

ILLINOIS POLLUTION CONTROL BOARD  
June 21, 1990

CITY OF BRAIDWOOD, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 89-212  
 ) (Variance)  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

KURT A. LEINWEBER, ESQ. APPEARED ON BEHALF OF THE PETITIONER.

BOBELLA GLATZ, ESQ. APPEARED ON BEHALF OF THE RESPONDENT.

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

This matter comes before the Board on a Petition for Variance filed by the City of Braidwood ("Braidwood"). Braidwood seeks a variance from the Board's public water supply regulations, namely from the maximum allowable concentrations for radium 226 and 228 that are contained in 35 Ill. Adm. Code 604.301(a) and the construction permit requirement of 35 Ill. Adm. Code 602.101. In the alternative, Braidwood seeks a variance from 35 Ill. Adm. Code 602.105(a), "Standards for Issuance", and 35 Ill. Adm. Code 602.106(b), "Restricted Status", to the extent those rules relate to the standards for radium 226 and 228 that are set forth in 35 Ill. Adm. Code 604.301(a). The variance is requested for a period of two years so that Braidwood can extend its water mains to supply water to areas already contained in its geographical boundaries and provide public water service to areas to be annexed to its boundaries.

Based on the record before it, the Board denies Braidwood's variance request.

PROCEDURAL HISTORY

Braidwood filed its initial Petition for Variance ("Petition") on December 21, 1989. On January 11, 1990, the Board issued an Order finding the Petition to be deficient because it did not include a hearing request or waiver as required by 35 Ill. Adm. Code 104.124. The Board also asked Braidwood to incorporate into the record a Letter of Commitment that it referenced in the Petition. The Board granted Braidwood 45 days in which to cure the articulated deficiencies and stated that the Petition would be subject to dismissal if Braidwood did not file an amended petition within the specified timeframe. On March 1, 1990, Braidwood filed an Amended Petition for Variance ("Amended Petition") that included a waiver of hearing and the Letter of Commitment.

The Board issued a second order on March 8, 1990. The Board, on its own motion, ordered that a hearing be scheduled after noting that Braidwood's water supply contained an unusually high combined radium concentration. The Board also requested the parties to provide it with the numerical results and dates of all available radiological analyses of the water supply and to address the health effects and environmental impacts of the combined radium level.

On April 9, 1990, the Illinois Environmental Protection Agency ("Agency") filed a Motion for Leave to File its Variance Recommendation instanter. The Board granted the Agency's motion on April 12, 1990. In its Variance Recommendation ("Recommendation"), the Agency recommended that Braidwood's variance request be denied. A hearing was held on April 25, 1990. Although no post-hearing briefs were filed, the Agency filed a Motion to Supplement the Record, which was granted on May 24, 1990.

#### BACKGROUND

The City of Braidwood is located in Will County, Illinois. Braidwood operates a water supply system serving approximately 3,500 residents and 1,300 residential and commercial accounts. (Amended Pet., par. 2). The system consists of three wells, aeration and chlorination facilities, two reservoirs, an above-ground storage tank, service pumps, and a complete distribution system. (Amended Pet., par. 3).

This is Braidwood's first variance request from the public water supply regulations. (Agency Rec., par. 7). However, the somewhat confusing history of the violations goes back a number of years, as detailed below. On July 10, 1981, the Agency notified Braidwood that it would be placed on the Restricted Status List for gross alpha particle activity because its water supply exceeded the maximum allowable concentration. (Agency Rec., par. 11, Ex. A). On January 25, 1984, the Agency sent a letter to Braidwood stating that it would be placed on the Restricted Status List because its radium 226 and 228 levels were 10.2 pico Curies per liter ("pCi/l") and 2.6 pCi/l, respectively.<sup>1</sup> (Resp. Grp. Ex. 4, p. 1). The maximum allowable concentrations for gross alpha and combined radium are 15 pCi/l and 5pCi/l, respectively.

On July 31, 1987, the Agency met with Braidwood to discuss the excess levels of gross alpha particle activity and combined radium in the City's water. (R., p. 100; Resp. Ex. 3, pp. 6-7).

---

<sup>1</sup>All of the radiological data that was presented in this record is listed on pages 5-6 of this Opinion.

