

ILLINOIS POLLUTION CONTROL BOARD  
March 22, 1990

CITY OF GENEVA, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 89-107  
 ) (Variance)  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

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

This matter comes before the Board upon a June 30, 1989 Petition for Variance Extension filed by the City of Geneva (Geneva). Geneva seeks a variance from the Board's public water supply regulations, namely 35 Ill.Adm.Code 602.105(a), (Standards for Issuance) and 35 Ill.Adm.Code 602.106(b) (Restricted Status), regarding combined radium-226 and radium-228. Geneva specifically requests that the Board: a) extend the variance for five years from date of issuance; b) modify its compliance schedule to reflect changes in development of its lime-softening proposal and alternatively its blending proposal; c) suggest whether the maximum or the average contamination levels should be used to measure compliance with a new radium standard; and d) authorize use of existing deep water wells as emergency sources of water.

Based on the record before it, the Board finds that Geneva has presented adequate proof that immediate compliance with Board regulations and PCB Order 88-11 would impose an arbitrary or unreasonable hardship. Accordingly, the variance extension will be granted subject to conditions consistent with this Opinion.

PROCEDURAL HISTORY

On July 1, 1985 Geneva filed a Petition For Variance. (PCB 85-93). On September 20, 1985 the Board granted Geneva a variance from the Restricted Status regulations as they pertained to combined radium and gross alpha particle activity. This variance was subject to conditions and was effective from January 12, 1986 until March 30, 1987.

On December 30, 1986 Petitioner filed another Petition for Variance. (PCB 86-225) On October 1, 1987, the Board refused to grant the requested variance but granted a limited variance. The Order allowed Geneva to extend its lines to supply water to 13 new developments listed by Geneva but only until prior to December 15, 1988. On January 8, 1988, Geneva filed a Motion for Modification to allow Geneva to extend its lines generally which

was denied by the Board on February 4, 1988. However, the Board allowed two (2) more developments to be added to the list of thirteen (13) new developments to which the Agency could issue water main extension permits.

On January 7, 1988, Geneva filed its third Petition for Variance (PCB 88-11) which was granted by the Board on May 5, 1988 subject to conditions. The variance was effective from May 5, 1988 until May 5, 1993. However, the Board Order also stated that "the variance may also expire 4 years from the date of this Order for failure to comply with condition A...". Condition A states as follows:

The Petitioner shall apply for all necessary Agency construction permits by 8/21/89. All such installations, changes or additions must be operational by 5/5/92.

(PCB 88-11)

Finally, on June 30, 1989, Geneva filed the Petition for Variance Extension ("Pet.") which is now before the Board. Pursuant to 35 Ill.Adm.Code 104.123, Geneva incorporates by reference Geneva's Petition for Variance Extension filed in PCB 88-11 ("PCB 88-11 petition") and the Board's Opinion and Order in that matter dated May 5, 1988 ("PCB 88-11 Order").

On September 8, 1989, The Illinois Environmental Protection Agency (Agency) filed a Variance Recommendation ("Rec.") to grant the relief requested "until September 30, 1993 or until two years after the date on which USEPA amends the MCL for radium, whichever occurs first."

On September 22, 1989, Geneva filed a Motin for Extension of Time to file its response to the Agency's recommendation. The Board granted this motion on September 28, 1989, giving Geneva until October 13, 1989 to file its response.

On October 13, 1989, Geneva filed an Agreed Motion for Extension of Time based on ongoing negotiations between Geneva and the Agency. The Board granted this motion on October 18, 1989, allowing Geneva to file its response through October 27, 1989.

On October 27, 1989, Geneva filed a Motion for Extension of Time. Geneva stated that the Agency was in the process of reviewing the Agency position as a result of ongoing discussions between Geneva, the Agency, and representatives of Region V of the United States Environmental Protection Agency ("USEPA"). The Board granted the motion on November 15, 1989, allowing Geneva to file its response through November 30, 1989.

