

Electronic Filing - Received, Clerks' Office, July 11, 2008

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO) R08-18
GROUNDWATER QUALITY STANDARDS,) (Rulemaking – Public Water Supply)
35 ILL. ADM. CODE 620)

NOTICE OF FILING

TO: Mr. John Therriault	Mr. Richard R. McGill, Jr.
Assistant Clerk of the Board	Hearing Officer
Illinois Pollution Control Board	Illinois Pollution Control Board
100 West Randolph Street	100 West Randolph Street
Suite 11-500	Suite 11-500
Chicago, Illinois 60601	Chicago, Illinois 60601
(VIA ELECTRONIC MAIL)	(VIA U.S. MAIL)

(SEE PERSONS ON ATTACHED SERVICE LIST)

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board the **PRE-FILED TESTIMONY OF BRIAN H. MARTIN**, copies of which are herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
REGULATORY GROUP,

By: /s/ Katherine D. Hodge
Katherine D. Hodge

Dated: July 11, 2008

Katherine D. Hodge
Monica T. Rios
HODGE DWYER ZEMAN
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

Alec M. Davis
General Counsel
Illinois Environmental Regulatory Group
215 East Adams Street
Springfield, Illinois 62701
(217) 522-5512

THIS FILING SUBMITTED ON RECYCLED PAPER

CERTIFICATE OF SERVICE

I, Katherine D. Hodge, the undersigned, hereby certify that I have served the attached

PRE-FILED TESTIMONY OF BRIAN H. MARTIN upon:

Mr. John Therriault
Assistant Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601

via electronic mail on July 11, 2008; and upon:

Mr. Richard R. McGill, Jr.
Hearing Officer
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601

Kimberly A. Geving, Esq.
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

Albert Ettinger, Esq.
Environmental Law & Policy Center
35 East Wacker
Suite 1300
Chicago, Illinois 60601

William Richardson, Esq.
Chief Legal Counsel
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, Illinois 62702-1271

Matthew J. Dunn, Esq.
Office of the Attorney General
State of Illinois
Environmental Bureau
100 West Randolph Street, 12th Floor
Chicago, Illinois 60601

by depositing said documents in the United States Mail, postage prepaid, in Springfield,

Illinois on July 11, 2008.

/s/ Katherine D. Hodge
Katherine D. Hodge

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PRE-FILED TESTIMONY OF BRIAN H. MARTIN

NOW COMES the Illinois Environmental Regulatory Group (“IERG”), by and through its attorneys, and submits the following PRE-FILED TESTIMONY OF BRIAN H. MARTIN for presentation at the July 16, 2008, hearing scheduled in the above-referenced matter.

Testimony of Brian H. Martin

I. INTRODUCTION

Good Morning. My name is Brian Howard Martin, and I am a Consulting Environmental Scientist at Ameren Services in St. Louis, Missouri. I have over 23 years of experience working in the environmental field. In addition, I represent the Illinois Manufacturer’s Association as current Chairman of the Site Remediation Advisory Committee (“SRAC”),¹ and I am Chairman of the IERG Corrective Action Work Group, which includes numerous companies engaged in industry, commerce, manufacturing, and transportation related activity. IERG is a not-for-profit Illinois corporation affiliated with the Illinois Chamber of Commerce. IERG is composed of 56 member companies that are regulated by governmental agencies that promulgate, administer or enforce environmental

¹ SRAC is authorized by Section 58.11 of the Illinois Environmental Protection Act, 415 ILCS 5/58.11, and consists of members from the Illinois State Chamber of Commerce, Illinois Manufacturer's Association, Chemical Industry Council of Illinois, Consulting Engineers Council of Illinois, Illinois Bankers Association, the Community Bankers Association of Illinois, Illinois Realtor Association, and the National Solid Waste Management Association. Additional groups, such as IERG, the Illinois Petroleum Council, the Illinois Petroleum Marketer's Association, and City of Chicago, participate on an ad hoc basis.

laws, regulations, rules or other policies. On behalf of IERG and its member companies, I want to thank the Illinois Pollution Control Board ("Board") for the opportunity to present this testimony today.

IERG appreciates the outreach efforts made by the Illinois Environmental Protection Agency ("Illinois EPA" or "Agency") in the development of its proposed groundwater quality standards. IERG participated in those efforts and was able to reach common ground with the Agency on a majority of the proposal's provisions. When the proposed rule was filed with the Board, the following four issues, as more fully described below, remained of concern to IERG: the potential ramifications that the proposed groundwater standards may have on the continued beneficial use of coal combustion by-products ("CCB"); the need for explanation of irrigation as a basis for the proposed Class II groundwater standards; the need for further explanation of the toxicology numbers used in calculating the proposed groundwater standards; and the use of solubility in deriving several of the proposed groundwater standards.

II. SOLUBILITY

IERG first raised two concerns regarding the proposed groundwater quality standards at a meeting of the SRAC with the Agency regarding draft revisions to the Tiered Approach to Corrective Action Objectives ("TACO") regulations, on June 19, 2008. IERG recognizes that this was somewhat less than timely, considering that this rulemaking proceeding was already before the Board. However, IERG's initial review of the proposed groundwater standards was made absent tandem consideration of the TACO regulations, 35 Ill. Admin. Code Part 742.