Pursuant to the meeting, Braidwood agreed to execute a Letter of Commitment that was prepared by the Agency in order to come into compliance. Both the meeting and the Letter of Commitment were part of an Agency enhanced enforcement program, in which the Agency provides water supplies with technical assistance and an opportunity to come into compliance with the Board's regulations within a certain timeframe, thus, not risking a penalty in a formal enforcement action. (R., pp. 120, 132-134). On August 6, 1987, the Agency sent a letter to Braidwood reminding it of the August 30, 1987 deadline for signing the Letter of Commitment. (Resp. Ex. 3, pp. 6-7). On August 26, 1987, Braidwood executed the Letter of Commitment. (Resp. Ex. 3, pp. 1-5; Agency Rec., Ex. F; Amended Pet., Ex. A).<sup>2</sup> The Letter of Commitment detailed those actions that Braidwood would take in order to achieve compliance with the Illinois Environmental Protection Act ("Act") and the Board's public water supply regulations. Among other commitments, Braidwood promised to collect quarterly samples and have them analyzed annually, at its own expense, by an Agency certified laboratory. Braidwood was to report the results to the Agency. Braidwood also agreed that it would submit a compliance report on or before November 10, 1988.

On September 24, 1987, Radiation Measurements, Inc., an Agency contractor, sent the Agency the results of its combined radium analyses for 73 public drinking water supplies. (Resp. Grp. Ex. 4, pp. 2-6; Agency Rec., Ex. D). The analysis for Braidwood's supply was  $20.1 \pm 10.8$  pCi/l for radium 226 and  $10.5 \pm 1.8$  pCi/l for radium 228.<sup>3</sup> On December 1, 1987, the Agency informed Braidwood of the September 24, 1987 sample analysis for radium. (Pet. Ex. 12).

On May 5, 1988, the Agency sent a letter to Braidwood stating that it had not received a copy of the public notice from the City within the past three months.<sup>4</sup> (Resp. Grp. Ex. 5, p. 1). The Agency then requested Braidwood to forward a copy of such notice to the Agency. On May 16, 1988, Braidwood mailed a

---

<sup>2</sup>The Letter of Commitment that is marked as Respondent's Exhibit 3 and the Letter of Commitment that is attached as Exhibit A to the Amended Petition bear an August 26, 1987 execution date. The Letter of Commitment that is attached as Exhibit F to the Recommendation, however, bears a September 15, 1987 execution date.

<sup>3</sup>The Agency believes that the results are an annual composite of four consecutive quarterly samples.

<sup>4</sup>Pursuant to Board regulations, a community is required to notify the public on a quarterly basis of the radium and gross alpha content in its water supply when the community is placed on restricted status. 35 Ill. Adm. Code 606.201 and 606.202.

letter to each of its customers notifying them of the excess gross alpha and radium levels. (Resp. Grp. Ex. 5, p. 2). Braidwood then published this notice on May 18, 1988. (Resp. Grp. Ex. 5, p. 3). On June 3, 1988, Braidwood notified the Agency of its actions. (Resp. Grp. Ex. 5, p. 4).

On November 3, 1988, the Agency learned that Braidwood was installing a new eight inch water main.<sup>5</sup> (Agency Rec., Ex. D). In a letter dated November 14, 1988, the Agency informed Braidwood that no construction permit had been issued for the water main and that Braidwood would need an operating permit from the Agency prior to placing the water main into operation. (Agency Rec., Ex. D). The Agency also noted that Braidwood could not connect any new water service to the line until its radium problem was resolved because the City was on the Restricted Status List for this contaminant.

On January 19, 1989, the Agency received Braidwood's Compliance Report. (Agency Rec., par. 20). On March 8, 1989, the Agency notified Braidwood that it did not issue a public notice in February to its customers of the excessive radiation levels in its water supply. (Resp. Grp. Ex. 5, p. 7). The Agency then warned Braidwood that it would issue the public notice if Braidwood did not do so within two weeks. On April 24, 1989, Braidwood submitted its application for a construction permit for the water main construction to the Agency. (Pet. Ex. 7; Pet. Ex. 8, pp. 1-2). On April 25, 1989, Braidwood held a public hearing on the available treatment alternatives and passed a resolution affirming the selection of a Kankakee River water treatment option. (Agency Rec., Ex. C, pp. 5-10). On May 11, 1989, Braidwood submitted a supplement to its Compliance Report to the Agency. (Agency Rec., par. 20, Ex. C). On July 14, 1989, the Agency issued a construction permit for Braidwood's water main construction. (Pet. Ex. 8, p. 3; Resp. Ex. 2). On August 15, 1989, the Agency sent another letter to Braidwood regarding the City's failure in August to issue a public notice regarding the excess radium and gross alpha levels in its water supply. (Resp. Grp. Ex. 5, p. 10). Braidwood issued a public notice on August 23, 1989. (Pet. Ex. 5). On September 6, 1989, the Agency sent a letter to Braidwood stating that it received Braidwood's August 23, 1989 notice and that it was acceptable. (Pet. Ex. 5). On December 15, 1989, the Agency notified Braidwood that it had not issued a public notice since August 23, 1989. (Resp. Grp. Ex. 5, p. 11). The Agency also stated that it would issue a