On November 29, 1989, the Agency filed an Addendum to Recommendation. ("Add.") The Agency again recommended grant of

variance extension, but changed the suggested compliance date to "a five year period from any issuance of variance".

On December 14, 1989, Geneva filed a Motion for Leave to file Response. Geneva stated that its Response was delayed because the Agency did not file the Addendum to [Agency] Recommendation until November 29, one day before the deadline for Geneva to file a Response. In response, the Agency filed an Objection to Motion for Extension of Time on December 18, 1989. The Agency pointed out that it was not obligated to file an amended recommendation and asked the Board to deny Geneva's motion. On December 20, 1989, the Board granted Geneva's motion. On the same day, Geneva waived its right to a decision through and including March 30, 1990. Thereafter, on December 22, 1989, Geneva filed a Response to Variance Recommendation and Addendum. ("Resp.") Geneva waived hearing and none was held. No objections from the public have been received.

#### BACKGROUND

The City of Geneva, in Kane County, Illinois owns and operates a water treatment and distribution system for approximately 4,100 residential, 30 industrial and 350 commercial customers. The water supply system consists of 5 deep wells (No.'s 2,3,5,6 and 7), one shallow aquifer well (No. 8), one shallow well water treatment facility, 2 elevated storage tanks, 2 underground storage reservoirs; and appurtenances and distribution facilities.

Geneva was advised that its public water supply was in violation of the combined radium standard in September, 1984. The variance granted in PCB 88-11 expires May 5, 1993 (eight years and seven months later). In this proceeding, the Agency initially recommended a September 30, 1993 deadline, which is only six months later than the date on which the PCB 88-11 variance expires. After discussions between Geneva, the USEPA and the Agency, the Agency filed an Addendum to Recommendation which suggested a deadline of five years from date of issuance. This would extend Geneva's period of potential noncompliance to March, 1995. This date is almost two years after the current variance is set to expire and over 10 years after Geneva was advised that its public water supply was in violation of the combined radium standard.

#### REGULATORY FRAMEWORK

The regulatory framework from which this decision derives has been amply set forth in a prior decision regarding a radium variance for the Village of North Aurora (PCB 89-66, February 8, 1990). This opinion borrows heavily from our review there.

In recognition of a variety of possible health effects occasioned by exposure to radioactivity, the USEPA 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 (Ill.Rev.Stat. ch.111 1/2 § 17.6) as expressed in the Illinois Environmental Protection Act ("Act").

The action Geneva requests here is not variance from this maximum allowable concentration. Regardless of the action taken by the Board in the instant matter, this standard will remain applicable to Geneva. Rather, the City of Geneva requests the temporary lifting of prohibitions imposed pursuant to 35 Ill. Adm. Code 602.105 and 602.106 until it can come into compliance. 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.111 1/2 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 communities are prohibited from extending water service, by virtue of not being able to obtain the requisite permits, until their water fully complies with any of the several standards for finished water supplies. This provision is a feature of Illinois regulations not found in federal law. It is from this prohibition which Geneva requests a variance.

In consideration of any variance, the Board is required to determine whether the petitioner would suffer an arbitrary or unreasonable hardship if required to immediately comply with the Board's regulations at issue (Ill.Rev.Stat. 1987, ch.111 1/2 par.1035(a)). It is normally not difficult to make a showing that immediate compliance with regulations involves some hardship, since compliance with regulations usually requires some effort and expenditure. However, demonstration of such simple hardship alone is insufficient to allow the Board to find for a petitioner. A petitioner must go further by demonstrating that the hardship resulting from denial of variance would outweigh the injury of the public from a grant of the petition (Caterpillar Tractor Co. v. IPCB (1977), 48 Ill.App.3d 655, 363 N.E.2d 419). Only with such showing can hardship rise to the level of arbitrary or unreasonable hardship.

Moreover, a variance by its nature is a temporary reprieve from compliance with the Board's regulations (Monsanto Co. v. IPCB (1977), 67 Ill.2d 276, 367 N.E.2d 684), and compliance is to be sought regardless of the hardship which the task of eventual compliance presents an individual polluter (Id.) Accordingly, 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.

