

ILLINOIS POLLUTION CONTROL BOARD
July 16, 1987

CITY OF GENEVA,)
)
 Petitioner,)
)
 v.) PCB 86-225
)
 ILLINOIS ENVIRONMENTAL)
 PROTECTION AGENCY,)
)
 Respondent.)

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

PROCEDURAL HISTORY

This matter comes before the Board on the petition for variance filed by the City of Geneva (City) on December 30, 1986 as amended February 9, 1987. The City seeks variance until March 31, 1989 from 35 Ill. Adm. Code 602.105(a) Standards of Issuance and 35 Ill. Adm. Code 602.106(b) Restricted Status to the extent those rules relate to violation of the 5 pCi/l combined radium-226 and radium-228 standard. The City seeks variance to allow for issuance of water main extension permits while the City works towards achieving compliance with the radium standard. Hearing was waived and none has been held.

The City had previously been granted a similar variance in PCB 85-93 (September 20, 1985), subject to various conditions. This prior variance began on January 12, 1986 and expired March 30, 1987. If this variance is granted, the City has announced its intention to file for a third variance on December 31, 1988.

On April 9, 1987, the Illinois Environmental Protection Agency (Agency) filed a Recommendation that variance be denied. The basis for this Recommendation was that:

Since Petitioner has not complied with its prior variance by not providing a compliance plan with increments of progress by January 1, 1987, i.e., one that calls for compliance by a date certain, and by seeking, in effect, three variances stretching more than six years from grant of the first variance, and more than 8 years from notification of the violation, Petitioner has not demonstrated that the delay in compliance is not self-imposed. Hence, Petitioner has not proven an arbitrary or unreasonable hardship. The requested variance should be denied.

On May 7, the City moved for leave to file a Response to the Recommendation instanter. By Order of May 14, the Board granted the motion, noting that the Response was construed as an amended petition. On May 21, the Agency filed an amended Recommendation, which discussed the new information and argument contained in the City's Response. The Agency again recommended denial of variance, as it continued "to believe that the facts demonstrate that Petitioner did not comply with its prior variance and that the delay in compliance from grant of the last variance is self-imposed".

Also on May 21, the City filed a motion for expedited decision of this petition. That motion was granted by the Board on May 28. This case was accordingly discussed at the May 28 meeting, for possible decision on June 10. However, on June 4, the City filed a motion for leave to reply instanter to the Agency's May 22 amended Recommendation. The Board granted this motion on June 10, noting that it would schedule the case for decision as expeditiously as practicable after the Agency had filed its response, if any, to the City's June 4 filing. On July 8, the Agency filed its second amended Recommendation that variance should be denied. The City filed a response to this last Recommendation on July 13.

Finally, the Board also notes its receipt on July 6, 1987 from Representative Suzanne L. Deuchler of a June 26, 1987 letter which she sent to the Agency in support of the City's variance request. On July 9, the Agency filed a copy of the same letter, as well as its letter of response to Rep. Deuchler.

THE GENEVA WATER SUPPLY SYSTEM

The basic description of the City's system was not reiterated in this proceeding. In the prior PCB 85-93 variance proceeding, the system was described as follows:

The City of Geneva, which has a population of about 10,500 people, is located in Kane County. The Petitioner owns and operates a deep well water supply system which provides "potable water supply and distribution for a population of 3,315 residential, 28 industrial and 350 commercial utility customers". According to the Petitioner's 1980 estimates, the 28 local industries and businesses served by its water facilities employ about 5,000 people. The City of Geneva's public water distribution system includes 6 deep wells (Wells #2 to #7) ranging in depth from 1,350 feet to 2,300 feet which were placed in operation at various times between 1924 and 1983 (Well #1, which was placed in operation in 1896 and was 850 feet deep, was later abandoned in 1947); two ground

level storage reservoirs; two elevated storage tanks; and various pumps, appurtenances, and distribution facilities. PCB 85-93, Opinion, p.2 (citations omitted)

As discussed in more detail later, the City reports that since the grant of the prior variance, it has drilled an initial shallow well number 8 to supplement these deep wells. This well was constructed with the assistance of an \$878,200 state construction grant. Geneva anticipates that this well will not be operational until approximately August, 1988, due to the need to install water treatment systems. Water from this well will be routed to present well number 6 where treatment systems will be installed to control iron and manganese. After treatment, this shallow well water will be blended with deep well water in a water reservoir located at well number 6. Analysis of the water from this new well shows that radium-226 and 228 levels as less than 1.7 and 2.1 pCi/l respectively. Geneva has also determined that it will abandon present well number 2 which will have the result of eliminating 600 gallons per minute of deep well water in the Spring of 1988.

