

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	R11-9
PROPOSED AMENDMENTS TO)	(Rulemaking-Land)
TIERED APPROACH TO CORRECTIVE)	
ACTION OBJECTIVES)	
(35 Ill. Adm. Code 742))	
)	

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STATE OF ILLINOIS
Pollution Control Board

NOTICE

Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph, Suite 11-500
Chicago, Illinois 60601
(Via First Class Mail)

Mitchell Cohen
Chief Legal Counsel
Illinois Dept. of Natural Resources
One Natural Resources Way
Springfield, Illinois 62702-1271
(Via First Class Mail)

Matthew J. Dunn, Chief
Environmental Enforcement/Asbestos
Litigation Division
Illinois Attorney General's Office
500 South Second Street
Springfield, Illinois 62706
(Via First Class Mail)

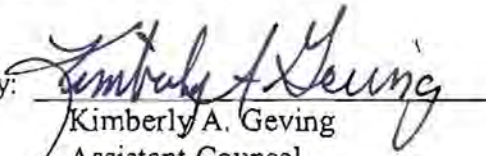
Richard McGill
Hearing Officer
Illinois Pollution Control Board
100 W. Randolph, Suite 11-500
Chicago, Illinois 60601
(Federal Express)

Participants on the Service List
(Via First Class Mail)

ORIGINAL
RETURN TO CLERK'S OFFICE

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board the Illinois Environmental Protection Agency's ("Illinois EPA") Responses to Pre-Second Notice Questions Filed in Hearing Officer Order, a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: 
Kimberly A. Geving
Assistant Counsel
Division of Legal Counsel

DATE: September 13, 2012

1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217)782-5544

ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	
TIERED APPROACH TO CORRECTIVE)	R11-9
ACTION OBJECTIVES (TACO) (INDOOR)	(Rulemaking - Land)
INHALATION): AMENDMENTS TO 35)	
ILL. ADM. CODE 742)	

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STATE OF ILLINOIS
Pollution Control Board

**Illinois EPA's Responses to Pre-Second Notice
Questions Filed in Hearing Officer Order**

NOW COMES the Illinois Environmental Protection Agency ("Illinois EPA"), by one of its attorneys, Kimberly A. Geving, and pursuant to 35 Ill. Adm. Code 102.108 submits these Responses to Pre-Second Notice Questions raised by the Illinois Pollution Control Board ("Board").

On August 28, 2012, the Hearing Officer issued an order directing the Illinois EPA to file, by September 17, 2012, further comment on two matters: concrete foundations and building control technologies at school sites. The Illinois EPA will restate the Board's questions below for ease of understanding and follow those questions with its responses.

Concrete Foundations

1. Please comment on whether the applicability of the Tier 1 indoor inhalation remediation objectives should be limited to buildings with concrete slab-on-grade floors (or concrete basement floors and walls) that lack any significant openings to the subsurface.
 - a. If the applicability of the Tier 1 indoor inhalation remediation objectives should *not* be so limited, please address how the Tier 1 objectives are protective under the following circumstances:
 - i. Where a building does not have a concrete slab-on-grade floor (or concrete basement floor and walls), such as a building with a crawl space that has a soil surface.
 - ii. Where a building has a concrete slab-on-grade floor (or concrete basement floor and walls) but with one or more significant openings to the subsurface, such as a sump.

- b. If the applicability of the Tier 1 indoor inhalation remediation objectives should be so limited, please address the following:
 - i. Whether the limitations should be made explicit in the rules.
 - ii. Whether using the Tier 1 objectives should necessitate the placement of an institutional control on the property so as to require the existence and maintenance of the concrete slab-on-grade floor (or concrete basement floor and walls) free of any significant opening to the subsurface.
 - iii. How the indoor inhalation pathway can be evaluated where a building does not have a concrete slab-on-grade floor (or concrete basement floor and walls), such as a building with a crawl space that has a soil surface.
 - iv. How the indoor inhalation pathway can be evaluated where a building has a concrete slab-on-grade floor (or concrete basement floor and walls) but with one or more significant openings to the subsurface, such as a sump.

Answer to 1.a.:

Illinois EPA, in its proposal, in testimony and in public comment has steadfastly affirmed that concrete foundations are a key assumption of the J&E Model. Section 742.717(d)(2) references the migration of contaminants through earthen-filled cracks in the slab-on-grade or basement floor and walls. A key input parameter used in the J&E Model to calculate remediation objectives is L_{crack} , the slab thickness, set at a default value of 10 cm. Our Pre-filed Testimony from January 2011 stated, "A slab-on-grade building is one with a concrete floor at about the same level as the grade of the surrounding area; a basement would typically be below the grade of the surrounding area." (PFT1 King at 11). And, as noted in Illinois EPA's Public Comment 7 from May 2012, "Under the Illinois EPA's proposal, all buildings are assumed to have concrete foundations as required by Section 742.717(d)(2)."