#### ANTICIPATED FEDERAL STANDARD REVISION

The federal standard for radium has been under review for some time. Additionally, in anticipation of a federal revision of the radium standard, the Act has been amended at Section 17.6 to provide that any new federal radium standard immediately supersedes the current Illinois standard. Nevertheless, it remains uncertain as to when and how the radium standard will actually be modified.

Both the Agency and Geneva apparently believe that the most likely schedule is USEPA proposal of a modified standard in June 1990 and promulgation by December 1991. Both the Agency and Geneva also apparently agree that the modified standard will consist of separate standards for radium-226 and radium-228 at 5 pCi/l each. These estimations are not drawn from definitive statements made by the USEPA but rather are based on conclusions drawn from various documents. In particular, in a letter from Joseph F. Harrison, Chief of the USEPA Region 5 Safe Drinking Water Branch, to the Agency, Mr. Harrison found acceptable a

compliance schedule applicable to the City of Geneva which is premised upon June 30, 1990 proposal and December 1991 promulgation dates. (See Exhibit B to Geneva's Response).

This certainly falls short of a USEPA commitment to propose and promulgate new radium standards by these dates. Similarly, the supposition that the standard which will be proposed will be 5 pCi/l for each of the two radium isotopes is apparently based on a statement made by Mr. Harrison at the March 16, 1989 meeting of the Illinois Ground Water Association to this effect and a newsletter of the USEPA Office of Drinking Water of January 1989 which states that "For each isotope, MCLs under consideration center on 5 pCi/l". This record certainly also falls short of confirmation of USEPA intentions regarding the numeric values of any new radium standards.

Based upon this record, the Board concludes that it remains possible, and perhaps even likely, that USEPA will take action which will cause the applicable radium standard to change.

#### HARDSHIP

The Agency's original Recommendation supports Geneva's Petition and states that denial of the variance extension until September 30, 1993 or until two years after the date on which USEPA amends the MCL for radium, whichever occurs first, would result in an arbitrary or unreasonable hardship. The Agency Addendum reaffirms the Agency position in all respects except for the final compliance date. The Addendum suggests that the Board grant variance from restricted status regarding the combined radium standard for a five year period from any issuance of variance.

Geneva's reason for requesting a variance extension is the potential benefits of waiting for federal action concerning the radium standards. Geneva refers to indications by the USEPA that it will propose changing the radium concentration level standards to a maximum contaminant level (MCL) of 5 pCi/l for Radium-226 and Radium-228 individually ("5/5 MCL standard"), from the current combined maximum of 5 pCi/l for both. Such a relaxation of the standard would enable Geneva to achieve compliance by meeting the 5/5 MCL standard because the Act provides that any new radium standard immediately supercedes the current Illinois standard. In support of Geneva's position, Geneva states that a USEPA representative has indicated that USEPA would not force any municipality to spend funds preparing a final design or constructing a treatment system to comply with the interim combined standard of 5 pCi/l. (Resp., p.6)

Grant of the variance extension could also enable Geneva to save six to eight million dollars in the cost of construction of a water treatment and distribution system. Geneva states that the estimated cost of the lime-softening option adopted by Geneva

in PCB 88-11 to meet the current radium standard has increased by fifty percent from \$8 million to \$12.6 million (in 1989 dollars). An engineering study shows that compliance with the less stringent 5/5 MCL standard could be achieved through blending systems at a cost of \$6.7 or \$4.4 million.

