

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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STATE OF ILLINOIS
Pollution Control Board

CITY OF JOLIET,)
)
Petitioner,)
)
v.)
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

PCB 09-025
(Permit Appeal-Water)

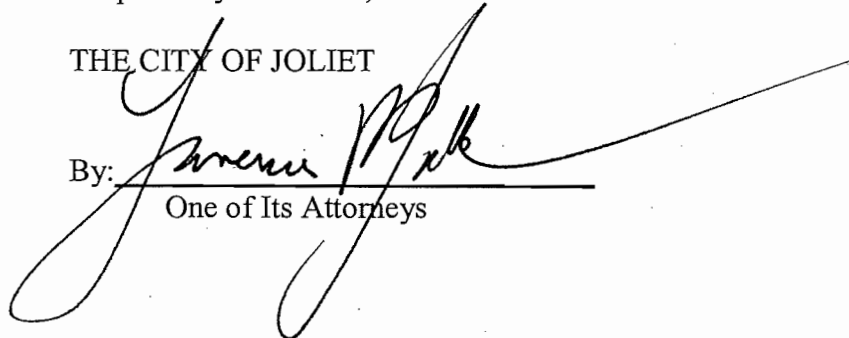
NOTICE OF FILING

TO: See Attached Service List

PLEASE TAKE NOTICE that on February 27, 2009, we filed with the Office of the Clerk of the Pollution Control Board – **Petitioner's Response to Illinois Environmental Protection Agency's Post-Hearing Brief**, a copy of which is served upon you.

Respectfully submitted,

THE CITY OF JOLIET

By: 
One of Its Attorneys

Dated: February 27, 2009

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PETITIONER'S RESPONSE TO ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S POST-HEARING BRIEF

Petitioner, City of Joliet ("Petitioner" or "Joliet"), hereby responds to the Post-Hearing Brief of Respondent Illinois Environmental Protection Agency ("Respondent" or "IEPA").

I. RESPONDENT'S POST-HEARING BRIEF FAILS TO ADDRESS THE ONLY ACTUAL POINT OF CONTROVERSY IN THIS APPEAL

Respondent's minimalist Post-hearing Brief ("Respondent's Brief") misses the point, and mischaracterizes (or fundamentally misunderstands) the precise controversy at issue in the appeal. It also ignores the negotiations that took place over several years and the agreements reached among the interested parties, as set forth in the record, including the conclusions of IEPA's own personnel.

As explained in detail in Joliet's Post-Hearing Memorandum ("Joliet's Memorandum"), the only actual point of disagreement between Joliet and IEPA (which caused IEPA to deny Joliet's requested modification of its Land Application Permit (the "Permit")) was whether the standard and required building practice of removing topsoil before constructing a slab-on-grade residence is a factor that should be considered in determining the allowable increase of radium levels in the soils from Joliet's bio-solids program. Respondent fails to address or, indeed, even

acknowledge, this central issue. Instead, Respondent appears to argue that any increase in radium levels in soils to which bio-solids are applied is a *per se* violation of the Illinois Environmental Protection Act (“Act”), 415 ILCS 5/1 *et seq.*, Sections 12 and 39, and therefore the requested increase in the permissible radium levels as set forth in the Permit (from 0.4 pCi/g to 1.0 pCi/g) violates the Act and must be denied. (Respondent’s Brief, at 3).

The first flaw in Respondent’s argument is that because this case is about the permitted increase in radium levels in soils (specifically, what the allowable level should be), it is simply not the case that any increase is a violation of the Act. Therefore, this premise must be rejected. Neither the Act nor any regulations promulgated under the Act contain any specific limitations on radium levels in soils. Consequently, Respondent relies heavily on the 1984 Memorandum of Agreement between IEPA and the Illinois Emergency Management Agency (“IEMA”) that set a limit of 0.1 pCi/g of radium for land applications of sewage sludge, arguing that anything in excess of that level ‘causes water pollution’ and is a violation of the Act. (Respondent’s Brief, at 3). But, in so arguing, Respondent loses sight of the fact that IEPA itself issued Joliet’s Permit with Special Condition 2 that allowed a level of 0.4 pCi/g. Clearly, even if the MOA set an enforceable standard under the Act (which it does not, as discussed further below), land application of radium in excess of 0.1 pCi/g of the background level is not a violation of the Act as asserted by Respondent in its denial because the Permit already allows for this.¹ Thus,

¹ Respondent states, “Even more specifically, the causing, threatening or allowing of the discharge of contaminants which might cause or tend to cause water pollution will occur because the Petitioner is seeking an increase in soil radium from 0.1 pCi/g above background levels to 1.0 pCi/g above background levels, which will exceed the limit set in the Memorandum of Agreement (“MOA”) between Illinois EPA and Illinois Emergency Management Agency.” (Respondent’s Brief, at 3).

