ILLINOIS POLLUTION CONTROL BOARD
February 2, 2012

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO CLEAN	)	R12-9
CONSTRUCTION OR DEMOLITION	)	(Rulemaking - Land)
DEBRIS FILL OPERATIONS (CCDD):	)	
PROPOSED AMENDMENTS TO 35 Ill.	)	
Adm. Code 1100	)	

Proposed Rule. First Notice.

OPINION AND ORDER OF THE BOARD (by D. Glosser):

On July 29, 2011, the Illinois Environmental Protection Agency (IEPA) filed a proposal pursuant to Sections 22.51 and 22.51a of the Environmental Protection Act (Act) (415 ILCS 5/22.51 and 22.51a (2010)). The proposal will amend the Board's rules for Clean Construction or Demolition Debris Fill Operations to allow for use of uncontaminated clean construction or demolition debris (CCDD) and uncontaminated soil to be used as fill at quarries, mines and other excavations. The Board has held two hearings in this matter and today proceeds to first notice under the Illinois Administrative Procedure Act (IAPA) (5 ILCS 100/5 *et. seq.* 2010)).

SUMMARY OF TODAY'S ACTION

After reviewing the record in this proceeding and in consideration of the comments and testimony, the Board has made several changes to IEPA's proposal. First, the Board finds that no evidence was provided to demonstrate that CCDD or uncontaminated soil fill sites were a source of groundwater contamination. Also, considering the potentially sizeable costs for groundwater monitoring, the Board finds that this record does not support groundwater monitoring at this time. The Board therefore proceeds to first notice without Subpart G of IEPA's proposal.

Because the Board has determined not to proceed with groundwater monitoring, the Board strengthens soil certification and soil testing requirements. To that end, the Board finds that proposing the phrase "potentially impacted properties" (PIP) rather than the terms "commercial or industrial" is within the Board authority under the Act. The Board retains the term PIP, as proposed by IEPA, but addresses issues concerning PIP determination. The Board requires soil certification to be based upon source site evaluation conducted in accordance with the ASTM standards. The Board amends IEPA's source site owner or operator certification at Section 1100.205(a)(1)(A) to be based on ASTM Standard E1528-06, and the Licensed Professional Engineer (LPE)/Licensed Professional Geologist (LPG) certification under Section 1100.205(a)(1)(B) to be based on ASTM Standard E1527-05. Further, the Board finds that the proposed soil certification requirements must include analytical soil testing data to show compliance with the maximum allowable concentrations (MACs) when the soil is from a PIP. The Board is also including the certification language in the rule.

The Board bases the MACs for soil constituents on the Tiered Approach to Corrective Action Objectives (TACO) Tier 1 objectives, as proposed by IEPA; and the Board declines to define "uncontaminated" soil on a qualitative basis. The Board proposes a uniform statewide approach for determining MACs when defining uncontaminated soil, and will not allow for site-specific determination of MACs. Further, the Board finds that the record does not support the adoption of a pH range of 6.25-6.64 to determine MACs for certain pH-sensitive chemical constituents. The Board proposes the MAC provisions proposed under Subpart F by IEPA for first notice. Likewise, the Board will not amend IEPA's proposal relating to inhalation and ingestion. As to IEPA's proposal for developing a table of MAC values to be available on IEPA's website, the Board agrees that such a procedure is appropriate and that the table need not be adopted as a rule. However, when IEPA develops objectives for chemical constituents not listed in TACO rules, the Board has added an opportunity for appeal of that IEPA determination to the Board.

The Board finds that even though soil fill operations are not required to be permitted, requiring the owner or operator to submit additional information to IEPA is appropriate and the proposed rule is amended to reflect the Board's decision. For example, the proposed rules require soil fill operations to submit annual operating reports similar to those required by CCDD operations, and the soil fill operation registration form is expanded to include the information required for CCDD permits.

The Board also amends IEPA's proposal by adding LPGs to Sections 1100.205, 1100.212, 1100.412, 1100.525, and 1100.530 as requested in comments.

The Board finds that the rule as proposed for first notice is economically reasonable and technically feasible.

PRELIMINARY MATTERS

IEPA filed a motion to correct the transcript and a third *errata* sheet. The Board grants the motion to correct the transcript and accepts the third *errata* sheet.

PROCEDURAL BACKGROUND

IEPA filed a proposal on July 29, 2011, including a statement of reasons (SR) and a motion to waive filing requirements. IEPA was required by Section 22.51 of the Act to propose rules to the Board by July 30, 2011. 415 ILCS 4/22.51 (2010). The Board must adopt the rules no later than one year after receipt of IEPA's proposal

On September 26, 2011, a hearing was held in Springfield, Illinois at which IEPA provided testimony. An additional hearing was held on October 25 and 26, 2011, during which several interested parties as well as IEPA offered testimony. The October 25, 2011 hearing also fulfilled the statutory obligation under Section 27(b) of the Environmental Protection Act (Act) (415 ILCS 5/27(b) (2010)). Section 27(b) of the Act requires the Board to request the Department of Commerce and Economic Opportunity (DCEO) to conduct an economic impact

study (EcIS) on certain proposed rules prior to adoption of those rules. If DCEO chooses to conduct the EcIS, DCEO has 30 to 45 days after such request to produce a study of the economic impact of the proposed rules. The Board must then make the EcIS, or DCEO's explanation for not conducting the study, available to the public at least 20 days before a public hearing on the economic impact of the proposed rules. The Board sent DCEO the request on August 4, 2011. On September 28, 2011, DCEO declined to perform an EcIS.

IEPA'S PROPOSAL

The Board begins by generally summarizing IEPA's proposal and history of CCDD regulations. The Board then summarizes IEPA's regulatory development before summarizing the economic impact and technical justification for the proposal. The Board then summarizes IEPA's proposal section by section.

General

The proposal specifies: 1) the use of CCDD and uncontaminated soil as fill material at CCDD fill operations (*see* 415 ILCS 5/22.51(f)(1) (2010)); 2) the use of uncontaminated soil as fill material at uncontaminated soil fill operations (*see* 415 ILCS 5/22.51a(d)(1) (2010)); and (3) the MAC of contaminants that may be present in the uncontaminated soil component of construction or demolition debris (*see* 415 ILCS 5/3.1 60(c) (2010)). SR at 1. The proposed rules also include standards and procedures to protect groundwater. *Id*.

IEPA's proposal reflects changes necessitated by P.A. 97-0137 (eff. July 14, 2011). The first change removes the benzo(a)pyrene restriction at Section 3.160(c)(1) of the Act (415 ILCS 5/3/160(c)(1) (2010)). SR at 2. This change allows the Board to consider TACO background levels for all carcinogens and not just for the one carcinogen, benzo(a)pyrene. The second amendment was made to Sections 22.51(f)(2)(B) and 22.51a(d)(2)(B) of the Act (415 ILCS 5/22.51(f)(2)(B) and 22.51a(d)(2)(B) (2010)) and allows LPGs, as well as LPEs to provide certifications under the interim soil certification requirements. *Id*.

History

Part 1100 was adopted by the Board in Clean Construction or Demolition Debris Fill Operations Under P.A. 94-272 (35 Ill. Adm. Code 1100), R06-19 (Aug. 17, 2006). Part 1100 established a permitting program for the use of CCDD as fill material in current or former quarries, mines or other excavations. SR at 2. Illinois currently has 60 CCDD fill operations in 18 counties with permits issued by IEPA. *Id*. On July 30, 2010, P.A. 96-1416 became effective and included interim standards for CCDD fill facilities and uncontaminated soil fill operations to be in place until the Board adopts rules pursuant to the Public Act. *Id*.

Specifically, P.A. 96-1416 requires that owners and operators of uncontaminated soil fill operations register with IEPA and document information for each load of uncontaminated soil accepted at the fill operation. *Id*. Owners and operators also must screen each load of soil with a device such as a photo ionization detector (PID), flame ionization detector, or another device approved by IEPA that detects volatile organic compounds. *Id*. Owners and operators must

confirm that the CCDD or uncontaminated soil accepted at the fill operation was not removed from a site as part of a cleanup. In addition, owners or operators must obtain, for all soil, either a certification from the owner or operator of the site of origin that the site has never been used for commercial or industrial purposes and is presumed to be uncontaminated soil or a certification from a LPE or LPG that the soil is uncontaminated. SR at 3. IEPA notes that there 20 uncontaminated soil fill operations registered in 10 counties. SR at 2.

Regulatory Development

IEPA developed the proposed amendments with input from the regulated community. SR at 3. A draft of proposed changes was circulated to the regulated community and changes made based on the comments received. *Id*. The draft was again circulated for comments. *Id*. IEPA states that "significant concerns" were addressed as a result of the outreach but three areas of disagreement remain. SR at 4.

Subpart G requires groundwater monitoring at sites, and there is opposition to this requirement. IEPA notes that participants have indicated that load checking requirements are sufficient to protect groundwater. SR at 4. IEPA has received comments that indicate the proposed groundwater monitoring would force many fill operations to shut down due to the high cost of installing and sampling monitoring wells. *Id*.

The use of the most conservative pH-sensitive value to determine MACs for certain chemicals is also an area of controversy according to IEPA. SR at 4. IEPA state that comments indicate that a narrower pH range is typical for most Illinois soils and that a narrower range should be allowed in calculations to determine MACs. SR at 4-5.

IEPA explains that the absence of a soil sampling protocol is also an area of concern. SR at 5. The proposal leaves soil certification requirements to the professional judgment of the LPE or LPG at the site. *Id*. Comments to IEPA indicate that a protocol should be established.

Economic Impact

IEPA indicates that all persons operating a CCDD fill operation or an uncontaminated soil fill operation will be affected by the proposed rules. SR at 5. IEPA believes that the economic impact of the proposal on the regulated community will not be detrimental as the proposal is "a continuation of the interim standards required by P.A. 96-1416." *Id*. IEPA acknowledges that site owners and operators will incur costs to obtain soil certifications from LPEs or LPGs and soil fill operations will incur the costs of load checking and documentation. *Id*. IEPA also concedes that groundwater monitoring will place new costs on the fill operations.

Technical Justification

IEPA believes that the proposed amendments will assist in keeping contaminated materials from being disposed of in CCDD fill operations and uncontaminated soil fill operations. SR at 5. IEPA, however, "cannot be sure that the front-end screening process will keep 100% of contamination" from being placed in CCDD or uncontaminated soil fill

operations. SR at 6. Therefore, IEPA is proposing groundwater monitoring to detect contamination and provide for timely corrective action and remediation. *Id*. IEPA contends that a map of current CCDD fill operations indicates that the sites have both public and private water wells in close proximity. *Id*.

IEPA acknowledges that costs will be incurred for soil certifications. SR at 6. IEPA has attempted to lessen the costs by requiring soil samples from "potentially impacted properties" and not all industrial or commercial sites. *Id*. IEPA believes that this change is consistent with the intent of P.A. 96-1416. *Id*.

IEPA believes that the amendments will increase the costs associated with operating a CCDD fill site or an uncontaminated soil fill operation. SR at 6. IEPA contends that the costs are unknown and may vary significantly from site to site. *Id*. IEPA has attempted to mitigate the costs by limiting groundwater sampling and allowing for site-specific variation. SR at 6-7.

Section by Section Summary

Section 1100.101 Scope and Applicability

IEPA proposes to amend this section by adding "uncontaminated soil" and "uncontaminated soil fill operations" to the applicability of the Part. SR at 7. The amendments also remove references to Section 22.51 of the Act.

Section 1100.103 Definitions

IEPA proposes revision of several definitions and the addition of several new definitions. New definitions include "aquifer", "background groundwater quality", "carcinogen", "compliance boundary", "compliance point" "cone of depression", "dewatering", "fill operation", "potentially impacted property", "professional geologist", "representative groundwater conditions", "site of origin", "source site owner", "source site operator", "uncontaminated soil", "uncontaminated soil fill operation" and "uppermost aquifer". SR at 8. IEPA also proposes removing the term "other excavation" from the larger definition for "CCDD fill operation" and placing the definition on its own. *Id*. IEPA notes that because this term has been historically problematic, "other excavation" has been expanded to provide clarification. *Id*. Amendments also include the deletion of a portion of the statutory definition of "CCDD" that was not relevant to this Part, and the deletion of the term "malodor", which is related to air pollution and has been replaced in these rules with the use of the term "foul odor". *Id*.

Section 110.104 Incorporations by Reference

IEPA proposes to update the references in the rule and to add four incorporations. SR at 8.

Section 1100.201 Prohibitions

IEPA proposes adding new statutory prohibitions to the lists of prohibited activities. SR at 9.

Section 1100.203 Annual Facility Map

IEPA's proposal requires that the annual facility map be submitted with the annual report required under Section 1100.211. SR at 9.

Section 1100.204 - Operating Standards

IEPA's proposal requires that the fill operation control odors and other nuisances as part of its daily operations. SR at 9.

Section 1100.205 - Load Checking

IEPA proposes adding a new subsection (a) to require a certification by the source site owner or source site operator, or a LPE or LPG that soil taken to the fill operation is uncontaminated. SR at 9. IEPA believes that this requirement codifies the interim standard established by P.A. 96-1416. *Id.* The language in subsection (a) differs from the language in P.A. 96-1416 in two ways. First, the term "commercial/industrial" has been replaced with the term "potentially impacted property". *Id.* IEPA proposed this change from the statutory language because the term "industrial/commercial" is closely identified with zoning designations and has caused confusion among the regulated community. IEPA states that the intention of the certification requirement of P.A. 96-1416 was to identify soil that is more likely to be contaminated and in need of professional evaluation and certification before placement within a fill operation. IEPA states that "to better align with the purpose of the certification requirement, to provide clarity on when a certification is required, and to give more flexibility to source site owners and operators, receiving facilities, contractors and environmental professionals, IEPA created a new term, "potentially impacted property". *Id.*

Second, the language also differs in that the signature authority of the uncontaminated soil certification form has been extended to professional geologists, which reflects the amendments in P.A. 97-0137. SR at 10.

IEPA proposes to re-letter subsection (b), which is related to the interim documentation requirements in Sections 22.51(f)(2)(A) and (f)(3), and 22.51a(d)(2)(A) and (d)(3), of the Act. SR at 10. IEPA made two changes to subsection (b). First, at subsection (b)(4)(A)(ii), in response to comments from interested parties, IEPA has changed the management of rejected loads and no longer requires that the rejected load be taken to a landfill. *Id.* Second, at subsection (b)(5) IEPA has added language to encourage communications between the source site owners and source site operators and the fill operations regarding the acceptance of future loads from a suspect source. *Id.*

IEPA also re-letters subsection (c), which is also related to the interim documentation requirements in Sections 22.51(f)(2)(A)and (f)(3), and 22.51a(d)(2)(A) and (d)(3), of the Act. SR at 10.

New subsection (d) provides load checking standards for the acceptance of painted CCDD at a CCDD fill operation. SR at 10. The use of painted CCDD as fill material at a CCDD fill operation is further addressed in Section 1100.212.

Section 1100.206 Salvaging

IEPA proposes amendments to this Section related to the deletion of the term "malodor", which is related to air pollution, and replacing it with standard terminology of "foul odors". SR at 10.

Section 1100.207 Boundary Control

IEPA has added uncontaminated soil fill operations to the applicability of this Part. SR at 10.

Section 1100.208 Closure

The amendments to this Section are related to the addition of uncontaminated soil fill operations to the applicability of this Part. SR at 10.

Section 1100.209 Post-closure Maintenance

The amendments to this Section are related to the addition of uncontaminated soil fill operations to the applicability of this Part. SR at 10-11.

Section 1100.211 Annual Reports

IEPA proposes to require that the amount of soil expected in the coming year at uncontaminated soil fill operations and the facility map be included in the annual report. SR at 11.

Section 1100.212 Use of Painted CCDD as Fill Material

IEPA proposes this new section to set forth requirements for allowing the use of painted CCDD as fill material. Specifically, painted CCDD may be used as fill if evaluated analytically under the supervision of a LPE and all the requirements of this Part are met. SR at 11. IEPA proposes a Board note to clarify that painted CCDD managed outside of the provisions of this Part is to be handled in accordance with the law. IEPA is particularly concerned with processing of painted concrete for other uses because of the potential for leaching of contaminants from the paint during storage and processing. *Id*. IEPA is also concerned with the creation of airborne particles.

IEPA notes that this proposed language is a departure from IEPA's traditional position concerning paint on construction or demolition debris. SR at 11-12. IEPA believes that this change is justified from both a legal and policy perspective. SR at 12. IEPA opines that using painted CCDD as fill material will "conserve landfill space", and concerns about airborne particles are minimized because the material will not be further processed. *Id*.

IEPA proposes screening procedures that include taking a representative analysis of paint from the CCDD and the analysis for six contaminants of concern: arsenic, cadmium, chromium (total), lead, mercury and zinc. SR at 12. IEPA's proposal specifies how the screening procedures must be accomplished including specifying test methods for the analysis for contaminants of concern. *Id*. IEPA also proposes that the samples must not exceed Class I groundwater quality standards set forth in 35 Ill. Adm. Code 620.410. SR at 13.

Section 1100.304 Site Location Map

This proposed amendment simply corrects the title of the Safe Drinking Water Act. SR at 14.

Section 1100.306 Narrative Description of the Facility

IEPA proposes amendments to this Section to require specification of the use of uncontaminated soil as fill material. SR at 14.

Section 1100.307 Proof of Property Ownership and Certification

IEPA proposes to delete the requirement of a certification by the applicant to notify IEPA of a change in ownership. IEPA proposes instead to require that a change in ownership be provided to IEPA in written format. SR at 14.

Section 1100.309 Closure Plans

IEPA proposes to replace the term "CCDD filling" with the term "the fill operation" to reflect use of uncontaminated soil as fill material as well as CCDD. SR at 14.

Section 1100.412 Procedures for Closure and Post-closure Maintenance

IEPA proposes reworking the language of subsection (a) to reference Section 1100.208 and to incorporate the groundwater monitoring program into the post-closure maintenance requirements of subsection (c)(1)(D). SR at 14. IEPA proposes that existing facilities be given one year to decide whether to install a groundwater monitoring system or terminate the permit. *Id*. IEPA states that if a facility remains in operation one year after the effective date of this rulemaking establishing groundwater monitoring requirements, a groundwater monitoring system must be in place. *Id*. IEPA proposes that facilities that enter post-closure maintenance before one year after the effective date of this rulemaking are exempt from its requirements. *Id*.

Subpart E

IEPA proposes a new subpart addressing uncontaminated soil fill operations. The Board will summarize each section in this new subpart below.

Section 1100.500 Prohibitions. IEPA lists prohibited activities including the statutory prohibition against accepting material other than uncontaminated soil for fill at the facility. SR at 15.

Section 1100.505 Operating Standards. IEPA proposes operating standards for uncontaminated soil fill operations that are substantially similar to CCDD fill operations. SR at 15. The standards include load checking activities and certifications, placement of fill, fill elevation, size and slope of working face, control of mud tracking, dust control, noise control, maintenance, odor and nuisance control, standards for equipment and utilities, surface water drainage, salvaging, boundary control, and closure and post-closure maintenance. *Id.*

Section 1100.510 Recordkeeping Requirements. IEPA based the recordkeeping requirements for uncontaminated fill operations on those for CCDD fill operations in Sections 1100.210 and 1100.304 through 1100.310.

Section 1100.515 Registration. IEPA proposes requiring uncontaminated soil fill operations to register sites on forms and in a format prescribed by IEPA. SR at 16. IEPA proposes requiring facilities that registered under Section 22.51a of the Act to re-register with IEPA if they intend to keep operating. *Id.* IEPA states that this re-registration is necessary for IEPA to identify facilities still in operation, as existing facilities are not required to notify IEPA if they cease operations. IEPA provides that registration occur within 60-days of the effective date of the rule. *Id.*

Section 1100.520 Required Signatures. IEPA modeled this language after Section 1100.303 and proposes a list of required signatures on registration applications. SR at 16.

Section 1100.525 Procedures for Closure. IEPA proposes requirements for closure of uncontaminated soil fill operations, including the requirements of LPE certification. SR at 16. IEPA modeled this section after Section 1100.412(a) and (b)(1) regarding closure of CCDD fill operations. *Id.*

Section 1100.530 Termination of Post-closure Maintenance. IEPA proposes requirements for termination of post-closure maintenance for uncontaminated soil fill operations. SR at 16. IEPA modeled these sections after Section 1100.412(c)(1) regarding the post-closure maintenance period of CCDD fill operations. *Id.*

Subpart F

IEPA proposes a new subpart addressing standards for uncontaminated soil fill operations. In Subpart F, IEPA establishes standards for "uncontaminated soil" that is generated during construction or demolition activities and used as fill material at fill operations regulated

pursuant to Sections 22.51 and 22.51a of the Act. SR at 17. Section 3.160(c) of the Act (415 ILCS 5/3.160(c) (2010)) defines "uncontaminated soil" as "soil that does not contain contaminants in concentrations that pose a threat to human health and safety and the environment." This definition also is referenced in Sections 22.51(e)(4) and 22.51a(a)(l) of the Act. 415 ILCS 5/22.51(e)(4) and 22.51a(a)(1) (2010).