The City was advised that its public water supply was in violation of the combined radium standard in 1984. On September 14, 1984, an analysis was reported to the City of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals. The analyses showed a radium-226 content of 4.4 pCi/l and the radium-228 content was 9.2 pCi/l. The combined radium-226 and radium-228 content was therefore 13.6 pCi/l, exceeding the 5 pCi/l standard.

Petitioner's own water sampling analyses confirmed the Agency's findings. (Petition dated July 1, 1985, Attachment #3). Samples of well water taken on February 20, 1985 by the City of Geneva's Public Works Department, when subsequently analyzed by the Argonne National Laboratory, indicated combined radium levels ranging from 8.45 pCi/l to 18.08 pCi/l in the various wells. (Pet., Attachment #3). The preliminary results of that test are as follows:

<u>Sample Source</u>	<u>Radium-226</u>	<u>Radium-228</u>	<u>Combined</u>
Well No. Two	5.47 \pm /-0.82	4.49 \pm /-0.98	9.96
Well No. Three	8.83 \pm /-1.32	9.25 \pm /-1.85	18.08
Well No. Five	7.53 \pm /-1.12	7.65 \pm /-1.53	15.18
Well No. Six	4.62 \pm /-0.69	5.09 \pm /-1.18	9.71
Well No. Seven	3.83 \pm /-0.57	4.62 \pm /-0.92	8.45
Distribution	5.85 \pm /-0.88	8.21 \pm /-1.64	14.06

Note: All results reported in picocuries per liter.

According to those water sampling tests, the average combined radium-226 and radium-228 level was 12.57 pCi/l which is in excess of the 5 pCi/l standard and in the same general range as the test results (i.e., 13.6 pCi/l) obtained in Agency testing.

The Agency reported another analysis to Petitioner on November 20, 1986 of an annual composite of four consecutive quarterly samples or the average of the analysis of four samples obtained at quarterly intervals. The analyses showed a radium-226 count of 7.5 pCi/l and the radium-228 content was 5.2 pCi/l. The combined radium-226 and radium-228 content was therefore 12.7 pCi/l, exceeding the 5pCi/l standard, and not very different from the level reported two years earlier.

THE PRIOR VARIANCE

In the prior variance proceeding, the City discussed, without committing to, various compliance options. These included development of possible alternative water sources, such as Lake Michigan water, Fox River water, or water from wells drilled into a shallow aquifer with low radium content. The other option discussed was treatment of water from its existing \$2.5 million dollar deep well system. Capital costs given for these options (save for the Lake Michigan one which was not quantified) ranged between \$7 and \$8 million.

In support of its assertion that denial of variance would impose an arbitrary or unreasonable hardship, the City asserted that the restricted status ban on issuance of new water main extension permits would delay four residential development projects whose worth would be \$4.978 million, and prevent construction of a water main need to enhance its fire-fighting capability. The City additionally argued that:

- (1) presently "available methods of compliance are so expensive that they are practically prohibitive";
- (2) future expansion of the Petitioner's municipal water distribution system "will include shallow wells that are radium free";
- (3) the existing standards for radionuclides are currently being reviewed and will probably be relaxed so that "any attempt at removing or diluting radium during the interim period will, for the most part, be wasted effort and money";
- (4) the Petitioner has "more pressing infrastructure problems" including pending water and sewer rehabilitation, street rehabilitation, police and fire projects, etc. which are estimated to cost over \$8.8 million dollars;
- (5) water and sewer rates must be raised 41% to fund normal system maintenance programs, and
- (6) the city is

financially strapped for cash, having over \$3 million dollars worth of outstanding Revenue and General Obligation bonds and a maximum general obligation bonding capacity which is at its limit (without referendum). Id., p.5.

The Agency recommended that the PCB 85-93 variance be granted for five years.

The Agency suggested that, in determining whether the costs of compliance are an unreasonable or arbitrary hardship upon the Petitioner, the Board should evaluate "whether significant adverse health effects are likely if the variance is granted as well as whether there is a reasonable possibility of compliance with the radium standard in the foreseeable future. (Rec. 8).

As to health effects the Agency had stated its belief that:

While radiation at any level creates some risk, the risk associated with this level is very low. Original estimates were that 5 pCi/l could result in bone cancer to somewhere between 0.7 and 3 persons per million exposed. More recent feeling is that this is probably a high estimate since much less radium is retained in the body than what was previously thought. The maximum allowable concentration ("MAC") for radium is currently under review at the federal level. However, the Agency does not expect any proposal to change the standard before late 1985...

The Agency believes an incremental increase in the allowable concentration for combined radium-226 and radium-228, even up to a maximum of 20 pCi/l, should cause no significant health risk for the limited population served by new water main extensions for the time period of this recommended variance.

The Agency therefore concluded that "the grant of the requested variance would impose no significant injury on the public or on the environment for the limited time period of the requested variance and that denial of the recommended variance would be an arbitrary and unreasonable hardship to Petitioner. Id., p.6.