Additional evidence of Geneva's potential hardship is found in its Petition for Variance Extension filed in PCB 88-11 which states that:

Without relief from restricted status, Geneva will be unable to sustain economic growth, will be unable to provide for long term control over growth in the area immediately surrounding Geneva and will not be able to afford to carry out the compliance program necessary to comply with the radium standard. (PCB 88-11, Petition, p.4)

The Agency's response is that Geneva cannot demonstrate specific hardship as to the final compliance date because four years still remain on the current variance, but that the costs of immediate compliance would nonetheless impose an arbitrary or unreasonable hardship. (Rec., p.8)

#### PUBLIC INJURY

The Agency also concludes that the hardship resulting from continued Restricted Status would outweigh the injury to the public from grant of the variance and that no significant risk of public injury would be caused by granting the Petition. (Rec., p.10) A 1984 analysis of four consecutive quarterly samples or the average of the analyses of four samples obtained from Geneva's water supply showed a combined radium content of 13.6 pCi/l. The analytical results of quarterly sampling done in 1988 & 1989, attached to Geneva's Petition as Attachment C, have not yet been received, but in the Agency's view, demonstrate radium content in excess of the 5 pCi/l standard. (Rec., p.5) The Agency Recommendation states that the risk associated with this radiation level is low but notes that "The longer the noncompliance continues, the greater the risk to the population now being served by the Petitioner". (Rec., pp.6-7) The Agency believes that no significant health risk exists for the limited population served by new water main extensions, although radiation at any level creates some risk. (Rec., pp.6-7)

#### COMPLIANCE PROGRAM

The compliance program developed by the City of Geneva in response to the existing 5 pCi/l standard involves a lime softening treatment system. Based on this plan, the May 5th, 1988 Board Order sets forth the following conditions:

1. By 8/2/89, Geneva shall have applied for all necessary Agency construction permits.
2. By 1/20/90, Geneva shall award all construction contracts, and "such award shall not be contingent upon financing".
3. By 5/5/92, all installations, changes or additions shall be operational.

Other conditions deal with a sampling program, a notice of non-compliance to users, minimizing the level of radium until compliance is reached, progress reports and executing the Order. As of this date Geneva has not yet applied for the necessary Agency permits and has therefore failed to meet condition number one. Failure to comply with this condition causes the variance to expire May 5, 1992, one year earlier than otherwise.

Geneva states in its petition that "while terminal deadline for compliance can still be met, the interim schedule of deadlines will have to be pushed back." (Pet., p.5) However, Geneva also states in its petition that "the City would like to have time to await federal action on the radium standards." (Id., p.8)

Consequently, Geneva requests that the variance be extended by the Board for five years from date of approval. Geneva has paid for a study which has recommended two alternative options involving blending systems which would put Geneva into compliance with the proposed relaxed radium standards. Geneva's Response to the Agency Recommendation states that Geneva has not proceeded to spend funds for final design of the project pending the ruling in this matter. Instead Geneva has divided its compliance program into two phases: Phase One consists of those improvements to the water supply system which are common to both the original lime-softening compliance alternative and either of the potential blending alternatives and Phase Two consists of the non-common elements of the chosen compliance alternative (lime-softening or blending). (Pet., p.5)

Total Phase One costs are estimated to equal \$4,063,043.25. This figure is the result of property acquisitions costing \$170,000 and of improvements to the existing system costing \$3,893,043.25 when 15% for contingencies is added to the costs of construction and another 15% for engineering, legal and administrative fees is added to this figure. Geneva did not include the costs of developing Shallow Well #8 and its treatment system or the costs of other improvements to Geneva's water supply already completed. (Pet., p.4)



Geneva has proceeded with Phase One. Phase One was approved by the City Council on October 16, 1989 and bids were then solicited for the necessary engineering. Geneva estimates that Phase One will be completed by approximately December 31, 1992. (Pet. p.5) Geneva states that it has either expended or approved a total of \$5,520,000 in improvements to its water supply system to comply with the combined radium-226 and radium-228 standard. Geneva would like to start implementing Phase Two when the USEPA promulgates its revised radium standards, probably in December 1991. Geneva claims that it could implement either of the blending options or the lime-softening option, whichever is chosen, under the following Phase Two timetables.