Answer to 1.a.i.:

The J & E Model, used to calculate indoor inhalation remediation objectives for Tier 1 and Tier 2, should not be used where a building with an earthen floor exists above the contaminated area. Instead, site evaluators should either exclude the indoor inhalation exposure route under Section 742.312, meet the building control technology requirements under Subpart L, or propose an alternative approach under Tier 3.

Answer to 1.a.ii.:

Illinois EPA's proposal, filed on November 5, 2010, expands the definition of "man-made pathways" to include elevator vaults and sumps. Site evaluators must account for these potential pathways just as they are required to address man-made pathways for the other exposure routes under their respective remediation program regulations [e.g., 35 Ill. Adm. Code 740.420(b)(4) and 35 Ill. Adm. Code 734.330(b)(1)]. Existing Part 742 does not stipulate the method(s) by which man-made pathways are controlled. In the case of foundation openings to the subsurface, such as sumps, the most common method would be to seal them. The existence of a sump does not limit the use of either Tier 1 or Tier 2 remediation objectives calculated using the J & E Model.

Answer to 1.b.i:

Illinois EPA proposes that the following language be added to the rules to more fully inform site evaluators of the J&E Model's limitations:

When evaluating the indoor inhalation exposure route, a modified Johnson and Ettinger Model (J&E Model) should be used. The J&E Model is based on an assumption that existing or potential buildings within the horizontal extent of contamination have full concrete floors. The J&E Model should not be used where existing or potential buildings within the horizontal extent of contamination have earthen crawl spaces or earthen or partial concrete floors. In such cases, site evaluators have the option of excluding the indoor inhalation exposure route under Section 742.312, meeting the building control technology requirements under Subpart L, or proposing an alternative approach under Tier 3.

We will defer to the Board's judgment as to where this language should be placed.

Answer to 1.b.ii:

Illinois EPA does not support placement of an institutional control on the property so as to require the existence and maintenance of the concrete slab-on-grade floor (or concrete basement floor and walls) free of any significant opening to the subsurface. The existence of a concrete slab-on-grade floor or concrete basement floor and walls is strictly an assumption of the J&E Model. Concrete foundations do not serve as an engineered barrier and are in no way considered a remedy for the indoor inhalation exposure route. The J&E Model's reliance on the concrete floor assumption is not diminished by the condition of the floor because the model also assumes that cracks in the foundation exist. Illinois EPA has proposed a conservative value for the area of total cracks in Tier 1 and requires that same conservative value to be applied under Tier 2.

Answer to 1.b.iii:

As noted in our proposed language above in Answer 1.b.i, when buildings do not have concrete foundations, site evaluators have the option of excluding the indoor inhalation exposure route under Section 742.312, meeting the building control technology (BCT) requirements under Subpart L, or proposing an alternative approach under Tier 3. The

BCT presented in Section 742.1210(c)(2), Sub-Membrane Depressurization System, is specifically designed for use in buildings with crawlspaces. An alternative approach under Tier 3 may be the use of a different model or the collection of indoor air data.

Answer to 1.b.iv:

Please see Illinois EPA's response to 1.a.ii. above.

2. Please address No. 1 above but with respect to Tier 2 instead of Tier 1.

Illinois EPA's response to No. 1 above applies equally to Tier 2. The J&E Model is used to calculate remediation objectives for Tier 1 and Tier 2 and in both instances the model assumes that existing or potential buildings have a concrete foundation.

3. Please comment on whether the word "concrete" should be added before the following terms:

- a. In proposed Section 742.717(d)(2), "slab-on-grade" and "basement floor and walls."
- b. In proposed Appendix C, Table L, "slab-on-grade" and "basement."

Illinois EPA has no objection to the word "concrete" being added before the terms "slab-on-grade" and "basement floor and walls." That language is consistent with our Pre-filed Testimony from January 2011 (PFT1 King at 11).

Building Control Technologies (BCTs) at School Sites
BCT Inoperability Triggering Notice

1. Please comment on IEPA's basis for selecting "a period of five days."

The Illinois EPA's basis for selecting "a period of five days" was the correlation to a normal five-day school week.

2. Please address whether IEPA intends "a period of five days" to include:

- a. Not only five *consecutive* days of inoperability in any six-month period, but also five days of inoperability *cumulatively* in any six-month period.

The Illinois EPA only intended the five-day period to be five consecutive days, not five days of inoperability cumulatively in any six month period. Perhaps the language could be changed as follows: "For a school, the site owner/operator shall notify the Agency, the school board, and every parent or legal guardian for all enrolled students when a building control technology is rendered inoperable for a period of five consecutive days during the school year when school is in session ~~over any six month period~~.