Section 3.160(c)(1) of the Act directs IEPA to propose and the Board to adopt "rules specifying the maximum concentrations of contaminants that may be present in uncontaminated soil for purposes of this Section." 415 ILCS 5/3.160(c)(1) (2010). Subsection (c)(1) also provides guidance for establishing the MAC for chemical constituents that are carcinogens and states:

> For carcinogens, the maximum concentrations shall not allow exposure to exceed an excess upper-bound lifetime risk of 1 in 1,000,000; provided that if the most stringent remediation objective or applicable background concentration for a contaminant set forth in 35 Ill. Adm. Code 742 is greater than the concentration that would allow exposure at an excess upper-bound lifetime risk of 1 in 1,000,000, the Board may consider allowing that contaminant in concentrations up to its most stringent remediation objective or applicable background concentration set forth in 35 Ill. Adm. Code 742 in soil used as fill material in a current or former quarry, mine, or other excavation in accordance with Section 22.51 or 22.51a of this Act and rules adopted under those Sections. Any background concentration set forth in 35 Ill. Adm. Code 742 that is adopted as a maximum allowable concentration must be based upon the location of the quarry, mine, or other excavation where the soil is used as fill material. 415 ILCS 5/3.160(c)(l) (as amended by P.A. 97-0137, eff. 7/14/11).

Based on the statutory language, IEPA has three guiding principles as the starting place for proposed Subpart F:

1) The MACs should be based on the Tier I soil remediation objectives from the rules for Tiered Approach to Corrective Action Objectives (TACO) (35 Ill. Adm. Code 742);

2) The MACs in soil must be based on concentrations of chemical constituents in the soil itself and not on external controls and circumstances; and

3) The MACs apply only in the context of soil generated during construction or demolition activities as defined in Section 3.160 of the Act and placed at CCDD or uncontaminated soil fill operations. SR at 18.

IEPA states that the statutory language implies the use of TACO in Section 3.160(c) as originally adopted in P.A. 96-1416 by references to Appendix A, Table H of TACO and to risk levels for carcinogens. SR at 18. IEPA believes that the amendments to Section 3.160(c) in P.A. 97-0137 even more directly reference TACO remediation objectives. IEPA states that as a

practical matter, IEPA has no basis other than the TACO remediation objectives for proposing human health and safety based standards for contaminant concentrations in soil as required by the Act. *Id.*

IEPA states that there is a clear distinction between the purposes for which the TACO rules were developed and the fill operations. SR at 18. IEPA notes that the TACO rules provide a risk-based methodology for determining remediation objectives at sites where there has been a release of uncontrolled contamination. IEPA opines that the purpose is to return contaminated properties to safe and productive uses as efficiently as possible considering their already degraded conditions. In contrast, IEPA maintains that fill operations will be receiving soil containing contaminants that did not previously exist at the fill site locations. *Id*. IEPA believes that this difference in purposes justifies a conservative approach when using the TACO objectives as MACs for soil deposited at fill sites. SR at 19.

The second guiding principle IEPA relies on is that the MACs of chemical constituents in soil must be based on the soil itself and not on external controls and circumstances such as institutional controls, engineered barriers, pathway exclusions, and the like, as developed for the TACO rules. SR at 19. IEPA developed this guide based on the definition of "uncontaminated soil" at Section 3.160(c) of the Act, which specifically states that the concentrations in the soil itself must not pose a threat to human health, safety or the environment. *Id*.

IEPA believes that proper use and administration of the MACs depends on uniformity. SR at 19. IEPA states that site-specific standards based on conditions at each fill operation would require additional rules for site investigation, reporting, review and approval of site-specific MACs and would substantially complicate matters for soil generators, reviewing LPEs and LPGs, and State and local inspectors. *Id*.

The third guiding principle IEPA uses is that the standards for uncontaminated soil apply only in the context of soil generated during construction or demolition activities as defined in Section 3.160 of the Act and placed at CCDD or uncontaminated soil fill operations. SR at 20. IEPA states that the legislative directive to IEPA and the Board is to propose and adopt contaminant concentration standards for purposes of Section 3.160, which is limited to soil generated during "construction, remodeling, repair and demolition of utilities, structures and roads" and the uses authorized by Section 3.160. *Id*. IEPA does not propose or support the use of soils satisfying the proposed MACs outside the regulated fill operation context authorized in Section 3.160(b) and Sections 22.51 and 22.51a of the Act. 415 ILCS 5/3.160(b), 22.51 and 22.51a (2010). IEPA's reasons for this position is because the TACO Tier I remediation objectives on which the MACs are based address only the ingestion, outdoor inhalation, soil migration to groundwater, and construction worker exposure routes for human receptors. *Id*. IEPA states that MACs based on the most stringent Tier I objectives among these exposure routes are acceptable for the controlled conditions at fill operations, but they do not address concerns that might arise if uncontrolled use is allowed for soil meeting the proposed MACs.

Further, IEPA expresses concern because the TACO Tier I remediation objectives on which the MACs are based do not take into account all potential exposure routes. SR at 20. For example, the human exposure route that might be of concern if uncontrolled use is allowed

would be the indoor inhalation exposure route. SR at 21. The TACO rules currently are before the Board in a proposal that would amend Part 742 to address the indoor inhalation exposure route; however, IEPA has not evaluated what effect, if any, the proposed indoor inhalation standards might have on soil used as fill material outside the remediation context. *Id*. IEPA's proposal restricts the use of the standards for indentifying uncontaminated soil to soil managed in the limited environment of regulated fill operations. SR 21-22.

The Board will summarize each proposed section below.

Section 1100.600 Purpose and Applicability. IEPA proposes the purpose and applicability of this subpart in this section and includes certain restrictions and exclusions. SR at 22. IEPA proposes that only soil generated as a part of construction or demolition activities set forth in Section 3.160 of the Act (415 ILCS 5/3.160 (2010)) is included and that soil commingled with other fractions of CCDD must meet MACs for uncontaminated soil to be used as fill material. *Id*. IEPA specifically excludes soils that must be managed as a hazardous waste, soil that at any time was treated or diluted to reduce contaminant concentrations or mobility, and soils removed from a site as part of a cleanup. SR at 22-23.

Section 1100.605 Maximum Allowable Concentrations for Chemical Constituents in Uncontaminated Soils. IEPA proposes Section 1100.605 to establish a methodology for determining the MACs for chemical constituents in uncontaminated soils. SR at 24. IEPA chose to use a methodology, rather than simply proposing a table of values taken from the TACO Tier I tables, so that MACs may be determined without amending Part 1100 tables each time the TACO tables are revised. *Id*. IEPA will publish a table of MACs that have been determined using the promulgated methodology. *Id*. IEPA believes publication of the table will not constitute a generally applicable rule under the IAPA (5 ILCS 100/5 *et.seq.* (2010)) as long as the values published in the table are determined using the promulgated methodology. *Id*.

Subsection (a) sets forth the basic methodology for determining MACs and requires that the lowest Tier I chemical-specific soil value from all exposure routes must be selected as the MAC for each chemical constituent investigated. SR at 24. IEPA notes that when selecting MACs, values for the soil component of the groundwater ingestion exposure route must be based on the Tier 1, Class I remediation objectives. SR at 25. IEPA's position is that proper use and administration of the MACs depends on uniformity among fill operations to the extent possible. IEPA states that the conservative approach of using Tier 1, Class I values for the soil component of the groundwater ingestion exposure route provides uniformity and an additional layer of protection for groundwater resources from facilities that are not required to have a protective liner to control contaminant migration. *Id*.

IEPA points out that in practice the application of the MAC methodology is more complicated, primarily because the TACO values themselves are not simply raw numbers. SR at 25. IEPA notes that most of the values in the TACO tables are footnoted to indicate that additional considerations must be taken into account before using the values as remediation objectives. *Id*. IEPA states that most of these same considerations must be taken into account when determining the MACs. *Id*.

IEPA also notes a few other adjustments must be made in developing MACs. SR at 25. IEPA states that for both ionizing organic constituents and inorganic constituents that are pH sensitive, the values in the TACO rules for the soil component of the Class I groundwater ingestion exposure route apply only when the soil pH at the remediation site is 6.8. SR at 25-26. However, if the soil pH is other than 6.8, Section 742.Appendix B, Tables C or D must be consulted to determine the applicable remediation objective. SR at 26. IEPA proposes that in fill operations, the relevant pH affecting constituent leachability is not the pH at the site where the soil was generated or the pH of the native soil in the vicinity of the fill operation. *Id*. Rather, IEPA proposes the relevant pH is the pH of the soil being placed inside the fill area, which IEPA believes will be variable and unpredictable. *Id*. Therefore, IEPA proposes a conservative approach to using Table C to determine the values for the soil components of the groundwater ingestion exposure route for pH-sensitive constituents listed in Section 742.Appendix B, Table C. *Id*. In that case, the lowest pH-dependent values must be selected from Table C and used for the comparison with other exposure routes to determine the MACs for those constituents. *Id*.

IEPA further proposes that the Acceptable Detection Limit (ADL) becomes the lowest chemical-specific exposure route value if the lowest Tier I chemical-specific exposure route value is less than the ADL. SR at 27. IEPA notes that this approach also is used in the TACO rules when setting remediation objectives and is found at Section 742.510(a)(8). *Id*. IEPA further proposes that the total concentration of organic contaminants may not exceed the attenuation capacity of the soil as determined in accordance with the TACO rule at Section 742.215. *Id*.

Subsection (c) proposes that IEPA will calculate exposure route values upon request for constituents not listed in Tier I tables and subsection (d) expressly excludes the use of site-specific devices developed for remediation sites under TACO when determining MACs for uncontaminated soils. SR at 28.

Section 1100.610 Compliance Evaluation; Performance and Documentation of Soil Sampling and Chemical Analysis. IEPA proposes new language that gives direction for evaluating compliance of any particular quantity of soil with the applicable MACs as determined pursuant to Section 1100.605. SR at 29. IEPA states that soil to be sent to fill operations is identified, and a determination is made as to whether the soil is from "potentially impacted property." *Id*. The applicable MACs, if any, are determined. *Id*. Soil samples, if any, are sent to a certified laboratory for analysis. The analytical results are compared with the MACs. *Id*. If the concentrations in the soil are equal to or less than the concentrations of the MACs, then the soil is considered uncontaminated for purposes of Part 1100 and may be accepted at the fill operations. *Id*.

IEPA's proposal would not require all soils to be subject to evaluation and certification by LPEs or LPGs. However, IEPA proposed that soils from potentially impacted properties must be evaluated first to determine what chemical constituents must be analyzed. SR at 29. IEPA states that the second problem is developing a representative sampling plan. *Id*. After considerable discussion, IEPA's position is that a one-size-fits-all protocol producing consistently reliable results is impractical considering the multitude of sites, activities and circumstances in which soil may be generated and managed prior to placement in fill operations.

Id. IEPA therefore proposes that LPEs or LPGs must make these determinations on a site-specific basis. *Id*. If the LPE or LPG decides that soil sampling and analysis is required, IEPA proposal requires that compliance is determined by comparing results to the MACs. SR at 30.

IEPA also proposes that chemical analysis of soil samples be conducted using specified methods from the USEPA. SR at 30-31. IEPA's proposal would not allow averaging to determine compliance with MACs. SR at 31.

Section 110.615 Waste and Material Other than Chemical Constituents in Soils. IEPA proposes miscellaneous provisions that may also affect whether soils may be considered uncontaminated for purposes of this subpart. SR at 31. IEPA proposes to allow the soil to contain incidental amounts of naturally occurring materials such as stone, clay, or rock. *Id*.

Subpart G

IEPA proposes a new subpart addressing standards for groundwater monitoring. The new subpart will require groundwater monitoring at CCDD fill operations and uncontaminated soil fill operations. SR at 32. IEPA states that P.A. 96-1416 specifically requires the regulations to address groundwater protection at fill operations and the groundwater monitoring program is "important at fill operations" because the fill operations do not have liners. *Id*. IEPA proposes that the groundwater monitoring requirements be self-implementing; however, a LPE will be required to supervise the design of the groundwater monitoring system. *Id*. IEPA proposal would require groundwater monitoring for the life of the facility and testing annually for constituents that have a Class I groundwater quality standard listed in 35 Ill. Adm. Code 620.410. SR at 33. If there is an exceedance of those standards, corrective action must occur. *Id*.

Section 1100.700 Purpose and Applicability. This Section of IEPA's proposal requires groundwater monitoring at CCDD fill operations and uncontaminated soil fill operations. SR at 33.

Section 1100.705 Recordkeeping. IEPA proposes specific requirements for recordkeeping concerning groundwater monitoring conducted at the the fill operation. SR at 33.

Section 1100.710 Professional Engineer Supervision. IEPA's proposal requires that fill operations employ a LPE to supervise both the design of the groundwater monitoring system and the preparation of related programs, notifications, plans and reports. SR at 33.

Section 1100.715 Compliance Period. IEPA proposes that groundwater monitoring continue for the life of the fill operation, including closure, post-closure maintenance, and any corrective action periods. SR at 33.

Section 1100.720 Compliance with Groundwater Quality Standards. IEPA proposes that compliance with the groundwater quality standards be achieved pursuant to the provisions of 35 Ill. Adm. Code 620.410. SR at 34.

Section 1100.725 Groundwater Monitoring System. IEPA proposes the requirements of the groundwater monitoring system in this section. SR at 34.

Section 1100.730 Groundwater Monitoring Program. IEPA's proposal sets forth the requirements for the sampling program. SR at 34.

Section 1100.735 Monitoring Parameters. IEPA proposes that sampling be for all groundwater quality standards listed in 35 Ill. Adm. Code 620.410. SR at 34.

Section 1100.740 Sampling Frequency. IEPA proposes that sampling take place annually. SR at 34.

Section 1100.745 Non-Compliance Response Program. IEPA proposes steps to be taken if the groundwater quality standards listed in 35 Ill. Adm. Code 620.410 are exceeded. SR at 34.

Section 1100.750 Alternate Non-Compliance Response Program. IEPA proposes an alternative compliance response if the groundwater quality standards listed in 35 Ill. Adm. Code 620.410 are exceeded but there is justification for the exceedance. SR at 34.

Section 1100.755 Corrective Action Program. IEPA's proposal details the necessary steps to provide corrective action and remediation when the groundwater quality standards listed in 35 Ill. Adm. Code 620.410 are exceeded. SR at 34.

Section 1100.760 Dewatering Fill Operations. IEPA proposes allowing fill operations that are actively dewatering and therefore not impacting the groundwater to delay compliance with portions of Subpart G until dewatering ceases. SR at 34.

SUMMARY OF TESTIMONY

At the first hearing held on September 26, 2011 in Springfield, IEPA presented testimony from: Stephen F. Nightingale (Exh. 1), Paul Purseglove (Exh. 2), Douglas W. Clay (Exh. 3), and Leslie Morrow (Exh. 4). At the second hearing held on October 25 and 26, 2011, the Board heard testimony from: James E. Huff (Exh. 10), Mark J. Krumenacher (Exh. 11), John Hock (Exh. 12), Randi Wille (Exh. 13), David G. Pyles (Exh. 14), Gregory Wilcox (Exh. 15), William Dixon (Exh. 16), Kenneth Liss (Exh. 17), Steven Gobelman (Exh. 18), Ryan M. LaDieu (Exh. 19), and Clare A. Manning (Exh. 20). In addition, IEPA offered additional testimony from Stephen F. Nightingale (Exh. 21) and Thomas C. Hornshaw (Exh. 22). At the close of the second hearing, the Board accepted comment on DCEO's decision not to perform an EcIS and several participants did offer testimony, which the Board will summarize in one section below. The Board will summarize the other testimony in order of its presentation below.

Stephen F. Nightingale

Mr. Nightingale is the manager of the Permit Section in the Bureau of Land at IEPA. Exh. 1 at 1. He is generally responsible for the permitting and day-to-day activities associated

with solid waste, RCRA and UIC. *Id*. Mr. Nightingale testified twice, and each set of testimony will be summarized below.

Exhibit 1

Mr. Nightingale's testimony at the first hearing reiterated many of the points made in the statement of reasons and will not be repeated here.

Mr. Nightingale noted that the applicability and definitions sections were amended to reflect the regulation of "uncontaminated soil" as well as to clarify certain definitions. Exh. 1 at 1- 7. Included in the definitions is the term "potentially impacted properties", which is used to identify loads of soil that may have contamination based on current or historical uses. Exh. 1 at 6. At hearing, Mr. Nightingale elaborated that the decision as to whether a property is "potentially impacted" must be made on a case-by-case basis and both historical and current use of the property and adjacent property should be considered. 9/26/11 Tr. at 19. Mr. Nightingale testified that no type of property can be "categorically excluded". *Id*. at 22.

Regarding load checking (Section 1100.205), Mr. Nightingale testified that two forms will be required for uncontaminated soil. Exh. 1 at 11. The first form is used when uncontaminated soil certification comes from a source site owner or operator and that form certifies that the site is not a "potentially impacted property". *Id*. The second form is used when the uncontaminated soil does come from a "potentially impacted property" and is a certification by a LPE or LPG that the soil is uncontaminated. Exh. 1 at 12.

Mr. Nightingale also testified that fill operators will be required to obtain additional information, including the date the CCDD or uncontaminated soil was received, the weight or volume of the CCDD or uncontaminated soil, and the name of the hauler. Exh. 1 at 12-13. The name of the source site owner or operator and location of the site of origin will also need to be maintained by the fill operators. Exh. 1 at 13.

Regarding management of rejected loads, Mr. Nightingale testified that the proposal will allow for management of a rejected load other than by disposal at a landfill. Exh. 1 at 13. Mr. Nightingale explained that this will give new flexibility and will allow for recycling. *Id*. Mr. Nightingale testified that this flexibility was necessary for situations where a LPE or LPG has certified the load as uncontaminated but the PID reading is in excess of background. *Id*. Mr. Nightingale opined that, although neither laboratory screening nor PID is 100% accurate, the load must be rejected. *Id*.

Subpart E is a new subpart providing operating standards and requirements for uncontaminated soil fill operations. Exh. 1 at 18. Mr. Nightingale noted that IEPA does not permit these facilities, but rather the facilities register the sites with IEPA. *Id*. Mr. Nightingale explained that because these facilities are not permitted, closure and post-closure periods are self-implementing with no oversight by IEPA. *Id*. The owner or operator of an uncontaminated soil fill facility must submit an affidavit to IEPA along with a LPE certification that the closure and post-closure periods have complied with the regulations. *Id*. The operating standards for uncontaminated soil fill operations mirror the requirements of CCDD facilities. *Id*.

Mr. Nightingale testified that the goal of the certifications in Sections 1100.205 and 1100.212 is to "prevent any materials that exceed" MACs from being accepted at fill operations. Mr. Nightingale opined that if full achievement was assured groundwater monitoring would not be necessary; however, IEPA "anticipates a certain percentage may not meet" the MAC standards. Exh. 1 at 24. Mr. Nightingale stated that IEPA believes this could happen because of the sheer volume of fill, and even a small percentage of missed contamination could result in groundwater contamination. *Id*. For these reasons IEPA proposes to require groundwater monitoring. Exh. 1 at 24-25.

Mr. Nightingale explained that "it makes little sense to require groundwater monitoring without provisions to take corrective action" and thus the proposal requires further investigation if contamination is found. Exh. 1 at 25. If contamination is found at a site based on routine monitoring, the owners or operators will be required to either demonstrate that the groundwater was not impacted by the fill operation or develop a corrective action program. *Id*.

IEPA used the Board rules at 35 Ill. Adm. Code 615.Supbpart B as a template for developing the requirements in Subpart G. Exh. 1 at 25. The groundwater monitoring, investigations into potential contamination and corrective action are all self-implementing. Exh. 1 at 26. The subpart includes provisions for recordkeeping, LPE supervision, compliance period, and installation requirements. Exh. 1 at 26-29.

Mr. Nightingale elaborated on the monitoring parameters and sampling frequency. Exh. 1 at 32. The proposal also sets forth how an owner or operator should proceed if non-compliance is found and what the corrective action program should include. Exh. 1 at 32-36. At the hearing, Mr. Nightingale reiterated that all parameters listed in Section 620.410 must be monitored. 9/26/11 at 26. IEPA concedes that there is limited data on CCDD fill sites concerning groundwater contamination (*Id*. at 26-29), but does not concede that the fill operation will cause groundwater contamination. *Id*. at 67.

Exhibit 21

Mr. Nightingale's additional testimony was offered to support changes in an *errata* sheet (Exhibit 7) presented by IEPA. Exh. 21 at 1. Mr. Nightingale explained that the changes were in response to questions asked at the first hearing by the Board and participants. The following paragraphs will summarize the change and IEPA's reason for the change.

Section 1100.101(b)(3). IEPA is proposing to add "uncontaminated soil" to the Illinois Department of Transportation (IDOT) regulatory exemption allowed under this section. Mr. Nightingale testified that this addition is consistent with IDOT regulations. Exh. 21 at 1.

Section 1100.103. IEPA proposes a change to the definition of "clean construction or demolition debris" to clarify that more than incidental amounts of clay and sand in soil do not render the soil contaminated. Exh. 21 at 1-2. Mr. Nightingale explained that changes are also being suggested for definitions of "other excavation" and "potentially impacted property". Exh. 21 at 2. IEPA added "mine" and "quarry" to the definition of "other excavation" in an attempt to

limit the definition to excavation of other resources such as clay and other soil. *Id*. IEPA also responded to questions by the Board and proposed moving the language of the Board Note into the text of the definition of "potentially impacted property". *Id*.

