

ILLINOIS POLLUTION CONTROL BOARD  
August 22, 1991

VILLAGE OF CARBON HILL, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 91-32  
 ) (Variance)  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

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

This matter comes before the Board on the May 10, 1991 filing by petitioner Village of Carbon Hill (Village) of a third amended petition for variance. The Village seeks relief from 35 Ill. Adm. Code 602.105(a), "Standards for Issuance", and 602.106(a), "Restricted Status", to the extent those rules relate to violation by the Village's public water supply of the 5 picocuries per liter ("pCi/l") combined radium-226 and radium-228 and 15 pCi/l gross alpha particle activity of 35 Ill. Adm. Code: Subtitle F.<sup>1</sup> The Village requests a five-year variance.

On May 1, 1991, the Illinois Environmental Protection Agency (Agency) filed its variance recommendation and on May 30, 1991, the Agency filed its amended recommendation. The Agency recommends that the variance be granted subject to certain conditions. The Village waived hearing and none has been held.

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

BACKGROUND

The Village is a municipality located in Grundy County. (Pet. 1) The Village provides public services including potable water supply and distribution for 130 residential and 2 commercial utility customers representing approximately 342 residents and two businesses employing approximately 8 persons as of 1990. (Pet. 5)

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<sup>1</sup> The standard for combined radium was formerly found at 35 Ill. Adm. Code 604.301(a); effective September 20, 1990 it was recodified at 35 Ill. Adm. Code 611.330(a).

The Village's water system includes two deep wells, pumps and distribution facilities. (Pet. 6) If the requested variance is granted, the Village anticipates extending service to the Tjelle subdivision and possible annexation of unincorporated areas adjoining the Village with a population of approximately 2,100 consisting of 600 residential users with an expected growth potential of 50 to 100 users. (Pet. 6)

The Village was first advised that its water supply exceeded the maximum allowable concentration for gross alpha in a letter dated April 22, 1982 and for combined radium in a letter dated August 23, 1985. (Pet. 7; Ag. Rec. 4) The Agency's analysis showed combined radium-226 and radium-228 content of 7.2 pCi/l and a gross alpha particle activity concentration of 18.0 pCi/l. (Ag. Rec. 4) The most recent analyses of May 1990, showed a combined radium-226 and radium-228 content of 17.6 pCi/l and a gross alpha concentration of 20.9 pCi/l. (Id.)

#### REGULATORY FRAMEWORK

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

##### Section 602.105           Standards for Issuance

- a) The Agency shall not grant any construction or operating permit required by this Part unless the applicant submits adequate proof that the public water supply will be constructed, modified or operated so as not to cause a violation of the Environmental Protection Act (Ill. Rev. Stat. 1989, ch. 111  $\frac{1}{2}$ , 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.

The principal effect of these regulations is to provide that community water supply systems are prohibited from extending water service, by virtue of not being able to obtain the requisite permits, unless and until their water meets all of the standards for finished water supplies. It is the Village's request that it be allowed to extend its water service while it pursues compliance with the radium and gross alpha particle standards, as opposed to extending service only after attaining compliance.

In determining whether any variance is to be granted, the Act requires the Board to determine whether a petitioner has presented adequate proof that immediate compliance with the Board regulations at issue would impose an arbitrary or unreasonable hardship (Ill. Rev. Stat. 1989, ch. 111 ½, 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 343, 481 N.E.2d 1032). Only with such showing can the claimed hardship rise to the level of arbitrary or unreasonable hardship.

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

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

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

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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. (See also, SB 1296 amend. no. 3, June 20, 1991, awaiting approval by the Governor, which amends Section 17.6 of the Act to specifically refer to Board adoption of federal combined radium-226 and radium-228 and gross alpha particle activity standards by peremptory rulemaking.)

Over much of the fifteen years since their original promulgation, the current radium and gross alpha particle activity standards have been under review at the federal level. The USEPA first proposed revision of the standards in October 1983 in an Advance Notice of Proposed Rulemaking (48 FR 45502). It later republished this advance notice in September 1986 (51 FR 34836). Most recently, on June 19, 1991, USEPA announced a proposal to modify both standards.<sup>3</sup> USEPA proposes to replace the 5 pCi/l combined radium standard by separate standards of 20 pCi/l each for radium-226 and radium-228. The gross alpha particle activity standard is proposed to be replaced by an adjusted gross alpha particle activity standard; the latter would still have a 15 pCi/l value, but would no longer include alpha particle activity associated with radium or uranium decay. Under the USEPA's calendar, these standards are scheduled for promulgation by April 1993 with an effective date of October 1994.

