

ILLINOIS POLLUTION CONTROL BOARD
November 19, 1987

VILLAGE OF HINCKLEY,)
)
 Petitioner,)
)
 v.) PCB 87-140
)
 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 filed on September 24, 1987, and an amended petition for variance filed on October 14, 1987, by the Village of Hinckley ("Hinckley"). Hinckley seeks variance until January 1, 1989, from 35 Ill. Adm. Code 602.105(a) "Standards For Issuance" and 602.106(b) "Restricted Status" to the extent those rules relate to the exceedence by Hinckley's public water supply of the 5 picocuries per liter (pCi/l) combined radium-226 and radium-228¹ standard of 35 Ill. Adm. Code 604.301(a).

On October 22, 1987, the Illinois Environmental Protection Agency ("Agency") filed a Recommendation in support of grant of variance subject to conditions. Hearing was waived and none was held.

BACKGROUND

Hinckley provides potable water supply and distribution for a population of 1,600 residents and 60 industries and businesses employing approximately 400 people. Hinckley owns and operates the distribution system in question. Included in the distribution system are two deep wells, a 60,000 gallon elevated storage tank, pumps, and distribution facilities. An additional 300,000 gallon elevated storage tank is under construction, and forms the basis by which Hinckley proposes to come into compliance with the combined radium standard.

¹ In its September 24 petition Hinckley incorrectly identifies "combined radium" as synonymous with "gross alpha particle activity" Correction was made in the amended petition of October 14.

Hinckley's two wells are as follows:

<u>Well No.</u>	<u>Depth</u>	<u>Placed in Operation</u>	<u>Gallons Per Minute</u>	<u>Location</u>
2	780 feet	1913	300	S. Garfield
3	605 feet	1963	280	E. Sandwich Rd

Hinckley was first advised of the high radium content in its water supply by letter from the Agency dated October 4, 1985, and was first notified of placement on restricted status by letter from the Agency dated December 19, 1985. The Agency based its determination on four quarterly analyses showing an average radium-226 content of 3.5 pCi/l and an average radium-228 content of 3.2 pCi/l, for a combined average of 6.7 pCi/l. Analyses of water from the two wells, as provided by Petitioner, showed the following results, in pCi/l:

<u>DATE</u>	<u>LOCATION</u>	<u>RADIUM 226</u>	<u>RADIUM 228</u>	<u>COMBINED</u>
07-04-86	E. Sandwich	6.9	1.0	7.9
07-21-86	S. Garfield	1.0	3.0	4.0

REGULATORY FRAMEWORK

In recognition of a variety of possible health effects occasioned by exposure to radioactivity, the U.S. Environmental Protection Agency has promulgated maximum concentration limits for drinking water of 5 pCi/l of combined radium-226 and radium-228. Illinois subsequently adopted the same limits as the maximum allowable concentrations under Illinois law.

However, the action that Hinckley requests here is not variance from the combined radium maximum allowable concentration. Irrespective of the action taken by the Board in the instant matter, this standard will remain applicable to Hinckley. Rather, the action Hinckley 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. 111^{1/2}, pars. 1001 et seq.) (Act), or of this Chapter.

Section 602.106 Restricted Status

- a) Restricted status shall be defined by the Agency determination pursuant to Section 39(a) of the Act and Section 602.105, that a public water supply facility may no longer be issued a construction permit without causing a violation of the Act or this Chapter.
- 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.
- c) The Agency shall notify the owners or official custodians of supplies when the supply is initially placed on restricted status by the Agency.

Illinois regulations thus provide that communities are effectively 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 effective prohibition which Hinckley herein requests be lifted.

COMPLIANCE PROGRAM

Hinckley has already embarked on a compliance program which consists of constructing a new and larger elevated storage tank. Hinckley asserts that the new tank will allow the Village to take the E. Sandwich Road well out of service and to use only the S. Garfield well, which has a combined radium concentration below the allowable limit.

The estimated cost of the new tank is \$442,500. Hinckley has obtained a CDAP Grant to fund approximately 3/4 of this cost; the remaining cost is expected to be covered by the Village from funds on hand. Construction of the new tank was estimated to be 65% complete at the time of filing of the petition. With favorable weather, Petitioner estimates that the tank may be functional as soon as November 30, 1987. Otherwise, completion will occur in spring and operation is expected before July, 1988.

Hinckley also asserts that it is aware of additional compliance possibilities. It considers these as alternatives to the elevated tank solution:

Constructing treatment facilities in order to properly treat all water supplied by this system. The new

treatment facilities needed, and their estimated individual costs, have not been researched for exact cost or time of implementation because of positive feelings on [the elevated tank] solution and new treatment methods being invented regularly. (Petition at 24).

Hinckley then discusses some of the general advantages and disadvantages of lime-soda softening and ion-exchange softening.

The Agency also discusses lime-soda softening and ion-exchange softening, noting, among other matters, that it "actively discourages the use of the ion exchange process for radionuclide removal, unless that is the best treatment method available for a particular supply" (Recommendation, p. 6).