Section 1100.205(b)(5). Mr. Nightingale testified that IEPA proposes to delete language referencing an IEPA permit as uncontaminated soil fill operations are not required to be permitted. Exh. 21 at 3. Mr. Nightingale noted that IEPA proposes including the LPG in this section. *Id*.

Section 1100.615(a). Mr. Nightingale testified that IEPA proposes to clarify that more than incidental amounts of clay and sand in soil do not render the soil contaminated. Exh. 21 at 3

Section 1100.720(b). Mr. Nightingale noted IEPA is proposing to correct an error in the original proposal by changing a reference to "Section 1100.760". Exh. 21 at 3.

Section 1100.745 and 1100.750. Mr. Nightingale testified that IEPA believes that as originally worded these two sections have several inconsistencies. Exh. 21 at 3. The inconsistencies involve the timing for resampling along with avoiding developing a corrective action program. Exh. 21 at 3-4. Mr. Nightingale stated that the changes proposed by IEPA should eliminate the inconsistencies. Exh. 21 at 4. IEPA also proposes a clarification that will provide additional avenues for owners and operators of fill operations to demonstrate that groundwater corrective action is not necessary. *Id*.

Paul Purseglove (Exh. 2)

Mr. Purseglove is the manager of Field Operations Section of the Bureau of Land, which is responsible for conducting inspections at CCDD facilities and uncontaminated soil fill operations. Exh. 2 at 1. Mr. Purseglove testified in support of IEPA's amendments and specifically the provisions dealing with the process and procedures to be followed so that painted CCDD can be accepted as fill material. *Id*. Mr. Purseglove stated that IEPA is proposing allowing painted CCDD to be used as fill because significant quantities of painted concrete and other painted CCDD can be generated from demolition projects. Exh. 2 at 1-2. IEPA's current policy of not allowing painted materials to be used as fill was based on a "conservative approach to the issue of the toxic heavy metals used in some paints." *Id*. Mr. Purseglove stated that as a result of this policy significant quantities of painted CCDD are sent to landfill for disposal or illegally dumped. *Id*.

Mr. Purseglove stated that IEPA's position now is that some painted CCDD could be used safely as fill material under the proposed rules. Exh. 2 at 2. Mr. Purseglove testified that placement of painted concrete in fill areas will minimize exposure from dust as no additional processing would take place. *Id*. Further, concerns about toxic heavy metals can be addressed by following the screening and analytical testing procedures proposed in the rule. Exh. 2 at 2-3. Mr. Purseglove opines that "[e]stablishing specific procedures for sampling and analyzing the paint to demonstrate there will be no significant impact to the groundwater at the CCDD sites would conserve landfill space and may reduce the illegal disposal of the material." Exh. 2 at 3.

Mr. Purseglove testified that by adopting IEPA's proposal, a procedure will be established to allow for technical analysis of the paint and if testing demonstrates that toxic heavy metals are below the regulatory levels, the CCDD can be accepted at one of the permitted sites. Exh. 2 at 3. Mr. Purseglove stated that IEPA believes that a LPE must make the determination on the number and location of paint samples to be collected on a site-specific basis. *Id*.

Douglas W. Clay (Exh. 3)

Mr. Clay is the manager of the Division of Land Pollution Control with IEPA. He testified in support of the addition of Subpart F, Standards for Uncontaminated Soil Uses as Fill Material at Fill Operations Regulated by this Part. Exh. 3 at 1. Mr. Clay provided some background at hearing and testified regarding Section 1100.600. *Id*., 9/26/11Tr. at 13-16. In his opening remarks, Mr. Clay stated IEPA's goal was to propose a rule that is fair and workable while being protective of the environment. 9/26/11Tr. at 14. Mr. Clay noted that there are two areas that received "considerable attention" from the participants. The first is the development of background standards and the second is IEPA's decision to require groundwater monitoring. *Id*. at 16. Mr. Clay stated that groundwater monitoring is required to verify that groundwater is not impacted because no system is fail-proof. *Id*.

Mr. Clay stated that Subpart F is intended to define "uncontaminated soil" solely for purposes of this Part as the TACO Tier I objectives that the MACs are based on only address the ingestion, outdoor inhalation, soil migration to groundwater, and construction worker exposure routes for human receptors. Exh. 3 at 2. Mr. Clay opines that MACs based on the most stringent Tier I objectives among those exposure routes are "acceptable for the controlled conditions at fill operations, but they do not address concerns that might arise if uncontrolled use is allowed for soil meeting the proposed MACs." *Id*.

Mr. Clay further testified that the TACO Tier I remediation objectives on which the MACs are based do not account for all potential exposure routes. Exh. 3 at 2. Mr. Clay stated that IEPA has not evaluated the effect of proposed indoor inhalation standards on the uncontrolled use of soil as fill material and ecological receptors have not been considered. *Id*.

Mr. Clay testified that soils that are commingled with CCDD may only be used as fill if MACs are met. Exh. 3 at 2-3. Mr. Clay stated that even though this soil/debris cannot be considered "uncontaminated soil" the potential would exist for soil contamination in the mixture. Exh. 3 at 3. Mr. Clay opined that allowing this mixed debris as fill material without requiring the MACs to be met would defeat the purpose for taking precautions with unmixed soil. *Id*. Mr. Clay stated that this could be an easy way to evade the uncontaminated soil standards. *Id*.

Mr. Clay noted that subsection (d) identifies soil that cannot be used as CCDD and clarifies two instances where otherwise excluded soil can be used. Exh. 3 at 4. The first clarification relates to sites subject to Section 58.16 of the Act (415 ILCS 5/58.16 (2010)), which applies to sites where a school is being constructed in Cook County. Mr. Clay stated that soils

from these sites may be used as fill if the soil is within the MACs. *Id*. The second clarification is, at sites where a cleanup is occurring, soil from other parts of the site may be used as fill. *Id*.

Leslie Morrow (Exh. 4)

Mr. Morrow is an environmental toxicologist for IEPA and testified in support of Subpart F and more specifically Section 1100.605 and 1100.610. Exh. 4 at 1-2. Mr. Morrow's testimony reiterates many of the points made about Sections 1100.605 and 1100.610 in IEPA's statement of reasons. Mr. Morrow reiterated that there are three concepts IEPA used as guidance in developing proposed Sections 1100.605 and 1100.610:

1) MACs should be based on Tier I soil remediation objectives from the Board's TACO rules;

2) MACs in soil must be based on the concentrations of chemical constituents in the soil itself and not on external controls or circumstances;

3) MACs must apply only in the context of soil generated during construction or demolition activities as defined by Section 3.160 of the Act and placed at regulated CCDD or uncontaminated soil fill operations. Exh. 4 at 2-3.

Mr. Morrow testified that Section 1100.605 establishes methods for determining MACs in uncontaminated soil and is set forth in a narrative format relying on existing Board rules. Exh. 4 at 3. Mr. Morrow states that Section 3.160 of the Act defines "uncontaminated soil" as "soil that does not contain contaminants in concentrations that pose a threat to human health and safety and the environment." Exh. 4 at 3-4. Mr. Morrow opines that this definition "does not preclude the presence of 'non-threatening' concentration of contaminates in uncontaminated soil." Exh. 4 at 4. To establish concentrations, Mr. Morrow states IEPA relied on the Board's TACO regulations as the basis for MACs. *Id*.

Mr. Morrow explained that IEPA decided to propose a methodology rather than the TACO Tier I table of values. Exh. 4 at 4. IEPA will publish MACs based on the methodology, and IEPA does not believe that such a publication is a rule under the IAPA. Exh. 4 at 4-5. Mr. Morrow further explained that the lowest relevant TACO cleanup objective for each contaminant was established as the MAC. Exh. 4 at 5. There are exceptions and those are for certain background concentrations as well as "additional complicating factors" that have been included in the methodology for determining MACs. Exh. 4 at 6.

Mr. Morrow also testified as to IEPA's decision to propose a conservative pH-dependant value for each ionizing organic constituent as the value to substitute for the pH-neutral, soil-to-groundwater value. Exh. 4 at 8. Mr. Morrow notes that within the State, natural soil pH varies widely near the surface and no single pH-dependant value would be directly applicable within any fill. *Id*.

Mr. Morrow testified that for seven constituents, the TACO values were multiplied to develop a milligrams per kilogram standard and for 15 constituents the values are less than their acceptable detection limits (ADL). Exh. 4 at 10. For the 15 constituents with values less than the ADL, the ADL will be the limit. Exh. 4 at 11.

For background concentrations, IEPA rejects the use of site-specific background concentrations, because it goes counter to IEPA's attempt to develop statewide uniformity. Exh. 4 at 12. IEPA has identified 5 inorganic constituents (arsenic, iron, lead, manganese, mercury) for which the MACs are more stringent than background and for those 5 constituents the background concentration becomes the MAC. *Id*. Similarly, 4 organic constituents (benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, divenso(a,h)anthracene) background levels were also used. *Id*.

Mr. Morrow's testimony also reiterates IEPA's proposal to not develop a "one-size-fits-all protocol" for soil sampling but to require the LPE or LPG to make the determination on a site-specific basis. Exh. 4 at 15-16. Mr. Morrow explained that when a site is determined to be a "potentially impacted property" the LPE or LPG will compare the analytical results of soil testing with MAC values. Exh. 4 at 16. Averaging of soil analytical results is not allowed. Exh. 4 at 19.

Thomas C. Hornshaw (Exh. 22)

Dr. Hornshaw is the manager of the Toxicity Assessment Unit at IEPA, and his duties include development and use of procedures for toxicity and risk assessments, review of toxicology and hazard information in support of IEPA's programs and critical review of risk assessments provided to IEPA. Exh. 22 at 1. Dr. Hornshaw provided an explanation for the amendments proposed in the *errata* (Exh. 7) sheet. The following sections will summarize Dr. Hornshaw's testimony on each section.

Section 1100.104

IEPA is updating incorporations by reference to ensure that the most up-to-date version is incorporated. Exh. 22 at 2. Dr. Hornshaw explained that while the test method SW-846 is used in TACO rules and the current version of TACO rules do not include the most up-to-date incorporations, amendments pending before the Board will update the incorporations. Exh. 22 at 2-3; *see also* Tiered Approach to Corrective Action Objectives (TACO) (Indoor Inhalation): Amendments to 35 Ill. Adm. Code 742, R11-9.

Section 1100.212

Dr. Hornshaw testified that IEPA is revising the introductory language and adding language to prohibit compositing of paint samples for analysis to demonstrate compliance with the metals content for painted CCDD. Exh. 22 at 2-3.

Section 1100.600

Dr. Hornshaw indicated that this change will correct an erroneous statutory citation.

Section 1100.605

Dr. Hornshaw noted that the provisions of TACO rules referenced in the original proposal needs to be clarified. Exh. 22 at 3. As included in IEPA's proposal at subsection (b)(5), the reference to the TACO regulations at 35 Ill. Adm. Code 742.215 is too broad. *Id*. Dr. Hornshaw testified that Sections 742.215(b)(1) through (b)(3) require interaction with IEPA and as the CCDD rules are self-implementing there will not be the same interaction. *Id*. Therefore, IEPA proposes specifying that subsections (b)(1) and (b)(1)(A) are applicable. *Id*. Dr. Hornshaw opined that Section 742.215(b)(1) offers a uniform, self-implementing alternative consistent with IEPA's proposal and subsection (b)(1)(A) "employs two default f_{oc} values. *Id*.

Section 1100.610

In this section, Dr. Hornshaw explained that IEPA is deleting the word "ionizing" in subsection (b)(1) and adding additional statutory language in subsection (c). Exh. 22 at 4. Also in subsection (c), IEPA clarifies that when modified or alternative analytical methods are used, a demonstration of compliance with MACs using modified or alternative methods is acceptable as a basis for LPE or LPG certification. Exh. 22 at 4-5. Dr. Hornshaw testifies that another revision in subsection (c) prohibits soil sample compositing when demonstrating compliance with MACs. Exh. 22 at 5.

James E. Huff (Exh. 10)

Mr. Huff is the Senior Vice President of Huff & Huff, Inc., and he actively participated in reviewing and preparing comments on IEPA's earlier draft regulations on behalf of the Illinois Society of Professional Engineers and also for the Illinois Road and Transportation Builders Association. Exh. 10 at 1. He has since been retained by Illinois Tollway, Kane County Division of Transportation, Lake County Division of Transportation, DuPage County Division of Transportation, Will County Department of Highways, the Cities of Geneva and St. Charles, and the Villages of Hinsdale, Libertyville, New Lenox, Woodridge and Villa Park to review the proposed CCDD regulations and offer comments. *Id*.; 10/25/11 Tr. at 12. Mr. Huff stated that the transportation sector in Northeast Illinois manages over $2 billion dollars per year in construction work and encounters CCDD issues on a significant number of projects. Exh. 10 at 2.

Mr. Huff testified that P.A. 96-1416 amended the Act to increase the oversight of management of CCDD facilities and to add uncontaminated soil fill operations. Exh. 10 at 2. While waiting for the proposal of these rules, CCDD facilities began implementing a program to be consistent with P.A. 96-1416. *Id*. Mr. Huff testified that these policies increased the costs to taxpayers of Illinois for all public work projects. Mr. Huff stated that "[o]ne would assume the motivation" behind the amendment to the Act was that CCDD facilities were impacting the environment and that IEPA would have a list of facilities where issues have been identified. *Id*.

However, IEPA "failed" to identify what issues have actually occurred with groundwater. Exh. 10 at 3. Mr. Huff asked what level of regulation is necessary to protect groundwater and is there a problem. Exh. 10 at 3.

Mr. Huff testified that Illinois has two different programs for addressing sites that impact groundwater. Exh. 10 at 3. The first is under the Board's TACO rules, which allows for the placement of a restriction on the use of groundwater. *Id*., *see also* 35 Ill. Adm. Code 742. Mr. Huff noted that the City of Chicago has a groundwater use ordinance. *Id*. The second way to address groundwater impacts is the nondegradation provisions of the Board's groundwater regulations. *Id*., *see also* 35 Ill. Adm. Code 620. Mr. Huff testified that IEPA has interpreted the nondegradation provisions to mean no increase of any contaminant. Exh. 10 at 3-4.

Mr. Huff opined that the Board's decision can either accept IEPA's approach or apply TACO to CCDD facilities and uncontaminated soil fill operations. Exh. 10 at 4. Mr. Huff offered that IEPA's approach is more conservative; however the economic implications are very different. Mr. Huff testified that the nondegradation provisions could result in groundwater objectives far below the Class I standards and would be very costly. Exh. 10 at 13.

Mr. Huff provided data from a site in Kane County where a CCDD facility had existed from 1972 through 1989. Exh. 10 at 4. Kane County acquired the site because of highway improvements, and Kane County closed the site. *Id*. The site had 34 private residential wells within a quarter of a mile of the inactive facility and each of those wells was tested. *Id*. Mr. Huff testified that the results of extensive testing indicated that the private wells achieved the Class I groundwater standards. Exh. 10 at 6. Mr. Huff further testified that there is no indication that CCDD operations are causing exceedences of Class I groundwater standards. *Id*.

Mr. Huff testified that under the Board's TACO regulations there are three exposure pathways that soil contaminant levels are compared against: ingestion, inhalation, and soil-migration to groundwater. Exh. 10 at 7. Mr. Huff stated that ingestion and inhalation remedial objectives are not relevant below the water table, but will be relevant as the quarries reach the upper ten feet of fill. *Id*.

Mr. Huff expressed confusion regarding the role of analytical testing versus field screening with a photo-ionization detector (PID). Exh. 10 at 7. Mr. Huff testified that the problem is relying on field screening and setting a standard for acceptance based on background levels. Exh. 10 at 8. Mr. Huff opined that humidity can result in false positives, as can rich soils. *Id*. Mr. Huff suggested that a specific mechanism for rejected loads be included in the rule, which could include the ability to retest. *Id*.

Mr. Huff expressed concern over the definition of "other excavation" and painted CCDD. With "other excavation" Mr. Huff suggested that filling natural depressions be specifically excluded from the definition. Exh. 10 at 9. With painted CCDD, Mr. Huff noted that it is not clear how much paint is necessary for the material to be "painted CCDD" and the sampling protocol is contrary to sampling protocols for characterizing waste under TACO. Exh. 10 at 10.

Mr. Huff takes issue with IEPA's proposed pH dependant values. Exh. 10 at 11. Mr. Huff testified that the lack of organics at a CCDD facility means there would be no reason to encounter lower pH values and the presence of concrete would raise pH. *Id*. Mr. Huff testified that the Board must consider the impact of using IEPA's proposed pH levels as this conservative approach could lead to MAC levels that would be too high. Exh. 10 at 12. Mr. Huff stated that in 40 years of practice he has never encountered a soil pH in Illinois at the levels proposed by IEPA. *Id*.

Mark Krumenacher (Exh. 11)

Mr. Krumenacher testified that he has 24 years of experience serving as a principal, senior project manager, and project hydrogeologist in 28 states, Canada, Mexico, and South America. Exh. 11 at 2. Mr. Krumenacher stated that LPGs in Illinois have been directly involved in planning, execution, and management of the characterization and final disposition of contaminated soil and other materials for decades. Exh. 11 at 3. Mr. Krumenacher opines that "it is both appropriate and applicable to incorporate" references to LPGs in Sections 1100.205, 1100.212, 1100.412, 1100.525, 1100.530 and 1100.710. *Id*. Mr. Krumenacher offered four justifications for the inclusion of LPGs in the rule.

The first justification is the specific language of the Professional Geologist Licensing Act (225 ILCS 745/1 *et. seq.* (2010)). Exh. 11 at 4. Mr. Krumenacher stated that pursuant to the Professional Geologist Licensing Act, LPGs are qualified based on education, demonstrated work history and rigorous licensing requirements. *Id*. Mr. Krumenacher testified that LPGs have demonstrated the capability of practicing the science of geology and that science includes all surface and underground waters, gases and other materials. Exh. 11 at 5. Thus, Mr. Krumenacher opines that the Professional Geologist Licensing Act is justification for inclusion of LPGs in the rule. *Id*.

Mr. Krumenacher testified that the second justification for inclusion of LPGs is the educational curriculum of a professional geologist. Exh. 11 at 6. Mr. Krumenacher stated that candidates for a license in Illinois must demonstrate that they have completed a curriculum and received a degree that qualifies the geologist to be licensed in Illinois. *Id*. The required curriculum includes specific courses in geology and environmental science necessary to characterize subsurface soils, groundwater geology, and geochemistry. *Id*. Mr. Krumenacher opines that the provisions of IEPA's proposal are closely parallel to the "unique education and experience" of a LPG. *Id*.

The third justification Mr. Krumenacher cites is the requirements of both the National Association of State Board of Geology and the Illinois Department of Financial and Professional Regulation that require a degree in geology, four years of professional experience, and the passing of a written test. Exh. 11 at 7. Mr. Krumenacher testified that the written test is a rigorous test of a candidate's knowledge, and the test is developed by experts. *Id*. Specific areas tested include the candidates' knowledge base of hydrogeology as well as landform analysis, weathering, and groundwater and surface water. *Id*. Mr. Krumenacher states that by meeting the requirements and passing the exam, the Illinois Department of Financial and Professional Regulation considers the areas of professional practice of a LPG to include planning and

conducting hydrogeological, geochemical and environmental investigations as well as designing and interpreting data from hydrologic testing programs. Exh. 11 at 9. Mr. Krumenacher testified that IEPA's proposed rule includes areas that are consistent with and parallel to the professional practices followed by a LPG and as such LPGs should be included in the rule. Exh. 11 at 10.

The fourth justification Mr. Krumenacher offered is the historic role of professional geologists. Exh. 11 at 11. Mr. Krumenacher testified that the United States Geological Survey (USGS) was established in 1879 and pioneered hydrologic techniques for gauging the discharge in rivers and streams and modeling the flow of complex groundwater systems. *Id*. Mr. Krumenacher stated that water is just one of six science mission areas of the USGS, and USGS is on the forefront of devising new techniques to solve practical problems in the study of groundwater resources. *Id*.

In Illinois, the Illinois State Geological Survey (ISGS) was organized by statue in 1905 and continues to conduct basic and applied research on the geology and geochemistry of the State and the State's mineral resources. Exh. 11 at 11. Further, Mr. Krumenacher testified that the ISGS is staffed by LPGs and has promoted responsible development and use of the State's resources. ISGS can often help identify where groundwater is likely to be found and can provide information on water availability. Exh. 11 at 12.

Mr. Krumenacher detailed the sections where an LPG should be added to the rules. Exh. 11 at 13-16. Mr. Krumenacher pointed out that in Section 1100.205(a)(1) the LPG is included but in other subsections LPGs are not, and for consistency LPGs should be included. Exh. 11 at 13. Mr. Krumenacher noted that Section 1100.212(a)(1)(B) also includes LPG certification, but not in the following subsections. Exh. 11 at 13-14.