---

<sup>5</sup>The record indicates that Braidwood was constructing a new water main loop for the sole purpose of increasing water volume and pressure, specifically in the area of the high school. (R., p. 64). Braidwood stated at the hearing that no new customers have hooked on to the portion of the main for which a permit was eventually issued. (R., p. 66-67, 79).

notice if the City did not take any action on the matter within two weeks. On January 18, 1990, and in March, 1990, Braidwood notified its customers of the excess gross alpha and radium content of its water. (Pet. Ex. 4). On March 27, 1990, the Agency sent a letter to Braidwood documenting the fact that the Agency received Braidwood's January 10, 1990, and March, 1990 public notifications and that such notifications were acceptable. (Pet. Ex. 4). On April 24, 1990, Braidwood passed a resolution to improve its recordkeeping and keep the Agency informed of its radiological sampling. (R., p. 91, Pet. Ex. 6, pp. 1-2). Braidwood is currently on the Agency's April, 1990 Restricted Status List. (Agency Rec., par. 11).

The following is a list of the radiological sampling results that either the Agency and Braidwood presented in this case.

a. July 30, 1979 - samples taken at well 3 (duplicate analyses of the same sample):

1) 61.8 ± 11.0 pCi/l gross alpha activity  
53.1 ± 10.0 pCi/l gross beta activity

2) 71.6 ± 12.0 pCi/l gross alpha activity  
64.0 ± 10.6 pCi/l gross beta activity

b. January 25, 1984 - sample results of annual composite analysis from USEPA laboratory (sampling location and sampling date not noted):

1) 10.2 pCi/l radium 226  
2) 2.6 pCi/l radium 228

c. March 25, 1986 - samples taken at N. Center Street (duplicate analyses of the same sample):

1) 52 ± 11 pCi/l gross alpha activity  
47 ± 12 pCi/l gross beta activity

2) 55 ± 11 pCi/l gross alpha activity  
56 ± 12 pCi/l gross beta activity

d. July 13, 1987 - sample results for two samples from Teledyne Isotopes Midwest Laboratory (sampling location and sampling date not noted):

1) <1.5 pCi/l gross alpha activity  
2) 2.6 ± 1.8 pCi/l gross alpha activity

e. September 24, 1987 - sample results from Radiation Measurements, Inc. for 73 public drinking water samples from various supplies (The Agency believes that the results represent an annual composite

rather than the average of four consecutive quarterly samples.) The analysis for Braidwood's supply was:

- 1) 20.1 ± 10.8 pCi/l radium 226
- 2) 10.5 ± 1.8 pCi/l radium 228

f. July 29, 1988 - sample results of single sample analysis from Teledyne Isotopes Midwest Laboratory (sampling location and sampling date not noted)

- 1) 12.5 ± 1.8 pCi/l gross alpha
- 2) 11.9 ± 0.2 pCi/l radium 226
- 3) 5.1 ± 1.2 pCi/l radium 228

g. November 3, 1988 - sample results of single sample analysis from Teledyne Isotopes Midwest Laboratory (sampling date not noted)

	<u>gross alpha</u>	<u>radium 226</u>	<u>radium 228</u>
well 1	10.9 ± 3.7	7.3 ± 0.1	3.7 ± 1.2
well 2	12.7 ± 4.2	7.0 ± 0.1	4.6 ± 1.1
well 3	31.3 ± 5.6	21.8 ± 0.2	8.0 ± 1.4

h. non-composited sample results for three quarters:

- 1) July 11, 1989  
32.7 ± 2.8 pCi/l gross alpha (sewage plant)  
11.2 ± 1.8 pCi/l gross alpha (city hall)
- 2) October 5, 1989  
The sample was not analyzed but discarded due to questionable sampling location.
- 3) October 26, 1989  
31.3 ± 2.5 pCi/l gross alpha (sewer plant)  
17.5 ± 1.9 pCi/l gross alpha (city hall)
- 4) January 31, 1990  
10.9 ± 1.6 pCi/l gross alpha (wells #1 & #2-pumphouse)  
19.0 ± 2.0 pCi/l gross alpha (sewer plant)