As will be discussed below, the language and intent of the Board's findings in PCB 85-93 are at issue here, so they are set forth in their entirety:

The Board finds that denial of variance would impose an arbitrary or unreasonable hardship of Geneva, given its economic situation and need to increase its fire-fighting capabilities. Variance to allow continued issuance of water main extension permits will be granted for the period beginning January 12, 1986 and ending March 30, 1987, subject to conditions. A variance term of approximately 15 months rather than 5 years has been chosen because, due to the fact that Geneva has known of its radium problem for just a year, it has only begun its exploration of compliance options and has made no commitment to achieve compliance by a date certain as has, for instance, the City of Aurora. Variance for this time period will allow the City to develop a plan and timetable to achieve and finance compliance with applicable radium standards, as well as allowing the Board adequate time to complete the R85-14 rulemaking. Geneva may then apply for any necessary extension of variance.

The Board agrees with the Agency that the risk of adverse health effects to the limited population consuming water delivered by the new water main extensions permitted pursuant to this 15 month variance will not be significant. Id., p. 7.

The language of various conditions contained in the variance order are also at issue, but they will be set forth in the context of the discussion of the City's alleged non-compliance with them.

THE PRESENT VARIANCE REQUEST

At the outset, the Board wishes to note that the City of Geneva's "petition" now essentially consists of 6 filings: 1) the initial December 30, 1986 filing, 2) the February 9, 1987 Response to the Board's January 8, 1987 request for more information, 3) the City's May 7 response to the Agency's April 9 Recommendation, 4) the testimony presented by Thomas Talsma, Director of Public Works for the City of Geneva on May 12, 1987

in the regulatory proceeding R85-14,* which was admitted to the Board pursuant to Order of May 28, 1987, 5) the City's June 4 response to the Agency's May 21 first amended Recommendation, and 6) the City's July 13 response to the Agency's July 6 second amended Recommendation. Later filings contradict earlier filings, and, even taking all of these filings together, the Board is unable to piece together all of the information which would be desirable concerning some aspects of the City's situation, e.g. the radium reduction in the distribution system which is anticipated when Well No. 8 comes on line and Well No. 2 is taken out of service.

However, the Recommendation/Response system has served its intended function of pinpointing at least some areas which needed additional information and explanation, and of allowing the parties to clarify and crystallize areas of disagreement. The Board sees little point in chronicling the back and forth exchanges between the City and the Agency, or detailing at what point various items of information were entered into the record. The Board will instead present the crystallized version of each parties assertions and positions. Similarly, the Board sees little point in addressing those portions of the pleadings which can best be characterized as "name calling", as to do so in no way fosters resolution of the issues.

Relief Requested

The instant petition seeks extension of the variance granted in PCB 85-93 until March 31, 1989. The purpose of this extension is, essentially, to allow for completion of various studies. The first such study is entitled "Shallow Groundwater Resources Assessment in Geneva-Batavia Township." This \$40,000 study, which is being funded in equal shares by the Cities of Geneva and Batavia, is being conducted by the State Geological and Water Surveys. The purpose of this study, which is to be completed by June 30, 1988, is to define the maximum development of the large

* Docket R85-14 (Proposed Amendments to Public Water Supply Regulations, 35 Ill. Adm. Code 602.105 and 602.106) was initiated to consider a proposal for regulatory change made by the Agency. Among other things, the Agency has proposed that, until January 1, 1989, public water supplies whose water contains no more than 20 pCi/l of combined radium should be removed from the restricted status list. If the Board adopts this rule change, supplies would still be subject to enforcement for violation of the 5 pCi/l standard, which remains unchanged, consistent with the USEPA-adopted limit. However, the Agency would be able to issue water main extension permits to such water supplies, even if the supply has not been granted a Board variance. The public comment period for this rulemaking closed on July 10, and the merits of the proposal are being deliberated by the Board.

shallow aquifer water resources which have previously been found to be available. This will involve the Geological Survey's location of competent sand and gravel aquifers in which to site production wells, and the Water Survey's design of wells and supervision of pump tests.

The second such "study" is that being undertaken by USEPA. In a September 30, 1986 notice of advance rulemaking (51 Fed. Reg. 34836), USEPA announced that it is reviewing the 5 pCi/l combined radium-226 and 228 standard. The City, as a member of the Kane County Water Association, supports revision of the standard to 20 pCi/l. (The City would be in compliance with such a revised standard.) USEPA has not formally announced any timetable for publication of results of its review, which could result in the standard remaining the same, being made more stringent, or being made less stringent. The Agency does not expect results from USEPA before late 1987 or early 1988.

The third study, which Geneva has supported by Resolution, concerns a new less-expensive system of removal of radium from drinking water developed by Iso-Clear, Inc. In October, 1986, the Department of Nuclear Safety contracted with the Battelle Memorial Institute to provide a procedure to evaluate the effectiveness and safety of the system. Completion of the Battelle study would likely be followed by a large-scale demonstration treatment project at a public water supply. This record contains no indication as to when evaluation of the Iso-Clear system is expected to be completed, or the system's availability thereafter.