Lime softening option:

2 months to ascertain the appropriate compliance option and engage professional design engineering services;

8 months for design engineering;

3 months for IEPA permit;

2 months for bidding and awarding of contracts; and

22 months for construction

Blending options:

2 months to ascertain the appropriate compliance option and engage professional design engineering services;

8 months for design engineering;

3 months for IEPA permit;

2 months for bidding and awarding of construction contracts; and

14-16 months for construction.

An October, 1989 letter from USEPA to the Agency indicates that USEPA may promulgate new standards in December 1991. According to the above timetables, if new radium standards are proposed June 1990, and promulgated in December 1991, the construction involved for the blending options would be completed in March 1994 and the construction for the lime softening option would be completed by November 1994 (almost 5 years from the date of this Order).

The Board agrees with the Agency that denial of a variance from the effects of restricted status would impose an arbitrary or unreasonable hardship and that no significant risk of public injury would be caused by granting the Petition. The Board also accepts Geneva's failure to meet the conditions provided for in PCB 88-11 as reasonable and will excuse it provided that Geneva agrees to meet the provisions of this Order. The Board grants Geneva a variance subject to the conditions stated in this Order.

#### CONSISTENCY WITH FEDERAL LAW

Granting the variance leaves Geneva subject to the possibility of federal enforcement for violations of the radium standards. The Agency, however, believes that if the state variance requires compliance by the end of the Agency's recommended variance period, it is probable that the USEPA would consider the variance order to be a "Compliance Order" and defer federal enforcement. (Rec., p.9)

The Agency originally recommended a final compliance date of September 30, 1993. The Agency had established this date in this and other variance requests because Region V of the USEPA had indicated that such a date would be acceptable. Region V of the USEPA has since indicated that USEPA would support a final compliance date extending beyond September 30, 1993, if "the IEPA" can demonstrate that a community is making "good faith, expedient efforts towards compliance, and the city's construction schedule is the most appropriate considering expected promulgation of the new standards." (See Exhibit B attached to Geneva's Response). The Addendum to Recommendation states that Geneva's proposed construction schedule "is expeditious" and suggests that variance be granted for 5 years from date of issuance.

#### TERM OF VARIANCE

Both Geneva and the Agency agree that the Board should grant a variance for a five year period from the date of issuance. Geneva has formulated specific timetables and goals ("Phase One") which allow Geneva to progress towards compliance while waiting a short while for federal action. Geneva has also proposed specific and reasonable milestones that could be fixed once USEPA acts. Geneva's "Phase Two" compliance schedule is set forth in paragraph eight of the Petition for Variance Extension and in the Compliance Program section of this Order, and the Agency has found it "expeditious". Therefore, the Board believes that a five year variance expiring March, 1995 would be reasonable -- if certain conditions are imposed. The conditions recommended by the Agency and certain others are imposed.

In particular, the Board accepts the characterization of Geneva's compliance plan as "expeditious" and requires Geneva to

adhere to the time tables and deadlines specified therein in order to ensure timely compliance with the radium standard. This condition also satisfies the Board's concern that Geneva minimize the time during which those people served by existing water mains will continue to receive water which does not meet the radium standard. The Board notes that grant of variance from restricted status will affect only those users who consume water drawn from any newly extended water lines, it will not affect the status of the rest of the City's population drawing water from existing water lines, except insofar as the variance by its conditions may hasten compliance.

The Board finds no reason why Geneva should not continue with "Phase One" and complete Phase One by December, 1992. As a condition to this variance, the Board will require that Phase Two construction begin by May 22, 1993. Given Geneva's Phase Two timetable, this means that Geneva must either proceed with a plan to meet the current radium standards or seek another variance if the federal government has not acted by February 22, 1992.

Furthermore, to comply with this Variance, Geneva must begin implementing Phase Two within 30 days of promulgation of any new federal standard or publication of a notice in the Federal Register indicating that the federal government does not intend to change current standards whichever occurs first. Absent this condition, the Board believes a five year variance is inappropriate since Geneva would be able to delay the full five years regardless of the date a federal decision was reached. For example, if relaxed federal standards are promulgated in December 1991, Geneva could comply with the radium standards by July 1994 according to Geneva's timetable for the blending compliance plan.

