ILLINOIS POLLUTION CONTROL BOARD
May 5, 1988

COUNTY OF LAKE (VERNON HILLS WATER SYSTEM),	)	
Petitioner,	)	
v.	)	PCB 87-198
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent,	)	
and	)	
TINA SANTOPOALO, LAKE COUNTY DEFENDERS, VILLAGE OF VERNON HILLS, NORTH SUBURBAN GROUP OF THE GREAT LAKES CHAPTER OF THE SIERRA CLUB, MARK D. BOORAS, AND F.T. MIKE GRAHAM,	)	
Intervenors.	)	

MICHAEL J. PHILLIPS APPEARED ON BEHALF OF PETITIONER;

SCOTT O. PHILLIPS APPEARED ON BEHALF OF RESPONDENT;

TINA SANTOPOALO APPEARED ON BEHALF OF HERSELF; MURRAY R. CONZELMAN APPEARED ON BEHALF OF THE VILLAGE OF VERNON HILLS; A. SIDNEY JOHNSTON APPEARED ON BEHALF OF THE SIERRA CLUB; LORENS TRONET APPEARED ON BEHALF OF THE LAKE COUNTY DEFENDERS; MARK D. BOORAS AND F.T. MIKE GRAHAM APPEARED ON BEHALF OF THEMSELVES.

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

This matter comes before the Board on a Petition for Variance ("Petition") filed on December 15, 1987 by the County of Lake ("County"). The County seeks variance for the Vernon Hills Public Water Supply System ("VHWS") 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 in the VHWS water supply of the 5 picocuries per liter ("pCi/l") combined radium-226 and radium-228 standard of 35 Ill. Adm. Code 604.301(a). The requested term of the variance is five years.

On January 21, 1988 the Illinois Environmental Protection Agency ("Agency") filed a Recommendation ("Agency Rec.") in support of grant of variance, subject to conditions.

At the outset, the Board is compelled to note that it is greatly dismayed at the large number extraneous issues argued and introduced into the record in this matter. The only issue which this Board is statutorally allowed to decide in a variance matter is the narrow issue of whether Petitioner would incur, if denied the requested relief, an arbitrary or unreasonable hardship not justified by the environmental and health impact. A variance proceeding is therefore not a proper forum for challenging local economic development decisions; it is not a proper forum for debating local financing decisions; nor is it a proper forum for indictment and prosecution of local or State officials.

PROCEDURAL MATTERS

Hearings were held on March 2, 14, 21, and 22, 1988 in the Lake County Court House, Waukegan, Illinois. The hearings generated 1,411 pages of transcript and 85 exhibits. At the onset of the hearings motions were granted for intervention on the part of the parties captioned herein (R. at 16). Witnesses were presented by the County and Intervenors the Village of Vernon Hills ("Vernon Hills"), the Lake County Defenders ("LCD"), and the North Suburban Group of the Great Lakes Chapter of the Sierra Club ("Sierra Club"). In addition narrative testimony was given by Intervenors F.T. Mike Graham and Tina Santopoalo, and by A. Sidney Johnston and Dr. Louis E. Marchi. The Illinois Department of Commerce and Community Affairs also presented testimony.

Post hearing briefs have been filed by the County and by Intervenors Vernon Hills, Santopoalo, Sierra Club, and LCD. The Sierra Club and the LCD filed motions for leave to file their briefs late. These motions are hereby granted. Written comments have also been submitted by Carol M. Cooper, Joan D'Argo on behalf of Citizens for a Better Environment, Tina Santopoalo, F.T. Mike Graham, the Prentiss-Copley Investment Group, Continental Grain Company, Kimball Hill, Inc., Elyse M. Roberts, the Lake County Farm Bureau, and Randall J. Burt.

By filing of April 18, 1988 the County moved to strike Intervenor Santopoalo's written public comment on the grounds that it argues from certain documents which had been denied admission by the Hearing Officer on the grounds of hearsay (R. at 1051-2, 1086); Santopoalo responded by filing of April 19, 1988. The Board initially notes that public comments per se are permissible in variance proceedings pursuant to the Illinois Environmental Act, Ill. Rev. Stat. ch. 111 1/2, Sections 32 and 37(a). The County's motion is therefore denied and the Santopoalo comment remains on the record and will be given the weight properly accorded it. On the matter of the documents in question, specifically those marked as Santopoalo Exhibit 1A, 11,

12, 13, 14, and 15, the Board affirms the Hearing Officer's ruling of inadmissibility as exhibits.

