

ORIGINAL

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD JUN 28 2007

STATE OF ILLINOIS
Pollution Control Board

IN THE MATTER OF:)

PETITION OF JOHNS MANVILLE)
FOR AN ADJUSTED STANDARD FROM)
35 ILL.ADM. CODE §§ 811.310,)
811.311, 811.318, 811.320, and 814)

AS 04-04
(Adjusted Standard-Land)

NOTICE OF FILING

The undersigned, an attorney, hereby provides notice (see service list in Certificate of Service) that he has today caused copies of the following Testimony of William Bow and Certificate of Service to be filed with:

Bradley P. Halloran
Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite 11-500
Chicago, Illinois 60601

JOHNS MANVILLE,
Petitioner,

By: Edward P. Kenney
One of Its Attorneys

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TESTIMONY OF WILLIAM A. BOW, C.P.G.

Q. For my first witness, I would like to call William Bow.

Witness is sworn.

Q. I would like to have Petitioner's Exhibit 1 (Bow C.V.), marked, and will ask the witness to identify it.

A. This is my resume.

Q. Could you briefly describe your formal education for the record?

A. I attended Albion College in Albion, Michigan for undergraduate school and the Ohio State University for graduate school.

Q. What degrees do you have?

A. I received my Bachelor of Arts in 1980 and my Masters degree in 1982. Both were in geology.

Q. Could you briefly describe your working experience for the record?

A. I was a petroleum geologist for Exxon Company U.S.A. from 1982 through 1989 and have been a consulting geologist in the environmental field since 1989.

Q. Where are you presently employed, and what is your current position?

A. I am employed as a Vice President and Principal Geologist for LFR Inc.

Q. How long have you been in that position?

A. With the exception of a brief period in 1999 and 2000, I've been with LFR since 1997. I owned and operated my own consulting firm during the brief time I was away from LFR.

Q. Do you have any certifications from professional organizations?

A. I am a Certified Professional Geologist (#7966), as recognized by the American Institute of Professional Geologists.

Q. Have you taken any continuing education courses since your graduation?

A. Nothing formally. Only internal training on safety, as required by OSHA, and various technical disciplines over the years since I left school.

Q. Mr. Bow, you tell the Board about your experience in developing groundwater monitoring programs?

A. I have been involved in designing and assisting in the implementation of groundwater monitoring in a variety of contexts, including Superfund sites, Site remediation program sites, and at solid waste landfills. I was involved in designing the groundwater monitoring program for the Johns Manville site. I have had project management or oversight experience for a number of projects involving design and implementation of groundwater monitoring programs.

Q. Have you had experience with groundwater monitoring programs similar to the ones required by the Illinois Pollution Control Board's regulations governing solid waste landfills?

A. Yes.

Q. Have you had experience in providing for statistical analysis of groundwater data?

A. Yes, I have overseen that process on a number of projects and typically rely on in-house experts to conduct the actual analysis.

Q. Are you familiar with the requirements for gas monitoring of solid waste landfills.

A. Yes, I am familiar with the Pollution Control Board's Solid Waste Landfill regulations governing landfill gas monitoring. I was also involved in developing and overseeing the collection of gas data from landfills at Johns Manville..

Q. Based on his education and experience, I would like to tender Mr. Bow as an expert in the areas of groundwater monitoring and gas collection systems and monitoring requirements for landfills. I would also ask that Exhibit 1 be entered into the record.

BACKGROUND OF THE JOHNS MANVILLE SITE

Q. I would like to have these drawings of the Johns Manville site marked as Petitioner's Exhibit 2, and ask the witness to look at them. Mr. Bow, how many times have you been to the Johns Manville site in Waukegan, Illinois?

A. I have been working on the site since roughly mid-1998, and during that time have made well over 100 visits to the site. Frankly, I've lost count.