The first issue raised regarded the "preference for numerical water quality

standards . . . especially where specific contaminants have been commonly detected in groundwater . . .” as described in the Illinois Groundwater Protection Act, 415 ILCS 55/8(b)(3). IERG questioned how the Agency defined “commonly detected.” IERG subsequently learned that the meaning was established using a process by which the Illinois EPA’s Bureau of Land developed a database based on sampling results from solid waste and other regulated sites. IERG is uncertain that the procedure used to define “commonly detected” is appropriate, or whether it is more analogous to finding contaminants where one would expect them to be found, and extrapolating that finding to the remainder of the state.

The second issue focused on the revisions to the Part 620 groundwater standards based on solubility of contaminants that would have unintended, but significant, consequences for clean-ups under TACO. In this regard, IERG offered, in part, the following commentary to the Agency:

PAH standards set at solubility do not achieve the Sec. 8(b)(6) requirement. PAHs standards/concentrations cannot be achieved using current groundwater sampling procedures relative to matrix inference and soil particles. The last set of amendments to TACO addressed an issue that is similar to the use of ROs/standards based on physical characteristics of contaminants (Csat source characteristics for contaminants with melting points greater than 30 C). This amendment addressed the core issues of PAHs behavior in these amendments to TACO. PAHs are solids at temperature < 30°C. Illinois Gw temperature range is 13 (North) to 15°C (South). PAHs have very high Koc. PAHs individuals and/or collectively without an organic liquid cannot be equated to non-aqueous liquid or require evaluation based on a 2-phase system (NAPL and water). The current speed bumps in TACO address organic liquids and water (2-phase system).

A contaminant’s solubility is a laboratory determination based on “very controlled” conditions and is not representative of a contaminant’s solubility in a groundwater environment. The effective solubility is representative of a contaminant’s solubility in the environment. The effective solubility for most PAHs is below the PQL. A standard practice for evaluating groundwater monitoring data from remedial sites is to use

10% of an organic contaminant's laboratory solubility as a criteria for determining whether a NAPL is present.

If the proposed Part 620 is adopted with the dissolved phase standards and accompanying statement of reasons (2-phase system), we may not be able/allowed to TACO-out PAHs in groundwater using S-17, R-12, and/or R-26 [predicted groundwater source concentrations from soil (S-17 and R-12) and measured concentrations in groundwater (due to matrix interference/detection limits) may be greater than solubility and not acceptable for use as source concentrations in R-26 simulations of downgradient extent]. We will have another Csat type of problem that requires Tier-3 solutions.

The Illinois EPA took the above under consideration and met with representatives of the regulated community. As a result of the discussions, IERG understands the Agency has recognized that groundwater quality standards based on contaminant solubility rather than contaminant health risks would result in the TACO groundwater and soil remediation objectives for those contaminants no longer having a risk-based approach. IERG further understands the Agency proposes to eliminate the solubility limitation, which IERG wholeheartedly endorses.

III. IMPACT ON COAL COMBUSTION BY-PRODUCT USE

IERG is concerned that certain of the proposed amendments to the groundwater standards may affect the ability to use CCB, presenting the potential for adverse economic impact on the Illinois coal industry and on utilities and other industries that are consumers of Illinois coal.

Section 3.135 of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/3.135, regulates the beneficial use of coal combustion waste ("CCW") as CCB. Subsection (a) of Section 3.135 sets forth a list of legislatively determined beneficial uses. Of particular concern are the beneficial uses for which the Act requires that the CCB "shall not exceed

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Class I Groundwater Standards for metals when tested utilizing test method ASTM D3987-

85.” 415 ILCS 5/3.135(a-5)(B). These uses include:

- CCB used in accordance with the Illinois Department of Transportation (“IDOT”) standard specifications, but not for IDOT projects;
- “Bottom ash used in non-IDOT pavement sub-base or base, pipe bedding, or foundation backfill;”
- “Structural fill, when used in an engineered application or combined with cement, sand, or water to produce a controlled strength fill material and covered with 12 inches of soil unless infiltration is prevented by the material itself or other cover material;” and
- “Mine subsidence, mine fire control, mine sealing, and mine reclamation.”

415 ILCS 5/3.135(a)(3)(A) and (a)(7)-(9).

Thus, amendments to the Class I groundwater standards for metals have the potential to eliminate these beneficial uses of CCB and impact the continued use of Illinois coal.

Illinois EPA has stated that of the inorganic chemicals in the proposed amendments, arsenic, molybdenum, and vanadium are classified as metals. *See* Transcript of June 18, 2008 Hearing, *In the Matter of: Proposed Amendments to Groundwater Quality Standards*, 35 ILL. ADM. CODE 620, R08-18 at 27-28 (Ill.Pol.Control.Bd. July 7, 2008).