- b. Not only inoperability on school days, but on *any* calendar days (e.g., including weekends and summer break).

The Illinois EPA's intent with regard to the five consecutive days was that it applies to five calendar days during the school year when school is in session. This would include weekends because schools routinely are open on weekends for sporting events, dances, plays, and other school functions. The Illinois EPA did not intend for the five-day period to apply when school is out of session for extended periods such as holiday breaks. If a school holds classes during the summer, the five-day period would apply. If a school is closed during the summer, the notice requirement would not apply during the school's closure.

- 3. Please comment on what constitutes a "day" of inoperability. In doing so, please consider the following:
 - a. Whether a "day" of inoperability requires inoperability for the entire 24-hour period of a given day or only inoperability for the duration of a single school day.
 - b. If a "day" of inoperability requires inoperability for the duration of a single school day, whether the duration of a single school day, for purposes of the notice requirement, should be designated as a uniform length (e.g., six hours) or vary depending upon the actual length of the school day for the school at issue.
 - c. If a "day" of inoperability is designated to equal six hours, for example, whether those hours are to be measured:
 - i. Only during school hours.
 - ii. Cumulatively or only consecutively. For example, if a BCT is rendered inoperable for four hours of a school day on Monday, and two hours of a school day on the Wednesday of the following week, whether those two time periods of inoperability add up to one "day" of inoperability or zero "days" of inoperability.
 - d. Whether any occurrence of inoperability, regardless of its duration, should result in the date of the occurrence being deemed a "day" of inoperability. If so, then a BCT rendered inoperable twice for one hour each time on Monday and once for 1/2 hour on the following Friday, for example, would have had two "days" of inoperability.

Answers to 3a-d:

The Illinois EPA's intent in using the term a "day" of inoperability was to trigger the notification requirement when a BCT is rendered inoperable for any length of time per day for five consecutive days. Therefore, the inoperability does not need to last 24 hours, nor does it need to last the entire duration of a school day. So long as there are periods of inoperability every day for five consecutive days while school is in session, the notice requirement would be triggered. For example, if a BCT shut down on a Tuesday at 2 p.m. and was inoperable for three hours but started working again and then broke down on Wednesday, Thursday, Friday and Saturday at different intervals, then the notice requirement would be triggered. On the other hand, if the inoperability only lasted Tuesday through Friday (no matter what the duration of failure), the notice requirement would not be triggered. If the system shut down again on Sunday, the five-day period would start over.

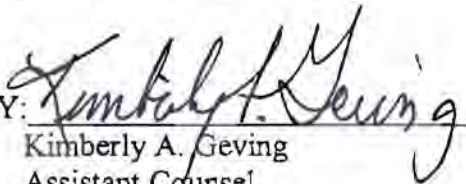
In conclusion, any occurrence of inoperability, regardless of its duration, would result in the date of occurrence being deemed a "day" of inoperability.

4. Please address whether the duration or frequency of inoperability triggering the notice requirement should vary depending upon the type of BCT.

The Illinois EPA does not believe that the duration or frequency of inoperability should vary depending upon the type of BCT being used. Each type of BCT should be afforded an equal level of scrutiny. People are no less vulnerable if one type of BCT fails over another.

WHEREFORE, the Illinois EPA submits its responses to the Board's pre-second notice questions for its consideration.

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

BY: 
Kimberly A. Geving
Assistant Counsel
Division of Legal Counsel

Dated: September 13, 2012
1021 N. Grand Ave. East
P.O. Box 19276
Springfield, Il 62794-9276
(217) 782-5544

STATE OF ILLINOIS)
)
COUNTY OF SANGAMON)

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Pollution Control Board

PROOF OF SERVICE

I, the undersigned, on oath state that I have served the attached Responses to Pre-Second Notice Questions Filed in Hearing Officer Order upon the persons to whom they are directed, by placing a copy of each in an envelope addressed to:

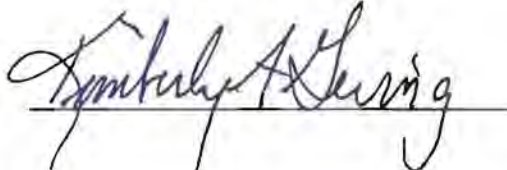
Dorothy Gunn, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph, Suite 11-500
Chicago, Illinois 60601

Mitchell Cohen
Chief Legal Counsel
Illinois Dept. of Natural Resources
One Natural Resources Way
Springfield, Illinois 62702-1271

Matt Dunn
Environmental Enforcement/Asbestos
Litigation Division
Illinois Attorney General's Office
500 South Second Street
Springfield, Illinois 62706

Richard McGill
Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph, Suite 11-500
Chicago, Illinois 60601

Participants on the Service List
and mailing them (First Class Mail- except to the Hearing Officer, to whom they went Federal Express) from Springfield, Illinois on September 13, 2012, with sufficient postage affixed as indicated above.