Q. Could you walk us through this drawing, and explain the layout of the site?

A. The site generally consists of 5 areas. The former Manufacturing Area on roughly the western half, the former Disposal Area on roughly the eastern half, the Borrow Area in the northwest corner of the property, the Industrial Canal and Pumping Lagoon bordering the north side of the former Manufacturing and Disposal Areas, and the Beach. The On-Site landfill is actually located within the southeast corner of the former Disposal Area that was substantially closed in 1992. In fact, this state-regulated landfill is actually located on top of and within the aerial limits of the former Disposal Area that is being closed pursuant to a federal and state-approved Consent Decree.

Q. So that the record is clear, you visited the site when some manufacturing activities were still occurring?

A. Manufacturing had all but ceased by the time I began my work out there, however, the site was used for warehousing and product distribution.

Q. Can you briefly describe the history of the Johns Manville site? Approximately when was it built? How large a site is it? How big were the manufacturing buildings? What sort of products were made there when the plant was in operation?

A. Development of the 350 acre site began around 1920, with manufacturing beginning shortly thereafter. With the exception of the Borrow Area that was purchased in the late 1960s, the site acreage and layout was largely unchanged since inception. The Borrow Area is roughly 40 acres in size.

Prior to being demolished, there were roughly 1.9 million square feet of manufacturing buildings at the site. This is approximately 44 acres. The principal products manufactured at the plant were pipe insulation, gaskets, brake shoes, roofing products, floor tile, and siding. It is my understanding that until its use was discontinued at the Waukegan plant during the 1980's, many of these products contained asbestos.

Q. Could you briefly describe the history of the Johns Manville site, as far as the Comprehensive Environmental Response, Compensation and Liability Act (more commonly known as CERCLA or Superfund) is concerned?

A. I know that the site was placed on the United States Environmental Protection Agency's National Priority List (NPL) in 1983, and that the USEPA required Johns Manville to conduct a Remedial Investigation Feasibility Study to evaluate the extent of environmental problems at the site and to consider possible alternatives for addressing them.

Q. Now, you were not personally involved with the site at that time, but you have reviewed documents concerning the activities conducted at the site, is that correct?

A. Yes.

Q. To your knowledge, what was the most significant environmental issue at the site that USEPA wanted addressed?

A. There were piles of asbestos containing materials on the eastern part of the site, which I have described as the Disposal Area. USEPA was concerned that asbestos fibers within the piles could become airborne. The principal activity at the site historically had been manufacture of asbestos containing building products, and as the manufacturing wastes generated at the site were previously placed in the Disposal Area, there was a considerable volume of material that required closure.

Q. Did USEPA require that various alternatives for addressing this issue be considered and evaluated?

A. Yes.

Q. What alternative was ultimately selected to address this issue?

A. USEPA determined that the appropriate remedy would be to place soil cover over the asbestos material at a thickness of 24 inches. USEPA concluded that placing cover over the material would prevent it from becoming airborne.

Q. At this point, I am going to ask that Petitioner's Exhibit 3 be marked for identification (Original Consent Decree). Mr. Bow, could you examine this document and tell me what it is?

A. It is a Consent Decree between the United States and Johns Manville Sales Corporation.

Q. Have you ever read this document before?

A. Yes.

Q. Could you tell me, very briefly and generally, what it requires with respect to the remedy for the site?

A. The Consent Decree required the construction of a soil cover over asbestos containing waste at the site. After the cover was constructed, Johns Manville was required to maintain it, so as to prevent asbestos containing material from becoming airborne or otherwise migrating from the site.

Q. Did the Consent Decree provide for any groundwater monitoring?

A. Yes, in general groundwater samples are collected every 5 years. Samples were last collected in December 2006.

Q. Let's go back to Exhibit 2, again for a minute. Could you identify the Solid Waste Disposal Pit on that exhibit?

A. As I previous described, it is located in the southeast corner of the former Disposal Area.

Q. Does the Consent Decree address the Solid Waste Disposal Pit, and, if so, could you tell the Board how this area is addressed?