#### COMPLIANCE PLAN

The Village proposes method for achieving compliance is to connect its water supply to the village of Coal City's treatment facilities, when completed, and repurchasing the treated water. (Pet. 9; Ex. A) The Village has begun negotiating a contract and easement procurement with the Village of Coal City and has received tentative approval of the plan. (Pet.9; Ex. D and F) The Village has included a copy of the proposed contract easement agreement with its petition. (Ex. D and F) The Village has also considered several alternative methods of compliance including lime and soda ash treatment, anion exchange, casing installation in existing wells and cation exchange. (Pet. 10-11; Ex. A at 19) The Village's Exhibit A sets forth the costs of the various alternative compliance methods. (Ex. A at 21-31)

Agency records establish that the Village has not previously sought a variance from the Board's public water supply regulations. (Ag. Rec. 3; Pet. 15)

#### HARDSHIP

The Village contends that the hardship resulting from denial of the requested variance outweighs any injury to the public from granting the variance. (Pet. 18-22) Because the Village's petition was filed prior to USEPA's June 19, 1991 proposal to modify the standards, the Village notes that the promulgation of a new radium standard by the United States Environmental Protection Agency (USEPA) may significantly alter the Village's compliance status and may even obviate the need for a continued variance from Restricted Status. (Pet. 20-21) The Agency agrees with this

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

statement noting that USEPA has indicated that the proposed standard will be less stringent than the current standard. (Ag. Rec. 5 Ex. 1) According to the Village, "the substantial expenditure of public funds for treatment facilities which may become obsolescent in the near future is not in the public interest and does not grant a corresponding benefit to the public." (Pet. 21) The Village further argues that denial of the requested variance results in an arbitrary and unreasonable hardship because of the great need for expansion of the water system to serve the domestic and fire protection requirements of the local population. (Pet. 21) In light of USEPA's recent proposal which would render the standards for combined radium and gross alpha particle activity less stringent than the current standard, these arguments are persuasive.

The Agency agrees that denial of the variance would impose an arbitrary or unreasonable hardship on the Village. (Rec. 6, 7-8)

#### ENVIRONMENTAL IMPACT

Although the Village has not undertaken a formal assessment of the environmental effects of its requested variance, it contends that there will be minimal or no adverse impact caused by the granting of the variance. (Pet. 14) The Agency agrees with the Village's assertion. (Ag. Rec. 5-6) Both the Village and the Agency cite the testimony presented by Richard E. Toohey, Ph.D., of Argonne National Laboratory, at the July 30 and August 2, 1985 hearings for the Proposed Amendments to Public Water Supply Regulations (R85-14), 35 Ill. Adm. Code 602.105 and 602.106 in support of the assertion that the variance will not result in any adverse environmental impact. (Pet. 14; Ag. Rec. 5-6) The Agency also refers to updated testimony presented by Dr. Toohey in the Board's hearing on a variance requested by the City of Braidwood in PCB 89-212. (Ag. Rec. 6)

While the Agency believes that radiation at any level creates some risk, the risk associated with the Village's water supply is very low. (Ag. Rec. 5) The Agency states that "an increase in the allowable concentration for the contaminants in question even up to a maximum of two times the MCL 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." (Rec. 6) In summary, the Agency states as follows:

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 a new MCL standard by less expensive means if the standard is revised upward, 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.  
(Ag. Rec. 8-9)

#### CONSISTENCY WITH FEDERAL LAW

The Agency states that the requested variance may be granted consistent with the Safe Drinking Water Act (42 U.S.C. 300(f)) and corresponding regulations (40 CFR Part 141) because the variance does not grant relief from compliance with the federal primary drinking regulations. (Ag. Rec. 7-8)

#### CONCLUSION

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 Carbon Hill. The Board also agrees with the parties that granting this variance does not pose a significant health risk to those persons served by any new water main extensions, assuming that compliance is timely forthcoming. Hence, the Board will grant this variance for a maximum period of three years, with the third year being solely for the purpose of testing, subject to certain conditions which could result in an earlier termination of this variance.