Following submittal of the Surveys' shallow groundwater resources assessment in June of 1988, Geneva plans to assess the results of that study as well as any results from the other two above-described studies. On the basis of this assessment, Geneva then intends to develop a compliance program, including compliance deadlines.

Then, on December 31, 1988, Geneva intends to file a petition for extension of this variance for the purpose of installation of shallow wells and/or treatment technology. In an estimated timetable provided in its June 4 response, the City indicates that, based upon "very favorable assumptions which are in all probability unlikely to occur in total", that construction of shallow wells could conceivably be completed by January, 1993. However, the City notes that if it must resort to condemnation procedures to obtain well sites and transmission easements that perhaps a year could be added to this schedule. An unknown length of time could also be added if the Surveys' study does not identify two or more sites which test out positively for both quantity and quality of water. (6/4/87 Response, pp. 3-7).

To put the circumstances of the present request for a 2 year "more information variance" in historical perspective, recall that the violation was discovered in September, 1984. The PCB 85-93 variance was applied for in June, 1985, and granted in September, 1985 for a period of 15 months beginning January, 1986 to allow for study of the problem. (The emergency rule adopted in R85-14, removed restricted status for the time period prior to January, 1987). The City here requests 24 more months for study of the problem. Then, some 4 1/2 years after discovery of the problem, Geneva intends to file a petition detailing how it intends to achieve compliance within the next 4 to 5 years. Assuming a less than "best case" scenario, this would result in a total of 8 1/2 to 9 1/2 years between discovery of the radium problem to its correction.

Developments Impacted by Restricted Status and anticipated Health Effects

There are two areas of Geneva's petition which are not presently the subject of dispute between the parties: the economic effect of the restricted status water main extension ban, and the health effects of consumption of Geneva's water on those persons who would be served by new water main extensions if the restricted status ban is lifted.

As reflected in the testimony of Thomas Talsma in R85-14, 13 potential developments were being affected by restricted status as of April 20, 1987.* Seven of these would be strictly residential uses, three would be mixed residential and commercial, two would be mixed office and commercial, and one would be a hospital. These projects would have a value of approximately \$50-60 million in actual construction costs. When completed, they would add approximately \$15-\$20 million to Geneva's current assessed valuation of approximately \$120 million. Mr. Talsma stated that Geneva:

need[s] this development and the tax dollars it represents to finance a number of municipal public works projects including our program which will in all probability be required to comply with the

* Each project was named and pinpointed on a map attached as an exhibit to Mr. Talsmas' testimony. Aside from name and land use, no other details were given. These projects are: R. R. Donnelley & Co., Randall Square, Blackberry Subdivision, Williamsburg Development, Bennett House Townhomes, Stonebridge Subdivision, Delnor-Community Hospital, Kirk Road Office/Research Development, Geneva East Subdivision, Lucerne Development, Riverfront Redevelopment Plan, Denalco Demolition/Geneva Townhomes and Geneva Place.

radium standards through the construction of a number of shallow wells.

Another problem associated with restricted status is one of the development projects, number 13 on the map [Geneva Place] is being impacted by restricted status. This project involves a site which Geneva has found to constitute a public health hazard and against which Geneva has instituted condemnation procedures to have the site torn down. We have a developer who is interested in moving forward and developing this property which should aid our efforts at eliminating the public hazard. This hazard is located directly across the street from a neighborhood park and we are very concerned over public safety questions which arises given the present condition of this building.

This record does not further address the nature of the public health hazard that the Geneva Place development would replace.

As to health effect, the Agency again asserted, as it did in PCB 85-93, that it believed that consumption of water containing radium at concentrations even 4 times over the allowable standard of 5 pCi/l (i.e. 20 pCi/l).

The Agency believes an incremental increase in the allowable concentration for the contaminant in question even up to a maximum of four times the level of the maximum allowable concentration ("MAC") for the contaminant in question, should cause no significant health risk for the limited population served by new water main extensions for the time period of this recommended variance. However, the Agency notes that this is the second of three variances that Geneva has or intends to seek, the Geneva's compliance plan will not show compliance within five years of receipt of its first variance. The longer noncompliance continues, the greater is the risk to the population served by Geneva.

Past Efforts Towards Compliance and Current Compliance Plan

The parties' disagreements center around the acceptability of Geneva's efforts towards compliance during the prior variance period and its planned future compliance efforts.

The PCB 85-93 variance was granted in September, 1985. In October, the City and the Agency commenced discussions concerning state-grant financing for the construction of shallow Well No.

