

ILLINOIS POLLUTION CONTROL BOARD  
September 12, 1991

VILLAGE OF FOX RIVER GROVE, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 91-104  
 ) (Variance)  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

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

This matter comes before the Board on the June 21, 1991 petition and, in response to a July 11, 1991 Board Order, the July 19, 1991 amended petition for variance filed by the Village of Fox River Grove (Village). The Village seeks relief from 35 Ill. Adm. Code 602.105(a), "Standards for Issuance", and from 35 Ill. Adm. Code 602.106(a), "Restricted Status", but only as these rules relate to the trichloroethylene (TCE) standard in 35 Ill. Adm. Code 611.311(a). The Village requests a variance until October 1, 1992, or until one year after the improvements needed to achieve compliance are in full operation, whichever is later. (Amend. Pet. par. 1).

On July 31, 1991, the Illinois Environmental Protection Agency (Agency) recommended that variance be granted, with conditions, until October 1, 1992, or when analysis pursuant to 35 Ill. Adm. Code 611.720(d) shows compliance with the then current standard for trichloroethylene, whichever occurs first. (Agency Rec. par. 27(B)). The Village waived hearing and none has been held.<sup>1</sup>

For the following reasons, the Board finds that the Village has presented adequate proof that immediate compliance with 35 Ill. Adm. Code 602.105(a) and 602.106(a) would result in the imposition of an arbitrary or unreasonable hardship. Accordingly, the variance is granted, subject to the conditions in the attached Order.

BACKGROUND

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<sup>1</sup>On August 8, 1991, the Board granted the Village's motion for expedited hearing and set this matter for hearing based upon an objection filed on August 5, 1991. On August 22, 1991, the Board vacated its August 8, 1991 Order because of the withdrawal of the August 5, 1991 objection. On August 26, 1991, the Board determined not to reverse its prior cancellation of hearing although it received two additional objections.

The Village, located in the southeast corner of McHenry County, provides potable water for a population of about 3450 persons, and serves residential, commercial and industrial users. (Amended Pet. par. 7). Its system consists of two shallow wells, manganese greensand filters for iron removal, and distribution facilities. (Id.). The two wells, Well #1 and Well #2, are 143 feet and 120 feet in depth, respectively, are in a dolomite aquifer, and operate alternately to produce 400 gpm. (Id. pars. 7, 8). The water is treated with: chlorine, fluoride, and potassium permanganate which, along with the greensand filters, removes iron and manganese. (Id. par. 10).

The maximum contaminant level (MCL) for trichloroethylene of 0.005 milligrams per liter (mg/L) in Section 611.311(a), became effective on September 20, 1990. (Agency Rec. par. 6). It was one of a number of volatile organic chemicals (VOCs) adopted by the Board in its rulemakings that are "identical in substance" to federal rules. The Village has not sought a variance prior to this petition and the trichloroethylene standard is the only one exceeded. (Id.).

The Village was first advised by the Agency on November 17, 1986 that Well #2 had low levels of VOCs, based on an average of four quarterly samples and that it would continue to monitor the well for VOCs. (Amend. Pet. par. 14; Agency Rec. par. 12). The Agency was conducting the sampling as part of a program to monitor all suppliers' wells for volatile organic and aromatic chemicals. (Amend. Pet. par. 14). About 30 samples collected by the Village and the Agency from Well #1 between October 1986 and April 1991, show an average concentration of TCE of 0.015 mg/L and about 19 samples collected from Wells #2 during the same time period show an average concentration of TCE of 0.014 mg/L. (Id. pars. 17, 21). On March 19, 1991, the Agency notified the Village that it was being placed on restricted status because the average of four samples collected quarterly between July 1990 through April 1991, which showed an average TCE of 0.0185 mg/L. (Agency Rec. par. 12).

