

ILLINOIS POLLUTION CONTROL BOARD
June 20, 1986

VILLAGE OF OSWEGO)
)
 Petitioner,)
)
 v.) PCB 85-106
)
 ILLINOIS ENVIRONMENTAL)
 PROTECTION AGENCY,)
)
 Respondent.)

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

This matter comes before the Board upon a July 15, 1985 Petition for Variance filed by the Village of Oswego ("Oswego"). Oswego submitted its First Amended Petition ("FAP") for variance on July 29, 1985. Petitioner requests variance until January 1, 1990 from Standards for Issuance and Restricted Status as they relate to combined radium 226 and radium 228, but not from the actual combined radium standard. By its FAP, Oswego waived its right to a hearing in this matter (FAP, par. 50) and none was held.

On September 5, 1985, Oswego waived the time for Board decision in this matter until July 1, 1986, pursuant to 35 Ill. Adm. Code 104.220.

This action was largely in response to the Board's Interim Order of August 15, 1985, which noted that the Board on that date enacted an emergency rule in the matter of R85-14. The R85-14 emergency rule had the effect of removing temporarily (for 150 days) from the Restricted Status list some communities whose finished water contained levels of fluoride, combined radium-226 and radium-228, or gross alpha particle activity in excess of Board regulations. Oswego was one of the communities so affected by the August 15 Interim Order, and therefore was, for the ensuing 150-day period, afforded the identical relief it had been seeking through the variance process.

Also by its September 5 filing, Petitioner waived its right to require a variance recommendation from the Illinois Environmental Protection Agency ("Agency") until May 1, 1986. The Agency filed its Recommendation ("Rec") on April 7, 1986, recommending that the requested variance relief be granted, subject to conditions, until Petitioner shows compliance with the combined radium standard or until January 1, 1990, whichever comes first.

RELIEF SOUGHT BY PETITIONER

Oswego requests variance until January 1, 1990 from 35 Ill. Adm. Code 602.105(a) (Standards for Issuance) and from 35 Ill. Adm. Code 602.106(b) (Restricted Status), but only as they relate to 35 Ill. Adm. Code 604.301(a) (combined radium-226 and radium-228). Section 602.105(a) states in full:

- 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.

Sections 602.106(a) and (b) state in full:

- a) Restricted status shall be defined as 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.

The asserted purpose of the requested variance is to allow for continued operation of Petitioner's water supply and distribution system, expansion of or extension to the distribution system as necessary, and removal of the facility from the Agency's Restricted Status List (FAP, par. 2).

The Board notes that Petitioner's ability to continue operation of its water supply and distribution system would not be affected by either a grant or denial of the requested relief. However, the decision on relief could affect the likelihood of those future developments which would require extension of Petitioner's water service.

BACKGROUND

Oswego is located in Kendall County and provides public services including potable water supply and distribution to a total of 1,173 customers (FAP, par. 11). Of this total, 1,083 are residential and 90 are commercial in character (Id.). The total population served by the water supply system is approximately 4,500. Some 3,500 of those persons are residents, with the other 1,000 being employees of the commercial users (Id.).

Petitioner's water supply and distribution system consists of two deep wells (referred to as Well Nos. 3 and 4), a 200,000 gallon elevated water storage tank, pumps, and distribution facilities (FAP, par. 13). Well No. 3 is 1,378 feet deep, and was placed in operation in 1957. Well No. 4 is 1,395 feet deep, and was placed in operation in 1964.

Petitioner was notified by the Agency by letter of March 13, 1984 that the concentration of combined radium-226 and -228 in its water exceeded the maximum allowable under Board regulations. Prior to receipt of the letter, Oswego was not aware of this condition (FAP, par. 21). The Agency notified Petitioner on October 4, 1984 that it would be placed on the Restricted Status List because of the excessive radium levels (Rec., par. 10).

The Agency analyzed four consecutive quarterly samples of Petitioner's water before concluding that the amount of radium contained in Oswego's water exceeds the maximum allowable level. The Agency analysis indicated the radium-226 and -228 content to be on average 6.7 pCi/l (Rec., par. 11). After receiving the Agency's report, Oswego conducted its own analyses of the water in its distribution system and obtained the following results:

Date of Samples: September 5, 1984

SAMPLE NO.	COMBINED RADIUM LEVEL	LOCATION
1	13.5 ± 1.6	Southwest Portion of Village
2	9.3 ± 1.3	Well No. 3
3	12.5 ± 1.6	Well No. 4
4	5.0 ± 2.0	Well No. 4
5	13.5 ± 1.7	Windcrest Subdivision

COMPLIANCE ALTERNATIVES

Petitioner believes there are in general two treatment alternatives for resolving Oswego's excess radium problem. The first alternative would involve the use of shallow wells for blending and dilution purposes. The estimated construction cost for each shallow well is \$25,000, and it is anticipated that three such wells would be necessary to reduce the concentration of combined radium presently found in Oswego's water to below 5 pCi/l. The exact number of wells that would be required is uncertain since the pumping capacities of any future wells are unknown. The estimated time for implementation of this alternative is 12 months (FAP, par. 23).

