal law. It is this prohibition which Lockport requests be lifted. Moreover, grant of the requested variance would not absolve Lockport from compliance with the combined radium or gross alpha particle activity standards, nor insulate Lockport from possible enforcement action brought for violation of those standards.

In considering a variance request, the Board determines whether a petitioner has presented adequate proof that immediate compliance with the Board regulations at issue would impose an arbitrary or unreasonable hardship. Ill. Rev. Stat. 1989, ch. 111 1/2, par. 1035(a). Furthermore, the burden is upon petitioner to show that its claimed arbitrary or unreasonable hardship outweighs the public interest in attaining compliance with regulations designed to protect human health and the environment. Willowbrook Motel v. Illinois Pollution Control Board, 135 Ill.App.3d 343, 481 N.E.2d 1032, (1st Dist. 1985).

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

HARDSHIP

Lockport believes that a requirement to come into immediate compliance would impose an arbitrary or unreasonable hardship. Lockport and the Agency both note that because of Lockport's inability to receive permits for water main extensions, any economic growth dependent on those water main extensions would not be allowed. Lockport anticipates tremendous growth and development in the near future, including nearly tripling its current population. (Am. Pet. p.9) In addition, requested annexation by various property owners will effectively double the size of Lockport. (Id.) This growth will create a water demand its present deep well system will be unable to meet. (Id.)

#### PUBLIC INJURY

Although Lockport has not undertaken a formal assessment of the environmental effect of its requested variance, it contends that extension of its water mains will not cause any significant harm to the environment or to the people served by the potential water main extensions for the limited period of time of the requested variance. (Am. Pet. pp.4-5) The Agency contends likewise. (Am. Agency Rec., par. 16) In support of these contentions, Lockport and the Agency reference testimony presented 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, (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 Lockport's water is low. (Am. Agency Rec., 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 to the public from the 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 the continuation of the present level of the contaminant in question in the petitioner's water for the limited time of the variance, and the possibility of compliance with a new MAC standard by a less expensive means if the standard is revised upward, the Agency concludes that denial of the 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 in so far 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.

(Am. Agency Rec., pars. 27 and 28)

#### COMPLIANCE PROGRAM

Lockport states that it retained RJN Environmental, Inc. ("RJN") to investigate compliance alternatives. RJN evaluated the cost-effectiveness of four compliance alternatives: Lake Michigan water; Kankakee River water; blending shallow and deep well water; and ion exchange treatment of deep well water. RJN's first effort (1988) concluded that ion exchange treatment of Lockport's deep well water would be the most cost-effective. Lockport issued municipal bonds to finance the project, obtained the necessary Agency permits and in July of 1989 solicited bids for the design and construction of the facility. (Am. Pet. pp.5-6)

Lockport's bid process did not result in a satisfactory bid. A second process ended in a bid one million dollars over estimates. Finally, an effort to obtain state funding to cover the difference failed.

A re-evaluation of the project led to an update of the RJN study. The new study concluded that Lake Michigan water was now the most cost-effective alternative. In addition, neighbor Orland Park's expansion toward Lockport reduced the costs of the alternative. Expected annexations and growth also produced a much larger resident base and a resultant need for water, more than the current deep and shallow wells presently provided. (Am. Pet. p.8)

The Illinois Department of Transportation approved Lockport's request for an allocation of Lake Michigan water on August 16, 1990. (Am. Pet. p.9) Then, however, Lockport states that things began to go awry again. Although negotiations with Orland Park produced initially favorable results, Lockport states that Orland Park's staff has notified Lockport that it would not provide Lockport with Lake Michigan water on a long term basis. (Am. Pet. p.10) It was at this time that Lockport's original petition for variance was withdrawn.

Lockport informs the Board in its Amended Petition that three compliance alternatives are now under investigation: 1) obtaining Kankakee River water supplied by the City of Joliet; 2) formation of a regional water commission to obtain and distribute Lake Michigan water for communities located in northeastern Will County; and 3) obtaining Lake Michigan water directly from Oak Lawn (Am. Pet. pp.12-13) Lockport also points to USEPA's announcement of plans to propose revised radium standards at 20 pCi/L for each isotope as reason to re-evaluate each of its long-term compliance

alternatives. Lockport states that a rolling average of its deep wells would meet the proposed standard. (Am. Pet. pp.13-14)

Lockport proposes to proceed with improvements to its water distribution system as a necessary prelude to its long term compliance. Consultants will design distribution facilities that will separate Lockport's existing single public water system into two separate pressure systems serving separate areas of Lockport. A low pressure system will service existing users while a high pressure system will service the growth areas. Lockport's petition states that \$65,000 will be spent on design while the system improvements are expected to cost \$900,000 by completion December 31, 1991. Lockport states that the high pressure system demonstrates compliance with the present standards.(Am. Pet. p.15)

Lockport admits that there have been delays in implementing a compliance plan but argues that this was due to matters beyond its control. Lockport states that it will have a firm compliance plan that it can submit once its consultants have completed their evaluations of the new alternatives. Lockport expects these to be completed by December 1991.(Am. Pet. p.15)

#### CONSISTENCY WITH FEDERAL LAW

The Agency believes that Lockport 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 a variance from a national primary drinking water regulation.(Am. Rec., par. 22)

#### PROPOSED FEDERAL STANDARD REVISION

The federal standard for radium has been under review for some time. In anticipation of the federal 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. On April 22, 1991 USEPA published its "Unified Agenda" concerning its proposed maximum contaminant levels goals and primary drinking water standards for radionuclides in drinking water.(56 Fed. Reg. 18014) Then, on June 19, 1991 USEPA formally announced<sup>2</sup> a drinking water standard for radium-226 and radium-228 set at 20 pCi/l respectively. Final action is due April 1993 according to the announcement and would become effective October

<sup>2</sup> The Board notes that, although formally announced, this proposed standards revision has not been published in official form in the Federal Register.