#### REGULATORY FRAMEWORK

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

#### Section 602.105            Standards for Issuance

- a) The Agency shall not grant any construction or operating permit required by this Part unless the applicant submits adequate proof that the public water supply will be constructed, modified or operated so as not to cause a violation of the Environmental Protection Act

(Ill. Rev. Stat. 1989, ch. 111 ½, pars. 1001 et seq.)  
(Act), or of this Chapter.

Section 602.106 . Restricted Status

- a) Restricted status shall be defined as the Agency determination pursuant to Section 39(a) of the Act and Section 602.105, that a public water supply facility may no longer be issued a construction permit without causing a violation of the Act or this Chapter.

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

In determining whether any variance is to be granted, the Act requires the Board to determine whether a petitioner has presented adequate proof that immediate compliance with the Board regulations at issue would impose an arbitrary or unreasonable hardship. (Ill. Rev. Stat. 1989, ch. 111 ½, par. 1035(a)). Furthermore, the burden is upon the petitioner to show that its claimed hardship outweighs the public interest in attaining compliance with regulations designed to protect the public. Willowbrook Motel v. Pollution Control Board, 135 Ill. App. 3d 343, 481 N.E.2d 1032 (1st Dist. 1985). Only with such showing can the claimed hardship rise to the level of arbitrary or unreasonable hardship.

A further feature of a variance is that it is, by its nature, a temporary reprieve from compliance with the Board's regulations 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 276, 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 which is reasonably calculated to achieve compliance within the term of the variance.

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

COMPLIANCE PLAN

The Village considered two compliance alternatives: 1) the use of Granular Activated Carbon (GAC), and 2) the use of an packed bed aeration tower to strip the TCE from the water flowing through the system. (Amend. Pet. par. 39). The Village chose the latter option and is currently in the process of constructing the tower. (Id. par. 40). Specifically, construction on the tower began on May 3, 1991, and the equipment is projected to be operational by October 1991. (Id. pars. 18, 20, 41). Final financing has been arranged to cover the total cost of design and construction of the facilities (approximately \$360,000). (Id. pars. 18, 23, 38, Ex. C). The Village asserts that this method will effectively reduce the TCE to less than 0.001 mg/L. (Id. par. 22).

#### HARDSHIP

The Village asserts that it has diligently pursued compliance by taking a number of steps since the Agency first notified it in late 1986, of the VOCs in its water supply. (Id. par. 29). In May 1987, after confirming the Agency's results with independently collected samples, it hired an engineering firm to examine the TCE problem and advise the Village as to how to achieve compliance. (Id. par. 31). In June 1987, selected private wells were tested to seek to identify the origin of the TCE. (Id. par. 32). From June through September 1987, the Village's consultant investigated the hydrogeology of the area, inspected, and prepared plans and received bids for monitoring well construction, at a cost of \$22,000. (Id. par. 33). From October 1987 to February 1988, the Village drilled a total of eleven, two-inch diameter monitoring wells to determine the extent of the contamination and whether, with a reasonable level of treatment, continued use of the supply wells was possible. (Id. par. 34). The costs associated with the drilling totaled \$51,700. (Id.). In August 1989, the Village isolated the probable source of the contamination with an additional monitoring well, at a cost of \$4,450. (Id. par. 35). In the latter part of 1989, the Village drilled two test wells at locations chosen to replace the existing supply wells. (Id. par. 36). Although the Village spent \$42,800 on drilling, one well failed to produce enough water and the site on which the other well was located was unobtainable. (Id.). Beginning in April 1990, the Village has been attempting to reach a settlement with the owner of the property from which the contamination was believed to have originated, at a cost to date of \$3,100. (Id. par. 37).

The Village asserts it has incurred costs in excess of \$484,000 for all its activities towards achieving compliance. (Id. par. 38). All costs have been Village financed because the Village has been unable to obtain a construction grant from the State. (Id. pars. 18, 38).