8. In November, the City signed a Certificate of Acceptance and agreement to be bound by the conditions of the PCB 85-93 variance. In December, the City approved the Agency grant agreement for the construction of Well No. 8. While to so note at this juncture disturbs a strict chronology of events, the Board will note that the drilling construction and testing of Well No. 8 was accomplished between April and June, 1986.

Condition 1(a) of the PCB 85-93 established the term of the variance. Conditions 1(b) and 1(c) provided that:

- b) By January 1, 1986, the Petitioner shall secure professional assistance (either from present staff or an outside consultant) in investigating compliance options, including a review of the possibility and feasibility of achieving compliance by blending water from shallow wells with that of its deep wells. By February 1, 1986, evidence that such professional assistance has been secured shall be submitted to the [Agency].
- c) As expeditiously after identification of a feasible compliance method as is practicable, but no later than January 1, 1987, the Petitioner shall submit a program (with increments of progress) for bringing its system into compliance with radiological quality standards to the [Agency]... The City of Geneva shall adhere to all timetables contained in this compliance program.

Compliance with condition 1(b) is not at issue; on January 10, 1986, the City notified the Agency that it had secured the professional services of Rempe-Sharpe and Associates, Inc.

The dispute concerns compliance with condition 1(c). In August, 1986, Rempe-Sharpe submitted to the City the "Radium Compliance Report" ("Report") which it had prepared in association with Black and Veatch Engineers-Architects. As noted in the Executive Summary to the "Report", four project alternatives were evaluated by conducting a present worth analysis over a twenty year period. The summary of the project alternatives analysis was as follows:

PRESENT WORTH COST ANALYSIS SUMMARY
FOR PROJECT ALTERNATIVES

ALTERNATIVE	DESCRIPTION	PRESENT WORTH
A.4.0 MGD TREATED SHALLOW WELL WATER.	\$12,637,500
B.BLENDING 4.0 MGD TREATED SHALLOW WELL WATER AND 1.6 MGD UNTREATED DEEP WELL WATER	12,551,900
C.2.5 MGD WEST TREATED SHALLOW WELL WATER AND 1.5 MGD EAST TREATED DEEP WELL WATER.	13,576,500
D.4.0 MGD TREATED FOX RIVER WATER	13,276,500

Of these alternatives, Rempe-Sharpe recommended alternative B. The stated reasons for this conclusion were that:

From the present worth cost analysis performed as part of the study, Project Alternative "B" Blending 4.0 MGD Treated Shallow Well Water and 1.6 MGD Untreated Deep Well Water has the lowest present worth cost and is therefore the recommended plan. In addition to being the least cost alternative, Project Alternative "B" provides greater capacity for future utilization, greater reliability due to two water sources, better water quality than presently experienced with deep wells, and improvements to the distribution system.

This alternative would require construction of two shallow wells in addition to Well No. 8. A water treatment plant would also need to be constructed at the Well No. 8 site for removal of iron and magnesium. (The magnesium problem was unanticipated at the time of the Well's construction, having been discovered only as a result of the Water Survey's post-construction testing.) Various other modifications and improvements to the system would be necessary, including blending controls, sludge lagoons, and transmission mains.

In reaching this conclusion, the engineers assessed the City's water needs for a 20 year period, assuming 1% growth per year. For design purposes, the Maximum Daily Demand was established at 4.00 MGD, although the projected Average Daily Demand and Maximum Daily Demand were projects to be 2.42 and 3.88 MGD, respectively. The Report noted that water levels in the deep aquifers which the City taps are expected to continue their historical decline of between 6 and 10 feet per year. If the rate of decline does not increase, Wells 3,5,6 should remain usable, although use of Well 7 could be limited; Well 2 is

planned for demolition, as it will soon cease to be reliable. As to blending, the Report noted that location of water sources is important due to the nature of the existing distribution system:

"The existing distribution system was planned for four major zones as influenced by the location of wells, railroad rights-of-way, and the Fox River. The system was not planned for a single source located near the extremities of the distribution system. Those alternatives which consider one source or two sources in the same geographical area will require extensive modifications to the distribution system. Those alternatives with sources located on opposite sides of the river will require minor modifications to the distribution system."

On September 15, the City Council accepted the Report's Recommendation of Alternative B. Thereafter, discussions were commenced with Batavia and the Surveys concerning the shallow groundwater resource assessment to determine potential sites for location of the new wells. All agreements necessary for commencement of the study were approved. On December 30, 1986, the City filed this petition for variance.

Commencing in January, 1987, the City began communicating with the Agency concerning amendment to the grant agreement concerning Well No. 8 to reflect increased costs for construction of treatment facilities. The total costs for the project were stated to be \$1,252,430; \$374,230 is to be financed by Geneva as its share of the project. As of the filing of Geneva's June 4, 1987 Response, the City anticipated that construction would be completed in August, 1988.