In Section 1100.412(b)(1)(B) and (c)(1), Mr. Krumenacher states that LPGs should be included as a LPG can evaluate a closure plan and the implementation of the plan. Exh. 11 at 14. Likewise with Sections 1100.525 and 1100.530, Mr. Krumenacher opines that the activities are within the LPGs education, experience, professionalism, and licensure, and thus LPGs should be added to the rule. Exh. 11 at 15.

Mr. Krumenacher testified that LPGs should be added to the provisions of the proposal addressing groundwater monitoring. Exh. 11 at 15. Mr. Krumenacher opined that almost every section in Subpart G "closely parallels the unique education and experience" of LPGs. *Id*.

John Hock (Exh. 12)

Mr. Hock is the Vice President of Civil & Environmental Consultants, Inc. (CEC), which provides consulting services in five areas: environmental science and engineering, civil and site development engineering, ecological sciences, waste management, and water resources. Exh. 12 at 1. Mr. Hock testified that CEC has been assisting the Illinois Association of Aggregate Producers (IAAP) with the review of IEPA's proposal. Exh. 12 at 2. Mr. Hock provided testimony in three areas: 1) applicability of groundwater monitoring, 2) the parameters to be monitored with groundwater monitoring, and 3) the MACs for parameters with pH specific soil remediation objectives. *Id*.

Applicability of Groundwater Monitoring

Mr. Hock testified that CEC performed investigations or reviewed data from investigations at multiple CCDD fill sites. Exh. 12 at 3. Mr. Hock stated that the investigations included:

1. Advancing borings at multiple locations through the fill depth;

2. Sampling of each boring at pre-determined intervals;

3. Visual screening of each sample from each boring for evidence of impacts;

4. Field screening of each sample from each boring for evidence of Volatile Organic Compound (VOC) contamination;

5. Analysis of one sample from each borehole exhibiting the highest levels of contamination (based on the field screening) for parameters listed in 35 Ill. Adm. Code 742. *Id*.

The CCDD sampled at those sites was predominantly filled prior to the current pre-screening requirements. *Id*.

Mr. Hock testified that in summary 44 samples from 44 borings were reviewed and analyzed by "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846. Exh. 12 at 3. Mr. Hock stated that the results indicate that CCDD facilities should not contain significant quantities of fill that contain concentrations of contaminants greater than MACs, except for PNAs and metals. Exh. 12 at 5. Mr. Hock further stated that the metal concentrations were "nearly all below the respective neutral range pH specific soil remediation objective." *Id*. Mr. Hock opined that based on this information groundwater monitoring should not be required. *Id*. At hearing Mr. Hock testified that the three sites from which the 44 samples were taken are in Northern Illinois. 10/25/11 Tr. at 38-39. Mr. Hock does believe that the data set is reasonably representative of material taken into CCDD facilities. *Id*. at 47.

Mr. Hock also testified that CEC surveyed other states adjacent to Illinois and in the Midwest and found that none of the states required groundwater monitoring at CCDD or similar sites. Exh. 12 at 5.

Parameters to be Monitored With Groundwater Monitoring

Mr. Hock testified that determining whether concentrations in groundwater are caused by a CCDD fill site is an involved process. Exh. 12 at 5. Mr. Hock stated that the following circumstances must all occur:

1. The constituent must be present in the source facility in a significantly higher concentration than the concentration in the groundwater;

2. The groundwater must exhibit persistent concentrations of the constituent;

3. The constituents detected must be mobile in groundwater;

4. Impacted groundwater will normally consist of high concentrations of a suite of several constituents, including organic and inorganic compounds. Water quality parameters such as pH and specific conductance may also be significantly out of range of normal groundwater quality;

5. The groundwater well must be down gradient from the source facility. *Id*.

Mr. Hock listed additional factors which must be examined to determine that the CCDD facility is the source of contamination. Exh. 12 at 6. For example, exceedences of pre-established values are statistically expected, and some common constituents of CCDD sites also occur naturally in groundwater. *Id*.

Mr. Hock testified that the cost of monitoring for all parameters set forth in the Class I groundwater regulations at 35 Ill. Adm. Code 620.410 could be over $3,000 for each time the wells are sampled. Exh. 12 at 6. Mr. Hock also testified that some of those parameters are not even required to be monitored at municipal solid waste landfills. *Id*. Based on this, Mr. Hock opines that monitoring for the entire list of parameters in Section 620.410 is overly burdensome and provides little additional value. Exh. 12 at 7.

MACs for Parameter With pH Specific Soil Remediation Objectives

Mr. Hock testified that basing MACs upon low pH specific soil remediation objectives is not appropriate. Exh. 12 at 7. Mr. Hock pointed to the evidence gathered by CEC that indicates CCDD facilities' pH will typically range above 7.3. *Id*. Furthermore, First Environmental Laboratories, Inc., which provided estimates on groundwater monitoring for Mr. Hock's testimony, provided data from 8,500 samples. *Id*. According to Mr. Hock, that data showed that over 97.6 % of the samples had a pH of 6.25 or greater. Mr. Hock recommended that establishing a MAC for pH of 6.25 or greater is more appropriate. *Id*.

Randi Wille (Exh. 13)

Mr. Wille is the Manager of Environmental and Land Services for Meyer Material Company in Des Plaines. Exh. 13 at 1. Meyer Material operates a number of ready-mix concrete plants and aggregate mining operation in Northeast Illinois. *Id*. Mr. Meyer served as chair of the IAAP Environmental Committee from 2000-2006 and helped to draft "Best Management Practices" for accepting clean construction and demolition debris. *Id*. Mr. Wille strongly opposes any added regulation that would erode industry's ability to import CCDD and clean soil fill in a cost-effective manner. *Id*.

Mr. Wille testified that over the last 10 years industry has worked with IEPA by providing voluntary site registration, hosting technical training session and providing input to IEPA about best management practices. Exh. 13 at 2. Mr. Wille opined that the relationship has changed and companies have had to close facilities. *Id.*

Mr. Wille stated that the clean soil fill business has slowed down since 2005 and Meyer Material closed a facility because of the added regulatory burden. Exh. 13 at 2. Mr. Wille testified that in light of the new legislation and these proposed rules a second facility also closed. *Id*. Mr. Wille offered that Meyer Material is a small gravel mining company with a good environmental record that has been forced to exit the business of fill operations, abandoning operations that would have restored land. *Id*. Mr. Wille believes the screening process in place without the proposed rules is sufficient. *Id*.

David G. Pyles (Exh. 14)

Mr. Pyles offered testimony on behalf of the American Institute of Professional Geologists, Illinois-Indiana Section. Exh. 14 at 1. Mr. Pyles testified that geologists were included by the legislature in P.A. 97-137 along with engineers. Mr. Pyles opined that those changes were not reflected in the proposed rules. *Id*. Mr. Pyles stated that design of groundwater monitoring plans requires knowledge of the subsurface and a grasp of the elements of groundwater which are common and routine tasks performed by geologists. *Id*. Mr. Pyles argued that LPGs should be added to Sections 1100.205, 1100.212, 1100.412, 1100.525, 1100.530 and Subpart G. *Id*.

Mr. Pyles testified that the task of groundwater monitoring is "a critical element of the practice of geology." Exh. 14 at 2. Mr. Pyles noted that IEPA allows for LPGs to sign off on Corrective Action Completion reports in the leaking underground storage tank program, and IEPA recognizes a LPGs expertise in the in the remediation program. *Id*. Mr. Pyles notes the standard curriculum for geologists and the references to groundwater in the Professional Geologist Licensing Act (225 ILCS 745/1 *et. seq.* (2010)). Exh. 14 at 2. Mr. Pyles opined that requirements in the proposed rule are consistent with professional practice of geologists and asked that the Board amend the proposal to include LPGs. Exh. 14 at 3.

Gregory W. Wilcox (Exh. 15)

Mr. Wilcox provided testimony on behalf of the Land Reclamation & Recycling Association (LRRA). Exh. 15 at 1. Mr. Wilcox opined that the legislative intent in adopting P.A. 96-1416 was to protect groundwater resources and the safety of human health within the State. Exh. 15 at 2. Mr. Wilcox pointed out that the Act specifically states that when adopting MACs for contaminants that may be present in uncontaminated soil, the exposure rate to carcinogens must not exceed 1 in 1,000,000. *Id*., citing 415 ILCS 5/3.160(c)(1). Mr. Wilcox opined that the MAC values proposed by IEPA exceed the requirements and the values "greatly exceed the 1 in 1,000,000 cancer risk." Exh. 15 at 3.

Mr. Wilcox stated that IEPA's use of TACO's residential ingestion and inhalation pathways to establish MACs is inappropriate and the TACO pathways that should have been

used are the inhalation and ingestion pathway for construction workers and groundwater. Exh. 15 at 3. Mr. Wilcox testified that IEPA's proposed MAC standard for Iron and Manganese represents the background concentrations for compounds, "which are found only in certain areas of Illinois." *Id*. Mr. Wilcox stated that LRRA believes that the proposed standards are arbitrary and do not meet the 1 in 1,000,000 risk to human health. *Id*.

Mr. Wilcox and LRRA also take issue with the pH value IEPA has proposed, believing that the conservative assumption is unnecessary and overly restrictive. Exh. 15 at 3. Mr. Wilcox testified that IEPA's proposed pH value assumes that the soil being disposed of will be either very acidic or very basic. *Id*. Mr. Wilcox stated that the LRRA suggests using the MAC values for inorganics listed in Section 742.Appencix A, Table C. *Id*.

Mr. Wilcox testified that IEPA's proposed definition of "potentially impacted property" is contrary to the legislative intent. Exh. 15 at 4. Mr. Wilcox stated that LRRA has not experienced confusion over the legislature's term "industrial/commercial" and that is the term that should be used in the rules. *Id*. Mr. Wilcox opined that the legislature intended the term "industrial/commercial" to be used as the term is recognized throughout the State. *Id*. Mr. Wilcox further opined that the legislature intended to exclude properties with a low potential for contamination from the expense of hiring a LPE or LPG for certifications. *Id*. Mr. Wilcox noted that CCDD and fill sites will still be required to perform screening and provide information on the historical use of the property when using IEPA's form 662 (Exh. 5). *Id*. Mr. Wilcox testified that LRRA believes IEPA lacks the authority to remove the term "industrial/commercial" and the term should be used and "potentially impacted property" be deleted. *Id*.

Mr. Wilcox testified that IEPA has proposed a groundwater monitoring program "based on the premise that CCDD operations and clean soil only sites may, despite the screening safeguards . . . accept material that could negatively impact local groundwater." Exh. 15 at 4. Mr. Wilcox noted that the only data IEPA relied upon is from a fill site where the site accepted materials that would not be acceptable at a CCDD facility or a clean soil fill. *Id*. Mr. Wilcox stated that LRRA does not believe that IEPA proposal for groundwater monitoring is supported. Exh. 15 at 5.

William G. Dixon, Jr. (Exh. 16)

Mr. Dixon is retired from the ISGS and is employed part-time by Practical Environmental Consultants, Inc.. Exh. 16 at 1. Mr. Dixon provided testimony on behalf of the North Central Section of the Association of Environmental Engineering Geologists (AEG-NC). *Id*. Mr. Dixon testified that several sections of the Act were amended to include LPGs in addition to LPEs and the regulations proposed by IEPA do not reflect those changes. *Id*. Mr. Dixon opined that the regulations should be amended because:

1. Many geologists are trained to sample, analyze and describe earth materials;

2. Many geologists are trained to characterize the geologic conditions at various sites;

3. Many geologists are trained to determine hydrogeologic conditions at sites by planning monitoring well programs and selecting appropriate locations from which groundwater samples can be obtained for analysis and interpretation;

4. Many geologists are trained to determine environmental quality at sites observing existing conditions and sampling and testing for impacts to the natural environment. Exh. 16 at 1-2.

Kenneth Liss (Exh. 17)

Mr. Liss is the Vice President of Operations for Andrews Engineering, Inc. and testified on behalf of Waste Management of Illinois. Exh. 17 at 1. Mr. Liss testified that he began his career with IEPA and noted that Illinois was a leader in the environmental field. Exh. 17 at 2. Mr. Liss stated that the proposal before the Board appears to be a step backward, especially with groundwater protection. *Id*. Mr. Liss offered that IEPA's proposal takes a "hands off approach" and the proposed regulations for soil fill sites are ineffective. *Id*. Specifically, Mr. Liss testified that there is no evaluation of the appropriateness of a fill site, the operational procedures are subjective, the operator self-certified, and no permit process is in place. Exh. 17 at 2-3. Mr. Liss opined that what was once considered contaminated soil may now be classified as "uncontaminated soil" and deposited directly into the floor of an old quarry or mine without considering the impact on the underlying aquifer. Exh. 17 at 3.

Mr. Liss agreed with IEPA that groundwater monitoring was essential and noted that in addition to proximity to wells, many CCDD fill operations are located in proximity to sensitive ecological areas. Exh. 17 at 2. Mr. Liss opined that CCDD and other fill operations, that will be allowed to accept "redefined" soil as uncontaminated, are generally located in areas that provide no natural protection of the underlying aquifers. *Id*. These areas will be highly susceptible to groundwater contamination. *Id*. At hearing Mr. Liss testified that he had no supporting data on the impacts from CCDD operations to groundwater. 10/25/11 Tr. at 115.

Mr. Liss opined that requiring the source site owner to certify the soil is uncontaminated is an important deterrent to improper disposal, and the proposed rules are not sufficient. Exh. 17 at 4. Further, Mr. Liss stated the required use of a PID by the CCDD or soil fill owner or operator is inadequate protection as there is no standard protocol for its use. *Id*. Furthermore, Mr. Liss noted that the use of a PID will not detect all potential contaminants. *Id*.

Mr. Liss offered that P.A. 96-1416 created a new class of soil materials which he refers to as "tainted soils". Exh. 17 at 4. Mr. Liss stated that the Act allows disposal at fill operations of these tainted soils which were previously considered waste. *Id*. Mr. Liss provided an example stating that soil contaminated with "background" levels of benzo(a)pyrene removed in connection with a brownfield clean-up site could now be removed and placed in a fill operation. *Id*. Mr. Liss opined that this is a significant change to past practices and creates new groundwater contamination risks. *Id*. Mr. Liss suggested that the status quo has changed and the Act will allow tainted soils containing carcinogens to be deposited into unlined quarries located in or on aquifers. Exh. 17 at 5.

Mr. Liss testified that without site location standards or engineered controls groundwater protection at the quarry or other fill area is non-existent. Exh. 17 at 6. Furthermore, there is no financial assurance to ensure funds are available to remediate the sites. *Id*. Mr. Liss agreed with IEPA's proposal to require groundwater monitoring but does not believe the proposal is stringent enough. *Id*. Mr. Liss noted that an operator can self-certify that there was an error or aberration in the monitoring. *Id*.

Steven Gobelman (Exh. 18)

Mr. Gobelman is a Geologic and Waste Assessment Specialist with the Bureau of Design and Environment with IDOT. Exh. 18 at 1. Mr. Gobelman testified that IDOT was proposing an amendment to the proposal that would allow broken concrete, asphalt pavement and other roadway CCDD with pavement markings be allowed to be utilized as fill material. *Id*. Mr. Gobelman stated that IDOT's amendment would require that the pavement markings comply with IDOT specifications and be accompanied by a LPE certification. *Id*.

Mr. Gobelman testified that as a part of normal construction projects, IDOT removes concrete and asphalt pavement with markings that have typically been weathered by the elements or worn by traffic. Exh. 18 at 2. Mr. Gobelman stated that the amount of pavement marking is a *de minimis* quantity. *Id*. Mr. Gobelman further stated that IDOT's pavement markings are not the type of painted concrete IEPA is attempting to exclude from CCDD fill operations. *Id*.

Mr. Gobelman testified that IDOT completed a number of analytical tests, and the results demonstrated that IDOT's pavement markings do not exceed Class I groundwater standards. Exh. 18. at 2.

Ryan M. LaDieu (Exh. 19)

Mr. LaDieu is the president of True North Consultants, Inc. and has been involved with the evaluation and certification process of soils since the passage of P.A. 96-1416. Exh. 19 at 1. Mr. LaDieu noted that the proposed rule establishes MACs and that the P.A. 96-1416 mandated that the MACs be limited to the most stringent risk-based concentrations for five evaluated pathways: residential inhalation and ingestion, construction worker ingestion and inhalation, Class I groundwater ingestions exposure. *Id*. Mr. LaDieu testified that by using these values and calculations, IEPA determined the risk based on human exposure by consumption or inhalation. *Id*.

Mr. LaDieu stated that the residential ingestion and inhalation standards will exceed the 1 in 1,000,000 risk level at any deep quarry or mine. Exh. 19 at 2. Mr. LaDieu suggested that materials placed 20 feet below grade do not present a residential ingestion or inhalation pathway and could "theoretically" be excluded when performing a "true" risk assessment. *Id*. Mr. LaDieu recommended that the MACs be evaluated based on a "true" risk assessment. *Id*.

Claire Manning (Exh. 20)

Ms. Manning is an attorney with Brown, Hay & Stephens LLP and testified on behalf of the Public Building Commission of Chicago (PBC). Exh. 20 at 1. Ms. Manning's testimony was offered to supplement IEPA's statement of reason and to provide the Board with further background on the legislation. *Id*. Ms. Manning testified that the primary purpose of the legislation was to "provide a workable methodology and definition" for soils that can safely be deposited as fill at CCDD facilities. *Id*. Ms. Manning stated that the lack of definition of "uncontaminated soil" has been an issue since the first regulations were adopted for CCDD facilities. *Id*. Ms. Manning pointed to the comments of Vulcan Materials (PC 14) which detailed the problems with the definition of "uncontaminated soils" in this proposal. Exh. 20 at 2.

Ms. Manning testified that the Board must ensure that any rule adopted is workable. Exh. 20 at 2. Further, Ms. Manning stated that the Board must meet three goals: 1) environmental protection, 2) wise and responsible use of taxpayer dollars, and 3) contractor compliance. *Id*.

Testimony and Comments Regarding DCEO's Not Performing an EcIS

James E. Huff

Mr. Huff testified that if the rules are adopted materials will be trucked out of Illinois or placed in landfills here. 10/26/11 Tr. at 77. This is not very sustainable, and the costs of transportation in Illinois will increase. *Id*. From an economic perspective, Mr. Huff is confident that a high percentage of CCDD facilities will go out of business. *Id*. at 78. Mr. Huff is concerned that this will be an incredible economic burden and is disappointed that an economic impact analysis was not conducted by DCEO. *Id*.

Claire Manning

Ms. Manning testified that someone needs to look at the economics of the proposal. 10/26/11 Tr. at 79. Ms. Manning is concerned that the Board needs to make a good decision with more flexibility than proposed by IEPA. *Id*. Ms. Manning stated that as the rule is proposed, there are real economic issues and DCEO would be a good source for an economic analysis. *Id*. at 80.

John Henricksen

Mr. Henricksen spoke on behalf of the IAAP and echoed the comments of Mr. Huff and Ms. Manning. 10/26/11 Tr. at 80-81. Mr. Henricksen testified that his members have been handling clean soil and CCDD for many years and have partnered with IEPA to establish best management practices. *Id*. at 81. Mr. Henricksen testified that the industry wants to accept these materials and do so in a way that protects the environment and human health. *Id*. at 83. The industry believes the proposal is highly inappropriate, and that the increased costs will force many in the industry to close down. *Id*. at 83-84. Mr. Henricksen stated that he was disappointed that DCEO did not provide an EcIS. *Id*. at 86.

Dennis Wilt

Mr. Wilt commented on behalf of Waste Management of Illinois, that an economic study was not necessary as the record lacks information. 10/26/11 at 87

SUMMARY OF PUBLIC COMMENTS

The Board has received 20 public comments. The comments are from:

Pat Metz (PC 1)
Kevin S. Richards (PC 2)
Jennifer B. Bauer (PC 3)
Duane T. Kreuger (PC 4)
Michael J. Sturino (PC 5)
Dean Olson (PC 6) and (PC 12)
Michael Stanczak (PC 7)
Waste Management of Illinois, Inc. (PC 8)
IEPA (PC 9)
Citizens Against Ruining the Environment (PC 10)
James E. Huff (PC 11)
City of Springfield (PC 13)
Vulcan Materials Company (PC 14)
People of the State of Illinois (People) (PC 15)
City of Chicago (PC 16)
Land Reclamation & Recycling Association (PC 17)
Illinois Environmental Council (PC 18)
Michael Rapps (PC 19)
Public Building Commission of Chicago (PC 20)

The Board will summarize each comment below.

Pat Metz (PC 1)

Mr. Metz is an employee of City Water, Light and Power (CWLP) for the City of Springfield. PC 1 at 1. Mr. Metz considers the new law to have detrimental impacts, but he supports the use of the term "potentially impacted properties". *Id*. Mr. Metz comments that P.A. 96-1416 "immediately caused" CWLP to implement a practice that was contrary to the principle of reduce, reuse, and recycle. *Id*. Mr. Metz indicates that prior to adoption of the new legislation, CWLP disposed of excavated material in a local quarry but due to the interpretation of terms in the new legislation, CWLP has disposed of materials in a landfill. *Id*. This was at a much greater expense and is taking up limited landfill space. Mr. Metz stated that since IEPA's interpretation of "commercial/industrial" included streets, and to analyze the material excavated would cost over $1,000 per location taking at least a week, CWLP disposed of the materials at the landfill.