On April 25, 1988 the County also filed a motion to strike portions of the LCD brief. The County requests that sections of the brief which refer to and/or quote documents which had been denied admission by the Hearing Officer be stricken on the grounds that they present information outside the record. The Board notes that the portions of the LCD brief cited by the County do not quote exhibits and can best be characterized as argument which therefore will not be stricken. The Board further notes that it is able to determine and exclude from its consideration material cited in briefs which is outside the record and is not of the type which it can take judicial notice.

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 limit as the maximum allowable concentration under Illinois law.

The action that the County requests here is not variance from the maximum allowable concentration. Irrespective of the action taken by the Board in the instant matter, the standard will remain applicable to VHWS. Rather, the action the County 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. 111½, 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 water supply facilities 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 Illinois regulations not found in federal law. It is this prohibition which the County herein requests be lifted. The granting of the County's request, as the County properly notes (R. at 416), does not preclude enforcement for violation of the radium drinking water standards.

On the matter of proper scope of a variance proceeding, Section 35 of the Illinois Environmental Protection Act provides, in relevant part:

> To the extent consistent with applicable provisions of the ... Federal Safe Drinking Water Act (P.L. 93-523), ... and regulations pursuant thereto, ...
>
> a. The Board may grant individual variances beyond the limitations prescribed in this Act, whenever it is found, upon presentations of adequate proof, that compliance with any rule or regulation, requirement or order of the Board would impose an arbitrary or unreasonable hardship.

An appellate court decision has held that:

> The burden of proving arbitrary or unreasonable hardship is on the party seeking the variance. (Ill. Rev. Stat. 1983, ch. 111 1/2, par. 1037.) The petitioner must establish that the hardship resulting from a denial of the variance would outweigh the injury of the public from a grant of the petition. (Caterpillar Tractor Co. v. Pollution Control Board (1977), 48 Ill. App. 3d 655, 363 N.E. 2d 419.) The Board's finding on such questions of fact are held to be prima facie true and correct (Ill. Rev. Stat. 1983, ch. 110, par. 3-100) and may not be reversed

unless they are against the manifest weight of the evidence. Philipsborn Equities, Inc. v. Pollution Control Board (1981), 94 Ill. App. 3d 1055, 419 N.E. 2d 470.

> Unity Ventures v. the Pollution Control Board, the Environmental Protection Agency and the County of Dupage. 132 Ill. App. 3d 421, 87 Ill. Dec. 376, 383, 476 N.E. 2d 1368 (Ill. App. 2 Dist. 1985).

PREVIOUS VARIANCE

On March 7, 1986 the County filed a previous variance petition, which was docketed as PCB 86-35. In that proceeding the County sought a five-year variance from the same regulations as in the instant proceeding. On May 9, 1986 the Board entered an Order granting the variance (Lake County Public Works Department, Vernon Hills Water Supply System v. Illinois Environmental Protection Agency, 69 PCB 452), but limiting its term so that it would expire on January 1, 1988. In so doing, the Board noted the absence of a specific compliance plan and that the five years requested for variance would not provide for appropriate Board oversight of the County's movements towards compliance (69 PCB 455).

The Board accordingly also conditioned the grant of variance upon a specific program for identifying a compliance plan, the principal elements of which were: (1) securing of professional assistance, (2) investigation of compliance methods, and (3) preparation and submission to the Agency of a report showing how compliance shall be achieved within the shortest practicable time (69 PCB 456). The County duly retained the services of Morris Environmental Engineering, Inc., of Wheaton, Illinois, and a report responsive to the variance conditions was prepared and timely submitted to the Agency. That report, which is titled "Radium Variance Compliance Report, Lake County Public Works Department, Vernon Hills Water System" ("hereinafter "Morris Report") and dated March 1987, has been submitted into the record of the instant matter as an attachment to the Petition and as Petitioner's Exhibit 2.