The Board notes that timely compliance by the Village may be affected by pending USEPA action to promulgate new standards for radionuclides in drinking water. New radionuclide standards from USEPA could significantly alter the Village's need for a variance or alternatives for achieving compliance. In recognition of this situation, as recommended by the Agency, the variance will contain suitable time frames to account for the effects of any USEPA alteration (or notice of refusal to alter) of the radium standards.

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 or gross alpha standards, nor does today's action insulate the Village in any manner against enforcement for violation of these standards.

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

ORDER

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

- (A) For purposes of this Order, the date of USEPA action shall consist of the earlier date of the:
  - (1) Date of promulgation by the U.S. Environmental Protection Agency ("USEPA") of any regulation which amends the maximum concentration level for combined radium, either of the isotopes of radium, or the method by which compliance with a radium maximum contaminant level is demonstrated; or
  - (2) Date of publication of notice by the USEPA that no amendments to the 5pCi/l combined radium standard, the 15 pCi/l gross alpha particle activity standard or the method for demonstrating compliance with either standard will be promulgated.
- (B) Variance shall terminate on the earliest of the following dates:
  - (1) Two years following the date of USEPA action; or
  - (2) August 22, 1996; or
  - (3) When analysis pursuant to 35 Ill. Adm. Code 611 Subpart Q,, or any compliance with standards then in effect, shows compliance with standards for radium in drinking water then in effect.
- (C) Compliance shall be achieved with any standards for radium 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 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 from each location separately and shall analyze them annually by a laboratory certified by the State of Illinois radiological analysis so as to determine the concentration of combined 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) (1) Petitioner shall submit a written report to the Agency 18 months from the date of this variance as to the status of obtaining water from the Village of Coal City. In addition to this status report, Petitioner shall provide the Agency with a copy of a fully executed contract between Petitioner and Coal City. The contract shall provide for delivery of sufficient quantities of water from the Village of Coal City that will assure that Petitioner will be in compliance with the standards regulating combined radium-226 and radium-228 and gross alpha particle activity prior to the expiration of this variance.
- (2) If Petitioner fails to comply with paragraph (E) (1) and no extension has been granted by the Agency to comply with paragraph (E) (1), Petitioner shall pursue its alternative of constructing a treatment facility. Petitioner shall apply for all necessary permits for the construction of said facility no later than two years prior to the expiration of this variance, and shall install and have operational said facility no later than one year prior to the expiration of this variance.
- (F) 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 paragraph (D) within 30 days of each of the following: (1) advertisement for bids; (2) names of successful bidders; and (3) whether petitioner accepted said bids.



- (G) 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 the standards in question shall begin no later than two years prior to the expiration of the variance and shall be completed no later than one year prior to the expiration of this variance, with the final year being solely for the purposes of testing to demonstrate compliance
- (H) Pursuant to 35 Ill. Adm. Code 611.851(b) (formerly 35 Ill. Adm. Code 606.201), in its first set of water bills or within three months after the date of this Order, whichever occurs first, and every three months thereafter, 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(a) Restricted Status, as they relate to the radium standard.
- (I) Pursuant to 35 Ill. Adm. Code 611.851(b) (formerly 35 Ill. Adm. Code 606.201), in its first set of water bills or within three months after the date of this Order, whichever occurs first, and every three months thereafter, Petitioner will send to each user of its 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 question in samples taken since the last notice period during which samples were taken.
- (J) Until full compliance is achieved, Petitioner shall take all reasonable measures with its existing equipment to minimize the level combined radium-266 and radium-228 and gross alpha particle activity, in its finished drinking water.
- (K) 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 forty-five days of the date of this Order, Petitioner shall execute and forward to:

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

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

I (We), \_\_\_\_\_,  
hereby accept and agree to be bound by all terms and conditions of the Order of the Pollution Control Board in PCB 91-32, August 8, 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.

B. Forcade and J.D. Dumelle dissent.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 25<sup>th</sup> day of August, 1991, by a vote of 5-2.

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