Mr. Metz supports the addition of the term "potentially impacted properties" this would allow CWLP "to use common sense" in deciding whether or not materials can be taken to the local quarry. PC 1 at 2.

Kevin S. Richards (PC 2)

Dr. Richards represents the Association of Environmental and Engineering Geologists, North Central Section and expresses concerns about the groundwater monitoring provisions. PC 2 at 1. Dr. Richards comments that a LPG should be involved in certifying that a groundwater monitoring plan is suitable. *Id*. Dr. Richards endorses IEPA's short term monitoring and notes that a short postclosure period will protect the public and the operators of the facilities. PC 2 at 2.

Jennifer B. Bauer (PC 3)

Ms. Bauer comments on behalf of Association of Environmental and Engineering Geologists and notes that as proposed the rule fails to recognize the need for a geologist in the monitoring of CCDD materials. PC 3. Ms. Bauer states that of particular concern is the need for someone with a background in geology to assess a proper monitoring plan. *Id*.

Duane T. Kreuger (PC 4)

Mr. Kreuger is the Environmental Group Manager with Geotechnology, Inc and a past president of the Association of Environmental and Engineering Geologists. PC 4 at 1. Mr. Kreuger supports the proposed amendments but asks that LPGs be given similar supervisory authority as LPEs regarding the design of groundwater monitoring systems and programs. *Id*. Mr. Kreuger comments that LPGs are equally qualified to design and supervise groundwater programs. PC 4 at 2.

Michael J. Sturino (PC 5)

Mr. Sturino comments on behalf of the Illinois Road and Transportation Builders Association (IRTBA), which created a task force to review the proposed rule. PC 5 at 1. As a result of this task force IRTBA commends IEPA and specifically supports certain amendments. *Id*. IRTBA supports the use of background levels as the basis for the MACs and the addition of LPGs as qualified and competent persons to evaluate where a site contains contaminated material. *Id*. IRTBA also supports the addition of the term "potentially impacted properties" and the ability to re-test rejected loads. *Id*. IRTBA also supports the exemption for IDOT, but is concerned that the rules do not require classification of the soil prior to bidding on a project. PC 5 at 2.

Dean Olson (PC 6) and (PC 12)

Mr. Olson comments on behalf of Will County Land Use Department, Resource Recovery Division (Will County). Mr. Olson comments that Will County has 11 CCDD or uncontaminated soil fill operations, with nine being active. PC 6 at 1. Also a majority of Will

County uses groundwater for drinking water and other domestic uses. *Id*. Will County has several areas of concern.

Mr. Olson states that there are still areas of concern in the rules with the National Pollutant Discharge Elimination System (NPDES) permits. PC 6 at 1. Mr. Olson notes that there is a significant amount of water being discharged that comes into contact with the fill. Mr. Olson suggests that the monitoring program must include monitoring for parameters that would be reflective of the material deposited at the site. PC 6 at 2.

Mr. Olson notes that the proposal does not include a requirement that the CCDD fill operations provide proof of compliance with local zoning. PC 6 at 2. Such notification would prevent operators from commencing or continuing to operate that are not in compliance with zoning. *Id*. Mr. Olson also comments that financial assurance would provide a tool for ensuring proper closure of the site. *Id*.

With groundwater monitoring, Will County believes it should be performed on a quarterly basis and the self-implementing provisions are insufficient. PC 6 at 2. Mr. Olson suggests amending the definition of compliance boundary for facilities that are dewatering. *Id*.

Mr. Olson also suggests adding a new definition for "land reclamation" and that soil fill operations be required to do more than just register the site. PC 6 at 3.

Will County's additional comment expresses concern about the lack of regulation for sites that are filling in a hillside with CCDD. PC 12 at 1. Mr. Olson comments that these sites impact the environment just like a fill site, and these sites receive even more material. *Id*. Mr. Olson offers that a threshold might be created for these hillside fills and proposes adding language that if you accept more than 500 cubic yard of CCDD, the site would be subject to the regulations. PC 12 at 2.

Michael Stanczak (PC 7)

Mr. Stanczak is the Vice President of the North Region Materials Midwest for Lehigh Hanson (Lehigh Hanson). They currently operate clean soil facilities and believe that the current proposal goes in the wrong direction. PC 7 at 1. Mr. Stanczak comments that the perfect home for CCDD is a mined out quarry as this lessens the stress on landfills and redevelops the quarry. *Id*. One problem with this rule is the groundwater monitoring requirements, as many of Lehigh Hanson's facilities are in urban industrial areas and contamination is already above the proposed limits. *Id*. Mr. Stanczak comments that based on a laboratory quote analyzing for the entire Class I list will cost $2,996 per sample with and additional cost of $820 to test for the four radionuclides. *Id*. These costs are over burdensome and if the rules are not changed, Lehigh Hansom will "more than likely" cease operations. PC 7 at 2.

Waste Management of Illinois, Inc. (WMI) (PC 8)

Waste Management urges the Board to adopt IEPA's proposal with enhanced groundwater monitoring requirements. PC 8 at 1. WMI also proposes changes pertaining to

financial assurance, soil sampling, and generator certification. WMI states that CCDD and soil fill operations are located in vulnerable geologic settings that are susceptible to groundwater contamination. *Id.* at 1-2 citing Exh. 17. WMI contends that "front-end" screening will not likely prevent waste material from being disposed of at CCDD or soil fill operations. Additionally, WMI maintains that large quantities of soil considered to be uncontaminated under the proposed rules will be placed in CCDD or soil fill operations. *Id.* at 2-3.

Instead of the proposed self-implementing provisions, WMI recommends that the Board require groundwater monitoring plans for CCDD or soil fill operations to be pre-approved by IEPA as a part of the permitting process. *Id.* at 3-4. Further, WMI argues that the groundwater monitoring requirements should be at least as stringent as the requirements applicable to the Board's nonhazardous waste landfill rules under 35 Ill. Adm. Code 811.315-316 and 811.318-319. Regarding the applicable groundwater quality standards, WMI contends that the CCDD and soil fill operations must be required to comply with the background groundwater quality rather than the Class I groundwater quality standard. WMI also recommends that the postclosure monitoring plan include a description of groundwater monitoring during postclosure, and that the postclosure maintenance period be increased to a minimum of 15 years. *Id.* at 4.

WMI recommends that the Board require CCDD and soil fill operations to provide financial assurance to ensure that owners or operators will conduct postclosure care monitoring. *Id.* WMI maintains that the rules should specify the requirements for a Professional Engineer's or Geologist's certification. Specifically, the engineer or geologist "must certify that the soil sampling plan has been designed to identify any contamination concentrations of the soil within the property, including any zones of high concentration that can be segregated for treatment and/or disposal. *Id.* at 5. Finally, WMI asserts that the rule Review of the Draft 2002 Subsurface Vapor Intrusion Guidances must require owners or operators of both CCDD and soil fill operations to obtain written certification from site owners or operators that the soil material is not waste under Illinois Law. *Id.*

IEPA (PC 9)

IEPA urges the Board to propose the rule as IEPA proposed the rule and as amended by the *errata* sheets. PC 9 at 1. IEPA in its final comment addresses the areas IEPA believes to be of concern. Those areas are:

1. The self-implementing aspects of the proposal;

2. The use of site specific risk based principles to develop MACs;

3. The pH values;

4. The compositing of samples and the averting of analytical results;

5. The role of LPGs;

6. The use of groundwater management zones;

7. The use and publication of the MAC table. PC 9 at 2.

Self-Implementing Aspects of the Proposal

IEPA is confident that the self-implementing procedures, including the groundwater monitoring provisions, are an effective final check that will ensure that the materials placed in fill operations do not adversely impact groundwater. PC 9 at 3. IEPA notes that other portions of the Board's rules contain similar self-implementing provisions. *Id*., citing 35 Ill. Adm. Code 615 and 815.

IEPA is proposing that the rules be self-implementing because of IEPA's resources limitations. PC 9 at 3. IEPA states that if IEPA was required to review and approve actions required by the proposal, IEPA's work load would more than double and require additional staff of 15 to 20 persons. *Id*.

IEPA does not believe that requiring IEPA's approval is necessary or that IEPA's failure to review actions required by the rule renders the rules defective. PC 9 at 4. IEPA comments that it has proposed conservative health-based MACs and multiple screening procedures to prevent placement of contaminated materials in fills. *Id*. The groundwater monitoring required by the proposal is a final check on the screening procedures and establishes steps for responding to exceedences. *Id*. Also, IEPA will rely on LPEs to supervise the design of groundwater monitoring systems and IEPA may, on a case-by-case basis, verify that information. *Id*. And IEPA will rely on field inspection of the facilities to verify compliance with the rules, planning at least two inspections at each facility annually. *Id*.

Use of Site Specific Risk Based Principles to Develop MACs

IEPA notes that some participants have suggested that it is more appropriate to use site-specific conditions to establish MACs rather than the current TACO Tier I soil remediation objective proposed by IEPA. PC 9 at 5. IEPA' s understanding of these suggestions is that certain human exposure pathways would be eliminated by rule or addressed by other controls and CCDD and soil only fill operations could accept soil with higher concentrations of contaminants. *Id*. IEPA is opposed to reliance on legal instruments and location specific measures because:

1. The underlying statutory requirements for MAC;

2. The rationale for the TACO rules and the differences between the remediation context and fill operation context; and

3. The impact site-specific standards for MACs would have on administration of and compliance with uncontaminated soil requirements. *Id*.

IEPA maintains that the statutory authority to develop MACs does not support the risk-based approach and reliance on factors external to the soil or fill operations to protect human

health and safety. PC 9 at 6. IEPA's proposal to develop MACs based on the conservative objectives from the Tier I soil remediation objectives is grounded in Section 3.160(c)(1) of the Act. IEPA opines that the plain language of the statute requires the soil concentration standards must be the concentrations of the contaminants in the soil. *Id*. IEPA further opines that the use of the phrase "uncontaminated soil" to describe the soil is further indication that the legislature intended a conservative approach. PC 9 at 7.

IEPA asserts that using the site-specific risk-based principles of TACO to allow for concentrations of contaminants above the most stringent Tier I soil remediation objectives is contrary to TACO. PC 9 at 7. IEPA states that the Tier I objectives were not developed as standards up to which properties may be contaminated, but rather as levels to be protective so that contaminated properties can be returned to productive uses. *Id*.

IEPA notes that TACO does allow for higher concentrations of contaminants above Tier I levels, but for soil to remain in place, additional controls are required. PC 9 at 8. IEPA comments that if the Board considers allowing site-specific conditions to develop MACs, then the Board must also consider additional technical or operational requirements from TACO. *Id*.

IEPA states that if deciding soil is uncontaminated based on site specific standards, then what is contaminated will differ from site to site. PC 9 at 10. IEPA argues that MACs depend on uniformity and site specific standards would require additional rules for site investigation, review and approval. *Id*. IEPA believes that such an approach would complicate compliance with Part 1100. *Id*.

pH values

IEPA comments that by pH sensitivity IEPA is referring to the effects of soil pH on leaching of certain inorganic and ionizing organic constituents and their migration to groundwater. PC 9 at 10. IEPA explains that the TACO Tier I soil remediation objectives are not simply raw numbers, and most are footnoted with additional considerations to be taken into account before using the values. *Id*. Under TACO, the soil objectives for the soil component of the Class I groundwater ingestion exposure route apply only when the soil pH at the remediation site is 6.8. PC 9 ay 11.

IEPA further explains that remediation sites have been subjected to extensive site investigations to define the nature and extent of the contamination and the sites are expected to remain stable. PC 9 at 11. By contrast fill operations are dynamic with additional loads of soil and materials originating from numerous sites and brought in day after day. *Id*. Also at fill operations, the relevant pH affecting constituent leachability is the site where the soil is generated, and not the fill site. *Id*. Therefore, IEPA determined that for pH sensitive constituents, TACO cannot be used in the same way for CCDD and soil fill operations. *Id*.

IEPA attempted to identify representative pH values for soils throughout the state and turned to the state soil geographic database (U.S. Department of Agriculture's State Soil Geographic (STATSGO)) because of the relatively large amount of statewide data. PC 9 at 12.

STATSGO data established that soils with a pH as low as 4.5 are found in Illinois and since soil can come from anywhere in the state, IEPA used that value for pH. PC 9 at 13-13.

IEPA points out that the testimony by participants that indicate the pH value is too low relied on data from limited locations. PC 9 at 13-16. Mr. Hock's testimony indicates that the 44 samples came from three facilities in northern Illinois. PC 9 at 13-14. Mr. Huff suggested using information from dewatering, but IEPA is concerned that not all water discharged will have encountered fill material. PC 9 at 15.

Compositing of Samples and the Averaging of Analytical Results

IEPA's proposal prohibits compositing of samples and averaging of results. PC 9 at 16. IEPA asserts that this position is supported by the statutory language at Section 3.160(c) of the Act that provides that uncontaminated soil must not pose a threat to human health, safety or the environment. *Id*. IEPA states that since it is unreasonable to sample and analyze every cubic yard of soil, IEPA has proposed that every sample must meet the MACs. *Id*. IEPA points out that if compositing was allowed, nine samples may be below MACs with one sample at ten times the MAC and on average this would meet MAC. *Id*. IEPA does not believe that even a single sample should exceed MAC. *Id*.

IEPA also opposes compositing and averaging because the rule utilizes the lowest TACO objectives when defining "uncontaminated soil", and some provisions of TACO also prohibit compositing and averaging. PC 9 at 17. IEPA notes that sample results for construction worker pathways cannot be composited or averaged. *Id*.

A third reason IEPA opposes compositing and averaging is that while compositing and averaging serve a valuable purpose in risk assessment, equal and uniform exposure cannot be assumed for soils placed in a CCDD operation of soil fill operation. PC 9 at 17-18.

Role of LPGs

IEPA indicates that in drafting the proposal, IEPA contacted the Illinois Department of Financial and Professional Responsibility seeking guidance on whether the activities to be certified fell within the expertise of the LPE and LPG. PC 9 at 18. IEPA did not include LPGs in areas where IEPA was uncertain about the extent of a geologist's duties under the Professional Geologist Act (225 ILCS 745 (2010)). *Id*. The areas where LPEs and LPGs are both included are situations where the IDFPR agreed both were appropriate. PC 9 at 18-19. However, IDFPR did not comment on whether LPGs should be added to other sections. PC9 at 19. IEPA does not object to inclusion of LPGs where appropriate under the Professional Geologist Act. *Id*.

Use of Groundwater Management Zones

IEPA states that the groundwater monitoring program is a final check for contamination screening. PC 9 at 19. IEPA comments that if corrective action is required, the use of groundwater management zones is appropriate. *Id*.

Use and Publication of the MAC Table

IEPA is proposing revisions to the MAC table to provide more specific information clarifying that there is no health concern at any level for calcium, phosphorus, potassium, and sodium. PC 9 at 20. The second revision calls attention to a second option for demonstrating compliance with the applicable MAC for certain constituents. *Id.*

IEPA states that the MAC table is a partial listing of numeric values for MACs resulting from the application of the methodology set forth in the rules. PC 9 at 21. The MAC table need not and should not be included in the rule because the MAC table is not a statement of general applicability implementing a statutory requirement. PC 9 at 21-22. Further, the MAC table is only partial manifestation of the methodology. PC 9 at 23. IEPA is performing the calculations and making them available to the public as a convenience, which is not sufficient to make the MAC table a rule. *Id.* IEPA points out that the methodology leaves no room for arbitrary actions by IEPA in calculating MACs. PC 9 at 24.

IEPA argues there are two benefits to IEPA's approach, the conservation of resources and more rapid implementation of revised MACs. PC 9 at 24. More specifically, this relieves the Board, IEPA, and regulated community from the need for periodic amendments to the rules. PC 9 at 25. This also will lead to a more rapid implementation of MACs revised by amendments to values in the TACO tables. *Id.*

Citizens Against Ruining the Environment (CARE) (PC 10)

CARE, a Will County based environmental organization representing members who live, work and recreate in Will County, filed comments expressing concern regarding IEPA's proposal. CARE notes that there are eleven CCDD and/or soil fill operations in Will County of which nine are active. PC 10 at 1 citing PC 6 at 1. CARE states that its primary concern relates to the cumulative impact of aggregated contaminated material in CCDD or soil fill operations on groundwater. CARE notes "even if no individual load of CCDD or soil exceeds contaminant thresholds, thousands of loads directed to a single location could cumulatively cause endangering conditions." PC 10 at 1.

CARE asserts that its concerns are consistent with the Section 22.51(f)(1) of the Act, which mandates the protection of groundwater and lists seventeen provisions that the Board may adopt to address groundwater. *Id.* at 2. CARE argues that the legislature intended for IEPA to propose rules addressing all seventeen options listed under section 22.51(f)(1) of the Act. CARE maintains that groundwater protection is "the unmistakable, unconditional and paramount legislative priority, without reference to the costs to regulated entities or additional administrative requirements for Illinois EPA." *Id.* at 2. CARE asserts that IEPA's proposal is deficient due to inadequate screening requirements, unenforceable self-implementing groundwater monitoring provisions, and lack of permitting or meaningful registration process. *Id.* at 2.

Screening Requirements.

CARE states that it shares the Illinois Attorney General's concern regarding the adequacy of the proposed load screening requirements to prevent contaminated materials from being place in CCDD or soil fill operations. PC 10 at 3. Specifically, CARE questions the lack of screening for inorganic heavy metals using x-ray fluoroscopy (XRF) in IEPA's proposal. CARE contends that the presence of heavy metals may pose a potential threat of groundwater contamination.

Groundwater Monitoring

As noted above, CARE has serious concerns regarding the adequacy of IEPA's proposal to protect groundwater. First, CARE strongly objects to the proposed annual groundwater sampling frequency. CARE asserts that more frequent sampling is essential for early detection to avoid expensive corrective action. PC 10 at 4-5. CARE states that more frequent and contemporary data are helpful in addressing any concerns of communities and local units of government. Next, CARE states that the rules must provide for timely noncompliance response and corrective action. *Id.* at 5. CARE notes that the proposed response activity schedule allows 240 days from the initial detection of a release before the implementation of corrective action. CARE recommends that Section 1100.745 to be amended to reduce the overall response period from 240 days to approximately 90 days. *Id.* at 5-6.

Finally, CARE recommends that all groundwater monitoring related activities recorded pursuant to Sections 1100.720-730 and 1100.740-760 must be submitted to IEPA. *Id.* at 6. CARE states that IEPA's proposed self-implementing groundwater monitoring provision is contrary to the legislative mandate to protect groundwater. CARE contends that submission of groundwater monitoring records will enhance IEPA's oversight, and also allow for public access to such records via the Illinois Freedom of Information Act. *Id.* at 7.

Registration Requirements

CARE asserts that soil fill operations should be subject to permitting since these facilities have the potential to impact groundwater resources. PC 10. At 8. If the Board finds that the registration process is adequate for soil fill operations, CARE states that the Board must require owners or operators of soil fill operations to submit additional information to IEPA along with the registration application. *Id.* Such information would include written procedures for load checking program, site location map, facility plan map, narrative description of the facility, proof of property ownership, surface water control plan, closure, and postclosure maintenance plans, and procedures and practices to ensure compliance with Subparts E and F of the proposed rules. *Id.* at 8-9. CARE contends that the additional registration requirements will only generate a small, one-time additional expense for copying documents that demonstrate compliance.

Local Zoning/Siting Approval & Financial Assurance

CARE agrees with the Will County's Land Use Department comments that the rule must require proof of local zoning/siting approval, and financial assurance for closure and postclosure care. PC 10 at 9.

James Huff (PC 11)

James Huff, Senior Vice President of Huff & Huff, Inc. filed comments on behalf of the Illinois Transportation Coalition (Coalition). He notes that the Coalition supports the change proposed by IEPA in *errata* sheet 3 that allows the use of the TCLP or SPLP test method in lieu of total concentration for inorganic compounds where background concentration is utilized to establish the MAC. He asserts that the proposed change will eliminate the cost of landfilling naturally occurring arsenic. However, Mr. Huff maintains that several issues concerning IEPA's proposal still remain.

Site-Specific Maximum Allowable Concentrations (MACs)

First, Mr. Huff takes issue with IEPA's interpretation of the statutory definition of "uncontaminated soil" at Section 3.160(c) of the Act. PC 11 at 1. He argues that the definition does not require maximum contaminant concentrations to be applied uniformly throughout the state. Mr. Huff contends that there is sufficient basis for determining MACs for inorganic and ionizing organic compounds using site-specific pH data from each source of material rather than the proposed uniform approach. PC 11 at 2-3.

Mr. Huff asserts that IEPA's proposal to use the lowest pH range for soils found in Illinois to determine MACs is the most controversial part of the regulations. *Id.* at 2. He observes that the record is unclear as to whether IEPA's concerns are related to soil pH in the vicinity of former quarries, pH of material brought into a quarry, or both. Mr. Huff states that IEPA's reliance on soil pH data to establish pH ranges in former stone/sand quarries make no technical sense. He notes that the pH data of dewatering discharges from quarries provided by the Illinois Association of Aggregate Producers shed light on actual pH conditions in quarries. The pH data from quarries indicate that the lowest average pH at any of the facility included in the database is 7.17, which is well above the pH range of 4.5 to 4.74 considered by IEPA. PC 11 at 2 citing Attachment 1. Additionally, Mr. Huff states that the buffering capacity of limestone aggregate, clay, and organic matter present in CCDD would make acidic pH values highly unlikely within CCDD and clean soil fill sites. *Id.* Further, he notes that soil pH data submitted by John Hock and himself during the hearing process indicate higher pH levels.