The County has also been Petitioner in three other proceedings before this Board dealing with radiological parameters. However, these three have been on behalf of the Wildwood Subdivision Water Supply, a facility different from that of the instant proceeding (R. at 405-6). The docket numbers of the three Wildwood proceedings are PCB 82-29, PCB 86-75, and PCB 87-107, and all have reached final disposition.

BACKGROUND

The County solely owns and operates the VHWS for the Village of Vernon Hills and surrounding unincorporated areas; the VHWS is one of fourteen water systems owned by the County (R. at 326). The County's Public Works Department provides direct supervision and operation of VHWS. Service is to approximately 5,000 residential, industrial, and commercial customers representing some 12,500 residents and industries and businesses employing "approximately tens of thousands of people" (Petition, par. 16).

VHWS currently has six wells, three deep wells and three shallow wells (Petition, par. 18). However, the three shallow wells are no longer in use due to limited capacity and the third deep well is not yet complete (R. at 737). Thus, the system has been essentially a deep-well system dependent upon two wells, which are identified in the record as Wells #1 and #2. The County contends that the third deep well has been drilled to a depth (1300 feet) believed to be relatively radium-free (R. at 407-8); nevertheless, preliminary analyses have shown combined radium concentrations between 6.0 and 6.5 pCi/l (R. at 410).

The County was advised by the Agency of the high radium content in the VHWS by letter dated December 9, 1985 (Pet. Exh. 9). The Agency based its determination on a composite sample which showed a radium-226 content of 6.3 pCi/l and a radium-228 content of 3.1 pCi/l (Id.), for a combined value of 9.4 pCi/l; the record does not indicate whether the samples were taken from the distribution system or from the well head. Subsequent analyses by Teledyne Isotopes Laboratory showed the following for combined radium-226 and radium-228:

	Combined Radium Concentration (pCi/l)			
Sample Date	Well #1	Well #2	Composite	Distribution System
12/20/85	10.6	9.6	7.8	x
05/29/86	9.0	10.7	x	10.2
08/20/86	x	x	x	10.8
08/20/86	x	x	x	14.6
11/10/86	9.2	8.9	x	8.9
02/05/87	x	x	x	9.4
05/07/87	7.4	8.7	x	7.1
08/04/87	x	x	x	7.4

Agency Rec. at par. 5.

Independent analyses conducted by Radiation Measurements, Inc., for Vernon Hills and submitted to the Agency by letter of January 18, 1988 showed the following results:

Sample No.	Comment	Radium Concentration (pCi/l) Ra-226	Ra-228	Combined
1157	Bottled	below 1	3.0	
1153	Softened	1.3	3.4	4.7
1157	Softened	below 1	below 1	
1159	Softened	1.5	5.1	6.6
1154	Not Softened	4.9	7.2	12.1
1155	Not Softened	6.5	10.1	16.6
1158	Not Softened	5.3	10.0	15.3

LCD Exh. 2 at 2.

COMPLIANCE PROGRAM

The County intends to achieve compliance by replacing the current VHWS well-based water supply with Lake Michigan water. VHWS has since 1981 had an allotment of Lake Michigan water pursuant to Illinois Department of Conservation Lake Michigan Allocation Permit No. 178. However, the County currently does not have means of transmitting its allotment from Lake Michigan to the VHWS service area. Nevertheless, Petitioner, along with seven municipalities, is a charter member of a special district of government, the Central Lake County Joint Action Water Agency ("CLCJAWA"). The purpose of CLCJAWA is to construct and operate a new Lake Michigan water supply and distribution system for its member communities (R. at 385).

CLCJAWA expects to deliver Lake Michigan water to central Lake County by mid-1991 (R. at 386-7), a date which the Morris Report also concludes to be feasible (R. at 235, 290). To this end, CLCJAWA received approval in a public referendum on March 15, 1988 to issue $35 million in general obligation bonds (R. at 793-4), to which CLCJAWA intends to add a like amount of revenue bonds (R. at 385). The design and planning phases of the CLCJAWA project have been initiated (R. at 387, 393-4).