Respondent's position that any land application of bio-solids in excess of 0.1 pCi/g is a violation of the Act is simply wrong.

The second basic flaw in Respondent's Brief is that Respondent steadfastly refuses to acknowledge (or perhaps does not understand) that the practical Permit limitation of 0.4 pCi/g of radium in excess of background that was allowed under the Land Application Permit was a level that was derived from modeling the acceptable radiation dose—10 millirems—that all concerned (Joliet, IEPA and IEMA) agreed is protective. (Joliet's Memorandum, at 21). The limitation of 0.4 pCi/g in Special Condition 2 was not a level that was chosen because radium at that level (0.4 pCi/g or below) did not cause "water pollution" under Section 12 of the Act. This fundamental point must be understood before one can consider the ultimate question of whether granting the requested modification would cause a violation of the Act.² Respondent's contention that anything above 0.4 pCi/g of radium violates the Act is, therefore, fatally flawed, and one must examine the origin of Special Condition 2 to determine if Joliet's requested modification would, in fact, cause a violation of the Act.

Therefore, because all agree that 10 millirems is an acceptable radiation dose, the real issue in this appeal, as explained in detail in Joliet's Memorandum, is whether Joliet or IEPA is correct as to the proper exposure model inputs to use when calculating the radiation dosage. The only material difference in the modeling is the assumption made as to whether topsoil is usually removed as part of slab-on-grade residential construction (which then determines whether 0.4 pCi/g or 1.0 pCi/g is the appropriate radium limitation).

² The perplexing failure of counsel for Respondent to grasp the most fundamental point of the permit appeal may have something to do with the fact that no IEPA witnesses were presented at the hearing, nor did any IEPA representatives attend, and so presumably have not been intimately involved with crafting Respondent's legal position in this matter.

Rather than address this issue head-on, Respondent states that “Petitioner goes to great lengths to show this increase in the concentration of radium in the soil and hence the increased risk to the population is insignificant. That is beside the point” (Respondent’s Brief, at 4). In fact, that is precisely the point.³ As the Petitioner, Joliet’s burden is to show that, as reflected in the record, Joliet’s bio-solids program would not cause a violation of the Act or applicable regulations, or otherwise would cause harm or undue risk to human health or the environment, if Permit Condition 2 had been modified as Joliet had requested. Joliet has met that burden.

Joliet has shown with copious citations to the evidence in the record before the agency, including information submitted by Joliet’s experts and statements by IEPA’s own personnel, the applicable building codes in the Joliet area mandate that topsoil must be removed for structural reasons before beginning construction of slab-on-grade residential structures. (Petitioner’s Memorandum, at 24-25). Because such topsoil is removed before building a house as part of good construction practice, not to mention being required by applicable building codes, the risk of exposure to elevated radium levels caused by previous bio-solid application on the land is greatly reduced, and the exposure model should take this into consideration in calculating the total land application limits for bio-solids based on a 10 millirem safe exposure level. (*Id.*)

As set forth in detail in Petitioner’s Memorandum, Joliet has shown, as the record before the agency reflects, that the modification of Special Condition 2 from 0.4 pCi/g to 1.0 pCi/g will not cause a violation of the Act, that Joliet’s program of land application is safe, and that a more

³ Respondent seems to imply that the question of whether the proposed modification is protective of human health and the environment is an irrelevant consideration, and that the only issue is whether a violation of the Act would result from issuance of the Permit modification. (Respondent’s Brief, at 4). If this is the case, however, Joliet should win this appeal, because there are no radium limits to violate, either in the Act or any applicable regulations. Respondent’s argument begs the question, because the fact is that the limitation in Special Condition 2 is based on an analytical model which is specifically designed to determine what is protective of human health to set the appropriate soil application limit as to radium.

stringent limitation in Special Condition 2 is not necessary. Joliet prefilled its testimony in this case which gave Respondent, and IEPA and IEMA personnel, the opportunity to review it prior to hearing. As this was discussed in detail in Petitioner's Memorandum, Joliet will not repeat its copious citations to the record here, except to emphasize a few major points.