Accordingly, the Board grants variance to March 1995 or attainment of compliance by Geneva of any radium standard then in effect, whichever comes first.

#### EMERGENCY USE OF THE EXISTING DEEP WELLS

As an additional matter, Geneva asks for Board approval to utilize the existing deep wells as back up water systems in the event of an emergency situation which precludes Geneva's ability to utilize the shallow wells under either the lime-softening or blending compliance alternative.

The Agency does not recommend granting this authorization because the Petition does not specify the types of emergency which would trigger deep well use. The Agency states:

"Lessening levels of water due to drought or generally declining water levels in the area would not, in the Agency's opinion, warrant blanket authorization for deep well use, as this would leave Geneva sufficient time to

petition the Board for an emergency variance and/or a provisional variance. Further, the blanket authorization could not be tailored to fit the length of the emergency. Petitioner should be required to come to the Board for a provisional variance for any emergency requiring use of the deep wells for more than three days. Further, Petitioner should be required to report to the Agency's field office each and every such emergency use, state the cause of the emergency, the amount of water pumped, and the time period during which the emergency pumpage occurred." (Rec., p.12)

In response, Geneva notes that:

"The Agency, while it indicated that it could not support the requested emergency provision as written, has set forth conditions under which it apparently could support the requested relief. Geneva has no objection to the majority of the conditions. Specifically, Geneva has no objection to a condition requiring it either to correct the underlying problem or, after a reasonable period of time, to apply for an emergency or provisional variance. The three days suggested by the Agency are acceptable to Geneva if the Board concludes that such a short period is appropriate. However, Geneva also notes that while routine breakage could often be found and replaced or repaired within three days, there are other potential mechanical problems which could require slightly more of time to correct. These include a catastrophic failure of the shallow well shaft or the pumps associated with the shallow wells. While these problems could be corrected in a reasonable time, this period would exceed three days, thereby requiring Geneva to file for a provisional variance. Yet, in all probability such failures would be corrected prior to Board action upon the provisional variance request.

Accordingly, Geneva suggests that a more reasoned approach would be to require a report to the Agency field office whenever an emergency arises requiring the use of the deep wells. Such report would include the cause of the emergency, the estimated amount of water to be pumped, and an estimated time for correcting the problem. This report

should take the form of a verbal report followed by a letter within five working days. As soon as it becomes apparent that the problem will not be resolved within five days, Geneva would be willing to commit to submitting a request for a provisional variance." (Resp. pp.13-14)

Although the Board has addressed the issue of emergency use of deep wells in prior cases (See Village of Round Lake Beach v. IEPA, PCB 86-59, September 11, 1986; Village of Romeoville v. IEPA, PCB 87-68, June 2, 1988; Village of Coal City v. IEPA, PCB 88-93, June 30, 1988; City of Elmhurst v. IEPA, PCB 86-157, February 19, 1987) it notes that in none of these proceedings did the emergency use granted extend beyond the expiration of the variance. Indeed the Board is prevented by Section 36(b) of the Act from a "blanket authorization" regarding such a use. I.R.S. ch.111  $\frac{1}{2}$ , par.36(b). That section expressly limits any single variance to a term of five years and requires that a compliance plan be developed as a precondition. Therefore, the Board declines to authorize deep well use as requested by Geneva.

The Board notes that Geneva does not object to a majority of the conditions for deep well use the Agency wishes imposed. An accomodation between the Agency and Geneva seems reasonable to anticipate, perhaps along the lines suggested by Geneva in their Response. (Resp., pp.13-14) The Board notes that continued use of the deep wells beyond any de minimis time period would require relief by the Board, as a matter of law, not of negotiation. This may take the form of a provisional variance, adjusted standard or site-specific rulemaking. Should the Agency and Geneva fail to agree on a plan for deep well use, the matter should be brought before the Board for resolution in one of the three forms outlined above.