The County considers its compliance plan to be the "clearly superior alternative" (R. at 125) for reasons beyond compliance with the radium standard. The County cites, among other matters, the lesser chance of running afoul of other Clean Water Act parameters, constancy of water supply, and decrease in water hardness relative to the current supply (R. at 124-6), plus removing themselves from reliance on a groundwater supply which is dwindling in quantity and deteriorating in quality (R. at 582-3). Although the Lake Michigan alternative is not clearly favored on a short-term cost comparison, the County believes that it will be the most cost-effective in the long-run (R. at 126-7).

Although it is itself not involved in ownership or operation of the VHWS, Vernon Hills has also concluded that a Lake Michigan water supply constitutes the only feasible water supply alternative (R. at 875).

The Illinois Department of Commerce and Community Affairs also endorses CLCJAWA's Lake Michigan program, noting that it constitutes "a giant step in addressing the problem of the diminishing water table and the indicated radium problem" (R. at 960).

A substantial portion of the record in this matter is directed toward the question of whether the VHWS might obtain Lake Michigan water in some manner other than via participation in the CLCJAWA program (e.g., R. at 417-510, 834-9, 880-7, 950-2, 1001-23). The County contends that there is insufficent water available to serve adjacent communities, yet alone Vernon Hills (R. at 413-4; 428). Vernon Hills contends that other local water supply governments have either shown no desire to sell water to the VHWS (R. at 870-2) or that transmission of purchased water to Vernon Hills would be impractical (R. at 881).

Methods of compliance which the County has investigated as alternatives to the CLCJAWA program are: (1) treatment at the well-head; (2) treatment at the point of use; (3) treatment at the point of entry to a building; (4) blending of water from the deep-well system with shallow well water; and, (5) use of surface waters other than Lake Michigan. Three well-head treatment processes have been investigated: (a) ion exchange, (b) reverse osmosis, and (c) lime softening. The Morris Report concludes that all three of the processes would require construction of a multi-million dollar water treatment plant (R. at 109, 111, 116; Morris Report at 11, 15), which would take between 27 and 36 months (R. at 283) to complete and which would almost immediately be obsolete due to arrival of Lake Michigan water (R. at 284; County Brief at 4-5). For this reason and for other reasons such as an increase in already-elevated total dissolved solids in VHWS's deep wells (R. at 113-4) and problems of disposal of backwash water (R. at 114-5) and sludge (R. at 122, 1130), the County rejects well-head treatment. The Agency further cautions against using lime softening and ion exchange where viable alternatives are available due to various problems of sludge disposal and concentration of radioactivity in waste streams (Agency Rec., par. 24-25).

Treatment at the point of use involves connection of a zeolite resin or reverse osmosis unit to each faucet (R. at 98). Mr. Morris concluded that this is an infeasible method of compliance based upon, among other matters, difficulty of control and lack of acceptance by the USEPA (R. at 98-100). Treatment at the point of entry is similar to treatment at point of use, except that treatment occurs near the entry point of water into a consumer's facility; a household water softener is an example (R. at 100). Mr. Morris likewise concluded that this treatment method is infeasible due to such problems as cost, difficulty of assuring use, maintenance problems, and elevated concentration of radium in backwash water (R. at 101-4).

Blending of water is inhibited by absence of a sufficient quantity of low-radium water. Shallow wells, which are the most conventional source of low-radium water, have yields of less than 50 gal/min in the Vernon Hills area (R. at 93). This is inadequate to effectively blend the 900 to 1300 gal/min needed by VHWS unless the number of shallow wells were unrealistically large (R. at 96; 105-6; 255, 407). The Morris Report concludes that no source of water other than shallow well-water is immediately available for blending (R. at 94). Although the Morris Report does not consider the possibility of procuring a supply of Lake Michigan water sufficient for blending from existing distribution lines in neighboring Libertyville (R. at 166-7), the County contends that no water is available from this source (R. at 414.).

The Morris Report also concludes that there are no other water sources, other than Lake Michigan, which are sufficiently close and of sufficient sustained flow to provide an alternative surface water supply (R. at 106).