1994.<sup>3</sup> The Board notes that the proposed federal rule sets the standard for gross alpha particle activity at 15 pCi/l, the current standard under Illinois law.

#### TERM OF VARIANCE

The Board believes that Lockport, in the past, has been less than enthusiastic in its attempts to comply with variance orders. The Board, however, acknowledges compliance with several terms of its final Order in PCB 87-16 while several others have not been met. Lockport, in accordance with the variance terms: tested quarterly water samples, hired a professional consulting firm, completed the required compliance report on time, advertised for bids, notified the public and maintained progress reports. However, after unexpectedly being denied State funds, rejecting the ion exchange method, determining that an allocation of Lake Michigan water was the most cost effective method, being rebuffed in its advances to Orland Park and now, re-evaluating its alternatives, Lockport is left without a firm compliance plan. Instead, it suggests interim measures designed to accommodate the expected growth and selection of a alternative by December 31, 1991 as its compliance plan with ultimate compliance to be achieved after a variance term of five years.

While recognizing Lockport's initial reluctance and subsequent difficulties, the Board also acknowledges an understandable confusion by municipalities attempting to comply with standards that have been under review for almost a decade and which are subject to shifting enforcement policies. The USEPA has proposed yet another change. The date of this change, as published by USEPA, is October 1994, a date within the timeframe of the proposed variance. The USEPA's proposal does not, however, guarantee that such a change will in fact become law yet it must be taken into account in considering Lockport's request for a five year variance term.

#### CONCLUSION

The Board finds that, in light of all the facts and circumstances of this case, denial of the 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 and forthcoming. The Board will accordingly grant variance consistent with this Opinion.

<sup>3</sup>Public hearings are scheduled for September 6, 1991 in Washington, D.C. and September 12, 1991 in Chicago, Illinois. A ninety day comment period began with publication.



As agreed to by Lockport, Lockport shall evaluate compliance alternatives and select an alternative to achieve compliance by December 31, 1991. New radionuclide standards from USEPA could significantly alter Lockport's need for a variance or Lockport's alternatives for achieving compliance, however. In recognition of this situation, the Board's variance will contain suitable timeframes to account for the effect of any USEPA alteration (or notice of refusal to alter) of the radium or gross alpha particle activity standards. Given that the scheduled effective date of the proposed change in standards, as published, is nearly 18 months later than expected date of promulgation, these timeframes will be keyed to the date of promulgation, not the effective date.

Lockport requests a five year extension of its variance. The Board finds, however, a four year term of variance gives sufficient time for bidding, construction and demonstration of compliance following selection of compliance alternatives. Therefore, variance until July 11, 1995 is granted. The Board believes that, under these timeframes and with these conditions, the proposed change in the federal standard need not lead to additional requests for relief by the City of Lockport.

Lockport is to bear in mind that today's action is solely a grant of variance from Standards of Issuance and Restricted Status. Lockport is not being granted a variance from compliance with either the radium or gross alpha particle activity standards, nor does today's action insulate Lockport 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

Petitioner, City of Lockport, is hereby granted variance for its water system from 35 Ill. Adm. Code 602.105(a), Standards of Issuance, and 602.106(b), Restricted Status, as they relate to the standard for radium and gross alpha particle activity in drinking water of 35 Ill. Adm. Code.Subtitle F, subject to the following conditions:

- (A) For the purposes of this Order, the date of USEPA action shall consist of the earlier 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 concentration level is demonstrated; or
  - (2) Date of publication of notice by the USEPA that no

amendments to the existing 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) July 11, 1995; or
  - (2) When analysis pursuant to 35 Ill. Adm. Code 611.Subpart Q, or any compliance demonstration method then in effect, shows compliance with any standards for radium and gross alpha particle activity in drinking water then in effect; or
  - (3) Two years following the date of USEPA action.
- (C) Compliance shall be achieved with any standards for radium and gross alpha particle activity then in effect no later than the date on which this variance terminates.
- (D) 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 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 radium-228 and gross alpha particle activity. 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 result to:

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

- (E) By December 31, 1991 Petitioner shall submit to the Agency a report outlining which alternative has been selected to bring its water supply into compliance, and a compliance schedule consistent with this Order.
- (F) Within three months of USEPA action or two years after the grant of this variance, whichever is sooner, Petitioner shall apply to the Agency at the address below

for any additional permits necessary for construction of installations, changes, or additions to Petitioner's public water supply needed for achieving compliance with the maximum allowable concentrations for combined radium and gross alpha particle activity.

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

- (G) Within three months after each construction permit is issued by the Agency pursuant to paragraph 5 above, Petitioner shall advertise for bids, to be submitted within 60 days, from contractors to do the necessary work described in the construction permits. Petitioner shall accept appropriate bids within a reasonable time. Petitioner shall notify the Agency at the address in condition (5) of each of the following actions: 1) advertisement for bids, 2) names of successful bidders, and 3) whether Petitioner accepted the bids.
- (H) 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 be completed no later than two years following the date of USEPA action or July 11, 1994, whichever is earlier.
- (I) 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 radium standard.
- (J) 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 the standard for radium. The notice shall state the average content of radium in samples taken since the last notice period during which samples were taken.

- (K) 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, and gross alpha particle activity in its finished drinking water.
- (L) Petitioner 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 45 days of the date of this Order, Petitioner shall execute and forward to Stephen C. Ewart, 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 90-122, July 11, 1991.

\_\_\_\_\_  
 Petitioner

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

\_\_\_\_\_  
 Title


\_\_\_\_\_  
Date

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1989, 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.

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 1<sup>st</sup> day of July, 1991 by a vote of 5-2.

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