Thus, Mr. Huff concludes that the record justifies the use of site-specific pH data from each source of material to compute MACs for inorganic compounds and ionizing organic compounds. He maintains that even if the Board decides to adopt IEPA's uniform approach, the Board should adopt MACs based upon a higher pH range of 6.25-6.64. This range, Mr. Huff contends, would provide significant margin of safety based on the minimum pH of 7.3 observed in soil pH data supplied by John Hock. PC 11 at 3 citing Exh. 12 at 3-4.

Ingestion and Inhalation Pathways

Mr. Huff takes issue with IEPA's proposal to consider ingestion and inhalation pathways in determining MACs. He notes that there is no statutory requirement to apply TACO Tier I ingestion and inhalation objectives to CCDD and soil placed below the water table. He contends

that majority of the CCDD materials are placed below the water table where ingestion and inhalation pathways are not relevant. PC 11 at 2.

Compositing Versus Grab Samples

Mr. Huff states that IEPA's proposal does not allow for compositing and averaging soil samples to show compliance with MACs under Section 1100.610(b). According to IEPA, he notes, compositing or averaging are inappropriate because of the absence of a logical and meaningful averaging and compositing strategy. PC 11 at 3-4. Mr. Huff notes that Dr. Hornshaw, IEPA's toxicologist, acknowledged that for naturally occurring arsenic, statistically he would expect one sample out of every twenty samples to exceed the arsenic MAC, which is based on background concentrations. In this regard, Mr. Huff contends that IEPA's position for not allowing compositing and averaging is illogical. *Id.* He asserts that IEPA's proposal to require only grab samples will result in large quantities of soil being rejected for not meeting the definition of uncontaminated soil.

Mr. Huff also argues that the analytical costs for discrete samples are high, and increase rapidly for linear projects. If fewer samples are analyzed to control costs, the potential for missing contaminated soil increases. PC 11 at 4. Mr. Huff contends that using grab samples would be less protective of the environment than compositing. *Id.* He argues that the rules should allow the PE or PG to use their expertise to decide on the number and location of samples. In order to address any concerns associated with diluting contaminated soil by compositing, Mr. Huff suggests that the Board could require grab samples where Recognized Environmental Conditions (RECs) are being addressed at a site. *Id.* at 4-5.

Potentially Impacted Property (PIP)

Mr. Huff contends that considerable confusion still remains as to what represents a PIP even after a lengthy discussion on the proposed definition of a "potentially impacted property" at the October 26th hearing. PC 11 at 5. He notes that the ASTM Practices for Environmental Site Assessment Phase I Environmental Site Assessment E1527-05, which has been used nationally for more than 20 years, uses the term Recognized Environmental Condition (REC) to describe the presence or likely presence of contamination at a property based on its current or historical use. Mr. Huff states that while IEPA references the ASTM Standard in the rules, IEPA reluctantly acknowledged that PIP is essentially the same as a property with a REC. He urges the Board to replace the term PIP with REC, as defined by ASTM to eliminate any confusion in establishing the presence or likely presence of contamination on a subject property. PC11 at 5.

Corrective Action Compliance Requirements

Mr. Huff objects to the proposed provision at section 1100.755(d), which requires compliance with the groundwater quality standards under 35 Ill. Adm. Code 620. Mr. Huff argues that subjecting fill operations to nondegradation standards under Part 620 would result in significant economic hardship. He maintains that the proposed requirement to achieve Class I groundwater standards on the property is sufficient to protect the state's groundwater resources. PC 11 at 5.

Groundwater Monitoring

Mr. Huff notes that IEPA's proposal to require groundwater monitoring is based on lack of data on groundwater impacts at CCDD and soil fill sites. However, groundwater data submitted at hearing by Mr. Huff indicate no impact from a CCDD operation. PC 11 at 5. Further he notes that the proposed regulations do not account for any historical impacts at the site, particularly with respect to chlorides, sulfates, manganese and iron. Mr. Huff contends that if early monitoring at fill sites show exceedences above Class I standards, the owners or operators of the fill operations will "simply decide to exit the program." *Id.* at 5-6. He argues that the rules should provide for "establishing existing groundwater conditions during the first year [of monitoring], and allow such facilities to achieve Class I or existing groundwater conditions going forward." *Id.* at 6. Mr. Huff maintains that if the Board retains the proposed groundwater monitoring provisions, the rules must include alternative compliance requirements since there is no viable corrective action for chlorides, sulfates, manganese and iron.

Photoionization Detector (PID)

Mr. Huff questions IEPA proposal's reliance on PID meter over analytical results for screening materials coming into a CCDD or soil fill site. Considering the propensity of PID meters to yield false positives, Mr. Huff suggests that the Board establish a screening threshold of 5 ppm to eliminate the unnecessary rejection of loads due to false positives and associated costs. PC 11 at 6. He notes that the changes proposed by IEPA to Section 1100.205(a)(4)(C) do not fully address the issue of false positive readings. Mr. Huff states that the rules should allow acceptance of CCDD or soil based on analytical results as long as the analytical sample is representative of the subject load. *Id.*

Summary

Based on John Hock's testimony, Mr. Huff states that the very low pH range of 4.5 to 4.75 used by IEPA to set the maximum available concentrations will result in high failure rate. In this regard he notes that at the sites considered in Hock's testimony, the lowest pH averaged 7.17 in groundwater and 7.3 in soil. PC 11. At 7. Again relying on Hock's data, Mr. Huff notes that allowing the use of MAC based on soil-migration-to-groundwater pathway for material placed below the water table would significantly reduce the failure rate for polynuclear aromatic (PNA) compounds. *Id.*

He asserts that the high failure rate under the proposed rules would result in significant economic burden. Mr. Huff claims that landfilling CCDD or soil fill material would cost as much as 7 times more than sending the material to CCDD or clean soil facility. PC 11 at 7. He argues that the main factors that contribute to high failure rate under IEPA's proposal are the use of unsupported minimum pH values to set MACs and the requirement to only analyze grab samples. Finally, regarding groundwater, Mr. Huff maintains that if the cost of compliance is high, any facility with groundwater issues will simply elect to cease accepting CCDD or clean soil fill prior to the compliance date. He urges the Board to carefully weigh the economic impact

of IEPA's proposal and make necessary changes to keep the CCDD and soil fill operations functional. *Id.* at 8.

City of Springfield (PC 13)

The City of Springfield, Office of Public Utilities doing business as City, Water Light and Power (CWLP) filed comments expressing concerns regarding IEPA's proposal. CWLP is a not for profit municipally owned utility serving more than 100,000 residents in the Springfield area. CWLP notes that it endorses the comments filed in this rulemaking by Pat Metz, a Professional Engineer and an employee of CWLP (PC 1). CWLP generates several thousand tons of CCDD material annually due to initial installation and routine maintenance of electrical and water distribution systems. PC 13 at 1. CWLP notes that prior to the enactment of P.A. 96-1416, it disposed of the CCDD material at a local quarry permitted by IEPA as a CCDD soil operation. However, since P.A. 96-1416 became effective, CWLP has discontinued the use of the CCDD quarry due to uncertainty in the definitions in the law, as well as due to lack of alternative options. *Id.* at 1-2.

CWLP notes that most of its excavations fall under "commercial/industrial" property, which requires a Professional Engineer certification that the material is not "contaminated". CWLP contends that it is not aware of an engineer who will certify that a pile of CCDD material does not exceed the allowable limits without a chemical analysis of the material. CWLP maintains that the cost and time to have the material analyzed is prohibitive. *Id.* at 2. Instead, CWLP now takes the CCDD material to the local landfill. CWLP states that it supports the proposed definition of "potentially impacted property," which CWLP believes would allow a generator of CCDD material to use common sense in determining if the material may be contaminated. However, CWLP asserts that groundwater monitoring should not be required for permitted CCDD soil fill operations because of the numerous safeguards included in the rules to prevent groundwater contamination, and to minimize impacts if contamination occurs. *Id.* CWLP also notes that the expense of groundwater monitoring will reduce the number of facilities in the state with minimal environmental benefits.

Vulcan Materials Company (PC 14)

Vulcan states that it is the nation's largest producer of construction aggregates, a major producer of construction material, and a leading producer of cement in Florida. Vulcan's largest facility in the Midwest, the McCook Quarry, includes a permitted CCDD fill operation. Vulcan states that in 1997 it instituted an internal fill policy and procedures to ensure the acceptance of only clean fill at Vulcan sites. The implementation of the internal policy at the McCook facility has resulted in rejection of 32 percent of 2,740 clean fill projects due to potential contamination concerns. PC 14 at 1. Vulcan states that IEPA's proposal must be revised specifically in the areas related to certification, pH dependent MAC criteria, and groundwater monitoring. *Id.*

Uncontaminated Soil Certification

Vulcan takes issue with IEPA's rules at Section 1100.205, which allows uncontaminated soil certification without analytical data to support the soil being defined as "uncontaminated

soil." PC 14 at 2. Vulcan notes that it has received certification forms that are incorrectly completed, signed by parties other than those listed in the rules, lacking supporting documentation or evidence, or of questionable validity. Vulcan supports the use of certification only if the rules require analytical testing of material from all sites other than residential sites. *Id.* Vulcan claims that fill operation owners or operators cannot meet the intent of the rules without a certification that includes analytical data and a comparison against MAC criteria.

Use of MAC Criteria based on Lowest available pH range

Vulcan asserts that the proposed use of the lowest pH range to determine MACs for ionizing organic and inorganic constituents is inappropriate. Vulcan notes that IEPA's proposal is based on the premise that the pH affecting constituent leachability is the pH of soil being placed inside the fill area. However, the pH of soil placed inside the fill area at Vulcan's facility during 2011 range from 7.48 to 8.20 with an average of 7.94. PC 14 at 3. Vulcan also notes that pH data from four CCDD facilities submitted by John Hock typically ranged above 7.3. Vulcan contends that use of lowest pH dependent concentration is overly restrictive and results in more soil ending up in landfills. Thus, Vulcan recommends that the MAC criteria be established on the basis of neutral pH values, or on pH of soil placed inside fill area determined by the owner or operator. *Id.* at 4.

Groundwater Monitoring

Vulcan asserts that groundwater monitoring is unnecessary since the proposed monitoring provisions fail to address groundwater conditions with respect to surrounding properties. PC 14 at 4. Vulcan states that an exceedance of groundwater standard does not mean that the change in groundwater quality is attributable directly to the fill operation. Further, Vulcan states that the groundwater monitoring requirements must include "a full panel analysis of the entire groundwater standard list" to demonstrate compliance with the groundwater standards. *Id.* at 5. Such an analysis, Vulcan observes, is extremely expensive and burdensome. Vulcan states other types of controls used to screen materials coming into fill operation site should be used to address contamination issues. These controls would include as performance of due diligence, owner/operator or LPE/LPG certification, analytical sampling data, visual inspection, PID screening, and routine project audits. In addition, Vulcan recommends that the rules provide for post placement sampling of fill soil to identify any possible contamination. *Id.*

Economic Impact Study

Vulcan states that the Department of Commerce and Economic Opportunity must conduct an economic impact study of the proposed rules because the rules negatively impact the reclamation of quarries, and mines for post mining land use. PC 14 at 6. Vulcan states that while quarries are financial assets, the value of the assets are diminished without reclamation.

People of the State of Illinois (People) (PC 15)

The People point out that the Board has existing regulations to govern landfills which accept only inert waste. PC 15 at 2, citing 35 Ill. Adm. Code 811.Subpart B and 812.Subpart B.

"Inert waste" includes "only non-biodegradable and non-putrescible solid wastes; including but not limited to, bricks, masonry, and concrete." *Id.*, citing 35 Ill. Adm. Code 810.103. The People note that the definition of CCDD means "uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed or other asphalt pavement or soil generated from construction or demolition activities." *Id.*, citing 415 ILCS 5/3.160 (2010). The People note that there are two differences in those definitions, the first is that CCDD is not a "waste" and the second is that CCDD includes asphalt which is a source of PNAs that are generally considered a chemical waste by the Board's regulations. *Id.*, citing 35 Ill. Adm. Code 810.103.

The People comment that inert waste landfills are required to collect and analyze leachate samples at least every six months and notify IEPA within one business day of any contamination discovered. PC 15 at 2. If an inert waste landfill finds contamination in the leachate, the landfill is reclassified as a chemical or putrescible landfill. *Id.*

The People note that Section 22.51(f)(1) requires that groundwater be protected and ask that the Board consider three things when adopting this rule. PC 15 at 2. First, the People urge the Board to consider that the rules must promote the purposes of the Act. Second, the People maintain that various classes of materials be regulated in the same manner, and that the CCDD regulation be at least as comprehensive and protective as the inert waste disposal regulations. Third, the People comment that the regulations should be enforceable. *Id.*

City of Chicago (PC 16)

Chicago does not rely on groundwater but recognizes that protection of groundwater in Illinois is critical. PC 16 at 1. However, the proposal was developed without reliance on relevant studies or data from existing fill operations. *Id.* Chicago comments that this is a concern as the considerable foreseeable costs of the proposal will be borne in large part by state and municipal taxpayers as well as private business. *Id.* Chicago opines that the proposal should be tailored to address genuine and foreseeable risks and to avoid new problems that could pose environmental harm. *Id.* Based on data provided by participants, the proposed rules may be overly restrictive in that the rule may prevent acceptance of fill that poses no genuine risk to groundwater. *Id.* Chicago comments that the prudent, effective way to tailor the rules is to evaluate additional data from additional locations. PC 16 at 2.

Land Reclamation & Recycling Association (PC 17)

LRRA comments that the Board has the advantage of reviewing the impact of the proposed rules. LRRA states that virtually all the rules and procedures recommended by IEPA are being implemented already and LRRA has received comments from members and has some observations. PC 17 at 1. First, LRRA states that units of local government have noticed an increase in the amount of soil and CCDD being placed in landfills. LRRA believes that the increase is due to the conservative approach to MACs and the testing procedures proposed in this rule. *Id.* LRRA submits that because of this increase and the "absence of a demonstrated, pre-existing problem with groundwater quality in and around mines and quarries" that there is no justification for requiring groundwater monitoring. *Id.*

LRRA notes that with metropolitan soils the primary area of concern is typically PNAs, and IEPA has proposed standards that would allow for "background" levels of PNA. PC 17 at 1. LRRA has discussed this issue with engineers and geologists who indicate that the levels of constituents can vary dramatically from different areas of a single site. PC 17 at 2. LRRA is concerned that since the proposal does not allow averaging, soils are being rejected by CCDD sites, and as a result, contactors are seeking unregulated disposal and keeping soils with high PNAs on site. PC 17 at 2-3.

LRRA comments that the adoption of the rules may require changes to current industry practice. PC 17 at 3. LRRA asks that the Board include a 90-day implementation period to allow for industry education and development of revised procedures. *Id*.

Illinois Environmental Council (PC 18)

The Illinois Environmental Council (IEC) "strongly opposes the proposed amendments" as the proposal fails to adequately protect public health and the environment from groundwater contamination. PC 18 at 1. IEC opines that the proposal does not use appropriate soil pollution standards or require adequate testing of incoming loads, while proposing inflexible groundwater monitoring that is not based on site-specific characteristics. *Id*. IEC comments that TACO was never designed to prevent the type of groundwater contamination that may result from the leaching associated with the volume of debris being dumped into a quarry. *Id*. IEC maintains that the proposal stops short of requiring testing for the full range of TACO Tier I pollution levels and relies instead on pollutants that vaporize at room temperature. *Id*. IEC comments that the proposal "willingly turns a blind eye to a whole range of contaminated debris" that will be untested until groundwater monitoring occurs. *Id*. IEC states by this time the damage could be done and groundwater could be irreversibly contaminated. *Id*.

TACO Tier I Standards Should Not Be Used to Regulate Soil in Quarry Fill Operations

IEC opines that reliance on TACO Tier I soil standards is misguided because these standards will not prevent contaminated fill that is placed in a quarry from leaching into groundwater. PC 18 at 2. TACO was never designed to prevent groundwater contamination and was designed to be a remediation program, taking into consideration land use and location. *Id*. TACO Tier I cannot be applied in a one size fits all manner. *Id*.

IEC notes that quarries are in vulnerable geological areas with bottoms that are typically sand and gravel. PC 18 at 2. Thus, quarry bottoms are extremely porous and are an insufficient barrier to prevent leaching to aquifers below. IEC maintains that TACO contemplates that contaminants will attenuate in concentration as they leach downward and that is not the case with horizontal leaching. *Id*. IEC argues that TACO is a poor regulatory tool to prevent groundwater contamination.

The Proposal Does Not Ensure that Soil Used as Fill is Uncontaminated

IEC maintains that the onsite process to determine whether construction debris is within acceptable TACO limits is inadequate. PC 18 at 2. The proposal does require certification by a

LPE or LPG, but does not require objective lab analysis of the debris to determine the level of contamination. *Id*. Further, the use of a PID at the fill site provides little protection as a PID has a limited capacity to detect TACO Tier I pollutants and is unreliable. *Id*. IEC also takes issue with the proposed requirements for load certification because there is nothing to require a LPE or LPG to personally conduct or oversee the certification process. PC 18 at 3.

The Proposal's Groundwater Monitoring Plan is Deficient

IEC believes that the groundwater monitoring plan is deficient because a good plan would require that the geological characteristics of the quarry be studied to determine the flow of groundwater as well as the public use and consumption. PC 18 at 3. The rules are vague and offer little guidance on how to place wells and the number of wells that need to be placed. *Id*.

Conclusion

IEC recommends that a new set of standards be developed, taking into account the unique geological challenges associated with quarries. PC 18 at 3. IEC further recommends that any debris to be used as fill be tested by an accredited lab to prevent groundwater contamination, and that an extensive study of the quarry and surrounding areas be conducted by a LPE. *Id*.

Michael Rapps (PC 19)

Michael Rapps, President and CEO of Rapps Engineering and Applied Science, Inc., submitted comments on behalf of Iron Hustler Excavating, Inc., a Peoria based construction, excavation, and demolition contractor. Mr. Rapps questions IEPA's definition of "uncontaminated soil." Mr. Rapps states that most Illinois cities along river banks are essentially built upon "subsurface fill material, predominantly native soil, inclusive of bricks, stone, cinders, and other inorganic debris." PC 19 at 4. He notes that this condition is present in most populous cities like Metro-east, Pekin, Rockford, as well as many inland communities. Mr. Rapps contends that even though urban soils may be defined in many ways, for Illinois residents in urban areas the earth beneath their homes and businesses is *terra firma* and not contaminated soil. *Id*. He also notes that how the great fire and urbanization have contributed to elevated PAH and heavy metal levels in Chicago soils.

Mr. Rapps asserts that IEPA's position that soil excavated from construction sites with chemical constituents levels above Tier I residential values is a "waste" would have unintended consequences. As an example, he notes that how low areas of Pekin are built up with fill material consisting of silty and clayey sand with brick shards and some cinder. *Id.* at 4-5. Since the inorganic constituent levels in Pekin fill material falls within the range of Tier I values, Mr. Rapps argues that under IEPA's interpretation *terra firma* of Pekin, Illinois would be considered a "waste" if excavated at a construction site. *Id.* 5.

Mr. Rapps takes issue with the proposed MACs for inorganic constituents like cadmium that are based on area background levels under TACO rules. He notes that the area background level of cadmium is the median value of: of 0.5mg/kg based on 243 soil samples from throughout the state; and 0.6 mg/kg based on 104 soil samples in metropolitan statistical area.

Mr. Rapps argues that establishing background levels on the basis of the statistical median value is seriously flawed because it ignores half of the background data. *Id.* at 5. While Mr. Rapps acknowledges that TACO is often used as a bright-line test by cleanup contractors, he agrees with commentors who maintain that TACO was never intended to be used to define "uncontaminated", as proposed by IEPA. *Id.* at 6. He suggests that the Board employ qualitative means to define "uncontaminated" as required by the statutes.

In conclusion, Mr. Rapps makes several recommendations. First, he asks the Board to consider a background condition as a range and not a number based upon a statistical value like median, mean or 75th percentile. PC 19 at 6. Next he urges that Board to recognize the concept of *terra firma* to define "uncontaminated" soil, i.e. the soil upon which people live, work, and play that has not been impacted by spills, LUST releases, and aerosol releases must be exempt from the proposed regulations. *Id.* Mr. Rapps agrees with IEPA's proposal to require groundwater monitoring at CCDD and soil fill operations, but recommends that the Board require monitoring of only those parameters expected to be found in such facilities. He also asks the Board to adopt a shortened list of indicator chemicals for soil analyses instead of the complete list of chemical constituents under Part 620. *Id.* at 6-7. Mr. Rapps also recommends that the Board revisit the concept of "inert waste", since IEPA's proposal incorporates certain elements of the Board's inert waste landfill regulations. Finally, he states that if the Board decides to adopt IEPA's proposal, the Board must ask DCEO Director, Warren Ribley, to reconsider his decision to forgo an economic impact study.