HARDSHIP

The County believes that a requirement to come into immediate compliance would impose an arbitrary or unreasonable hardship. The County and the Agency both note that by virtue of VHWS's inability to receive permits for water main extensions, any economic growth dependent on those water main extensions would not be allowed. As specific examples of the development contemplated, Petitioner currently foresees the need to extend water mains to serve totally or in part the following new users, development of parts of which are in progress (R. at 399-403, 525-9; Petition, par. 19).

A. Continental Grain Development, consisting of 418 acres of business park and 32 acres of residential use;

B. Corporate Woods Development, consisting of 300 acres of business park and a 200 room hotel;

C. Hamilton Partners Route 60 Office Development, consisting of 250,000 square feet;

D. Cuneo Estates Development, consisting of a 75 acre business park and 50 acres of retail uses;

E. Tally Ho Residential Subdivision, consisting of 460 dwelling units;

F. Centrex Residential Subdivision, consisting of 826 dwelling units;

G. Kimball Hill Residential Subdivision, consisting of 215 dwelling units.

Vernon Hills characterizes these developments as coming "to a screeching halt" absent grant of variance (R. at 875). In addition to providing water service to the developments, the County contends that it is necessary to extend water mains for purposes of fire protection (R. at 548-52).

The County notes that its Public Works Department is not financed in any part by real estate taxes, but relies exclusively on revenue and connection fees generated by its waterworks system (R. at 405). The County also notes that there are currently hundreds of millions of dollars of residential, industrial, and commercial development within Vernon Hills which require water connections, and opines that denial of variance would deny the County a significant revenue derived therefrom. The County contends that it requires this revenue to support its portion of the costs of delivering Lake Michigan water.

The County and Vernon Hills also contend that denial of variance would have an adverse affect on other units of local government, including the local school district, park district, fire district, and village (R. at 865-8; 875-6). The County argues that these governmental units would be deprived of substantial revenues or property taxes, income taxes, and sales taxes totalling millions of dollars. Vernon Hills notes that Mr. Thomas Oakson, Superintendent of Schools, appeared before the Vernon Hills Village Board in February 1988 to urge non-residential development:

> ... we are a "bedroom community ... the end result is a school district that does not have an adequate tax base. ... I MUST STATE, as vehemently as possible ... that the school district children and the district's residential tax payers desperately need the type of conceptual development now under consideration. (Vernon Hills Exh. 7, emphasis in original)

The Agency also concludes that denial of the requested variance would constitute an arbitrary or unreasonable hardship on the County (Agency Rec., par. 27).

HEALTH THREAT

There is no dispute on the part of any of the parties or commenters that radium in drinking water constitutes a health threat. Rather, the dispute centers solely on the identity of the affected population and on the magnitude of the threat.

The issue of the affected population may be clarified by first noting the effect upon existing and new VHWS connections under the assumptions that the variance is granted and that the County adheres to its compliance plan. Under these conditions the following circumstances of exposure of radium in drinking water would prevail:

	Existing Connections	New Connections
present to mid-1991	no change	exposure to existing water
after mid-1991	receive low radium water	receive low radium water

The converse scenario, that which would prevail should the variance be denied, is less certain. The one clear facet is that the present prohibition against new connections would remain in force for the immediate future, and thus no new connections would occur immediately. Over the longer term the County might cause the VHWS to be brought into compliance, thus both allowing new connections and reducing the radium content in the water delivered to existing connections. However, the date at which this could be achieved is uncertain. The record indicates that the County is unlikely to achieve compliance, by whatever option, earlier than about mid-1991 due to required lead time for new facilities (R. at 283), and that moreover the County's ability to achieve compliance at any future time would be restricted in the absence of funds generated from new connections (R. at 405). The date at which compliance might be achieved absent the instant variance is therefore uncertain, but would not likely be sooner than mid-1991. Denial of variance would thus most reasonably cause the following to prevail:

	Existing Connections	New Connections
present to mid-1991	no change	none
mid-1991 or later	fate uncertain	fate uncertain

The distinction between the two scenarios therefore is that grant of the variance would cause a certain population served by new water connections to receive VHWS's currently elevated radium water for a period up to three years, whereas there would be no such population if the variance request were to be denied. In addition, grant of the variance would assure that the entire VHWS-served population, both existing and new customers, would by mid-1991 be served by compliant water. Conversely, denial of variance would provide no assurance of compliant water being

delivered to the general VHWS population at any date prior to or after mid-1991.