#### DETERMINING COMPLIANCE WITH THE RADIUM STANDARD

Geneva requests that the Board address the satellite issue of whether the radium standard must be met on an average or maximum basis. (Resp., p.5) The Board hereby reaffirms its position in North Aurora which is essentially restated below.

The "average" at issue is that found at 35 Ill.Adm.Code 605.105(a):

Compliance with 35 Ill.Adm.Code 604.301 [combined radium standard] shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals.

This averaging rule is identical in substance to the averaging rule found in current federal regulations at 40 CFR 141.26(a)(1) (1988).

Section 605.105(a) clearly specifies that compliance with the combined radium standard requires a showing based on samples averaged over a year. The questions Geneva raises is whether a showing of violation similarly requires samples averaged over a year.

Where averaging is provided for by law, and where there is no standard which applies to a single sample, a violation cannot be found unless it is the appropriate average (not a single sample result) which is exceeded. That is the circumstance here. Thus, a showing of violation of the combined radium standard of 35 Ill. Adm. Code 604.301(a) must be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals. A similar conclusion also applies to the standard for gross alpha particle activity at 35 Ill. Adm. Code 604.301(b), which is also subject to the averaging rule of 35 Ill. Adm. Code 605.105(a).

In the past, the instant question has arisen based on a statement in the Board's March 24, 1988 Opinion in Citizens Utilities v. IEPA, PCB 86-185.<sup>1</sup> The Board has long held that it does not grant variance where variance is not necessary, and variance is normally not necessary where there is no showing of violation of the standard from which variance is sought (e.g., City of White Hall v. IEPA, PCB 84-126, 61 PCB 203; The Village of Elk Grove v. IEPA, PCB 84-158, 62 PCB 295; City of West Chicago v. IEPA, PCB 85-2, 64 PCB 249; Village of Minooka v. IEPA, PCB 85-100, 65 PCB 527; City of Spring Valley v. IEPA, PCB 88-181, 95 PCB 57, January 5, 1989). The Board has held, however, that under special circumstances variance may be granted even where no demonstration of violation has been made by results from four quarterly samples. Such a circumstance might be, for example, where there are insufficient samples to confirm a violation under an averaging rule, but where: (1) there are reasonable grounds to expect that further sampling would confirm the violation, and (2) immediate grant of variance would expedite correction of the expected violation.

It was against this backdrop that the Board earlier found in Citizens Utilities (PCB 82-63) that variance was warranted and ordered Citizens Utilities to commence radium sampling to confirm the violation; even though no violation of the gross alpha radium standard had been shown. Citizens Utilities was thus not

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<sup>1</sup> Although variance was granted to Citizens Utilities, that variance was subsequently vacated on grounds unrelated to the averaging issue (see Citizens Utilities v. IEPA, PCB 86-185, 89 PCB 233).

intended to stand for the proposition that combined radium violations may be proved based on less than the sampling requirements of 35 Ill.Code 604.105(a).

As a last matter, the Board notes that the above analysis is based on the averaging rule for combined radium and gross alpha particle activity found in present Illinois and federal regulations. As has also been noted, the federal regulations are currently under review. Moreover, pursuant to Section 17.6 of the Act, the federal regulation will automatically become enforceable in Illinois upon federal adoption. Thus, the above analysis may have to be modified to conform to changes at the federal level.

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

#### ORDER

1. The Petitioner, the City of Geneva, is hereby granted variance from 35 Ill.Adm.Code 602.105(a), (Standards for Issuance) and from 35 Ill.Adm.Code 602.106(b) (Restricted Status), but only as they relate to 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 shall terminate on March 22, 1995 or upon attainment of compliance by Geneva of any radium standard then in effect, whichever occurs first.
  - (b) Geneva must complete Phase One of its proposed schedule by December 22, 1992.
  - (c) Geneva must begin implementing Phase Two of its compliance plan within 30 days of promulgation of any new federal standard or publication of a notice in The Federal Register indicating that the federal government does not intend to change the current standard, but no later than February 1992.
  - (d) Geneva's implementation of Phase Two must comply with the following timetables:

Lime softening option:

2 months to ascertain the appropriate compliance option and engage professional design engineering services;

8 months for design engineering;

3 months for IEPA permit;  
 2 months for bidding and awarding  
 of contracts; and  
 22 months for construction.