It has been the Agency's consistent opinion, throughout this proceeding, that the City has failed to file the compliance plan required by the PCB 85-93 variance. As detailed earlier, this petition contains no detailed program for achievement of compliance by the end of the term of what would be the City's second variance. It instead proposes that on December 31, 1988, that the City will file a third petition outlining when and how it will come into compliance. Again, assuming that the Rempe-Sharpe Alternative B plan is that finally chosen, as of its June 4 filing the City's belief was that the plan could not specify that compliance would be achieved earlier than 4 years thereafter, assuming no delays of any sort.

The Agency's analysis of this situation is as follows:

"Paragraph 4 of the [December 31, 1986] Petition said that Condition 1(c) of the September 20, 1985 variance required that Geneva develop and submit a

compliance program to the IEPA by January 1, 1987. Paragraphs 8 and 9 basically say another study is underway which will result in another compliance plan. The conflict is that the January 1, 1987 compliance report was to be a program with increments of progress to achieve compliance, not a preliminary report to be used as a basis for yet another study that has no definite compliance timetable.

Geneva's original Variance Petition filed July 1, 1985 asked for a variance for five years and committed itself to be in compliance by the end of that five year period (Petition for Variance, paragraph 26(d)).

The September 20, 1985 Variance granted a variance to "allow the City to develop a plan and timetable to achieve and finance compliance..." (Order, page 7). The variance was not to give Geneva time to do a study, followed by yet another variance and study, followed by a third variance.

Geneva does not explain why it waited more than a year after grant of its 1985 variance to enter into the joint study with the Illinois State Water Survey to evaluate the shallow ground water resource within Geneva and Batavia Township. The Agency believes that study should have been undertaken concurrently with, or as part of, the study performed by Geneva's consultant. The September 20, 1985 variance specifically ordered a study on the possibility and feasibility of achieving compliance by blending water from shallow well with that of its deep wells. This self-imposed delay is a self-imposed hardship. 4/7/87 Response, pages. 31-34 City of Carlyle v. Illinois Environmental Protection Agency, PCB 84-171, April 4, 1985, page 3.

These points are reiterated in the first and second amended Recommendations. The City's responses to each Recommendation become more specific in detailing when it took past actions, and setting forth projected timetables for activities to occur within the next six or seven years. Notwithstanding, it is the Agency's belief that the City has failed to make a firm commitment to come into compliance by a date certain as required by the prior variance and the Board's procedural rule 35 Ill. Adm. Code 104.121(f) which provides the variance petitions shall contain "a time schedule for the implementation of all phases of the control program from initiation of design to program completion". For

these reasons, the Agency continues to recommend that variance be denied.

The City's contention is that it has in fact complied with the Board's Order in PCB 85-93. While the City acknowledges that it "cannot at the present time commit to a date certain when it will in fact be in compliance with the standard" it nonetheless believes that "there should be no question that it has developed a compliance schedule which it is implementing." 6/4/87 Response, p. 3. Geneva states that, while in its petition in PCB 85-93 it had anticipated that it would achieve compliance within 5 years, this estimate was made without the benefit of the Rempe-Sharpe Report on the basis of the best information then available. The City asserts that it could not reasonably have initiated the groundwater assessment study in advance of its receipt of the Report, since two of the compliance alternatives which were the subject of the study did not involve use of shallow wells. Geneva argues that revision of its original tentative timetable was both necessary and reasonable, based upon the Report's recommendation both of Alternative B and attendant studies to locate the necessary and suitable source of 4.0 MGD of water.

The City asserts that after its acceptance of the Report, that it expeditiously contracted with the Survey for the groundwater assessment. It believes that "[i]t is simply impossible for Geneva or anyone else, for that matter, to predict with the kind of precision the Agency is demanding when Geneva can complete its program", as to do so would require prediction "with 'certainty' how long it would take to acquire land and transmission easements for unknown wells at unknown locations and determine how long it would take the City to reach agreements with unknown landowners and parties in interest sometime in the future". The City concludes that variance should be granted because it:

"has proceeded before the Board in this matter in a straight-forward and candid manner and has proposed a reasonable and feasible compliance schedule which is as detailed and as definite as the circumstances of this case allow. Geneva has established that it will suffer an arbitrary and unreasonable hardship if the variance extension is not granted." 7/13/87 Response, p. 3-5

Board Resolution

This case presents a very close judgment call for the Board. The Board agrees with many of the Agency's assessments concerning this case, including the observation that much of Geneva's asserted hardship is self-imposed. However, for the reasons expressed below, the Board concludes that denial of a short-term variance from the effects of restricted status would

impose an arbitrary or unreasonable hardship. The variance will, however, be for a shorter time period than that requested by Geneva and subject to termination at various intermediate points in the event that Geneva fails to strictly comply with its terms.

