

ILLINOIS POLLUTION CONTROL BOARD
November 12, 1982

LAKE COUNTY DEPARTMENT OF PUBLIC WORKS,)
)
) Petitioner,)
)
) v.) PCB 82-29
)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)
)
) Respondent.)

JOHN KOENEN, ASSISTANT STATES ATTORNEY, APPEARED ON BEHALF OF
PETITIONER, AND

MARY DRAKE APPEARED ON BEHALF OF RESPONDENT.

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

This matter comes before the Board on the petition for variance of the Lake County Department of Public Works (County) filed March 19, 1982 as amended May 14, 1982. The County seeks a five-year variance from the 15 pCi/l gross alpha particle activity limit of Rule 304(C)(1)(b) of Chapter 6: Public Water Supply [since codified as 35 Ill. Adm. Code 604.301(b)] as they relate to the public water supply serving the Wildwood area in unincorporated Lake County. On June 3, 1982 the Illinois Environmental Protection Agency (Agency) filed its Recommendation in support of grant of variance until January 1, 1986, subject to conditions. Hearing was held on July 13, 1982, at which the parties, objectors and other interested citizens presented testimony and comment. On October 12, 1982 the County filed a Motion for Decision which is hereby granted.

The service area of the Wildwood public water supply includes a number of unincorporated subdivisions in central Lake County, as well as the College of Lake County. About 2,000 primarily residential customer accounts are serviced, the area population being about 7,500. Daily water needs of about 500,000 gallons are supplied by 2 deep wells, a third shallow well being available for emergency standby use.

An October, 1981 Agency analysis of a composite of 4 distribution system samples taken between August, 1979 and July, 1981 showed a gross alpha particle activity level of 27.4 ± 4.54 pCi/l (Pet. Ex. 4). In its Recommendation, the Agency furnished other sample analyses. March, 1980 samples of the waters of Wells #2 and #4 showed activity levels in pCi/l, respectively of 7.57 ± 3.47 and 28.1 ± 5.49 . However in June, 1980 Well #2 showed an

activity level nearly 5 times greater: 35.2 ± 5.30 pCi/l. A December, 1981 distribution system sample taken at 2 John Mogg Road showed activity less than 1.41 pCi/l. A March, 1982 distribution system sample taken at an unspecified point showed activity of 2.05 ± 1.52 pCi/l. No testing has been done of radium-226, 228 levels.

In its amended petition, the County reports results of its preliminary investigation of compliance methods. It states that since it was first informed of non-compliance by the Agency on December 4, 1981, "on such short notice it was impossible for the petitioner to investigate, design and implement a radiological control program" (Am. Pet. p. 3). (The Board notes, however, that in a 1976 State Water Survey report on "Public Groundwater Supplies in Lake County", portions of which were submitted by the County as Ex. 2 to its petition, the gross alpha level of Well #2 was given a 39.1 pCi/l and of Well #4 as 7.3 pCi/l, thus giving some indication of non-complying radioactivity levels.)

The County states that dilution of well water with shallow groundwater is "impractical as well as uneconomical" based on the slow recharge rate of shallow wells and unspecified high construction costs. Lime softening was also stated to be an impractical solution for economic reasons, based on a \$400,000 cost estimate derived from a 1977 USEPA publication (Ex. 6) (which would need to be adjusted upward for inflation, etc.). Based on the same report, reverse osmosis was rejected on the same economic grounds (graphs in Ex. 7 would indicate the costs as being at least \$100,000 higher, by the Board's reading). The ion-exchange softening method was rejected because of anticipated problems with sludge disposal, and because of the high sodium content of water resulting from this treatment process (Am. Pet. 5).

The County states that it intends to substitute or dilute with Lake Michigan water to achieve compliance. (But see, for example R. 15 indicating no final decision has been made.) On February 28, 1981 the County received a Lake Michigan water allocation permit for the Wildwood area, the allocation to commence in 1985. On April 13, 1982 the County entered into an intergovernmental cooperation agreement with the municipalities of Grayslake, Lake Bluff, Libertyville, and Mundelein establishing the Central Lake County Water Committee (Committee). The Committee's purpose is to undertake a "feasibility study for extending water services to Participating Units through a municipal joint action water agency" (Ex. 9). In furtherance of this goal, each member has contributed a non-refundable \$10,000. As of February, 1982 the Committee's timetable called for receipt of preliminary financial and engineering consultants reports by January, 1983, formation of a Water Agency by March, 1983, initiation of construction bidding pursuant to final engineering plans by November, 1984 and start up of its system by November, 1986 (Ex. 10).

The petition asserted the County's belief that grant of variance would not be detrimental to the health of its water users. In support thereof, it presented a statement to Congress by Dr. R.E. Rowland, former Director of Radiological and Environmental Research, Argonne National Laboratory. In this statement Dr. Rowland supported revision of the 5 pCi/l combined radium standard. Based on metabolic data gathered after USEPA's initial settling of this standard, Dr. Rowland suggested that the standard could be raised to 30 pCi/l and still provide an adequate margin of safety (Ex. 11).

Based on the foregoing, the County alleged that denial of variance would impose an arbitrary or unreasonable hardship since a) the Wildwood water service area cannot be extended absent variance, and b) since the County is pursuing delivery of Lake Michigan water, it would be unreasonable to require installation of treatment facilities which would be possibly rendered obsolete in 1986.