A. The Consent Decree provides for the continued operation of the Solid Waste Disposal Pit, although it does require some work to be done to cover materials on the base of the pit. It did not allow JM to place new asbestos containing wastes into the Solid Waste Disposal Pit.

Q. Is it your understanding that, at the time the original consent decree was entered, the Johns Manville plant was in operation?

A. Yes.

Q. Did the Consent Decree contemplate the continued operation of the plant?

A. Yes.

Q. Does the Consent Decree provide for continued oversight of the site by the USEPA and the State?

A. Yes. The Consent Decree contains a requirement that Johns Manville develop a Management Plan that USEPA had to approve. USEPA provided very close oversight during the construction of the cover for the asbestos material. Both the USEPA and IEPA continue to conduct oversight at the site.

Q. At this time, I am going to ask that Petitioner's Exhibit 3, the Consent Decree, be entered into the record. I would also like to have Petitioner's Exhibit 4 (First Amended Consent Decree) marked for identification. Mr. Bow, were you involved with the negotiations that led up to this First Amended Consent Decree?

A. Yes.

Q. What does the First Amended Consent Decree address?

A. The First Amended Consent Decree addresses closure of the units, such as the Collection Basin, Settling Basin and some of the pre-settling lagoons that were used as part of the facility's wastewater treatment unit that had remained in operation during the continuation of the manufacturing operations at the plant. It also provides for closure of the On-Site landfill, although it does allow Johns Manville to file an adjusted standard petition for that landfill.

Q. Is it your understanding that the adjusted standard petition in this proceeding is allowed under the First Amended Consent Decree?

A. Yes. We specifically discussed the need to file an adjusted standard petition in order to provide for closure of the On-Site Landfill with USEPA and IEPA while we were negotiating the terms of the First Amended Consent Decree. We have kept USEPA informed as to the Adjusted Standards petition. It is my understanding that USEPA views this issue as a matter of state law.

Q. Does the First Amended Consent Decree provide for continued oversight by the USEPA and the IEPA over the remedy?

A. Yes.

Q. I would ask that Petitioner's Exhibit No. 4, the First Amended Consent Decree, be entered into the record.

ADJUSTED STANDARDS PETITION

Q. At this time, I would like to ask that Petitioner's Exhibit 5 be marked for identification (Adjusted Standards Petition). Mr. Bow, were you involved with preparation of the Adjusted Standards Petition in this proceeding?

A. Yes.

Q. Is the Adjusted Standard addressed to discrete units at the facility?

A. Yes, it is addressed to the two parts of the on-site Solid Waste Disposal landfill.

Q. Could you show the Board where those units appear on Exhibit 2?

A. Fill Area #1, also known as the Miscellaneous Disposal Pit, is roughly 10 acres in size and is located in the far southeastern corner of the former Disposal Area. Fill Area #2, located approximately 200 feet north of Fill Area #1, was created when the southern one-third of the former Collection Basin was filled in 1996. Fill Area #2 is roughly three and one-half acres in size.

Q. Could you describe those units as they presently exist?

A. Neither unit is currently accepting any waste materials. Both units have interim clay covers that are vegetated. The interim cover in Fill Area #1 ranges from one to ten feet thick, with an approximate average thickness of three to four feet. The interim cover in Fill Area #2 ranges from two to fifteen feet in thickness.

Q. I am also going to ask that Petitioner's Exhibit 6, the Johns Manville Landfill Report, be marked for identification, and ask Mr. Bow to review it. Mr. Bow, could you tell me what Petitioner's Exhibit 6 is?

A. It is Johns Manville's Initial Facility Report for the On-Site Landfill, which I understand was filed in September 1992.

Q. Based on this report, what kind of wastes did Johns Manville intend to place in the Solid Waste Disposal Pit?

A. According to information on page 9 of the Initial Facility Report, waste materials being generated at the plant in 1992 for disposal in the On-Site Landfill included cardboard, broken wooden pallets, finished or in process roofing and Thermal-12 products, plastic banding, steel banding, granules, sand, and sludge from the pre-settling lagoons (inert solids from manufacturing).