HARDSHIP

Hinckley believes that a requirement to come into immediate compliance would impose an arbitrary or unreasonable hardship. It also notes that by virtue of its inability to receive permits for water main extensions, needed expansion of the water system to serve the domestic and fire protection requirements of the local population are forestalled, and that prospective home purchasers and business developers are hurt. As specific examples, Petitioner currently foresees the need to extend water mains to serve the following new users:

- A. Bastian's Unit 6 Development to be located on Louise Drive, Hinckley, consisting of 29 single family residences with an expected population of 115 persons. Each house would have a separate hook-up to the proposed water main.
- B. Highland Estates Unit 3 to be located on North Donald Street, Hinckley, consisting of 10 single family residences with an expected population of 40 persons. Each house would have a separate hook-up to the proposed water main.

ENVIRONMENTAL AND HEALTH EFFECTS

As to the environmental and health affects of its request, Hinckley asserts that it believes that grant of variance will impose no significant health risk to persons who will receive water from the new service connections during the term of this variance. In support of this belief, Hinckley refers the Board to the testimony and exhibits presented by Richard E. Toohey, Ph.D. and James Stebbings, 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 does not dispute Hinckley's various assertions regarding health affects. The Agency believes that while radiation at any level creates some risk, the risk associated with Hinckley's water is low. Moreover, the Agency believes that "an incremental increase in the allowable concentration of the contaminants in question even up to a maximum of four times the level of the maximum allowable concentrations ("MAC") for the contaminants in question, should cause no significant health risk for the limited population served by new water main extensions for the time period of this recommended variance" (Recommendation, p. 5). In conclusion 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 contaminant 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. Grant of variance may also, in the interim, lessen exposure for that portion of the population which will be consuming more effectively blended water. In so saying, the Agency emphasizes that it continues to place a high priority on compliance with the radium standards.

Recommendation, p. 9.

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 Agency that no significant health risk will be incurred by the persons who are served by any new water main extensions, assuming that compliance is timely forthcoming. Accordingly, the Board will grant the relief requested, subject to conditions.

The remaining issue is the matter of the term of the variance. Hinckley requests that the variance expire on January 1, 1989, in spite of its belief that the facilities improvement necessary to achieve compliance should be functional no later than mid-1988. Hinckley does not address the advisability of extending the term of the variance beyond the latter date. However, the Board is aware that before Hinckley can demonstrate that it is in compliance it must show that the average of four consecutive quarterly samples of combined radium is below the 5.0 pCi/l standard. Thus, the ability to demonstrate compliance may require additional time beyond that time at which ability to attain compliance exists. The Board will accordingly grant the variance to January 1, 1989, with the proviso that the variance terminate if compliance is achieved earlier.

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

ORDER

1. Petitioner, the City of Hinckley, 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) This variance expires on January 1, 1989, or when compliance with 35 Ill. Adm. Code 604.301(a) is achieved, whichever is sooner.
 - (B) In consultation with the Agency, Petitioner shall continue its sampling program to determine as accurately as possible the level of radioactivity in each of its wells and finished water. Until this variance expires, Petitioner shall collect quarterly samples of its water from its distribution system, composite them, and have them analyzed annually by a laboratory certified by the State of Illinois for radiological analysis so as to determine the concentration of the two parameters, radium-226 and radium-228. The results of the analyses shall be reported to the Compliance Assurance Section, Division of Public Water Supplies, 2200 Churchill Road, IEPA, Springfield, Illinois 62794-9276, within 30 days of receipt of each analysis. At the option of Petitioner, the quarterly samples may be analyzed when collected. The running average of the most recent four quarterly sample results shall be reported to the above address within 30 days of receipt of the most recent quarterly sample.

- (C) Compliance shall be achieved with the maximum allowable concentrations of combined radium-226 and radium-228 no later than January 1, 1989.
 - (D) Pursuant to 35 Ill. Adm. Code 606.201, in its first set of water bills or within three months after the date of this Variance 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 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-226 and radium-228 standard.
 - (E) 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 will send to each user of its public water supply a written notice to the effect that Petitioner is not in compliance with combined radium-226 and radium-228 standard. 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.
 - (F) Until full compliance is reached, Petitioner shall take all reasonable measures with its existing equipment to minimize the level combined radium-226 and radium-228 in its finished water.
 - (G) Petitioner shall provide written progress reports to IEPA, DPWS, FOS every three months concerning steps taken to comply with paragraph F.
2. Within forty-five days of the date of this Order, Petitioner shall execute and forward to Thomas Davis, Enforcement Programs, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound by all terms and conditions of this variance. Failure to execute said Certification within this forty-five days shall cause this Order to be null and void. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of said Certification shall be as follows:

CERTIFICATION

I, (We), _____, having read the Order of the Illinois Pollution Control Board, in PCB 87-140, dated November 19, 1987, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

Petitioner

By: Authorized Agent

Title

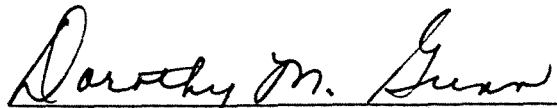
Date

- 3. Section 41 of the Environmental Protection Act (Ill. Rev. Stat. 1985, ch. 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 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 19th day of November, 1987, by a vote of 5-2.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board