(Pet. Exs. 9, 10, 11; Resp. Grp. Ex. 4, pp. 2-6; Agency Rec. par. 14, Ex. B, pp. 1-2, 5-16, 18-19)

At the outset, the Board notes that the gross alpha test results that triggered Braidwood being placed on restricted

status on July 10, 1981, are not contained in this record. We also note that Braidwood is asking for relief from restricted status, but only as it relates to the combined radium standard. Even the Agency, in its Recommendation, appears to focus only on the combined radium standard and seems to have initiated efforts to pressure Braidwood to come into compliance with only those standards. In fact, in the Letter of Commitment, the Agency refers only to the radionuclide standards of 35 Ill. Adm. Code 604.301. As we look at the above results, however, it appears evident that Braidwood is in violation of the gross alpha standard. Moreover, there is no indication in the record that Braidwood has demonstrated compliance with the gross alpha requirements since being placed on restricted status for gross alpha in 1981, or that the restricted status has been lifted. Braidwood should have started compliance efforts by instituting a compliance plan, sampled for gross alpha on a quarterly basis, and issued quarterly notices regarding the gross alpha content of the water once it was placed on restricted status. In any event, the Board is at a loss to determine why neither the Agency nor Braidwood have addressed these matters.

#### REGULATORY FRAMEWORK

The United States Environmental Protection Agency ("USEPA") has promulgated a maximum concentration limit 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. Pursuant to Section 17.6 of the Illinois Environmental Protection Act ("Act") (Ill. Rev. Stat. 1989, ch. 111½, par. 1017.6, any revisions to the 5 pCi/l standard by the USEPA will automatically become the standard in Illinois.

Braidwood requests a variance from the maximum allowable concentrations for combined radium. The Board, however, cannot grant a variance from national primary drinking water regulations. The standards will remain applicable to Braidwood. In the alternative, Braidwood requests a variance 35 Ill. Adm. Code 602.105(a) and 602.106(b), but only to the extent those rules involve the combined radium standard in 35 Ill. Adm. Code 604.301(a). 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

- 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.

## Section 604.301 Radium-226,-228, and Gross Alpha Particle Activity

The following are the maximum allowable concentrations for radium-226, radium-228, and gross alpha particle radioactivity in community water supplies:

- a) Combined radium-226 and radium-228: 5pCi/l

Board regulations provide that communities 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 Board regulations not found in federal law.

In consideration of any variance, the Board determines 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. ch. 111½, par. 1035(a)(1989). Further, the burden is not upon the Board to show that the harm to the public outweighs petitioner's hardships; the burden is upon petitioner to show that its claimed arbitrary and unreasonable hardship outweighs the public interest in attaining compliance with regulations designed to protect human health and the environment. Willowbrook Motel v. Illinois Pollution Control Board, 135 Ill. App. 3d 343, 481 N.E.2d 1032 (1st. Dist. 1985)

Moreover, a variance by its nature is a temporary reprieve from compliance with the Board's regulations and compliance is to be sought regardless of the hardship which the task of eventual compliance presents an individual polluter. Monsanto Co. v. IPCB 67 Ill.2d 267, 367 N.E.2d 684 (1977). Accordingly, except in certain special circumstances, a variance petitioner is required, as a condition to grant of variance, to commit to a plan that is reasonably calculated to achieve compliance within the term of the variance.

COMPLIANCE PROGRAM

The basis for Braidwood's compliance program is set forth its Letter of Commitment to the Agency and is as follows:



secure assistance of registered professional engineer	January 10, 1988
submission of interim compliance report	May 10, 1988
submission of detailed compliance report and compliance plan	November 10, 1988
compliance	July 10, 1991

(Resp. Ex. 3, pp. 1-5; Agency  
Rec., Ex. F; Amended Pet.,  
Ex. A)

The Letter of Commitment contains several other commitments made by Braidwood other than those mentioned above. Moreover, the Letter of Commitment specifies that the dates for permit application, bid advertisement, construction, and final compliance should be contained in the compliance plan submitted on or before November 10, 1988.