Q. Do you know when this report was submitted to the Illinois Environmental Protection Agency, and why it was submitted?

A. It was submitted in 1992 because the Illinois Pollution Control Board had adopted new regulations governing landfills that required the submittal of reports such as this for various categories of landfills.

Q. Could you describe those regulations briefly in terms of the types of landfills that they addressed?

A. The regulations had different requirements for inert, chemical and putrescible and solid waste municipal waste landfills. The requirements were more stringent for chemical and putrescible and municipal solid waste landfills because those types of wastes presented a higher

potential threat for gas generation and leachate formation than did inert waste landfills. There were also different requirements depending on how long landfills were going to remain open.

Q. Why were the requirements different, depending on the type of landfill?

A. Inert wastes were the type of materials that would not generate landfill gas or contaminated leachate because they would not be anticipated to decompose very much, if at all.

Q. Were the types of materials that JM placed in the landfill more similar to the types of materials that one would expect in Chemical and Putrescible, municipal solid waste or inert waste landfills?

A. They would be most similar to the types of materials in inert landfills. This was what was assumed when the Initial Facility Report was filed. On page 9 of the report, there is a reference to the waste being "inert."

Q. At this time, I would like to request that Petitioner's Exhibit No. 7 be marked for identification. (On-Site Landfill Site Investigation Report). Did you do any work in developing the information necessary to support the adjusted standard petition?

A. Yes. LFR conducted a hydro geologic site investigation, in addition to conducting groundwater, leachate, and landfill gas monitoring. The site investigation included advancing 86 soil borings in both fill areas to determine the thickness of the interim cover and the nature of the wastes. This information was compiled in a Site Investigation Report dated September 26, 2005 that was provided to the IEPA on September 30, 2005.

Q. Does Exhibit No. 7 contain the information that you developed?

A. Yes, I was the Project Manager that oversaw the investigation.

Q. I would ask that Exhibit No. 7 be entered into the record in this proceeding. What did you determine with respect to the types of waste in the landfill?

A. The waste was consistent with what was described in the Initial Facility Report, consisting of calcium silicate, fiberglass roofing material, and some cardboard. Occasional pieces of plastic or metal were also noted. Although some cardboard was encountered, it was dry and did not appear to be undergoing any significant degradation.

Q. Was any data collected to determine whether a significant amount of landfill gas was being generated?

A. Yes. Data regarding landfill gas generation was initially collected in April 2003. The investigation consisted of measuring pressure, temperature, and methane, carbon dioxide, and oxygen concentrations of gas extracted from LGW-01, which is screened across the waste column in the center of Fill Area #1. Monthly monitoring of methane concentrations and gas pressure from monitoring points surrounding the landfill has been conducted since the initial testing was completed. The data may be summarized as follows:

- Measured landfill gas temperatures were approximately 50°F. It is my understanding that municipal landfills typically exhibit landfill gas temperatures in excess of 100 degree Fahrenheit.
- The vegetative grass cover over the landfill was intact, growing and healthy, and showed no signs of burn-out, which is potentially indicative of methane release to the landfill surface. Moreover, there are no buildings, structures or utilities on or around the landfill that could serve as a conduit for relieving methane pressures.
- Gas pressures measured during 2006 in LGW-01, located within the limits of Fill Area #1 ranged from -0.1 inches of water to a maximum of 0.4 inches of water. The average pressure over the 12 month monitoring period was 0.2

inches of water. Combined with the presence of between one and ten feet of clay cover and the lack of any methane detections outside the limits of the waste, this indicates negligible gas generation within Fill Area #1.