The Village asserts that, even though the aeration tower will become operational in October 1991, and the level of TCE reduced to a level below the MCL for TCE, denial of variance would continue to delay or preclude development during the time it takes for the average of four quarterly samples to show compliance. (Id. par. 43). The Village specifically notes that two sizeable developments have preliminary or final plats that have been recommended for approval, or have been approved by the Village's Plan Commission. (Id. par. 44). The Village asserts that the loss of either of these developments would have a serious economic impact, including the impact on its ability to pay for the water supply plant improvements, and that such economic impact far outweighs any adverse health effects. (Id. par. 45). The Agency agrees that denial of variance would impose an arbitrary or unreasonable hardship. (Agency Rec. par. 19).

#### ENVIRONMENTAL IMPACT

Regarding environmental impact, including health effects, the Village asserts that grant of variance will affect no additional users during the variance period because the aeration tower will be operational before the new developments are occupied.<sup>2</sup> (Amend. Pet. par. 26).

The Agency believes that there is no significant health risk flowing from the variance. (Agency Rec. pars. 16, 18). The Agency also addressed the risks of short and long term exposure to TCE in its recommendation. According to C.A. Stevens, in "Poisoning by Accidental Drinking of Trichloroethylene", Brit Med. Jour. (1945), short term oral exposure of 21 to 35 grams of TCE resulted in vomiting and abdominal pain, followed by transient unconsciousness. (Id. par. 15). According to V. Lachnit, in "Halogenated Hydrocarbons and the Liver", Vein. Klin. Wochenschr. 83(41):734 (1971), long term occupational exposure resulted in an increase in serum transaminases occurred, indicating damage to the liver parenchyma. (Id.).

The Agency referenced for its assessment of cancer risk "Trichloroethylene", Health Advisory, Office of Drinking Water, U.S. Environmental Protection Agency, March 31, 1987. (Id. Ex. 1). The estimated risk from lifetime exposure to drinking water containing TCE at 260 ug/L is about  $1 \times 10^{-4}$ . (Id. par. 15). It is also estimated that an adult who consumes 2 liters of water containing 0.028 mg/L of TCE daily for 70 years would have an

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<sup>2</sup>Although its filing was late, we note that McHenry County basically "went on record" as objecting to any expansion of the water system until the air stripper is on line and successfully reducing the TCE to acceptable levels. (McHenry County letter filed August 23, 1991).

excess cancer risk no greater than 0.00001. (Id.).

Finally, the Agency states:

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. (Id. par. 26).

#### CONSISTENCY WITH FEDERAL LAW

The Agency states that the requested variance may be granted consistent with the Safe Drinking Water Act (42 U.S.C. Section 300(f) et seq.) and the corresponding regulations (40 CFR Part 141) because the variance does not grant relief from compliance with the federal primary drinking regulations. (Agency Rec. pars. 20, 22).

#### CONCLUSION

Based on the record, the Board finds that immediate compliance with the 35 Ill. Adm. Code 602.105(a) and 35 Ill. Adm. Code 602.106(a) would impose an arbitrary or unreasonable hardship on the Village of Fox River Grove. We also agree that this grant of variance does not pose a significant health risk to those persons served by any new water main extensions. With the inclusion of the Agency's recommended conditions, the Board will grant variance until October 1, 1992, and will require that construction of the improvements are fully completed no later than October 1, 1991.

We again note that today's action is solely a grant of variance from standards of issuance and restricted status. The Village is not granted variance from compliance with the trichloroethylene standard, nor does today's action insulate the Village in any manner against enforcement for violation of these standards.