SUBSCRIBED AND SWORN TO BEFORE ME
This 13th day of September, 2012.


Notary Public

OFFICIAL SEAL
CYNTHIA L. WOLFE
NOTARY PUBLIC STATE OF ILLINOIS
MY COMMISSION EXPIRES 11-17-2015

* * * * * PC# 8 * * * * *
Service List

Hodge Dwyer & Driver
Katherine Hodge
3150 Roland Ave.
P.O. Box 5776
Springfield, IL 62705-5776

Hodge Dwyer & Driver
Monica Rios
3150 Roland Ave.
P.O. Box 5776
Springfield, IL 62705-5776

Mayer Brown LLP
Kevin Desharnais
71 South Wacker Dr.
Chicago, IL 60606-4637

Sidley Austin LLP
William Dickett
One South Dearborn, Ste 900
Chicago, IL 60603

EPI
Bob Mankowski
16650 South Canal
South Holland, IL 60473

IERG
Alec Davis
215 East Adams St.
Springfield, IL 62701

Chemical Industry counsel of Illinois
Lisa Frede
1400 East Touhy Ave., Ste 110
Des Plaines, IL 60019-3338

Bellande & Sargis Law Group LLP
Mark Robert Sargis
200 W. Madison St., Ste 2140
Chicago, IL 60606

Hanson Engineers, Inc.
Tracy Lundein
1525 South Sixth St.
Springfield IL 62703-2886

Conestoga-Rovers & Associates
Douglas Soutter
8615 West Bryn Mawr Ave.
Chicago, IL 60631

Illinois Attorney General's Office
Matthew J. Dunn, Chief
Environmental Bureau
500 South Second St
Springfield, IL 62706

Seyfarth Shaw LLP
Craig Simonsen
131 South Dearborn St., Ste 2400
Chicago, IL 60606-5803

Seyfarth Shaw LLP
Jeryl Olson
131 South Dearborn St., Ste 2400
Chicago, IL 60606-5803

Navy Facilities & Engineering Command
Mark Schultz, Regional Environmental Coordinator
201 Decatur Ave. Bldg 1A
Great Lakes, IL 60088-2801

IPCB
John Therriault, Clerk
100 W. Randolph St., Ste 11-500
Chicago, IL 60601

IPCB
Richard McGill
100 W. Randolph St., Ste 11-500
Chicago, IL 60601

Commonwealth Edison
Diane Richardson
10 South Dearborn St., 35FNW
Chicago, IL 60603

Weaver Boos & Gordon
Elizabeth Steinhour
2021 Timberbrook Ln.
Springfield, IL 62702

Andrews Environmental Engineering
Kenneth Liss
3300 Ginger Creek Dr.
Springfield, IL 62711

Missman Stanley & Associates
Jeffrey Larson
333 East State Street
Rockford, IL 61110-0827

Missman Stanley & Associates
John Hochwater
333 East State Street
Rockford, IL 61110-0827

Trivedi Associates, Inc.
Chetan Trivedi
2055 Steeplebrook Court
Naperville, IL 60565

IDNR
Mitchell Cohen
One Natural Resources Way
Springfield, IL 62702-1271

IDNR
Stan Yonkauski
One Natural Resources Way
Springfield, IL 62702-1271

Suburban Laboratories, Inc.
Jarrett Thomas, V.P.
4140 Litt Dr.
Hillside, IL 60162

IDOT
Steven Gobelman
2300 S. Dirksen Parkway, Room 302
Springfield, IL 62764

McGuire Wood LLP
David Rieser
77 W. Wacker Dr., Ste 4100
Chicago, IL 60601

Reott Law Offices
Jorge Mihalopoulos
35 East Wacker Dr., Ste 650
Chicago, IL 60602

Reott Law Offices
Raymond Reott
35 East Wacker Dr., Ste 650
Chicago, IL 60602

Environmental Management & Technologies, Inc.
Craig Gocker, President
3010 Gill Street
Bloomington, IL 61704

Chicago Department of Law
Charles King, Assistant Corporation Counsel
30 N. LaSalle St., Ste 900
Chicago, IL 60602

SRAC
Harry Walton
2510 Brooks Drive
Decatur, IL 62521

Burns & McDonnell Engineering Co.
Lawrence Fieber, Principal
210 South Clark Street, Suite 2235
The Clark Adams Building
Chicago, IL 60603