- Gas pressures measured during 2006 in LMW-10, located within the limits of Fill Area #2 ranged from -0.4 inches of water to a maximum of 0.1 inches of water. The average pressure over the 12 month monitoring period was -0.05 inches of water. Combined with the presence of between two and fifteen feet of clay cover and the lack of any methane detections outside the limits of the waste, this indicates negligible gas generation within Fill Area #2.
- Methane concentration is measured monthly at 17 locations surrounding the On-Site Landfill. Despite the lack of any landfill gas collection system, no methane was present above regulatory criteria (50% of the Lower Explosive Level (LEL)) outside the limits of the waste boundary. Given that wastes have not been added to the On-Site Landfill for almost eight years, and that very little additional wastes, if any, are expected to be added in the future, it is unlikely that the landfill gas generation rate would increase, thereby resulting in an increased potential to detect migrating landfill gas.
- No malodors were noted within or outside the boundary of the landfill at any time, also indicative of little or no gas generation.

Q. Based on the landfill gas monitoring data that has been collected, can you come to any conclusions concerning the nature of the waste in the landfill?

A. While some methane has been detected in the wells screened within the waste column, gas pressures are negligible, despite the presence of up to fifteen feet of clay cover. Moreover, no methane has been detected outside the limits of the waste prism. This leads to the conclusion that the underlying waste is substantially inert, which is consistent with the waste description contained in the Initial Facility Report. If the waste were more similar to chemical and putrescible waste, or municipal solid waste, more gas generation would be expected.

Q. At this time, I would like to ask that Petitioner's Exhibit No. 8 be marked for identification. (Adjusted standards to Landfill Gas requirements 811.310(c)(1), 811.311(a)(1). Mr. Bow, could you tell me what these adjusted standards provide for?

A. These adjusted standards provide for a reduction in the landfill gas monitoring requirements and a minor change in the location of the landfill gas monitoring devices outside the limits of the waste boundary.

Q. What's the difference between what the regulations require and what the adjusted standard would require?

A. For the landfill gas monitoring, we have proposed semi-annual monitoring for a period of five years following approval of this adjusted standard. If, at that time, the requirements for implementing gas collection are not met, we propose to terminate monitoring.

With respect to the location of the landfill gas monitoring devices outside the limits of the unit, the regulations call for locating the devices a maximum of 100 feet away from the edge of the unit, or the property line, whichever is less. In this case, the 100-foot distance would apply. The adjusted standard requests relief from the 100-foot distance because complying would require the installation of wells through the engineered cover placed for closure of the CERCLA landfill and into the underlying waste materials. Installation, monitoring, and maintenance of

wells installed in these locations not only compromises the integrity of the CERCLA cover and thereby triggers maintenance obligations not otherwise required, it also potentially exposes the now-covered asbestos-containing waste materials to personnel collecting the air samples and/or cause the release of asbestos fibers to ambient air.

Q. In your opinion, would the adjusted standard be as protective of the environment as the regulation would be?

A. Yes.

Q. Has the adjusted standard been discussed with the IEPA?

A. Yes. It is my understanding that they did not object to the proposed adjusted standards related to landfill gas. .

Q. Have cost estimates been done for gas collection systems and monitoring under the proposed adjusted standard, in contrast to a system and monitoring that would meet the letter of the regulatory requirements?

A. There are two components to the cost difference between the regulatory requirements and the proposed adjusted standard. For the monitoring, the incremental costs are for the frequency and duration of the monitoring events; and for the monitoring locations, the incremental costs are related to the installation and safety considerations of installing wells through the side-slopes of the CERCLA cover.

The cost savings with implementing the monitoring frequency under the proposed adjusted standard versus the regulatory requirement over the first five years following closure is approximately \$35,000. Thereafter, the savings are approximately \$15,000 per year.

The cost savings with implementing the modified monitoring locations are more substantial. Presently, landfill gas is monitored at 17 existing locations around the landfill. If

these were to be replaced at locations up the side-slopes and through the CERCLA cover, drilling costs would likely exceed \$150,000. This would include provisions for repairs to the CERCLA cover due to damage from the drilling rig. I would also add that doing so would require permission from the U.S. EPA.