As previously stated, the Agency alleges that it received Braidwood's compliance report on January 19, 1989. (Agency Rec., par. 20). Braidwood then submitted a supplement to the report on May 11, 1989. (Agency Rec., par. 20, Ex. C). In the supplement, Braidwood presented the four compliance methods that were discussed at a April 25, 1989 public hearing on the matter: lime and soda ash treatment, cation exchange, the purchase of water from Wilmington, and treatment of Kankakee River water. Braidwood then stated that the overwhelming consensus at the hearing was to pursue the Kankakee River water treatment option and that the City passed a resolution affirming such consensus. Although no radium removal will be necessary with this option, the raw water will be pumped from the river to a new water treatment plant. The plant, in turn, will use lime and soda ash softening to treat the raw water. Braidwood also presented the following compliance schedule for implementation of this option:

initiate project design	June 1, 1989
design complete	November 1, 1989
IEPA review and approval	February 1, 1990
advertise for bids	February 13, 1990
award construction contract	March 13, 1990
begin construction	April 1, 1990

construction complete

May 1, 1991

achieve full compliance

July 10, 1991

(Agency Rec., Ex. C, p. 9)

### ENVIRONMENTAL EFFECTS

At the outset, the Board notes that what follows is a brief summary of each expert's opinions. We will not conduct an in-depth analysis of the merits of each expert's opinions in light of the fact that we are denying the requested relief on the basis of self-imposed hardship.

At hearing, the Agency submitted a April 16, 1990 report from William H. Hallenbeck, Dr.P.H. (Resp. Ex. 6). Dr. Hallenbeck's report updated his 1986 ENR report entitled "Risk Assessment to Radium and Fluoride in Illinois Public Water Supplies" ILENR/RE-EA-86/14) and his paper entitled "Risk Analysis of Exposure to Radium-226/228 in Groundwater" (The Environmental Professional 11:171-177, 1989). (Resp. Ex. 6, p. 1). In the report, Dr. Hallenbeck calculates that the most probable value for excess lifetime cancer risk is  $3.5 \times 10^{-4}$  (350 chances in one million of developing cancer) and that the most probable value for excess cancer cases per year is 0.02 (two excess cancer cases per every 100 years). (Resp. Ex. 6, p. 4). The upper 99 percent values for excess lifetime cancer risk and excess cancer cases per year are  $5.4 \times 10^{-4}$  (540 chances in one million of developing cancer) and 0.03 (three excess cancer cases per every 100 years), respectively. (Resp. Ex. 6, p. 5). Dr. Hallenbeck based these calculations on the total population for Braidwood (3500 people), an excess radium limit of 25.6 pCi/l (30.6 pCi/l - 5 pCi/l), a 68 year exposure (75 year exposure adjusted by a nominal 7 year latency), and an average fluid intake of 2 liters per day. (Resp. Ex. 6, pp. 3-4).

Richard C. Toohey, Ph.D., of Argonne National Laboratory, testified on behalf of Braidwood. (R., pp. 11-56; Pet. Ex. 2). Dr. Toohey noted that all of the gross alpha in Braidwood's water supply is accounted for by the radium. (R., pp. 51-52). He also stated that the Agency overestimated the risk associated with the grant of this variance because it used the entire population of Braidwood when making its calculations. (R., pp. 33-34; Pet. Ex. 2, p. 9). In assessing the risk associated with a grant of variance, Dr. Toohey noted that one must determine the effect of the variance, versus the imposition of restricted status, on the population newly exposed to the drinking water by extension of the water supply system to new developments. (R., p. 34; Pet. Ex. 2, p. 9). Thus, Dr. Toohey based his calculations on the additional population of Braidwood resulting from development during the next two years. (R., pp. 14, 34; Pet. Ex., pp. 2, 9).

He estimated that this number would be 1350 people (450 new dwellings x 3.0 average number of people per dwelling). (R., p. 14; Pet. Ex., p. 2).

After making several calculations pursuant to several scientific models, Dr. Toohey concluded that the additional health risk from a grant of variance in this case would be negligible no matter what model was used. (R., p. 35; Pet. Ex., p. 9). He then stated that if one makes a conservative assumption that all of the development occurs immediately so that all of the 1350 people would be drinking Braidwood water for the two years of the variance, the excess cancers induced in this population would be 0.012 based on the USEPA's linear no-threshold model. (R., p. 34, Pet. Ex. 2 p. 9). If USEPA's linear no-threshold model were adjusted for a tap water intake of 1.0 liters/day rather than 2 liters per day, the excess cancer would be 0.006 cases. (R., p. 34; Pet. Ex. 2, p. 9). Based on a quadratic model with an intake of 1.0 liters per day, the excess cancers would be 88 billionths of one case. (R., p. 34; Pet. Ex. 2, p. 9). Based on the practical threshold model, the excess would be zero. (R., pp. 34-35; Pet. Ex. 2, p. 9).