As to the use of Illinois coal, it is accepted practice for facilities that use Illinois coal in their boilers to return CCW to the Illinois mine that supplied their coal, where it can be used as CCB for beneficial uses such as for mine subsidence, mine fire control, mine sealing, and mine reclamation. It has come to IERG’s attention that leachate from such CCB has potential to exceed the proposed Class I groundwater standards for molybdenum, and potentially exceed the Class I groundwater standards for other metals. If, after further

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investigation, this potential is found to demonstrate the reality of the situation, the potential to put such CCB to beneficial use may be severely restricted.

IERG acknowledges that the Act contains a provision to allow for beneficial use determinations by the Agency in situations where the proposed use is not among the enumerated uses, *or when the CCW does not meet the statutorily required Class I groundwater standards* “to encourage and promote the utilization of CCB in productive and beneficial applications.” 415 ILCS 5/3.135(b). In the case of coal mines, the Act requires approval by the Illinois Department of Natural Resources’ Office of Mines and Minerals. Such approval requires detailed site-specific analysis. 415 ILCS 5/3.135(b). While IERG recognizes that such a requirement does not preclude the future use of CCB, it is concerned that such additional analysis may reduce their incentive to accept CCW from coal burners, at a time when it has not been clearly demonstrated that allowing such use will have a harmful impact on the environment.

IERG Members have suggested that if their continued ability to use, sell, or return their CCW to a mine is impacted, their alternatives are to dispose of the CCW in landfills, at individual costs of millions of dollars a year and in volumes of hundreds-of-thousands of tons, or, to seek alternatives to Illinois coal.

The impact of limiting the beneficial uses of CCB that may result from the adoption of the proposed Class I groundwater standards for metals adds to the universe of entities potentially affected by the proposed amendments, as described by the Agency in the Statement of Reasons. *See Statement of Reasons, In the Matter of: Proposed Amendments to Groundwater Quality Standards, 35 ILL. ADM. CODE 620, R08-18 at 3-4*

(Ill.Pol.Control.Bd. Feb. 19, 2008). Thus, IERG believes that the potential economic impact of the proposed rule warrants further analysis.

IV. IRRIGATION AS A BASIS FOR CLASS II STANDARDS

Illinois EPA has stated that the basis for the proposed Class II groundwater standards for arsenic, molybdenum, and vanadium is “irrigation and livestock watering from the National Academy of Sciences, 1972, *Water Quality Criteria*.” See Prefiled Testimony of Richard P. Cobb, *In the Matter of: Proposed Amendments to Groundwater Quality Standards*, 35 ILL. ADM. CODE 620, R08-18 at 14 (Ill.Pol.Control.Bd May 29, 2008) (hereinafter “Cobb Testimony”). Yet, the Illinois EPA has made no further explanation of the applicability or validity of that report in determining the suitability of groundwater for such uses in Illinois. At the first hearing, the Board requested that the Illinois EPA provide a copy of the report, or at least the relevant pages of the report. See Hearing Officer Order, *In the Matter of: Proposed Amendments to Groundwater Quality Standards*, 35 ILL. ADM. CODE 620, R08-18 at Question No. 5 (Ill.Pol.Control.Bd June 20, 2008) (hereinafter “Hearing Officer Order”). As IERG, too, is interested in the basis for the above-mentioned Class II groundwater standards, IERG offers its support for the Board’s endeavor to procure the additional information.

V. TOXICOLOGY NUMBERS USED IN CALCULATING STANDARDS

Illinois EPA has stated that many of the proposed Class I groundwater standards are calculated based on a reference dose (“RfD”) in the United States Environmental Protection Agency Integrated Risk Information System or Provisional Peer Reviewed Toxicity Values databases. Cobb Testimony at 11-13. At the first hearing, the Board requested that the Illinois EPA explain how the RfDs were used to derive the proposed standards. See Hearing

Officer Order at Question No. 1. As IERG also has questions regarding how the RfDs were used in deriving the proposed standards, IERG offers its support for the Board's request for further explanation.

VI. CONCLUSION

IERG stresses the importance of understanding the full economic impact of the proposed amendments, especially with regard to the continued beneficial use of CCB. Additionally, IERG is supportive of the Agency providing the data on which the proposed standards are based in order to more fully develop the record. With regard to solubility and the potential for conflict with the implementation of the TACO regulations, IERG appreciates the Illinois EPA's willingness to meet and confer at a very late date to address these matters and ensure the continued protection and quality of Illinois' groundwater while promoting the continued reliance on Illinois' very successful remediation programs. IERG further offers its appreciation to the Board for its patience in considering the changes to the proposed standards as introduced by the Illinois EPA.

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IERG thanks the Board for providing the opportunity to present testimony in this rulemaking, and looks forward to the opportunity to provide additional information as it may come available. I would be happy to respond to any questions regarding my testimony.

Respectfully submitted,

By: /s/ Katherine D. Hodge
Katherine D. Hodge

Dated: July 11, 2008

Katherine D. Hodge
Monica T. Rios
HODGE DWYER ZEMAN
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

Alec M. Davis
General Counsel
Illinois Environmental Regulatory Group
215 East Adams Street
Springfield, Illinois 62701
(217) 522-5512

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