Q. I will ask that Exhibit 8 be entered into the record. At this time, I would like to ask that Exhibit 9 (Adjusted Standard Language for 811.320(c)(1) and 811.318(b)(3) be marked for identification. Mr. Bow, could you explain why Johns Manville is requesting these adjusted standards.

A. The regulations governing the location of groundwater monitoring wells would require that these wells be located within the side slopes of the now-closed CERCLA landfill. This would require breaching the CERCLA cover and drilling through asbestos wastes before reaching the underlying groundwater. Installation, monitoring, and maintenance of wells installed in these locations is not desirable for the following reasons:

Drilling through waste materials prior to installing a monitoring well within the underlying groundwater increases the risk of cross-contamination of that groundwater either through (i) carrying contaminants vertically downward during the drilling process and/or (ii) providing a conduit for ongoing vertical migration of waste material leachate down an inefficient annular seal within the borehole. It is acknowledged that the final landfill cover is intended to minimize leachate generation and that the use of various drilling techniques and grouts are available to minimize the possibility of cross contamination. However, these methods and their intended application are not without risk and thus, their use is not consistent with good environmental management practices, provided that the applicable data may be obtained without substantial compromise.

In the case of Fill Area #1, ongoing and repetitive operations for many years on the steeply sloping, more erosion-prone sides of the CERCLA landfill increases both the cover maintenance obligations (as solely a cost-related issue) and the risk of ambient release of asbestos fiber and subsequent exposure to surrounding populations from incremental erosion events or catastrophic slope failure (*e.g.*, due to drilling operations using heavy equipment).

As specified in the Operating and Maintenance Manual governing closure of the CERCLA landfill, activities that may result in penetration or damage to the existing CERCLA cover must (i) be pre-approved by U.S. EPA and IEPA, and (ii) must adhere to Health and Safety protocols designed to limit exposure to asbestos.

Q. At this time, I would like to ask that Exhibit 9 be entered into the record, and I would like to ask that Petitioner's Exhibit No. 10 be marked for identification. Mr. Bow, could you read this document and describe it for the Board?

A. It's a letter from Brad Bradley, the Project Manager at USEPA, Region 5 saying that USEPA does not want Johns Manville to drill through the CERCLA cover over the former Disposal Area.

Q. I would ask that Exhibit 10 be entered into the record. I would like to have Petitioner's Exhibit No.11 marked for identification. Mr. Bow, could you tell the Board what this document represents.

A. This is a draft report of the On-Site Landfill Groundwater and Leachate Quality dated June 23, 2006.

Q. Could you summarize the data for the Board?

A. In its order dated November 4, 2004, the Board requested that JM be prepared to discuss leachate and groundwater quality at the hearing. To that end, JM implemented and has been conducting quarterly sampling of the groundwater and/or leachate since March 2004. The monitoring locations are the same locations as are being requested in this adjusted standard, as many of the monitoring locations are also used for periodic monitoring of the CERCLA remedy. The data from that sampling, through March 2006, has been summarized in the draft report. This draft report was also provided to the IEPA for review and comment.

In general, the data from both the leachate and the groundwater monitoring do not show significant contaminant loading. There are some parameters present within the leachate that exceed background tolerance limits in several groundwater monitoring wells, and these will continue to be evaluated as additional data are collected. I would note that the presence of the on-site landfill within the aerial limits of the former Disposal Area closed pursuant to CERCLA is a complicating factor in that it is somewhat difficult to distinguish between the two when looking at groundwater monitoring data from wells located down gradient of both.

It should also be mentioned that the adjusted standard being requested for groundwater monitoring is related to the position of the monitoring wells, not monitoring parameters or how the results from any monitoring might be interpreted. Thus, the data on groundwater and leachate quality, though relevant as part of the overall closure of the landfill, are not necessarily relevant to this particular proceeding.