The Board first wishes to address a theme which runs through many of Geneva's filings: the notion that it is being discriminated against, that the Agency somehow "owes" it a favorable Recommendation in this case because in PCB 85-93 the Agency had recommended a five year variance, and that correspondingly the Board "owes" Geneva this extension because the original variance was granted for "only" 15 months when some other communities at various times have received five year variances. This argument rests on the faulty premise that every community which is on restricted status as a result of naturally occurring radioactivity is identically situated in every respect, and that there have been no changes in circumstances, or experience gained by the Board and Agency, between the time Illinois' communities' radium problems began to surface and today.

The situation of most communities with naturally occurring violations of radioactivity standards is similar to the extent that a) none of them caused its problem, b) none is sure whether or when USEPA may revise the federal standard and whether any change in the state standard will result, and c) none is sure whether or when more easily managed and less costly treatment technologies will develop. All then, have a similar, and not totally irrational, incentive to delay compliance efforts while they "wait and see". Dissimilarities between the radioactivity restricted status list include levels of radioactivity in the water, length of time the violation has been known, compliance efforts since the violation was discovered, availability of alternate water sources, availability of treatment systems appropriate to the water supply size, and economic situation of the community as evidenced by per capita income, unemployment rates, growth rate, assessed evaluation, bonded indebtedness, level of infrastructure improvements needed and the like.

Illinois received primary authority and resulting funding to enforce provisions of the federal Safe Drinking Water Act in 1979. This means that Board and the Agency must implement a state program consistent with the federal program; failure to do so may result in USEPA's entry into the state to itself enforce the federal program.

At about the time enforcement primacy was received, the Board received the first major "wave" of requests for variances from radioactivity standards, specifically the gross alpha particle activity standard. As a result of various factors, including some early inaccuracies in test methods, the fact that radioactivity standards were even then under review by USEPA, and

the aforementioned problems associated with cost and identification of compliance strategies, the Board generally issued five-year variances to allow for additional testing to confirm exceedances, and development and implementation of control strategies.

In 1984-1985, the Board began to receive a second "wave" of variance requests: requests for renewal of prior variances, and requests from communities, such as Geneva, which had recently been informed of radium exceedances. In reviewing efforts towards compliance under the prior variances, it became clear to the Board that while some steps towards compliance were taken, many municipalities had been inclined to concentrate their efforts on "waiting and seeing" in the hopes that major expenses could thereby be avoided.

When considering the first-time variance requested by communities which had recently learned of their problems in 1984-1985, then, the Board in some circumstances declined to grant five year variances even where they had been recommended by the Agency. Rather than giving a variance requiring submission of a compliance plan to be implemented by the end of a five year period as recommended by the Agency, in some cases the Board granted a short-term variance for the sole purpose of developing a plan. The intent was to require a community to come back to the Board sooner, rather than later, to prove that it had been actively pursuing compliance rather than "waiting and seeing".

In the same general span of time, the USEPA and the Agency began to intensify discussions concerning disagreements between USEPA and the Board and Agency concerning SDWA variances and enforcement. The disagreement concerning variances culminated in USEPA revocation in 1986 of some Board variances from the radiological quality and fluoride standards. The dispute has also prompted the Agency to suggest that communities seek variance only from the restricted status rules, rather than from these standards.

Concerning enforcement, as presented in the R85-14 proceeding, the USEPA/Agency discussions have resulted in the Agency's recent development of an "enhanced enforcement program". Pursuant to a timetable contained in the program, the Agency will commence enforcement proceedings against communities who are not in compliance with drinking water regulations and who have not signed an agreement, with increments of progress detailing how they will reach compliance by a date certain. One such type of agreement which can insulate a community from enforcement is acceptance and agreement to be bound by a Board variance requiring that compliance will be achieved by a date certain.

Given these circumstances, under some conditions, the Board has again begun granting five year variances. Although the Board continues to hold the belief that the short-term variance is a superior mechanism for insuring that a compliance plan is developed expeditiously, it also believes that communities which make firm compliance commitments should be afforded as much insulation from enforcement as possible.

When Geneva's situation is viewed in light of all these facts, it is clear that there has been no inconsistency in the City's treatment. The PCB 85-93 short-term variance was granted to allow and require Geneva to develop and file a plan whereby it would achieve compliance by a date certain. Geneva accepted the terms and conditions of that variance, but has not, as the Agency correctly states, complied with that variance. The Agency's Recommendation that variance be denied as a result of Geneva's failure to commit to achieving compliance by a date certain is entirely consistent with a) its Recommendation in PCB 85-93, where Geneva had made such a commitment and b) its treatment of other communities now seeking variance in light of its "enhanced enforcement program".