#### CONSISTENCY WITH FEDERAL LAW

As previously stated, the Board cannot grant Braidwood a variance from the maximum allowable concentrations for combined radium that are contained in 35 Ill. Adm. Code 604.301(a). Both Braidwood and the Agency agree, however, that variance from restricted status may be granted consistent with the requirements of the Safe Drinking Water Act (42 U.S.C. 300(f) et. seq.), as amended by the safe Drinking Water Act Amendments of 1986 (Pub. Law 99-339, 100 Stat. 642 (1986)), and the USEPA National Interim Primary Drinking Water Regulations (40 CFR Part 141) because such relief would not constitute a variance from national primary drinking water regulations nor a federal variance. (Agency Rec., pars., 23, 25; Amended Pet, par. 12). Specifically, granting a variance from the effects of restricted status means that only the State's criteria for variances are relevant.

The Agency states that grant of variance leaves Braidwood subject to the possibility of federal enforcement for violations of the radium standards. (Agency Rec., par. 26). The Agency, however, is unable to state with any certainty whether USEPA would oppose a variance in this case because it has never presented a variance involving such unusually high radium concentrations to USEPA. (Agency Rec., par. 27).

#### AGENCY RECOMMENDATION

The Agency has recommended that this variance be denied. (Agency Red., par. 28). It cites four reasons for its conclusion. (Agency Rec., par. 10). First, the Agency alleges

that it has not received any sampling results from Braidwood. It, therefore, concludes that the City has failed to honor its commitment, as set forth in the Letter of Commitment, to collect quarterly samples, have them analyzed on a yearly basis, and to report the results to the Agency. (Agency Rec., pars. 10, 20). Second, the Agency states that Braidwood failed to submit its compliance report on or before November 10, 1988, as required by the Letter of Commitment. (Agency Rec. par. 20). The Agency alleges that it received the report on January 19, 1989, and that it received a Supplement to the report in May of 1989. (Agency Rec., par. 20). The Agency argues that the supplement is, in fact, the final Compliance Report. Third, the Agency alleges that, in November of 1988, Braidwood constructed a water main without permits, in violation of restricted status. (Agency Rec., par. 20). Finally, the Agency alleges that Braidwood failed on numerous occasions to notify its customers, on a quarterly basis, of the radium and gross alpha content of its water supply, as required by Board regulations. (Agency Rec., par. 20).

#### HARDSHIP

Braidwood argues that a denial of variance would constitute an arbitrary or unreasonable hardship because it would be in a less favorable financial situation to come into compliance. (Amended Pet., par. 9). Braidwood's reasoning for this statement is as follows. First, Braidwood notes that if the variance is granted, certain properties in the City will be developed as a result of the water main extension. This construction, in turn, would result in the expansion of the tax base and enhance the equalized assessed evaluation of the tax base. Braidwood argues that this expansion is important because the City, as a non-home rule unit, can only pay for the improvements to its water system that are necessary to achieve compliance through the issuance of general obligation bonds. (Amended Pet., par. 9).

The Board notes that the Mayor of Braidwood stated at the hearing that the City unsuccessfully attempted to form a regional water district with seven other communities. (R., pp. 101-102, 111-112). Two citizens also presented testimony at hearing. The first, a developer, testified that he has had to stop work on a development because he is waiting to obtain water service for it. (R., pp. 174-175). The second citizen (also a real estate developer) testified that he is concerned about whether Braidwood will be able let him proceed with the development of his property. (R., pp. 176-178).

#### BOARD DISCUSSION

The Board reviews three essential elements when making a variance determination; the degree of hardship justifying delayed compliance with the standards, a petitioner's compliance efforts,

and the reasonableness of the compliance plan. When the variance relief sought is from restricted status, any special hardship justification that may be made for being allowed to deliver noncomplying water in the interim to new customers must identify the hardship with some degree of particularity. Moreover, the internal and external timeframes of the proposed compliance plan are a concomitant, indeed an essential, consideration in a restricted status variance determination because the duration of restricted status is linked to the length of time it takes a petitioner to come into compliance with the underlying standards. We also note that included in a review of compliance efforts is whether the petitioner complied with Board regulations related to notice and sampling following a determination of noncompliance with the radium standard.