First, IEPA agreed with many of the conclusions supported in the reports and documents prepared by Joliet's witnesses as evidenced by Mr. Jeff Hutton's July 18, 2007 internal IEPA memorandum. (R35-R37). Mr. Hutton concluded:

If the Agency allows an increase of 1.0 pCi/g above background and assumes removal of the topsoil under the structure, it will be protective of human health. This is the same increase above background as is allowed under Wisconsin's rules and results in less than 10 mrem/year exposure based on Joliet's model. *** The Agency should propose an allowable increase of 1.0 pCi/g in soil radium based on the RESRAD scenario where the exposed individual is a suburban dweller living in a house where the topsoil has been removed during the construction of that house.

(R37). Mr. Hutton also agreed with the conclusions of Joliet's expert, Dennis Duffield of Rogina & Associates, who opined that it is common home construction practice to remove topsoil prior to building, and that all of the communities that participate in Joliet's bio-solids program have building codes that require removal of topsoil prior to construction of the home or building.

(R51-R52). Mr. Hutton indicated in his July 2007 memorandum that he contacted several builders selected at random from the phone book and all said the same thing: "The top 3 feet of soil is removed prior to construction so that the footings of the structure are below the frost line."

(R35). IEPA therefore agrees with Joliet's assertion that when using the appropriate input values in the RESRAD model utilized by Joliet and IEMA, the results conclude that the dose is under the 10 millirems deemed acceptable by all parties. (*Id.*). Thus, the appropriate radium limitation in Special Condition 2 should be 1.0 pCi/g, based on these assumptions.

Second, to evaluate the concerns expressed by IEMA, Joliet's expert, Mr. Duffield, calculated that the increased radiation exposure would be 15 millirems, as opposed to 10 millirems, if one were to assume, for the purposes of the radiation model, a house where the builder had foolishly and illegally built a slab-on-grade house over topsoil to which bio-solids had been applied. (D. Duffield 15:20-16:4, Exhibit 4, at 15). To put this risk associated with this 5 millirem difference in perspective, Joliet's expert Eli Port characterized the difference between the two radiation exposure levels (15 millirems compared to 10) as less than the difference between living in a brick house versus a frame house. (E. Port 23:14-24:9).

Third, as to the actual health risk that the 10 millirem exposure level actually poses to human health, Dr. Richard E. Toohey, who the Board should remember from his past testimony regarding radium drinking water standards, stated the following in his pre-filed testimony:

...[It] is clear from the human data that the LNT [linear no-threshold] model is conservative, that is, it overestimates the actual risk. Consequently, the calculated risk from disposal of radium-bearing sludge on agricultural land at a level that results in a radiation dose of 10 mrem per year or less is an extreme upper limit on the true risk, which may well be zero. The disposal of radium-bearing sludge on agricultural land with a total accumulative increase of radium not to exceed 1.0 pCi/g of soil satisfies all three of the basic principles of radiation protection: justification, limitation, and optimization. Therefore, the petition of the City of Joliet should be granted and the permit sent back to IEPA to reissue accordingly.

(R. Toohey 28:16- 29:6, Exhibit 10, at p. 6)(emphasis added).

While Respondent cites to Dr. Toohey's hearing testimony in its Brief, it mischaracterizes his actual conclusion. Respondent states that "Dr. Richard Touhey [sic] testified that an increase in the concentration of radium would lead to an increased dose and assumed for regulatory purposes an increased risk." (Respondent's Brief, at 4). However, examination of the entire quote from Dr. Toohey shows the true point of Dr. Toohey's testimony:

Q. [by Mr. Karr]: Page 2 of your testimony, right about the middle there's a sentence that says, the important thing to note is that the limits are for dose because potential risks to human health from radiation exposure are assumed to be directly proportional to the radiation dose received. And the question I have is if there is an increase in the concentration of the—I guess in this case radium, does that lead to a greater dose or exposure?

A. Yes. An increase in radium would lead to greater dose. The question is does a slight increase in dose really cause an increase in risk? We assume it does for regulatory purposes, but there's no convincing evidence of these levels of dose that it actually does increase the risk in any measurable fashion.

(R. Toohey, 30:19-31:11)(emphasis added).