On the matter of the magnitude of the health threat, both the County and the Agency believe that any harm caused to the public from granting of variance would be minimal. In support thereof, the County emphasizes that grant of variance would in no way affect the water provided to current consumers, other than as grant of variance may speed replacement of the current high-radium deep-well system with the low-radium Lake Michigan water system. It further notes that any adverse health effects would be limited to a short period of time and only to "that small group of persons occupying the new developments which are yet to be permitted" (County Brief at 11).

The Agency believes that while radiation at any level creates some risk, the risk associated with VHWS's water is low. Moreover, the Agency believes that "an incremental increase in the allowable concentration of the contaminant in question even up to a maximum of four times the MAC for the contaminant 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" (Agency Rec., par. 23; emphasis in original). 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, 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.
>
> Agency Rec., par. 35 and 36.

Vernon Hills additionally referred the matter of radium in its drinking water to its Citizens Advisory Committee. That committee undertook its own evaluation of the health risk associated with radium in drinking water and issued a report in October 1986 (Vernon Hills Exh. 4). The report concludes:

> ... the maximum additional risk obtained from consuming the current water supply for an additional five years is a fraction of the normal background cancer risks to which everyone is exposed independently of Vernon Hills' water supply. (Id. at 9).

Both the County and the Agency also refer the Board to the testimony presented by Richard E. Toohey, Ph.D., 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. At hearing the County moved to have the written testimony of Dr. Toohey admitted into the record as Petitioner's Exhibit 7 (R. at 84, 383) for its substantive content. The Hearing Officer referred the motion to the Board (R. at 85-6). The motion is hereby granted and said written testimony is admitted into the record as Petitioner's Exhibit 7.

A large number of exhibits which address in some manner or another the health effects of radium have been entered into the record in this matter. The Board does not believe that individual summaries of these is justified. It does note, however, that in its review of them it finds full support for the position of the Agency as articulated in its Recommendation, Par. 23, 35, and 36 (see above).

ECONOMIC DEVELOPMENT ISSUE

It is apparent that a significant portion of the opposition to the requested variance is rooted in differences concerning advisability of economic development (e.g., R. at 887-937, 966-83, 1103-8). The intrusion of this issue into the instant record is exemplified by the following allegation:

> And the fact -- and the inference is made that the reason for bringing lake water in is to deal with the radium.
>
> And, in fact, they are not bringing lake water to deal with the radium. They are bringing in the lake water to provide growth.
>
> R. at 578.

The Board notes that whether the County may or may not have considered "growth" as one motive for its choice of compliance plans has no relevancy to the instant matter. The County, in fact, readily admits to multiple motives, including improvement in water quality and quantity and long-term cost effectiveness (R. at 124-6; 582-3; 693). Nevertheless, the only relevant matter here is whether the plan successfully "deals with the radium".

Similarly, it is not within the Board's general purview to determine for the County and the other CLCJAWA members the specific arrangements and routes by which they might best deliver Lake Michigan water to their customers, or from whom, if anyone, they should purchase water (e.g, R. at 417-510; 834-9). The only exception which the Board readily sees would be the circumstance where such choices significantly affected the timing and ability of the County to carry out its compliance plan. No credible evidence has been supplied which would indicate that such circumstance exists here.

COMPLIANCE WITH CONDITIONS OF PRIOR VARIANCE

It is uncontested that the County has fully complied with the majority of the conditions imposed in the Order of PCB 86-35, the prior variance. However, the County admits that it has not fully complied with various of the conditions, although it does contend that it has "substantially complied" with all of same (County Brief at 15-26). At particular issue are conditions (g) and (h). Condition (g) reads in full:

> (g) On or before June 15, 1987, or within any written extension of this period made by the Agency, the Department shall apply to the Agency, DPWS, Permit Section, for all permits necessary for construction of installations, changes or additions to the Department's public water supply needed for achieving compliance with 35 Ill. Adm. Code 604.301(a).