Geneva's explanation of why it cannot presently commit to compliance is somewhat disingenuous. Geneva explains that only after it had reviewed the Remke-Sharpe Report and chosen a shallow groundwater alternative, did it have enough information to know that a groundwater assessment study by the Surveys' would be needed, and that it was logical to defer the expense of the Surveys' study until after the Report was completed. However, the Board finds it equally if not more logical to have proceeded with the Report and the Survey's study in tandem; if the City's aim was to have the Council choose, in September of 1986, the most desirable of the compliance options which were feasible, it would appear that information as to availability of usable quantities of groundwater of sufficiently high quality would be an important factor in the decision. As it is, the Council has approved an option of only hypothetical do-ability.

Notwithstanding, the Board will give the City the "benefit of the doubt" that the sequence of its actions was taken in good faith and not solely for the purposes of delay in which to "wait and see". In finding that not all of the hardship asserted by the City is self-imposed, the Board has given weight to the fact that there were no lengthy periods of unexplained delay involved during the course of the City's other compliance activities, and the fact that the magnesium problem in Well No. 8 had been unanticipated. The Board has also considered the \$12-\$13 million price tag of the various compliance options, and the revenue which the listed delayed construction projects could bring to the City. The Board finds that there will be no significant health risk for the limited population served by new water main extensions during the period of a limited variance, and that the

City has -- if but barely -- proved that denial of a limited lifting of restricted status would impose an arbitrary or unreasonable hardship.

However, given the totality of the circumstances here, the Board believes that the City's activities deserve Board scrutiny at a date earlier than it suggests. The City projects that the groundwater assessment will be presented to the City on June 30, 1988, and will be scheduled for Council approval on August 1, 1988. The City had then anticipated entering into negotiations for options, and filing a petition for variance renewal on December 31, 1988 in anticipation of a Board decision on or before March 31, 1989. The Board believes that the more appropriate "break point" in this scenario is the City's consideration of the Surveys' assessment, rather than conclusion of the options negotiation process whose date the City contends is uncertain. This variance will terminate no later than December 15, 1988. It will terminate on August 15, 1988 if the Board has not received a petition for variance extension which contains a commitment to a specific option and commitment for achievement of compliance by a date certain. The Board will lift restricted status only for the thirteen proposed projects identified by Geneva in this record and earlier listed in this Opinion.

Finally, the Board notes that, as this variance does not shield Geneva from enforcement liability for violation of the radium standard, that Geneva may be subject to being placed back on the restricted status list pursuant to Order issued in an enforcement action.

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 granted variance from 35 Ill. Adm. Code 602.105(a) and from 35 Ill. Adm. Code 602.106(b) but only as they relate to the 5 pCi/l combined radium standard of 35 Ill. Adm. Code 604.301(a), and only as they relate to issuance of permits to serve the 13 developments listed in the above Opinion, subject to the following conditions.

(a) This variance expires on December 15, 1988 or when analysis pursuant to 35 Ill. Adm. Code 605.105(a) shows compliance with the combined radium standard, whichever comes first. However, if compliance has not been achieved on or before August 14, 1988, and the Petitioner has not filed a petition for variance extension with the Board and the Agency on or before

that date, this variance will terminate on August 15, 1988.

- (b) As expeditiously after identification of a feasible compliance method as is practicable, but no later than August 14, 1988, the Petitioner shall submit a program (with increments of progress) for bringing its system into compliance with radiological quality standards to the Agency's Division of Public Water Supplies, Permit Section, at 2200 Churchill Road, Springfield, Illinois 62706. The City of Geneva shall adhere to all timetables contained in this compliance program.
 - (c) Pursuant to 35 Ill. Adm. Code 606.201, the Petitioner shall send to each user of its public water supply a written notice to the effect that the Petitioner has been granted by the Illinois Pollution Control Board a variance from 35 Ill. Adm. Code 602.105(a) (Standards for Issuance) and from 602.106(b) (Restricted Status) as they relate to combined radium-226 and radium-228 in the first set of water bills issued after the grant of this variance and every three months thereafter. The notice shall state the average concentration of radium-226 and radium-228 in samples taken since the last notice period in which samples were taken.
 - (d) Until full compliance is reached, the Petitioner shall take all reasonable measures with its existing equipment to minimize the level of combined radium-226 and radium-228 in its finished drinking water.
2. Within forty-five days of the date of this Order, the City shall execute and forward to Mr. Wayne Wiemerslage, Enforcement Programs, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five days period shall be held in abeyance for any period this matter is being appealed. The form of this certification shall be as follows:

CERTIFICATION

This City of Geneva hereby accepts and agrees to be bound by all terms and conditions of the Order of the Pollution Control Board in PCB 86-225, dated July 16, 1987.

The City of Geneva

By: Authorized Agent

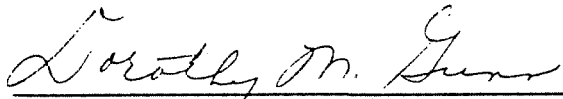
Title

Date

IT IS SO ORDERED.

J. D. Dumelle and B. Forcade dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 16th day of July, 1987, by a vote of 4-2.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board