Q. I will ask that Exhibit No. 11 be entered into the record.

Q. Could you explain what JM is proposing as far as the adjusted standard for groundwater monitoring is concerned?

A. JM is asking that the distance between the edge of the waste boundary and the zone of attenuation be extended to the location as shown on Figure 8 in the petition.

Q. Why does JM view the adjusted standard as necessary?

A. For both the technical and safety reasons previously discussed.

Q. Is it your opinion that the monitoring system under the adjusted standard would be sufficient to allow JM to determine whether contaminants were migrating from the On-Site landfill?

A. Yes. The underlying geology is fine to medium sand from the surface to approximately 40 feet below grade. Groundwater is typically found within five feet of the natural grade surface. As such, contaminants escaping into groundwater will have a direct flow path to the groundwater monitoring locations. Figures 2B, 2C, and 2D are various cross sections showing the On-site landfill and the underlying geology.

Moreover, it is further recognized that no “MAPC wells” are being proposed; all monitoring points are thus considered “AGQS wells.” As such, the obligations described in 35 Ill.Adm.Code § 811.319(b)(3) immediately apply, if the concentration of one or more constituents monitored at or beyond the Zone of Attenuation, as shown on Figure 8, is above the applicable groundwater quality standards of Section 811.320 and is attributable to the On-Site Landfill.

Q. For the record, what are “MAPC wells”, and what is their significance?

A. The term “MAPC wells,” or “maximum allowable predicted concentration” wells, refers to monitoring wells located within half the distance from the source of a potential discharge from waste disposal operations and the zone of attenuation in the down gradient direction. In practical terms for the JM site, these would be monitoring wells located at or less than 50 feet down

gradient from the limits of the waste in Fill Areas #1 and #2. They are used to identify potential groundwater exceedances coming from a landfill before the exceedance is detected at the compliance point, which is typically the outer edge of the zone of attenuation.

Q. For the record, what is an “AGQS well,” and what is its significance?

A. The term “AGQS well,” or an “applicable groundwater quality standard” well, refers to a monitoring well that is located at the compliance boundary, which in this case, is the down gradient edge of the zone of attenuation. Thus, a statistically significance increase in the concentration of a monitored parameter above the “applicable groundwater quality standard” at the outer edge of the zone of attenuation constitutes an exceedance. In practical terms for the JM site, the proposed monitoring locations are all “AGQS” locations. Thus statistically significant increases in monitored parameters applicable to the on-site landfill would need to be addressed.

Q. Based on your review of the leachate and groundwater quality data, do you come to any conclusions concerning the nature of the waste in the landfill?

A. As is the case with the gas monitoring data, the groundwater and leachate data is consistent with the description of the waste in the landfill being more “inert” than is typically the case with chemical and putrescible and municipal solid waste landfills.

Q. Is it your opinion that the monitoring system under the adjusted standard would be equally protective as would a system that met regulatory requirements?

A. Yes, the monitoring wells would still be in a position capable of detecting a release from the landfill. In addition, as the proposed Zone of Attenuation boundary is still well within the JM property boundary, there would be no increased risk to adjoining properties. I would also mention that there are no potable groundwater wells in the area that would potentially become impacted as a result of this minor shift in the boundary.

Q. Have cost estimates been done for a groundwater monitoring system meeting regulatory requirements as opposed to the one proposed under the adjusted standard petition?

A. At present, there are CERCLA-related monitoring wells in the locations proposed in this adjusted standard, for much the same reasons as already indicated. Additional wells related to the On-Site landfill have already been installed at the proposed boundary, and another eight will be installed once the adjusted standard is granted. This is anticipated to cost approximately \$75,000 to \$100,000. If the petition is not granted, a total of sixteen monitoring wells will need to be installed, twelve of which will be placed on the side slopes of the CERCLA landfill. Because of the size of the drilling rig needed, it will be necessary to construct a road on the side slope, which will create a potentially significant side slope stability issue. Again, breach of the CERCLA cap then becomes a substantial structural and health and safety concern. Under this scenario, drilling costs alone are expected to exceed \$200,000 due to increased drilling depths and the health and safety obligations during drilling. This does not include the significant cost of installing a road halfway up the side slope of the landfill.