The County (referred to as "the Department" in condition (g)) does not contest that it has yet to apply for the construction permits in question. However, it does point out that it has successfully sought and obtained an extension through September 15, 1987, pursuant to such provision within Condition (g). The County contends that it sought additional extensions (R. at 353; Pet. Exh. 16), but that its request was not responded to by the Agency (R. at 355). The argument that the County presented to the Agency as the basis for the requested extensions is the same argument that the County continues to offer for its failure to comply with condition (g). That is, the County argues that it could not apply for construction permits because CLCJAWA,

which is the unit of government responsible for erecting the system, had not yet designed the project to the point where application for construction permits would be possible (R. at 349; County Brief at 6).

Several of the Intervenors construe the County's action with respect to Condition (g) as evidence of bad faith (e.g., Santopoalo Brief at 2; LCD Brief at 5-7). The Agency, in contrast, believes that the County has chosen a reasonable compliance option and that it appears to be making progress in implementing that alternative (Agency Rec., par. 34). For this reason the Agency concludes that the County's action regarding Condition (g) "should not necessarily preclude the grant of variance" (Id.), which the Agency in fact recommends be granted.

Condition (h) of the Order in PCB 86-35 reads in full:

> (h) 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, the Department 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 it relates Section 604.301(a).

The County submits that it did supply the required written notice on quarterly bills mailed to VHWS customers in July and August of 1986, but that thereafter it failed to do so (R. at 374-5). The County contends that the omission after August 1986 was inadvertent and related to removal by some person unknown of instructions to continue printing the notice (R. at 365-6). Mr. Martin Galantha, Superintendent of the Public Works Department, asserts that neither he nor anyone else in his Department ordered this action (Id.). The County thus characterizes failure of continued notice to be "an unfortunate clerical error" (County Brief at 24).

In further defense, the County contends that it has never sought to conceal its radium situation from its customers. As evidence thereto, the County submits that it: (1) assisted the Village of Vernon Hills in the preparation of a letter sent to Vernon Hills residents and dated February 6, 1986 advising residents of the results of radium analyses (R. at 334; Pet. Exh. 11); (2) on February 1986 sent its own letter to all VHWS customers advising them of the results of radium analyses (R. at 332; Pet. Exh. 10); (3) responded to over 200 telephone inquiries by citizens (R. at 378); (4) mailed over 200 copies to citizens of the Agency's pamphlet "Radiation in Public Water Supplies" (R.

at 379); (5) set out approximately 50 copies of the Argonne National Laboratory report "Long-Term Retention of Radium in Female Former Dial Workers" and the testimony of Dr. Richard E. Toohey in R85-14 (R. at 380-2); and, (6) participated in a public panel discussion on the health risks from radium held in Vernon Hills on January 7, 1987 (R. at 376-7).

While it is clear to this Board that the County has indeed failed to fully comply with all of the conditions of the prior variance, the Board finds that in each case there are mitigating circumstances. Moreover, the Board can not find that the remedy urged by the opponents of the requested variance, which is to deny the variance, would constitute an action commensurate with the magnitude of the transgression.

TERM OF VARIANCE

The County requests variance for five years, which, if counted from the date of this action would cause variance to extend to May 1993. The Agency, conversely, recommends that variance terminate on May 9, 1991 (Agency Rec., par. 37), an effective period of three years. The Agency bases its recommendation on the assertion by the County that its hookup to Lake Michigan water can be operational by mid-1991 (R. at 387; County Brief at 5). The Board, like the Agency, will accept this assertion of the County at face. However, the Board notes that the ability to have fully operational facilities by mid-1991 does not necessarily equate with an ability to demonstrate compliance by mid-1991.

A demonstration of compliance, in fact, requires that the concentration of an annual composite of consecutive quarters or the average of the analyses of four consecutive quarterly samples be less than the 5 pCi/l standard, pursuant to 35 Ill. Adm. Code 605.105(a). Thus, the accumulation of data necessary to demonstrate compliance may require as much as a year after sub-5 pCi/l concentrations are first achieved. For this reason the Board will grant variance to May 31, 1992, approximately one year after the date on which the County asserts it will have the facilities necessary for attaining compliance. Additionally, the variance will be conditioned to terminate if compliance is achieved earlier. This action allows the County up to approximately one year beyond the scheduled completion of the facilities portion of its compliance program in which to demonstrate that compliance has been achieved.