The second alternative would entail the construction of facilities to treat all water supplied by Oswego. The treatment method chosen would be either lime softening or ion exchange water softening (FAP, pars. 29-30). The Agency believes that each treatment method is disadvantageous in some respect. The

Agency states that the lime softening process produces large quantities of sludge and concentrates the radium, which makes proper disposal of the sludge more difficult and expensive (Rec., par. 18). Regarding ion exchange softening, the Agency says:

(I)f an ion exchange softener which is regenerated with salt is used, the sodium content of the water will be increased significantly. This may create a significant risk to persons who are hypertensive or who have heart problems, even though the treatment would reduce the risk from radium for the general population. In addition, the waste from routine softening is high in total dissolved solids and may be very difficult to dispose of legally. The ion exchange process will concentrate the radioactivity and release the majority of the radioactivity in the waste stream in a concentrated form, which may be more of a hazard at that point than it is in the drinking water. Also, some of the radioactivity remains in the ion exchange material, so that it may be a hazard to anyone subsequently working on the softener, and disposal of the radioactive ion exchange material may be a problem. (Rec., par. 19.)

The estimated cost of constructing treatment facilities is \$500,000 to \$750,000, and the estimated time for implementation of this alternative is 24 months (FAP, par. 23). The cost per capita for constructing the treatment facilities would be approximately \$143 to \$215, since Oswego has a water consumer population of 3500 (FAP, par. 24).

Petitioner presently intends to utilize shallow wells (for blending and dilution purposes) as a short-term solution (FAP, par. 26).

HEALTH RISK

The Agency states that although radiation at any level creates some risk, the risk associated with this level is very low. The Agency further notes that the maximum allowable concentration ("MAC") for combined radium is currently under review at the federal level, but that no proposal to alter the standard is expected before 1987 or early 1988. The Agency also cites the testimony presented by Richard E. Toohey, Ph.D., at hearings held in PCB 85-54, City of Aurora v. Illinois Environmental Protection Agency, and R85-14, Proposed Amendments to Public Water Supply Regulations, 35 Ill. Adm. Code 602.105 and 602.106, for the proposition that:

an incremental increase in the allowable concentration for combined radium-226 and radium-228, even up to a maximum of 20 pCi/l, should cause no significant health risk for the limited

population served by new water main extensions for the time period of this recommended variance (emphasis in original). (Rec., par. 17.)

HARDSHIP

The Agency believes that should the Board grant the variance relief requested by Oswego, no significant injury to the public or to the environment will occur during the limited duration of the variances effect. Moreover, the Agency feels that denial of variance relief here would result in an arbitrary or unreasonable hardship to Petitioner (Rec., par. 21). The Agency states that such hardship would result because denial of the variance would require the Agency to continue to deny construction and operating permits within Oswego until compliance is achieved. Therefore no new water main extensions could be permitted by the Agency and economic growth dependent on those water main extensions would not occur (Rec., par. 22).

Petitioner contends that an additional reason for granting variance relief here is that it is possible the standard for combined radium-226 and -228 may be changed. The United States Environmental Protection Agency ("USEPA") has published notice of its intention to propose National Revised Primary Drinking Water Regulations for various contaminants in drinking water (including radium), but no revised regulations pertaining to radium have been proposed as of yet (FAP, pars. 38-39). Oswego argues it would suffer arbitrary or unreasonable hardship if required to build treatment facilities which would be rendered unnecessary in the future if the combined radium regulation was made less strict.

CONCLUSION

Oswego's request is basically that it be allowed to expose an additional unidentified number of persons to its excess combined radium levels by extending water service to them, and that such additional exposure be for a period ending not later than January 1, 1990. The critical item here is the duration of that period. In view of the Agency's determination that exposure over this time frame would cause no significant health risk for the limited population served by new water main extensions, the Board finds that granting the requested variance would produce no significant health risk.

On the matter of hardship, no estimation of the number of homes or other facilities which would be without service absent the variance is given by Petitioner. However, Oswego does mention it intends to provide water to new areas within its service area. Petitioner also asserts that there is a need for the expansion of the water distribution system in order to reinforce and upgrade the existing system (FAP, par. 43). The Board finds that arbitrary or unreasonable hardship would exist absent the variance.