Although the Board recognizes that Braidwood may experience some financial hardship if restricted status is continued, such hardship is self-imposed. Braidwood fails to show that it was taking timely steps toward compliance, even when under Agency pressure. The record does not support the conclusion that Braidwood was precluded from resolving its compliance problems because of financial difficulties. The Board notes that had Braidwood committed to a compliance plan years earlier, its claims of need to be removed from restricted status so as to ease its financial hardship might have been more persuasive.

At the outset, the Board notes that Dr. Toohy testified that all of the gross alpha in Braidwood's water supply is accounted for by the radium. (R. pp. 51-52). If Braidwood had acted quickly when it received the gross alpha reading that placed it on restricted status, and had conducted quarterly testing for gross alpha, it would have discovered the excess radium levels in its water supply long before 1984. Even if one could find an explanation (that is not in this record) as to why Braidwood did not initiate compliance during the period of 1981 to 1984 when gross alpha was the only contaminant at issue, one cannot ignore the fact that Braidwood was first placed on restricted status for combined radium on January 25, 1984. It appears that Braidwood took no action to come into compliance between the date that it was placed on restricted status and August 26, 1987, the date that it signed the Letter of Commitment. Instead, Braidwood waited for three years, until it signed the Letter of Commitment on August 25, 1987, to start proceeding toward compliance and, even then, has not shown due diligence. The Board notes that, even after signing the Letter of Commitment, Braidwood has not satisfied its terms and has again delayed coming into compliance. The Agency received Braidwood's Compliance Report on January 19, 1989, rather than on the November 10, 1988 deadline specified in the Letter of Commitment. (Agency Rec., par. 20). The Board notes that Braidwood submitted a supplement to the Compliance Report on May 11, 1989. (Agency Rec., par. 20). This supplement should be

construed as Braidwood's final report because it selected and evaluated the Kankakee River treatment option and set forth a compliance schedule to implement the option. (Agency Rec., par. 20, Ex. C). While failure to comply with the Letter of Commitment is not per se a violation of the Board's regulations, it is evidence of Braidwood's gross lack of diligence in coming into compliance. Moreover, the Board notes that there is nothing in the record explaining why Braidwood has failed to come into compliance for all of these years. The Board sees no mitigation for the length of time that Braidwood has been in violation of the combined radium standard. We note that some water supplies have sought (though not necessarily been granted) relief because of the potential federal change in the radium standard. That has never been at issue here; Braidwood's combined radium results indicate levels as high as this Board has seen.

There also are three aggravating factors that support the Board's decision to deny the requested relief. First, Braidwood failed to conduct proper sampling for radium in accordance with the sampling requirements in the Board's regulations, and continued not to do so in spite of Agency pressure and the Letter of Commitment. 35 Ill. Adm. Code. 605.106(d) states that when a water supply is placed on restricted status, there should be quarterly monitoring for radium until compliance is achieved or until a monitoring schedule set forth in a variance, exemption or enforcement action becomes effective. At the outset, we note that the Agency's and Braidwood's sampling records are not in agreement. However, a review of both sets of records shows that Braidwood failed to conduct proper sampling. The Agency, in its Recommendation, states that Braidwood failed to sample, analyze, or report the results to the Agency, but that the Agency files contain the following samples: March 25, 1986, September 24, 1987, July 11, 1989, October 5, 1989, October 26, 1989, and January 31, 1990 (see c, e, and h on pages 5 and 6 of this Opinion). (Agency Rec., pars. 10, 14, Ex. B, pp. 1, 2, 5-15, 17-18). The Agency then stated at hearing that it possessed three additional samples; a January 25, 1984 sample, a July 29, 1988 sample and a November 3, 1988 sample (see b, f, and g on pages 5 and 6 of this Opinion. (R., pp. 123, 124-125). Petitioner's Exhibits 9, 10, and 11, on the other hand, indicate that Braidwood sampled and/or analyzed its water supply on July 30, 1979, March 25, 1986, July 13, 1987, July 29, 1988, November 3, 1988, and October 26, 1989 (see a, c, d, f, g, and h(3) on pages 5 and 6 of this Opinion).

When examining Braidwood's exhibits, it becomes evident that Braidwood analyzed the radium content of its water only on July 29, 1988 and November 3, 1988 (the tests that Braidwood conducted on the other dates are for gross alpha and beta). Also, the radium results are single sample analyses rather than composite analyses of data collected for four quarters. 35 Ill. Adm. Code 605.105(a), however, requires that a demonstration of compliance

with the combined radium standards shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average analyses of four samples obtained at quarterly intervals. There is no indication in the record that Braidwood conducted quarterly sampling between the date that it was placed on restricted status for radium and the date that it signed the Letter of Commitment. Even from the date that the August 1987 Letter of Commitment was signed, Braidwood should have compiled either the results of two annual composites or two annual averages of quarterly analyses.