Tellingly, Respondent presented no witnesses at the hearing from IEPA, or even IEMA, in an attempt to rebut Joliet's testimony and, thus, the record is bereft any information that would dispute or challenge the testimony and assertions of Joliet's experts. It is well-settled that the Board must make its determination based on the information contained in the record. 415 ILCS 5/40(e)(3)(2007); *Citizens Utilities Company v. Illinois Environmental Protection Agency*, PCB 85-140, March 9, 1989 (Slip. Op. 3). As set forth above, and in Joliet's Memorandum, there is substantial evidence in the record that supports Joliet's contention that a modification of its current permit limitation to 1.0 pCi/g is safe and protective of human health and the environment, and will not cause a violation of the Act or applicable regulations. A permit condition that is not necessary to accomplish the purposes of the Act or Board regulations is arbitrary and unnecessary and must be deleted from the permit. *Browning-Ferris Industries of Illinois, Inc. v. PCB*, 179 Ill. App. 3d 598, 603, 534 N.E. 2d 616, 620 (2d Dist. 1989). Based on the facts presented in the record, the limitation contained in Special Condition 2 is arbitrary and unnecessary, and the Board should overturn IEPA's decision to deny Joliet's request to modify Special Condition 2 from 0.4 to 1.0 pCi/g.

II. NEITHER THE 1984 MOA NOR THE “DRAFT” MOA REFERENCED IN RESPONDENT’S BRIEF IS ENFORCEABLE, AND NEITHER CAN BE USED AS A BENCHMARK FOR VIOLATION OF THE ACT

As noted above, Respondent’s Brief relies heavily on the 0.1 pCi/g radium level expressed in the 1984 MOA to support its contention that any land application of sewage sludge that exceeds that limit is a violation of the Act. As explained in Petitioner’s Memorandum, not only does the specific limitation in the 1984 MOA constitute an impermissible rulemaking without following proper rulemaking procedures under the Administrative Procedures Act (“APA”), 5 ILCS 100/5-40, Respondent’s reliance on the MOA as justification for denial of the requested Permit modification is misplaced because IEPA has disregarded the MOA by issuing the Permit with a limit of 0.4 pCi/g in Special Condition 2—a limit that is supposedly prohibited under the same MOA. (Petitioner’s Memorandum, at 26-28).

Respondent’s Brief adds a new twist, however, referencing a “draft” MOA that Respondent claims was developed between IEPA and IEMA, assumedly in the context of Joliet’s negotiations with these agencies regarding the Permit radium limitations. (Respondent’s Brief, at 1-2). Notwithstanding that the cite provided by Respondent to the record (R29) is to a letter from the City of Joliet and not to any such draft MOA document, and that scouring the record reveals no document purporting to be a draft MOA (and therefore, cannot be considered by the Board), Respondent’s appeal to this phantom document is unavailing, for two reasons.

First, just as with the 1984 MOA, the “draft” MOA purporting to incorporate the higher negotiated radium limit of 0.4 pCi/g is equally as unenforceable as a benchmark for violation of the Act, as it constitutes an improper rulemaking. In fact, given that IEPA references the document only as a “draft,” one is forced to assume that this document was never finalized, and is therefore even less significant in this context than the 1984 MOA.

More importantly, however, Respondent's reference to this document in such context dispels any myth that such MOAs require the inclusion of a suitable radium limitation in a land application permit. In fact, it the reverse is true: it seems clear that such a revised "draft" MOA would have been the result of the negotiations between IEPA, IEMA and Joliet in the context of Joliet's request for an increase in the radium limitation, rather than the prospective authorization (or, indeed, a mandate) for such an increase. Neither the 1984 MOA, nor the purported "draft" MOA, could have been the legal basis or authorization for the radium limitation that was the subject of negotiations between IEPA and Joliet. Thus, Respondent's appeal to the MOAs as the benchmark for establishing a violation of the Act is unavailing, and should be easily dismissed by the Board.

III. CONCLUSION

This case must be put in perspective. Joliet's appeal of IEPA's denial to increase the allowable calculated concentration of radium in soils resulting from the application of Joliet's bio-solids from the presently permitted value of 0.4 pCi/g, to 1.0 pCi/g, involves only one narrow issue, potentially impacting only a small number of people, concerning a risk that, if it exists at all, is vanishingly small. While the risk of impact to human health is either miniscule or in fact non-existent, the continued viability of Joliet's land application program is at stake, with a current net-worth economic impact to Joliet in excess of \$40 million, if it is forced to chose the less environmentally-friendly alternative of landfilling its bio-solids.