The Board feels compelled to note that although it finds that arbitrary or unreasonable hardship would result absent variance relief here, it was not persuaded in reaching that conclusion by Oswego's argument regarding possible USEPA revision of the combined radium standard. The Board can give no weight to such an argument. "If the speculative prospect of future changes in the law were to constitute an arbitrary and unreasonable hardship, then the law itself would be emasculated with variances, as there is always the prospect for future change." Citizens Utilities Company of Illinois v. Illinois Pollution Control Board, 134 Ill. App. 3d 111 (Third District 1985).

It should be mentioned that both Oswego and the Agency have proposed a set of conditions to be imposed on Petitioner should variance relief be granted. The sets propose some identical conditions, but in other instances differ substantially, with the Agency imposing the stricter conditions. The Board is persuaded that, for the most part, those conditions proposed by the Agency are the more appropriate because they will bring about the most expeditious rectification of the combined radium problem faced by Oswego.

Finally, the Board notes that the USEPA has challenged several Board issued variances from the combined radium standard as being inconsistent with the States obligations under the Safe Drinking Water Act. However, the variance requested here is solely from Illinois regulations establishing the restricted status mechanism and not from the national primary drinking water regulations. That being the case, such variance will not insulate Oswego from the possibility of enforcement for violations of the underlying combined radium standard.

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

ORDER

The Village of Oswego 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 35 Ill. Adm. Code 604.301(a) (combined radium-226 and radium-228), subject to the following conditions:

1. Variance shall be effective this date and shall expire on January 1, 1990, or when analysis pursuant to 35 Ill. Adm. Code 605.105(a) shows compliance with the combined radium standard, whichever occurs first.
2. In consultation with the Agency, Petitioner shall continue its sampling program to determine as accurately as possible the level of radioactivity in its wells and finished water. Testing for radium-226 and -228 shall be continued.

3. Within three months of the grant of the variance, the Petitioner shall secure professional assistance (either from present staff or an outside consultant) in investigating compliance options, including the possibility and feasibility of achieving compliance by blending water from its shallow well(s) with that of its deep well(s).
4. Within four months of the grant of the variance, evidence that such professional assistance has been secured shall be submitted to the Agency's Division of Public Water Supplies, FOS, at 2200 Churchill Road, Springfield, Illinois 62706.
5. Within nine months of the grant of the variance, the Petitioner shall complete investigating compliance methods, including those treatment techniques described in the Manual of Treatment Techniques for Meeting the Interim Primary Drinking Water Regulations, USEPA, May 1977, EPA-600/8-77-005, and prepare a detailed Compliance Report showing how compliance shall be achieved within the shortest practicable time, but no later than January 1, 1990.
6. This Compliance Report shall be submitted within ten months of the grant of this variance to IEPA, DPWS, for its approval.
7. Within three months after submission of the Compliance Report, unless there has been a written extension of time granted by the Agency, Petitioner shall apply to IEPA, DPWS, Permit Section, for all permits necessary for construction of installations, changes, or additions to the Petitioner's public water supply needed for achieving compliance with the maximum allowable concentration for combined radium-226 and radium-228.
8. Within three months after each construction permit is issued by IEPA, DPWS, Petitioner shall advertise for bids from contractors to do the necessary work described in the construction permit and shall accept appropriate bids within a reasonable time.
9. 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 combined radium-226 and radium-228 standard shall begin no later than April 1, 1988 and shall be completed no later than August 1, 1989.
10. Compliance shall be achieved with the combined radium-226 and radium-228 standard no later than January 1, 1990.

11. 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 602.301(a) (combined radium-226 and radium-228).
12. 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 the combined radium-226 and radium-228 standard. The notice shall state the average content of combined radium-226 and radium-228 in samples taken since the last notice period during which samples were taken.
13. That Petitioner shall take all reasonable measures with its existing equipment to minimize the level of combined radium-226 and radium-228 in its finished water.
14. That within forty-five days of the date of this Order, Petitioner shall execute and forward to Wayne Wiemerslage, Enforcement Programs, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the Certification shall be as follows:

Certification

The Village of Oswego, having read the Order of the Illinois Pollution Control Board in PCB 85-106 dated June 20, 1986, understands and accepts the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

Village of Oswego

By: Authorized Agent

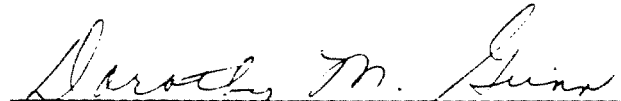
Title

Date

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 20th day of June, 1986, by a vote of 5-2.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board