Q. Has the adjusted standard been discussed with the IEPA?

A. Yes, JM has had multiple meetings with the IEPA on the matter.

Q. Has JM considered the IEPA comments on the data submitted?

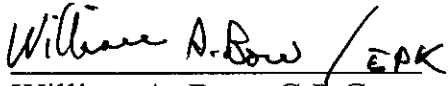
A. Yes, JM has conducted all of the various hydro geological studies requested by the IEPA, in addition to the collection of quarterly groundwater and leachate monitoring data. All these data have been submitted to the IEPA.

Q. Mr. Bow, could you please summarize for the Board why it should grant the requested adjusted standards for landfill gas monitoring and groundwater monitoring?

A. The adjusted standards, as proposed, take into account the actual physical conditions at the landfill. Due to the types of wastes disposed, landfill gas is not a concern, and this is reflected in the adjusted standard that we have proposed for the monitoring duration and monitoring locations. Moreover, the IEPA has previously indicated their concurrence with the proposed changes.

Regarding groundwater monitoring, the adjusted standard merely moves the monitoring location laterally a short distance, so as to avoid environmental and safety concerns with installing monitoring wells though the CERCLA cover, something that the U.S. EPA objects to anyway. These alternative locations are still well within the JM property line and do not have any affect on the ability to detect a release from the On-Site landfill. In fact, because the proposed well locations are at the boundary of the Zone of Attenuation, this places an additional burden on JM, should any release attributable to the On-Site landfill be detected and confirmed. For these reasons, we request that the Board approve the adjusted standard petition.

Respectfully Submitted,


William A. Bow, C.P.G.

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CERTIFICATE OF SERVICE

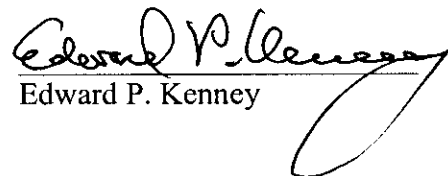
The undersigned, an attorney, hereby certifies that he caused copies of the foregoing Notice of Filing and Testimony of William A. Bow C.P.G. on behalf of Petitioner Johns Manville by placing the same in the United States Mail, first class postage prepaid, this 28th day of June, 2007 addressed to:

Bradley P. Halloran
Hearing Officer
Illinois Pollution Control Board
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CHI 3922379v.1

THIS PLEADING IS FILED ON RECYLED PAPER

EXHIBIT LIST

- Exhibit 1 William A. Bow C.V.
- Exhibit 2 Johns Manville Waukegan On-Site Landfill with cross sections and groundwater monitoring well locations(Figures A,B,C,D)
- Exhibit 3 Consent Decree in United States v. Manville Sales Corporation (1988)
- Exhibit 4 First Amended Consent Decree in United States, People of the State of Illinois v. Manville Sales Corporation (2004)
- Exhibit 5 Johns Manville's Petition for Adjusted Standard (2004)
- Exhibit 6 Initial Facility Report for On-Site Landfill submitted by Schuller International (1992)(Johns Manville)
- Exhibit 7 Johns Manville's Site Investigation Report (submitted to IEPA, September 2005)
- Exhibit 8 Proposed Adjusted Standard Language for Landfill Gas Requirements
- Exhibit 9 Proposed Adjusted Standard Language for Groundwater Monitoring Requirements
- Exhibit 10 Letter from Brad Bradley, USEPA Remedial Project Manager to Willam Bow, dated December 5, 2006
- Exhibit 11 On-Site Landfill Groundwater and Leachate Quality Report (2006)