In its Recommendation, the Agency generally agreed with the facts alleged in the County's petition. It additionally commented that the County needs both wells to serve the needs of its water users. Based on the County's entry into the Committee argument, the Agency believes that variance relief can be granted until January 1, 1986, consistent with the deadline date established in §1416 of the federal Safe Drinking Water Act (SDWA). (The SDWA provides that entities which have "binding commitments" to become part of a "regional water supply" may receive variance until January 1, 1986; all others are eligible for relief only until January 1, 1984.) Variance was recommended until January 1, 1986, subject to conditions. One such condition was an interim gross alpha limit of 50 pCi/l.

At hearing, evidence in the County's behalf was presented by Martin Galantha, the Superintendent of the County Department of Public Works, and Dr. Thomas Nedved, environmental engineer with the Lake County Health Department. The Agency presented no witnesses in support of its Recommendation, but its employee Charles Bell answered questions asked by the citizens who participated in the hearings. In addition to recapitulating the evidence presented in the petition, the witnesses explained in some detail that the radioactivity in the Department's water is naturally occurring in the deep shale and sandstone aquifers underlying much of Illinois, Iowa, and Wisconsin, rather than being the result of a leak from a nuclear power plant (R. 54-57). Mr. Bell stated that the 50 pCi/l was recommended as an interim limit, as being on a "short-term basis, safe and achievable".

Seven citizens testified or asked questions. Two of these presented exhibits and spoke, on their own behalf and in behalf of others, in strenuous opposition to the grant of variance: Darlene Schoenke and Rita Jenels (Schoenke Ex. 1, Jenels Ex. 1).

The gist of their arguments is that variance should not be granted because they believe 1) there is no safe level of radioactivity in water, 2) the petition is deficient because no radium-226, 228 test levels are presented, 3) the petition does not present specific up-to-date cost of compliance figures for either treatment of the current well water supply or its replacement with Lake Michigan water, and 4) a survey they took of Wildwood residents indicates that the residents do not believe the Lake Michigan water alternative is cost-effective or otherwise in their best interests.

The Board finds that some of the citizens' objections have some merit. The Board has long been concerned about both the accuracy of gross alpha particle activity testing methods, and about the fact that testing for radium has not been commenced when gross alpha readings exceed the 15 pCi/l limit (see e.g. County of Du Page v. IEPA, PCB 82-24, May 27, 1982, and cases cited therein). The petition does lack certain data concerning compliance options, and does not support the grant of the requested long term variance.

However, on balance, the Board finds that denial of variance would impose an arbitrary or unreasonable hardship. As the Board has previously found in a number of cases of this type, in which similar evidence concerning the scientific justification for reevaluation of the radium and gross alpha standards has been presented, there would appear to be little immediate risk to health from consuming the County's water if a short-term variance is granted. The Board will grant a 12 month variance, subject to conditions, during which time the County shall commence testing for radium, prepare and submit a report concerning the cost of compliance options, develop and submit a compliance plan, and notify its customers of the existence of this variance and of the results of radiological testing during the variance period. This variance shall terminate November 15, 1983.*

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

ORDER

1. Petitioner, the Lake County Department of Public Works, is granted a variance from the 15 pCi/l gross alpha particle

*The Board notes that, as the Ex. 9 agreement establishing the Committee provides in ¶5 that any "Participating Unit may withdraw from the Committee upon five-day prior written notice", this agreement does not constitute sufficient commitment to join a regional water supply such as to make variance relief available beyond January 1, 1984.

activity limit of 35 Ill. Adm. Code 604.301(b) to allow continued operation of the Wildwood public water supply until November 15, 1983, subject to the following conditions:

a. Petitioner shall, in consultation with the Agency, continue its sampling program to determine as accurately as possible the level of radioactivity in its wells and finished water. Testing for radium-226, 228 shall be commenced on or before January 1, 1983.

b. On or before March 15, 1983 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 with that of its deep well, and of replacing its well water with Lake Michigan water.

c. Petitioner shall notify the Agency in the event that it withdraws from the Central Lake County Water Committee.

d. As expeditiously after identification of a feasible compliance method as is practicable, but no later than September 15, 1983, Petitioner shall submit a program (with increments of progress) for bringing its system into compliance with radiological quality standards to the Agency's Division of Public Water Supplies, at the address stated in paragraph 2, below.

e. Petitioner shall take all reasonable measures with its existing equipment to minimize the radioactivity in its finished water. This variance shall terminate in the event that the gross alpha particle activity level exceeds 50 pCi/l.

f. 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 has been granted by the Pollution Control Board a variance from the 15 pCi/l maximum gross alpha particle activity standard. The notice shall state the average content of gross alpha particle activity and radium-226,228 in samples taken since the last notice period during which samples were taken.

2. Within forty-five days of the date of this Order, Petitioner shall execute and forward to the Illinois Environmental Protection Agency, PWS Enforcement Programs, 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 certificate shall be as follows:

CERTIFICATE

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 82-29, dated _____, 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

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 12th day of November, 1982 by a vote of 5-0.

Christan L. Moffett
Christan L. Moffett, Clerk
Illinois Pollution Control Board