Public Building Commission of Chicago (PBC) (PC 20)

PBC urges the Board to provide clarification as to what is "clean" fill. PC 20 at 1-2. The issue as to what is "clean" has been evident since the first rules were adopted by the Board. PC 20 at 1-4. IEPA acknowledges that "uncontaminated" was not well defined and industry has been operating in a gray area. PC 20 at 4. The new amendments provide a reasonable and workable framework for the Board to develop a definition. PC 20 at 5.

PBC has three key concerns about the proposal and believes that changes must be made by the Board. Those areas are: 1) the definition of "potentially impacted properties", 2) the one-size-fits all approach, and 3) overly conservative use of TACO parameters. PC 20 at 5-6.

Potentially Impacted Properties

PBC notes that the Act uses the phrase "commercial or industrial" and IEPA's proposal uses "potentially impacted properties". PBC is not opposed to the new terminology; however, the language fails to give direction to those who will be defining soils. PC 20 at 7. PBC notes that IEPA explained that the LPE or LPG would determine if the site met the definition of potentially impacted properties, but failed to clarify specific situations that would or would not be a potentially impacted property. *Id*. PBC acknowledges IEPA's *errata* sheet #3 which attempts to incorporate the ASTM standards, but believes the language is still more vague than the statutory language. *Id*.

PBC suggests amending the definition of "potentially impacted property" such that where a Phase I investigation occurs and there are no recognized environmental conditions, the property will be considered not to be potentially impacted. PC 20 at 8.

One-Size-Fits All

PBC notes that IEPA has rejected any site specific approach in favor of uniform MACs; however, IEPA is wrong that the Act does not allow for site specific considerations. PC 20 at 9. PBC points out that the statute actually allows for consideration of site specific conditions in the last sentence of the definition of "uncontaminated soil". *Id*. PBC agrees with Mr. LaDieu (Exh. 19) that MACs should be evaluated based on their true risk assessment value. *Id*. PBS opines that the legislation does not require or support a uniform approach and the record likewise does not support such an approach to protect groundwater. *Id*. PBC believes that site specific conditions can be considered at permitted sites and that groundwater monitoring may be appropriate based on specific information about a site. *Id*. PBC is not opposed to MAC values as a default, but where fill operations can justify a different MAC based on site specific conditions; they should be allowed to do so. PC 20 at 10.

Proposed MACs

PBC opines that Subpart F needs more work before being proposed for first notice because the proposed MACs are without scientific justification. PC 20 at 10. One example is the regulations proposed use of the lowest pH value. *Id*. PBC notes that the data does not support the pH value proposed as the level does not exist in Illinois. PC 20 at 11. PBC argues that IEPA has not justified sending this portion of the rule to first notice as the rule relates to the definition of "uncontaminated soil" and uniform MACs. *Id*.

DISCUSSION

The participants' testimony and comments raise a number of issues concerning IEPA's proposal. These issues pertain to the Board's authority to adopt certain requirements applicable to CCDD or uncontaminated soil fill operations, the need for groundwater monitoring at fill sites, soil certification and PIP determination, soil testing protocols, soil MACs, load checking, self-implementing provisions, reporting and registration requirements, and LPE/LPG responsibilities. For each of these issues, the Board provides, a summary of the participants' concerns along with IEPA's response, and the Board's discussion and findings. In addition, the Board also addresses other miscellaneous issues raised by participants along with some issues discovered in preparing the rules for first notice.

Board's Authority

Section 5(b) of the Act (415 ILCS 5/5(b) (2010)) grants the Board the authority to adopt rules, which the Board does under Title VII of the Act (415 ILCS 5/26-29 (2010)). Section 27 of the Act (415 ILCS 5/27 (2010)) allows the Board to adopt substantive regulations pursuant to the Act and provides, in part:

> In promulgating regulations under this Act, the Board shall take into account the existing physical conditions, the character of the area involved, including the character of surrounding land uses, zoning classifications, the nature of the existing air quality, or receiving body of water, as the case may be, and the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution. The generality of this grant of authority shall only be limited by the specifications of particular classes of regulations elsewhere in this Act. 415 ILCS 5/27 (2010).

The authority granted to the Board under the Act is a general grant of broad authority. Granite City Division Of National Steel Company v. IPCB, 155 Ill. 2d 149, 181-82; 613 N.E.2d 719, 733-34 (1993).

Further, Section 22.51 of the Act specifically directs the Board to adopt regulations for the use of CCDD and uncontaminated soil as fill material. 415 ILCS 5/22.51(f)(1) (2010); *see* Section 22.51(f)(1) provides:

> No later than one year after the effective date of this amendatory Act of the 96th General Assembly, the Agency shall propose to the Board, and, no later than one year after the Board's receipt of the Agency's proposal, the Board shall adopt, rules for the use of clean construction or demolition debris and uncontaminated soil as fill material at clean construction or demolition debris fill operations. The rules must include standards and procedures necessary to protect groundwater, which may include, but shall not be limited to, the following: requirements regarding testing and certification of soil used as fill material, surface water runoff, liners or other protective barriers, monitoring (including, but not limited to, groundwater monitoring), corrective action, recordkeeping, reporting, closure and post-closure care, financial assurance, post-closure land use controls, location standards, and the modification of existing permits to conform to the requirements of this Act and Board rules. The rules may also include limits on the use of recyclable concrete and asphalt as fill material at clean construction or demolition debris fill operations, taking into account factors such as technical feasibility, economic reasonableness, and the availability of markets for such materials. 415 ILCS 5/22.51(f)(1) (2010).

Section 22.51a(d)(1) further provides:

> No later than one year after the effective date of this amendatory Act of the 96th General Assembly, the Agency shall propose to the Board, and, no later than one year after the Board's receipt of the Agency's proposal, the Board shall adopt, rules for the use of uncontaminated soil as fill material at uncontaminated soil fill operations. The rules must include standards and procedures necessary to protect groundwater, which shall include, but shall not be limited to, testing and certification of soil used as fill material and requirements for recordkeeping. 415 ILCS 5/22.51a(d)(1) (2010).

Thus, the Board has broad authority under the Act to develop rules for the use of CCDD and uncontaminated soil as fill material.

Groundwater Monitoring

IEPA's proposal requires groundwater monitoring at CCDD fill operations and uncontaminated soil fill operations. A new Subpart G sets forth the standards and procedures for a self-implementing groundwater monitoring program at fill operations. See pages 14-16, above. IEPA states that P.A. 96-1416 specifically requires the regulations to address groundwater protection at fill operations and the groundwater monitoring program is "important at fill operations" because the fill operations do not have liners. A number of participants expressed concerns regarding the requirement for groundwater monitoring for both CCDD and uncontaminated soil fill sites. Four major areas of concern were raised: 1) the lack of evidence provided to justify the need for groundwater monitoring, 2) failure to consider the costs of such monitoring, 3) that front-end screening requirements can be adequate to protect groundwater, and 4) the need for rules similar to those that apply to landfills. In the following sections, the Board will provide a brief summary of the participants' concerns, discuss each issue, and provide the findings for each issue.

Lack of Evidence Provided to Justify the Need for Groundwater Monitoring

Participant Concerns. Mr. Huff stated that the presumed motivation behind the amendments in P.A. 96-1416 was that CCDD facilities were documented as having adversely impacted groundwater. Exh. 10 at 2. As a result, Mr. Huff opined, IEPA would be expected to have produced a list of such facilities, which it has failed to do. Exh. 10 at 3. Mr. Wilcox (Exh. 15 at5), the City of Chicago (PC 16 at 1), and LRRA (PC 17 at 1) agree that there is no justification for the groundwater monitoring requirements. Mr. Huff provided an example from Kane County where groundwater testing was done at private wells located within one-quarter mile of an existing CCDD site. Based on the testing, all wells achieved Class I groundwater standards. Exh. 10 at 4. In contrast, Mr. Huff contends that IEPA could not provide one example of where groundwater contamination was known to be a result of the operation of a CCDD operation. Exh. 10 at 3. Mr. Hock testified that determining whether concentrations of contaminants in groundwater are caused by a CCDD site is an involved process (Exh. 12 at 5), which is supported by Vulcan's comment that the proposed groundwater monitoring requirements do not address groundwater conditions with respect to surrounding properties. PC 14 at 4.

There is not unanimity on this issue, however. Mr. Liss argues that groundwater monitoring is "essential" because the locations of these facilities are susceptible to groundwater contamination. Exh. 17 at 2. Despite this assertion, Mr. Liss was unable to provide supporting data regarding the impacts of CCDD sites on groundwater. 10/25/11 Tr. at 115. CARE asserts that groundwater protection is the "unconditional and paramount legislative priority", opposing testing on only an annual basis. PC 10 at 2. Will County recommends quarterly testing. PC 6 at 2. Mr. Rapps supports the groundwater monitoring requirement but suggests that the list of parameters to be tested be shortened to include only those expected to be found at the site. PC 19 at 6-7.

IEPA Response. IEPA does not assert that CCDD fill operations will cause groundwater contamination based on any groundwater monitoring data from CCDD or uncontaminated soil fill operations. Tr. 9/26/11 at 67. IEPA contends; however, that it "cannot be sure that the front-end screening process will keep 100% of contamination" from being placed in CCDD or uncontaminated soil fill operations. SR at 6. IEPA believes this could happen because of the sheer volume of fill being placed directly in contact with groundwater. Exh. 1 at 24. As a result, IEPA proposed groundwater monitoring to detect contamination and provide for timely corrective action and remediation. This would require annual testing. IEPA asserts that the groundwater monitoring required by the proposal is a final check on the screening procedures and establishes steps for responding to exceedences. However, IEPA concedes that groundwater monitoring is only one of the several operational and technical control options that are authorized by the Act to ensure groundwater protection. PC 9 at 27.

Discussion. The Board's first concern is that the CCDD and uncontaminated soils to be deposited into quarries, mines, and other excavations be clean and uncontaminated as those terms are defined by the rules and the statute. If the regulations provide assurances that the materials being deposited are indeed clean and uncontaminated and are adhered to, protection will be provided to public health and the environment, including groundwater.

The Board notes that PA 96-1416 requires groundwater protection but does not require groundwater monitoring. Groundwater monitoring is one of twelve procedures or tools identified in PA 96-1416 to protect groundwater, with other unidentified options also allowed. It is interesting to note that groundwater monitoring is specifically listed as a method for protecting groundwater in the CCDD sites provision (415 ILCS 5/22.51(f)(1) (2010)) but not in the uncontaminated soil operations provision (415 ILCS 5/22.51a(d)(1) (2010)), which could suggest groundwater monitoring was perceived as being of less a concern for these sites. Many of the statutory options listed under Section 22.51(f)(1) to ensure groundwater protection are incorporated in the proposed rules, including testing and certification of soil used as fill material, surface water runoff control, recordkeeping, reporting, and closure and post-closure care. As will be discussed later, several of these requirements are strengthened to provide greater protection at the front-end in order to help ensure that only CCDD and uncontaminated soils are used at fill sites.

Requiring groundwater monitoring, given the lack of documented evidence of CCDD or uncontaminated soil fill operations being a source of groundwater contamination, is an issue for the Board. This was reinforced by many participants in the rulemaking process. The Board is unwilling to impose costly groundwater monitoring program to protect against a perceived problem that the record does not support. In fact, the record demonstrates just the opposite, with data from Mr. Huff showing no contamination at a site in Kane County. The Board will not propose groundwater monitoring to protect groundwater from the potential of a violation of regulations.

Failure to Consider the Costs of Groundwater Monitoring

Participant Concerns. Business and municipal representatives raised concerns with the high costs associated with groundwater monitoring and the consequences of requiring such expenditures, which include the potential closure of CCDD and uncontaminated soil fill operations. *See e.g.* Exh. 10, 12, and 13. Such closures would result in additional material being sent to landfills, thus shortening the life of the landfill. Another issue raised involves the deposition of soils outside of soil fill operations, without any testing or monitoring. In addition, the higher costs will adversely affect private businesses, municipalities, and ultimately taxpayers. Mr. Willie testified that Meyer Material closed a facility because of the added regulatory burden, and that in light of the new legislation and these proposed rules a second facility also closed. Exh. 13 at 1. Mr. Hock testified that the cost of monitoring for all parameters set forth in the Class I groundwater regulations could be over $3,000 for each time a well is sampled. Exh. 12 at 6. Mr. Stanczak provides a slightly higher estimate of costs based on a laboratory quote. Analyzing for the entire Class I list will cost $2,996 per sample with an additional cost of $820 to test for the four radionuclides. PC 7 at 1. There are concerns that these high costs will result in the closure of additional CCDD or uncontaminated soil fill operations. CARE provides an opposing view by purporting that groundwater protection is a legislative priority, "without reference to the costs to regulated entities or additional administrative requirements for Illinois EPA." *Id.* at 2.

IEPA Response. IEPA noted that all persons operating a CCDD fill operation or an uncontaminated soil fill operation will be affected by the proposed rules. SR at 5. However, IEPA further noted that the economic impact of the proposal on the regulated community will not be detrimental as the proposal is "a continuation of the interim standards required by P.A. 96-1416." SR at 5. IEPA acknowledges that source site owners and operators will incur costs to obtain soil certifications from LPEs or LPGs; and soil fill operations will incur the costs of load checking and documentation. IEPA pointed out that fill operations will also incur the costs of groundwater monitoring. SR at 5. IEPA attempted to lessen the costs by requiring soil samples from "potentially impacted properties" and not all industrial or commercial sites and by limiting groundwater sampling and allowing for site-specific variation. SR at 6-7. Despite these acknowledged costs, IEPA noted that "the costs are unknown and may vary significantly from site to site." SR at 6-7.

Discussion. The Board is disturbed with IEPA's assertion that the costs are unknown and yet concluding that the fiscal impact will not be detrimental. Without knowing the full costs of the development of groundwater monitoring plans, the installation of monitoring wells, and the annual testing for the full list of Class I groundwater standards, it is impossible to estimate the economic impact of these regulations. CARE asserted that PA 96-1416 requires provisions to protect groundwater "without reference to the costs to regulated entities." *Id.* at 2.

The Board has reviewed the statutory language and finds no evidence that the legislature intended to require the Board to adopt groundwater monitoring for the protection of groundwater. The statue does include groundwater monitoring as one of the items for the Board's consideration in developing a rule that protects groundwater. As discussed in this opinion, the Board will strengthen other requirements including soil testing and certification to

such an extent that the Board is convinced groundwater will be protected. Soil testing is also one of the items enumerated by the legislature in Section 22.51(f)(1) of the Act (415 ILCS 5/22.51(f)(1) (2010)).

Furthermore, the Board is required by Section 27 of the Act (415 ILCS 5/27 (2010)) to consider the economic reasonableness and technical feasibility of the regulations. *See* Granite City Steel, 155 Ill. 2d at 181-82. Thus, when deciding whether or not groundwater monitoring is warranted based on this record, the Board is obligated to examine the economic reasonableness and technical feasibility of that requirement.

The evidence in this record demonstrates that groundwater monitoring is costly and could potentially result in businesses closing. Therefore, the Board finds that groundwater monitoring is not economically reasonable.

Front-end Screening Requirements are Not Adequate to Protect Groundwater

Participant Concerns. Mr. Wilcox testified that IEPA has proposed a groundwater monitoring program "based on the premise that CCDD operations and clean soil only sites may, despite the screening safeguards . . . accept material that could negatively impact local groundwater." Exh. 15 at 4. This concern is related to the previously discussed issue of the lack of evidence that CCDD and uncontaminated soil sites have contaminated groundwater. If standards are in place to ensure the materials legally deposited are clean and uncontaminated, there is significantly less risk of groundwater contamination. CARE shares the People's unease regarding the adequacy of the proposed load screening requirements to prevent contaminated materials from being place in CCDD or soil fill operations. PC 10 at 3. CARE questions the lack of screening for inorganic heavy metals using XRF in IEPA's proposal. Vulcan also raises issues with allowing uncontaminated soil certification without analytical data to support the soil being defined as "uncontaminated soil." PC 14 at 2. Vulcan further claims that fill operation owners or operators cannot meet the intent of the rules without a certification that includes analytical data and a comparison against MAC criteria. IEC raises concerns that the proposed rule does not require objective lab analysis of the CCDD or uncontaminated soil to determine the level of contamination. PC 18 at 2.

IEPA Response. IEPA did not respond to this issue. The proposed rules require certification by the source owner or operator that the site is not a potentially impacted property, and if it is, a LPE or LPG must certify that the soils are uncontaminated. Soil testing is not required, although IEPA added a new subpart (F) that establishes standards for conducting such tests when a LPG or LPE deems it necessary. IEPA has required groundwater monitoring to detect any contamination, rather than imposing stronger front-end screening requirements.

Discussion. The Board agrees that front-end analytical testing, certification, and screening procedures should be in place to ensure that only CCDD and uncontaminated soil will be deposited in the CCDD and soil fill operations. As will be discussed later in this document, screening procedures will be enhanced by requiring soil certifications to be done in accordance with ASTM standards and soil testing will be required whenever the source site is documented as a potentially impacted property.

Proposed Groundwater Provisions are Insufficient. The Board Must Adopt Rules Similar to Landfills

Participant Concerns. WMI argues that the groundwater monitoring requirements for CCDD sites should be at least as stringent as required for nonhazardous waste landfills under 35 Ill. Adm. Code 811. This would include increasing the post-closure maintenance period for groundwater monitoring from one year to fifteen years. PC 8 at 4.

Discussion. CCDD and uncontaminated soil are by statutory definition clean and uncontaminated and not a waste. Thus, subjecting fill operations to the same standards as landfills is inappropriate and the Board declines to adopt this suggestion.

Summary of Board Findings on Groundwater Monitoring

The Board notes that the record does not include evidence to demonstrate that CCDD or uncontaminated soil sites are a source of groundwater contamination. Further, the record indicates that requiring groundwater monitoring would impose potentially sizeable costs that may have adverse impacts on the fill operation. CCDD and uncontaminated soils are not classified as wastes, so do not require the stringent rules that exist for nonhazardous waste landfills. Therefore, the Board finds that this record does not support groundwater monitoring at this time.

The Board further notes that P.A. 96-1416 requires the Board to adopt rules to include "standards and procedures necessary to protect groundwater, which may include, but shall not be limited to" a list of twelve possible procedures or tools. One of these is "monitoring (including, but not limited to groundwater monitoring)". The Board finds that, while groundwater protection is a legislative priority, this protection can be achieved without requiring groundwater monitoring. The Board's proposal strengthens the front-end screening process for soils and other provisions to help ensure that the soils legally deposited in quarries, mines, and other excavations are uncontaminated. Therefore, the Board's proposal will protect groundwater.

As a result of these concerns and other provisions included to protect groundwater, the Board proposes to delete Subpart G of IEPA's proposal, standards for groundwater monitoring. The Board also deletes several definitions pertaining to groundwater monitoring, and references to Subpart G in other parts of the proposed rules.

Soil Certification/Potentially Impacted Property

IEPA proposes to require a certification by the source site owner or source site operator, or a LPE or LPG that soil taken to the fill operation is uncontaminated. SR at 9. IEPA notes that the certification requirement codifies the interim standard established by P.A. 96-1416, although the statutory terms "commercial/industrial" has been replaced with the term "potentially impacted property" (PIP). IEPA states that the term PIP is intended "to better align with the purpose of the certification requirement, to provide clarity on when a certification is required,

and to give more flexibility to source site owners and operators, receiving facilities, contractors and environmental professionals." *Id.*

Several participants raised issues regarding the proposed provisions for soil certifications. These concerns dealt with the issue of IEPA's decision to replace the statutory term "industrial/ commercial" with the term "potentially impacted property" (PIP) in the certification requirement under Section 1100.205(a)(1)(A). Next, some participants wanted the Board to clarify the certification requirements by requiring PIP determination to be made in accordance with ASTM standards. Finally, the Board received comments urging the Board to require soil certification to be supported by analytical soil testing data. The Board will discuss the issues relating to PIP and soil certification below.

"Industrial/Commercial" or "Potentially Impacted Properties"

Participant Concerns. Participants raised the issue that using the phrase "potentially impacted properties" rather than the statutory terms "commercial or industrial" is beyond IEPA's authority. Mr. Wilcox stated that LRRA has not experienced confusion over the legislature's term "industrial/commercial" so this is the term that should be used in the rules. Exh. 15 at 4. Mr. Wilcox opined that the legislature intended to exclude properties with a low potential for contamination from the expense of hiring a LPE or LPG for certifications. *Id*. The LRRA believes IEPA lacks the authority to remove the term "industrial/commercial" and the term should be used and "potentially impacted property" be deleted. *Id*.

IEPA Response. IEPA states that it proposed to change the statutory term "commercial/industrial" to the term "potentially impacted property" because the former term is closely identified with zoning designations and has caused confusion among the regulated community. SR at 9. IEPA states that the intention of the certification requirement of P.A. 96-1416 was to identify soil that is more likely to be contaminated and in need of professional evaluation and certification before placement within a fill operation. IEPA states that the new term "PIP" is intended "to better align with the purpose of the certification requirement, to provide clarity on when a certification is required, and to give more flexibility to source site owners and operators, receiving facilities, contractors, and environmental professionals. *Id*. and 10/26/11 Tr. at 6.