The Board also notes that Braidwood reported only its November 3, 1988 sample result to the Agency. 35 Ill. Adm. Code 605.106, however, states that an owner or operator of a water supply shall notify the Agency if the water supply exceeds the maximum concentration for combined radium.

Second, Braidwood constructed a water main loop without the appropriate Agency permits and in violation of restricted status. As previously stated, Braidwood was constructing the loop in November of 1988, for the purpose of increasing water volume and pressure in the area of the high school. (R., p. 64). The construction consisted of two phases. (R., p. 65). A contractor worked on the first portion, and the City worked on the second portion. (R., p. 65). Although Braidwood obtained a construction permit for the first portion prior to its construction, it obtained the construction permit for the second portion subsequent to its construction. (R., p. 66). Braidwood finally applied for the construction permit on April 21, 1989. (Pet. Ex. 7; Pet. Ex. 8, pp. 1-2). The Agency issued the permit on July 14, 1989. (Pet. Ex. 8, p. 3; Resp. Exs. 1 and 2).

Finally, there have been occasions when Braidwood has failed to notify its customers of the radium and gross alpha content of its water supply even though it was required to do so on a quarterly basis pursuant to Board regulations. 35 Ill. Adm. Code 605.201 and 605.202. The Mayor of Braidwood stated at the hearing that, to best of his knowledge, he published notice on a quarterly basis regarding the excess radium in the water but was unaware that he should have forwarded the notices to the Agency. (R., p. 110-111). Respondent's Group Exhibit 5 indicates, however, that the Agency notified the City on May 5, 1988, March 8, 1989, August 15, 1989, and December 15, 1989, of its failure to issue a quarterly notice.<sup>6</sup> (R., pp. 127-128; Resp. Grp. Ex. 5, pp. 1, 7, 10, 11). The Agency stated at hearing that these

---

<sup>6</sup>The Board notes that the record contains three press releases. (Resp. Grp. Ex. 5, pp. 5-6, 8-9, 12-13; Agency Rec., Ex. B, pp. 3-4 and Ex. E, pp 1-2, ). We will disregard such notices, however, in light of the fact that the hearing officer in this matter excluded them from evidence. (R., pp. 160-162).

were the only times that Braidwood did not issue notice since the date on which it signed the Letter of Commitment. (R., pp. 138-139). In response, Braidwood presented two letters. The first letter, dated September 6, 1989, is from the Agency to Braidwood acknowledging that the City issued a notice on August 23, 1989. (Pet. Ex. 5). The second letter, is from the Agency to Braidwood acknowledging that the City issued a notice on January 10, 1990. (Pet. Ex. 4). The Board concludes that there was no violation in August of the Board's rules regarding notification. In fact, the Agency admitted at the hearing that it mailed its August 15, 1989 letter to Braidwood before it received word that Braidwood issued a notice for August. (R., pp. 142-143). We cannot come to the same conclusion with regard to the issue of whether Braidwood issued a notice for December. If Braidwood issued a notification in August, it should have issued another notice in November. Thus, the Board concludes that, since Braidwood executed the Letter of Commitment, it failed to issue public notices on three occasions. Moreover, there is no indication in the record that Braidwood issued quarterly notices between the date that it was placed on restricted status and the date that it signed the Letter of Commitment.

As a final note, the Board will not assess such issues as Braidwood's compliance plan or the environmental effects of the variance in light of the fact that the Board is denying relief because Braidwood's hardship is self-imposed.

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

#### ORDER

For the foregoing reasons the City of Braidwood's request for variance from 35 Ill. Adm. Code 602.105(a), "Standards for Issuance", and 602.106(b), "Restricted Status", to the extent that those rules involve 35 Ill. Adm. Code 604.301(a), is denied.

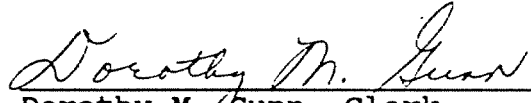
Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1989, ch. 111½, par. 1041, provides for appeal of final Orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements.

IT IS SO ORDERED.

Board Members J. Dumelle and B. Forcade concurred.



I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 21<sup>st</sup> day of June, 1990, by a vote of 7-0.

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