Contrary to Respondent's apparent misunderstanding of the record before the agency, IEPA, IEMA and Joliet have agreed that an increase in radium concentration in the soil in farm fields is acceptable and permissible pursuant to Special Condition 2 of Joliet's Permit. This increase does not equate to water pollution as argued by Respondent. IEPA, IEMA and Joliet

reached agreement that this increase should be limited to a concentration that would not result in an unacceptable level of risk to those who might reside in houses that might subsequently be built on these lands where Joliet's bio-solids had been applied. They agreed that this risk would be determined by evaluating the increased exposure to radon gas from the decay of the radium that would not produce an increased dose of more than 10 millirems. The IEPA, IEMA and Joliet reached agreement on the use of the RESRAD computer model to calculate this increased radiation exposure. Joliet's experts used this model to predict that an allowable soil radium concentration of 1.0 pCi/g in the soil would result in less than a 10 millirem increase to an individual occupying a residence that had been constructed using the legally required and accepted building practice of removing the topsoil when building an on-grade slab house.

As explained in detail in the record by Joliet and its experts, and in Joliet's briefs, while IEMA's modeling with this assumption also produced a value less than 10 millirems, IEMA would not agree that this assumption should be allowed to be used when modeling the increased risk because some individual might proceed to violate building codes and ignore sound construction practices by building a house with the slab poured on top of the topsoil.⁴ This is the sole controversy at issue. It is not whether any increase in radium will cause water pollution or violations of the Act or regulations, as argued by Respondent, or as cited in the boilerplate IEPA permit denial letter.

In sum, IEPA may not impose conditions in a permit when such are not necessary to accomplish the purpose of the Act. Joliet's experts conducted substantial investigations to determine whether the modification it requested was protective of human health and the

⁴ Joliet has previously suggested conditions that the IEPA might include in permits to assure that removal of top soil is properly considered.

environment. Even IEPA personnel who administer its sludge permitting program agreed with Joliet's investigations. However, for some unexplained reason, IEPA chose to ignore the sound scientific evidence in the record and denied Joliet's permit modification request based on a MOA that: 1) it previously ignored for over twenty years; 2) is unenforceable as a legal basis for such a limitation because, *inter alia*, it constitutes impermissible rulemaking in violation of the APA; and 3) IEPA ignored anyway when it previously modified the Permit from a 0.1 pCi/g radium limitation to 0.4 pCi/g. The real, and only, issue in this appeal is whether—since all agree that 10 millirems is an acceptable radiation dose—the proper exposure model to use when calculating the radium dosage assumes that topsoil is removed as part of residential construction. Joliet's model was accepted by the agencies, and its model assumption regarding legally required building practices is sound.

For all of these reasons, the Board should find that IEPA inappropriately determined that a limitation of 1.0 pCi/g in Condition 2 of Joliet's Permit would cause a violation of the Act and, therefore, the Board should overturn IEPA's decision and instruct it to issue a modified Permit with a radium limit of 1.0 pCi/g as requested by Joliet.

Respectfully submitted,

THE CITY OF JOLIET

By: 

One of Its Attorneys

Dated: February 27, 2009

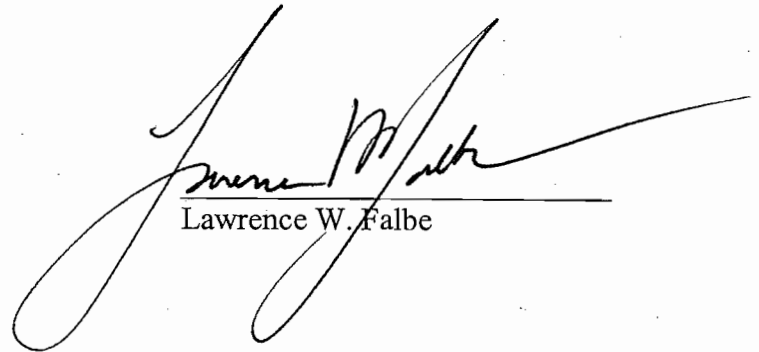
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CERTIFICATE OF SERVICE

It is hereby certified that true copies of the foregoing **Petitioner's Response to Illinois Environmental Protection Agency's Post-Hearing Brief** were mailed, first class, on Friday, February 27, 2009, to each of the persons on the attached service list.

It is hereby certified that a true copy of the foregoing Petitioner's Brief was hand delivered to the following on Friday, February 27, 2009:

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