Blending options:

2 months to ascertain the  
 appropriate compliance option and  
 engage professional design  
 engineering services;

8 months for design engineering;

3 months for IEPA permit;

2 months for bidding and awarding  
 of construction contracts; and

14-16 months for construction.

- (e) After each construction permit is issued by the Agency, Petitioner shall advertise for bids from contractors to do the necessary work described in the construction permit. Petitioner shall accept appropriate bids within a reasonable time. Petitioner shall notify the Agency at the address in condition (h) of each of the following actions: 1) advertisement for bids, 2) names of successful bidders, and 3) whether Petitioner accepted the bids.
- (f) Phase Two construction shall begin within a reasonable time of bids being accepted, but in any case, construction of all installations, changes or additions necessary to achieve compliance with the maximum allowable concentration of combined radium shall begin no later than May 22, 1993.
- (g) Any and all construction necessary to implement a blending alternative must be completed by September 22, 1994. Any and all construction necessary to implement a lime-softening plan must be completed by March 22, 1995. Any and all construction necessary to implement any other type of compliance plan must be completed as soon as feasible and no later than March 22, 1995.
- (h) 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 sample its water from its distribution system at locations approved by the Agency. The Petitioner shall composite the quarterly samples for each location separately 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 contaminants in question. The results of the analyses shall be reported to the Compliance Assurance Section, Division of Public Water Supplies, 2200 Churchill Road, Post Office Box 19276, IEPA, 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.

- (i) Pursuant to 35 Ill. Adm. Code 606.201, Geneva shall send to each user of its public water supply a written notice of the variance in the first set of water bills issued after the grant of this variance and every three months thereafter. The notice shall inform the public that Geneva has been granted a variance from Illinois regulations (35 Ill. Adm. Code 602.105(a), Standards of Issuance and 602.106(b), Restricted Status) despite the fact that Geneva's water supply is not in compliance with the 5 picocuries per liter standard for combined radium-226 and radium-228 (35 Ill. Adm. Code 604.301(a)). The notice shall also state the average content of combined radium-226 and radium-228 of the most recent samples taken from the water supply. Furthermore, each notice must be conspicuous and must not contain unduly technical language or unduly small print. Each notice shall include the telephone number of the public water system as a source of additional information concerning the notice.
- (j) Until full compliance is reached, Petitioner shall take all reasonable measures with its existing equipment to minimize the level of radium 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 (b), (c), (d), (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. Progress reports shall also identify each task set forth in the Petition for Variance that must be completed under this Order by the date of the written progress report. The Petitioner shall specify the date that each such task was completed.

- (1) Within forty-five days (45) of the grant of the variance, 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 Certificate of Acceptance and Agreement to be bound to all terms and conditions of the granted variance. This forty-five (45) day period shall be held in abeyance for any period during which this matter is being appealed. If the Petitioner fails to execute and forward the agreement within a forty-five (45) day period, the variance shall be void. The form of 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 89-107, March 22, 1990.

\_\_\_\_\_  
Petitioner

\_\_\_\_\_  
Authorized Agent

\_\_\_\_\_  
Title

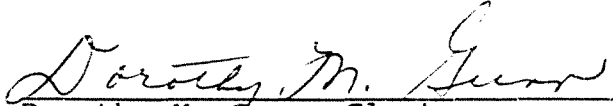
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Date

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 J. Dumelle and B. Forcade dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order were adopted on the 22<sup>nd</sup> day of March, 1990, by a vote of 5-2.

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