The Board emphasizes that the period of variance from May 31, 1991 to May 31, 1992 is intended solely to allow demonstration of compliance, and is not intended to provide additional time for completion of facilities. Pursuant thereto, the Board will specify that the variance shall terminate on May

31, 1991 if the County fails by that date to have operational all installations, changes, or additions necessary to achieve compliance.

The Board will otherwise condition the variance with the internal deadlines as contained in the Agency's recommendation, with adjustment only to allow for the later date of decision in this matter as caused by extension of the hearing schedule.

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 County and 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. For this reason the Board will grant the requested relief, subject to conditions intended to assure public awareness of the variance and expeditious compliance, among other matters.

The Board is also pleased to observe that the County's action pursuant to this grant of variance provides that all VHWS customers will be removed from their current drinking water risk in an expeditious and effective manner.

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

ORDER

1. Petitioner, the County of Lake, is hereby granted variance for its Vernon Hills Water Supply System 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 May 31, 1992, or when compliance with 35 Ill. Adm. Code 604.301(a) is achieved, whichever is sooner.

   (B) Compliance shall be achieved with the maximum allowable concentrations of combined radium-226 and radium-228 no later than May 31, 1992.

   (C) Notwithstanding condition (A) above, this variance shall terminate on May 31, 1991 absent full compliance with condition (G) below.

(D) By May 31, 1988, the Petitioner shall submit to the Agency a certified copy of the Interim Public Water Supply Contract signed by all members of the Central Lake County Joint Action Water Agency ("CLCJAWA").

(E) Petitioner shall report to the Agency by November 30, 1989, as to the status of obtaining Lake Michigan water before this variance expires. Petitioner shall provide the Agency along with said report a copy of a fully executed contract between Petitioner and the CLCJAWA. The contract shall provide for delivery of sufficient quantities of Lake Michigan water that will assure that Petitioner will be in compliance with the standard regulating said contaminant prior to the expiration of this variance. The Agency may extend in writing the due date for providing a copy of the contract for good cause shown. If Petitioner fails to provide said copy by November 30, 1989, or prior to the expiration of any written extension granted by the Agency, whichever is later, Petitioner shall apply to the Agency for all necessary permits for the construction of treatment facilities by May 31, 1990, and install said facilities and have them operational prior to said expiration.

(F) 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. Until this variance expires, Petitioner shall collect quarterly samples of its water from its distribution system, shall composite and shall analyze them annually by a laboratory certified by the State of Illinois for radiological analysis so as to determine the concentration of the contaminant in question. The results of the analyses shall be reported to the Compliance Assurance Section, Division of Public Water Supplies, IEPA, 2200 Churchill Road, P.O. Box 19276, 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.

(G) By no later than May 31, 1990, unless there has been a written extension 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 the standard in question. All such installations, changes, or additions must be operational by May 31, 1991.

(H) 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 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 it relates to the MAC standard in question.

(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 is not in compliance with the standard in question. The notice shall state the average content of the contaminant in question in samples taken since the last notice period during which samples were taken.

(J) Until full compliance is reached, Petitioner shall take all reasonable measures with its existing equipment to minimize the level of contaminant in question in its finished drinking water.

(K) The Petitioner shall provide written progress reports to IEPA, DPWS, FOS every six months concerning steps taken to comply with paragraphs E, G, and J. Progress reports shall quote each of said paragraphs and immediately below each paragraph state what steps have been taken to comply with each paragraph.

2) Within 45 days of the date of this Order, Petitioner shall execute and forward to Scott O. Phillips, Enforcement Programs, Illinois Environmental Protection Agency, 2200 Churchill Road, P.O. 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 87-198, May 5, 1988.

_____
Petitioner

_____
Authorized Agent

_____
Title

_____
Date

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 Jacob D. Dumelle and Bill 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 5th day of May, 1988, by a vote of 5-2.

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