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

#### ORDER

The Village of Fox River Grove is hereby granted a variance from 35 Ill. Adm. Code 602.105(a), "Standards for Issuance", and 602.106(a), "Restricted Status", as they relate to the standard

for trichloroethylene as set forth in 35 Ill. Adm. Code 611.311(a), subject to the following conditions:

- (1) This variance shall terminate on the earliest of the following dates:
    - (a) October 1, 1992; or
    - (b) When analysis pursuant to 35 Ill. Adm. Code 611.720(d), or any compliance demonstration then in effect, shows compliance with the current standard for trichloroethylene or any standard for trichloroethylene then in effect.
  - (2) Compliance shall be achieved with the maximum contaminant level for trichloroethylene, or with any revised standard for trichloroethylene then in effect, by October 1, 1992 or one year after the improvements need to achieve compliance are in full operation, whichever is sooner.
  - (3) In consultation with the Illinois Environmental Protection Agency ("Agency"), Petitioner shall continue its sampling program to determine as accurately as possible the level of trichloroethylene in its wells and finished water. Until this variance terminates, Petitioner shall collect quarterly samples of its water from entry points of its distribution system at locations approved by the Agency. Petitioner shall analyze them quarterly by a laboratory certified by the State of Illinois for VOC analysis so as to determine the maximum contaminant level of trichloroethylene. The results of the analyses shall be reported within 30 days of receipt of the most recent result to:

Illinois Environmental Protection Agency  
Compliance Assurance Section  
Division of Public Water Supplies  
2200 Churchill Road  
Springfield, Illinois 62794-9276
- 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.
- (4) Construction of all installations, changes, or additions necessary to achieve compliance with the maximum contaminant level in question shall be completed no later than October 1, 1991.
  - (5) Pursuant to 325 Ill. Adm. Code 611.851(b), in its first

set of water bills or within three months after the date of this Order, whichever occurs first, and every three months thereafter, Petitioner will send to each user of its public water supply a written notice to the effect that Petitioner has been granted by the Pollution Control Board a variance from 35 Ill. Adm. Code 602.105(a) Standards of Issuance and 35 Ill. Adm. Code 602.106(a) Restricted Status, as they relate to the maximum contaminant level for trichloroethylene.

- (6) Pursuant to 35 Ill. Adm. Code 611.851(b), in its first set of water bills or within three months after the date of this Order, whichever occurs first, and every three months thereafter, Petitioner will send to each user of its public water supply a written notice to the effect that Petitioner is not in compliance with the maximum contaminant level for trichloroethylene. The notice shall state the average content of the contaminants in question in samples taken since the last notice period during which samples were taken and shall include the mandatory health effects language as specified in 35 Ill. Adm. Code 611.Appendix A1.
- (7) Until full compliance is achieved, Petitioner shall take all reasonable measures with its existing equipment to minimize the maximum contaminant level of trichloroethylene in its finished drinking water.
- (8) Petitioner shall provide written progress reports to the Agency at the address below every six months concerning steps taken to comply with conditions 1 through 7 of this Order. Progress reports shall quote each of said paragraphs and immediately below each paragraph state what steps have been taken to comply with each paragraph:

Illinois Environmental Protection Agency  
 Division of Public Water Supply  
 Field Operations Section  
 2200 Churchill Road  
 Springfield, Illinois 62794-9276

Within forty-five days of the date of this Order, Petitioner shall execute and forward to Stephen C. Ewart, Division of Legal Counsel, Illinois Environmental Protection Agency, P.O. Box 19276, 2200 Churchill Road, Springfield, Illinois 62794-9276, a Certificate of Acceptance and agreement to be bound to all terms and conditions of the granted variance. The 45-day period shall be held in abeyance during any period that this matter is appealed. Failure to execute and forward the Certificate within 45-days renders this variance void and of no force and effect as a shield against enforcement of rules from which this variance is



granted. The form of Certificate is as follows:

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 91-104,  
September 12, 1991.

\_\_\_\_\_  
Petitioner

\_\_\_\_\_  
By: Authorized Agent

\_\_\_\_\_  
Title

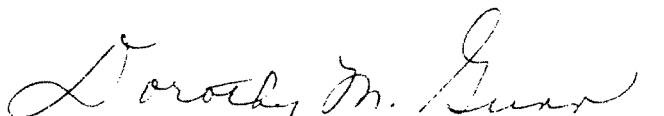
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Date

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 12<sup>th</sup> day of September, 1991, by a vote of 7-0.

  
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Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board