Discussion. The Board agrees with IEPA and will proceed with the phrase "potentially impacted properties" as amended in this opinion. The Board has broad authority to adopt rules pursuant to Sections 27, 22.51 and 22.51a of the Act (415 ILCS 5/27, 22.51, and 22.51a (2010)). *See* Granite City Steel, 155 Ill. 2d at 181-82. The phrase "potentially impacted properties" encompasses the terms "commercial and industrial", and as defined, clarifies the legislative intent. The phrase "potentially impacted properties" is designed to ensure that properties that may have been touched by contamination are assessed more fully than properties that have little possibility of being contaminated. Furthermore, the Board is convinced that using the phrase "potentially impacted properties" avoids any confusion with zoning designations and is consistent with the statutory term "commercial or industrial".

Therefore, the Board finds that proposing the phrase "potentially impacted properties" rather than the terms "commercial or industrial" is within the Board authority under the Act. The Board will retain the term PIP, as proposed by IEPA, but will address the issue concerning PIP determination in the following section.

Potentially Impacted Property (PIP)/ ASTM Standards

Participant Concerns. Mr. Huff contends that considerable confusion remains as to what represents a PIP even after a lengthy discussion on the proposed definition at the October 26th hearing. PC11 at 5. He states that while IEPA references the ASTM Standard in the rules, IEPA reluctantly acknowledged that PIP is essentially the same as a property with a Recognized Environmental Condition (REC). Mr. Huff urges the Board to replace the term PIP with REC, as defined by ASTM to eliminate any confusion in establishing the presence or likely presence of contamination on a subject property. PC 11 at 5.

PBC is not opposed to IEPA's use of the new term PIP instead of the statutory phrase "commercial or industrial". However, PBC argues that the PIP language is vague and fails to give direction to those who will be defining soils. PC 20 at 7. PBC notes that IEPA's attempt to incorporate ASTM standards fails to clarify the intent. PBC concurs with Mr. Huff's position on incorporating ASTM standards and the concept of REC. However, instead of replacing PIP with REC, PBC suggests amending the definition of "potentially impacted property" such that where a Phase I investigation occurs and there is no REC, the property will be considered not to be potentially impacted. PC 20 at 8. PBC suggests the following amendments to the definition of PIP at Section 1100.103:

> "Potentially impacted property" means property on which a historical or current use, or contaminant migration from a proximate site, increases the presence or potential presence of contamination at the source site. "Potentially impacted property" is intended to identify soil that is more likely to be contaminated and in need of professional evaluation and certification before placement in a fill site. The following should be considered when determining whether property is "potentially impacted property": the current use of the property, prior uses of the property, and the uses of adjoining property. Where due diligence has been performed in accordance with one of the two below ASTM methods, and a recognized environmental condition (REC) has not been identified, the property can be deemed not "potentially impacted".
>
> ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved November 1, 2005.
>
> ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, approved February 1, 2006.

CWLP supports the addition of the term "potentially impacted properties", which CWLP believes would allow a generator "to use common sense" in deciding whether or not materials can be taken to the local quarry. PC 1 at 2 and PC 13 at 2. CWLP notes that under the statutory

provisions currently being implemented by IEPA, most of its excavations fall under "commercial/industrial" property, which requires a LPE certification that the material is not "contaminated". PC 13 at 2. CWLP states that it takes material to a local landfill because the cost and time to have the material analyzed is prohibitive. *Id*. The Illinois Road and Transportation Builders Association (IRTBA), which created a task force to review the proposed rule, also supports the addition of the term "potentially impacted properties". PC 5 at 1.

IEPA Response. IEPA notes that the proposed certification requirement codifies the interim standard established by P.A. 96-1416. SR at 9.

At hearing, IEPA explained that the decision as to which soil certification form to use, *i.e.*, the source site certification or the LPE/LPG certification, should be made by the source site owner/operator and the receiving facility in advance of any excavation or dropped hauling. Further, IEPA notes that the receiving facility may choose to be more stringent and require a LPE/LPG certification and analytical testing. 10/26/11 Tr. at 7. In addition, IEPA added, "the interpretation of potentially impacted property is ultimately made by the receiving facility since the responsibility falls to them to make sure that only CCDD and uncontaminated soil are accepted for fill." *Id.*

In addition, IEPA stated that the ASTM Standard Practices for Environmental Site Assessment Phase 1 Environmental Site Assessment Process E1527-05 may be consulted as guidance for determining whether a property, including rights of way or easements, may be potentially contaminated. Tr.2 at 7-8. However, IEPA is not mandating the use of the ASTM standard, so the owner/operator or LPE/LPG may use any criteria they choose to determine whether a site is a PIP. *Id.* at 9. Regarding the issue of due diligence steps to be taken by an owner/operator, IEPA stated that the ASTM E1528-06 standard practice for limited environmental due diligence transaction screening process provides guidance. Finally, IEPA stated that while it had no objections to the standards being incorporated by reference in the rules, IEPA did not want the standards to be included in a substantive provision requiring its use. *Id.* at 16. IEPA proposed the incorporation by reference of two ASTM standards (E1527-05 and E1528-06) in *errata* Sheet #3.

Discussion. As discussed above, the Board agrees with IEPA on the proposed use of the new term "PIP" instead of the statutory phrase "industrial/commercial". However, the Board shares participants' unease regarding the determination of PIP. The Board agrees with Mr. Huff and PBC that the definition of PIP and the associated certification requirements do not provide sufficient guidance for making a PIP determination.

Under the proposed rules, the determination of whether a property is potentially impacted is a significant step, which determines whether soil from that property may be used as fill material without further evaluation. However, the proposed rules do not specify any standard methodology or guidance that a source site owner/operator or LPE/LPG needs to follow to determine if a property is potentially impacted. Actually, according to IEPA, a source site owner/operator may use any criteria to determine whether a property is potentially contaminated. Tr.2 at 9.

However, in response to a series of questions regarding the determination of PIP under the proposed rules, IEPA repeatedly stated that the ASTM standards provide the necessary guidance. Tr.2 at 7, 8, 10, 12 and 15. Further, in response to hearing questions, IEPA recommended that the ASTM standards E1527-05 (Phase I Environmental Site assessment Process) and E1528-06 (Transaction Screen Process) be incorporated by reference without including them in the substantive rules. See *errata* Sheet No. 3. Given that the determination of whether a source site is potentially impacted has significant implications, the Board believes that the substantive rules must specify standard methodology for making such a determination. The record clearly indicates that both IEPA and regulated community rely on the ASTM standards for evaluating a property's potential for contamination within the context of the CCDD and uncontaminated soil fill operations. Thus, the Board finds that the record supports the inclusion of the ASTM standards in the substantive soil certification provisions under Section 1100.205(a).

The Board notes that while ASTM Standard E1527-05 specifies guidance for conducting an environmental site assessment, the ASTM Standard E1528-06 provides guidance for conducting limited environmental due diligence. The Board notes that the ASTM due diligence screening process addresses the types of factors that the owner or operator is required to consider in determining if a property is potentially impacted under the proposed rules. This procedure allows for a systematic evaluation of the site without going into a comprehensive Phase I assessment. Therefore, the Board will require the source site owner or operator certification required at Section 1100.205(a)(1)(A) be based upon a site evaluation conducted in accordance with ASTM Standard E1528-06. If the owner or operator determines that the site is a PIP, then the Board will require LPE/LPG certification under Section 1100.205(a)(1)(B) be based on a site evaluation conducted in accordance with ASTM Standard E157-05.

The Board notes that both Mr. Huff and PBC recommended that the Board use the ASTM term "Recognized Environmental Condition" (REC) in the definition of PIP. The term REC denotes that a site evaluated in accordance with ASTM Phase I standard has a potential for contamination. If the Board incorporates the term REC in the definition of PIP, then under Section 1100.205(a) both owner/operator and LPE/LPG certifications will have to be done in accordance with the ASTM Phase I standard. Since the Board is proposing to allow an owner/operator to make a PIP determination in accordance with ASTM due diligence screening standard, the Board declines to define PIP in terms of REC. However, the Board is convinced that the proposed amendments to Section 1100.205(a)(1) that require site evaluation to be performed in accordance with the ASTM standards address the participants' concerns.

The Board finds that the use of the term "Potentially Impacted Property" instead of the phrase "industrial/commercial" reflects the statutory intent within the context of the proposed rules. Further, the Board finds that both IEPA and the regulated community rely on ASTM Standards for evaluating a property's potential for contamination. Thus, the Board will require soil certification under Section 1100.205 to be based upon source site evaluation conducted in accordance with the ASTM standards. The Board will amend the source site owner or operator certification at Section 1100.205(a)(1)(A) to be based on ASTM Standard E1528-06, and LPE/LPG certification under Section 1100.205(a)(1)(B) to be based on ASTM Standard E1527-05.

Analytical Soil Testing Data

Participant Concerns. Vulcan takes issue with IEPA's proposed rules at Section 1100.205, which allow uncontaminated soil certification without analytical data to support the certification. PC 14 at 2. Vulcan notes that it has received certification forms that are incorrectly completed, signed by parties other than those listed in the rules, lacking supporting documentation or evidence, or are of questionable validity. Vulcan supports the use of certification only if the rules require analytical testing of material from all sites other than residential sites. *Id.* IEC concurs with Vulcan's position. IEC notes that while the proposal requires certification by a LPE or LPG, the rules do not require objective lab analysis to show that the level of contamination is within acceptable TACO limits. PC 18 at 2. IEC contends that analytical testing should be required since the use of a PID at the fill site provides little protection. IEC notes that PID has a limited capacity to detect TACO Tier I pollutants and is unreliable. *Id*.

IEPA Response. Although IEPA did not address the issue of requiring soil testing to support certification in its final comments, IEPA clarified at hearing that the rules do not require analytical testing of soil. However, the rules allow the LPE/LPG to determine if sampling and analysis are necessary to determine the concentrations of contaminants in the soil. Tr. 1 at 104 and Exh. 4 at 16. Regarding the issue of analysis of soil chemical constituents and development of a representative sampling plan, IEPA's position is that "a one-size-fits-all protocol producing consistently reliable results is impractical considering the multitude of sites, activities, and circumstances in which soil may be generated and managed prior to placement in fill operations." Exh. 4 at 15-16. Therefore, IEPA states, the rules provide that LPG/LPE must make such determinations on a site-specific basis as a part of the certification made in accordance with Section 1100.205(a)(1)(B). *Id.* at 16.

Discussion. The Board notes that IEC and Vulcan have raised valid concerns regarding IEPA's proposal not to require soil certification to be supported by soil testing data. The Board believes that an uncontaminated soil certification would be credible when it is supported by analytical data that show compliance with the soil MACs, particularly when the source site is a PIP. As noted earlier, many participants argued that groundwater monitoring is not necessary at fill operations since the front-end soil screening would ensure that only uncontaminated soil would be used as fill material. As noted above, under the groundwater monitoring discussion, the Board agreed with the participants' by removing the groundwater monitoring provisions from the proposal. However, the Board noted that the soil screening provisions would be strengthened to ensure only uncontaminated soil is used as fill material.

Although soil certification by an owner/operator or LPE/LPG offers some protection, the Board finds that such certification without supporting analytical data is inadequate to ensure only uncontaminated soil is being used as fill material. While the Board sees merit in allowing LPEs/LPGs the flexibility to develop representative soil sampling plans based on site-specific conditions, the Board does not agree with IEPA's position to allow a LPE/LPG to also make a determination as to when soil testing is necessary. At a minimum, the Board believes that the proposed regulations must require soil testing to show compliance with the MACs when the source site is determined to be a PIP by the owner/operator.

The Board finds that the proposed soil certification requirements must include analytical soil testing data to show compliance with MACs when the soil is from a PIP. Thus, the Board will require LPE/LPG soil certification under Section 1100.205(a)(1)(B) to include analytical soil testing data.

Summary of Board Findings on Soil Certification/Potentially Impacted Property

The Board finds that proposing the phrase "potentially impacted properties" is within the Board's authority under the Act. The Board further finds that both IEPA and the regulated community rely on the ASTM standards for evaluating a property's potential for contamination. Therefore, the Board requires that soil certification under Section 1100.205 to be based upon source site evaluation conducted in accordance with the ASTM standards. The Board also requires that the soil certification include analytical testing data to show compliance with MACs when the soil is from a PIP.

Soil Testing

IEPA's proposal requires chemical analysis of soil samples to be conducted using specified USEPA Methods. SR at 30-31. Further, the proposal does not allow compositing of samples for analysis, or averaging of sample results to show compliance with MACs. Mr. Huff and the LRRA expressed concerns regarding the proposed soil testing protocols under Section 1100.610. Essentially, they urged the Board to amend the rules to allow compositing of samples and averaging of analytical results. The Board will discuss the issues concerning soil sampling protocols in this section.

Participant Concerns. Mr. Huff questions IEPA's proposal for not allowing for compositing samples and averaging results to show compliance with MACs under Section 1100.610(b). PC 11 at 3-4. Based on Dr. Hornshaw's testimony that one out of twenty samples of naturally occurring arsenic would statistically exceed the arsenic MAC, Mr. Huff contends that IEPA's position for not allowing compositing and averaging is illogical. *Id.* He asserts that IEPA's proposal to require only grab samples will result in higher rejection rates, and costs. PC 11 at 4. If the Board is concerned with dilution of contaminated soil by compositing, Mr. Huff suggests that the Board could require grab samples where Recognized Environmental Conditions are present at a site. *Id.* at 4-5. LRRA also voices concerns regarding IEPA's proposal to disallow compositing and averaging of soil samples. LRRA contends that IEPA's proposal would result in contactors seeking unregulated disposal and keeping soils with high PNAs on site. PC 17 at 2-3.

IEPA Response. IEPA states that its proposal to prohibit compositing of samples and averaging of results is justified for several reasons. PC 9 at 16. First, IEPA asserts that its position is consistent with the statutory language at Section 3.160(c) of the Act that provides that uncontaminated soil must not pose a threat to human health, safety or the environment. *Id*. IEPA states that since it is unreasonable to sample and analyze every cubic yard of soil, IEPA has proposed that every sample must meet the MACs. *Id*. Next, IEPA notes that compositing of soil samples and averaging of results cannot assure that sampled soil as a whole is harmless. In

addition, IEPA states that some TACO provisions also prohibit compositing and averaging. PC 9 at 17. Finally, IEPA opposes compositing and averaging because uniform exposure cannot be assumed for soils placed in a CCDD operation of soil fill operation. PC 9 at 17-18.

Discussion. The Board agrees with IEPA that when defining "uncontaminated soil" the rules must be based on the assumption that any exposure may be to the highest constituent concentrations. As such, the rules should not allow compositing and averaging. While the Board is cognizant of the concerns regarding higher costs and the possibility of higher rejection rates, the Board is concerned with dilution of soil samples because of compositing and averaging. In addition, since the Board's first notice proposal does not require groundwater monitoring, compliance with the MACs is a very important screening requirement to ensure that only uncontaminated soil is being used as fill material. Therefore, the Board requires that every discrete sample should meet the MACs for applicable chemical constituents. Also, the Board's proposal addresses some of the participants' concerns regarding costs and rejection rates because the Board is requiring soil testing only for soils from PIPs.

Board Findings. The Board finds that the proposed prohibition against compositing soil samples and averaging results is appropriate for showing compliance with soil MACs. The Board finds that this prohibition is reasonable since the rules require soil testing only for soil from sites determined to PIP in accordance with ASTM standards.

Maximum Allowable Concentrations (MACs) in Soils

IEPA's proposal establishes a methodology for determining the MACs for chemical constituents in uncontaminated soils based on the TACO Tier I objectives. SR at 24. This methodology at Section 1100.610 allows for establishing MACs on a uniform statewide basis. A number of participants expressed concerns regarding the provisions for the determination of MACs for chemical constituents in uncontaminated soil. These concerns may be classified under three areas: the appropriateness of using TACO provisions to derive the MACs; the use of site-specific pH to determine of MACs for pH sensitive chemical constituents; and consideration of soil ingestion and inhalation exposure pathways in determination of MACs. In the following sections, the Board will provide a brief summary of the participants' concerns, and discuss each issue before making its findings.

Using TACO to Determine MACs

Participant Concerns. IEC states that reliance on TACO Tier I soil standards is misguided because those standards will not prevent contaminated fill that is placed in a quarry from leaching into groundwater. PC 18 at 2. IEC argues that TACO was never designed to prevent groundwater contamination and was designed to be a remediation program, taking into consideration land use and location. *Id*. IEC contends that quarries are located in vulnerable geological areas with insufficient barriers to prevent leaching to aquifers below. IEC argues that TACO is a poor regulatory tool to prevent groundwater contamination because TACO contemplates only vertical attenuation and not horizontal leaching. *Id*.

Mr. Rapps agrees with IEC that TACO was never intended to be used to define "uncontaminated", as proposed by IEPA. He takes issue with the reliance of TACO on area background levels for certain chemical constituents. Mr. Rapps asserts that establishing background levels on the basis of the statistical median value is seriously flawed because it ignores half of the background data. PC 19 at 5. Even though TACO is often used as a bright-line test by cleanup contractors, he suggests that the Board employ qualitative means to define "uncontaminated" as required by the statutes. *Id.* at 6. Mr. Rapps urges the Board to recognize the concept of *terra firma* to define "uncontaminated" soil, i.e. the soil upon which people live, work, and play that has not been impacted by spills, LUST releases, and aerosol releases must be exempt from the proposed regulations. *Id.*

IEPA Response. IEPA stated that the use of TACO to determine MACs is appropriate due to the limited options available for establishing chemical-specific MACs. Exh. 4 at 2. Also, the statutory references to TACO tables and objectives imply that TACO provisions may be used to determine MACs. IEPA clarified that under the proposed regulations, MACs are determined using the most stringent TACO Tier 1 objectives among the ingestion, outdoor inhalation, soil migration to groundwater, and construction worker exposure routes for human receptors. Exh. 3 at 2. Further, the rules do not rely on legal instruments and location specific TACO measures, such as institutional controls, engineered barriers, or pathway exclusions. Finally, IEPA notes that the MACs based on TACO are intended to define "uncontaminated soil" only for the limited purpose of defining soil as fill material at regulated fill operations. PC 9 at 7-8 citing SR at 20-22.

Discussion. The Board agrees with IEPA's position on the use of TACO Tier 1 objectives to determine MACs. Although TACO rules are not intended for the purposes of defining whether soil is uncontaminated, the Tier 1objectives for soil migration to groundwater pathway are designed to protect against groundwater contamination. The Board also agrees that other than TACO Tier 1 objectives, the only option would be to require site-specific MAC determination. As noted by IEPA, requiring site-specific determination of MACs would involve the addition of a complex and costly regulatory structure for IEPA's review of site-specific MACs and make the implementation of the rules complicated for soil generators, certifying LPGs/LPEs, and state and local inspectors. Exh. 4 at 3. In addition, the Board notes that Section 3.160(c), which sets forth that the Board must adopt rules specifying the maximum concentrations of contaminants, refers to the "most stringent" remediation objective under the TACO rules implying that MACs should be based on the TACO Tier 1 objectives.

Regarding Mr. Rapps' concerns about area background, the Board believes that it is not appropriate to address the substantive merits of how area background levels were established in the TACO rules in the instant CCDD proceeding. The Board also notes that the record does not support Mr. Rapps' suggestion that "uncontaminated" soil be defined on a qualitative basis. Such an approach would appear to be inconsistent with the Section 3.160(c) of the Act, which requires the Board to adopt maximum concentrations of contaminants that may be present in "uncontaminated" soil.

In light of the above, the Board finds that the MACs for soil constituents must be based on the TACO Tier 1 objectives, as proposed by IEPA. Further, the Board declines to define "uncontaminated" soil on a qualitative basis.

Use of Site-Specific pH to Determine MACs

Participant Concerns. Several participants questioned the use of a conservative pH range for determination of MACs for pH dependent chemical constituents. Mr. Huff asserts that the Board must consider the impact of using IEPA's proposed pH levels, since those levels could lead to MAC levels that would be too low. Exh. 10 at 12. Mr. Huff maintains that the definition of "uncontaminated soil" does not require MACs to be applied uniformly throughout the state. He contends that there is sufficient basis for determining MACs for inorganic and ionizing organic compounds using site-specific pH data from each source of material rather than the proposed uniform approach. PC 11 at 1-3.

Mr. Huff relies on the pH data of dewatering discharges from quarries provided by the IAAP and Mr. Hock to argue that that the lowest average pH at any of the facility included in the database is well above the pH range of 4.5 to 4.74 considered by IEPA. PC 11 at 2 citing Attachment 1. Additionally, Mr. Huff states that the buffering capacity of limestone aggregate, clay, and organic matter present in CCDD would make acidic pH values highly unlikely within CCDD and clean soil fill sites. *Id.* Mr. Huff recommends that if the Board decides to adopt IEPA's uniform approach, the Board should adopt MACs based upon a higher pH range of 6.25-6.64. PC 11 at 3 citing Exh. 12 at 3-4.

Mr. Hock concurs with Mr. Huff's recommended pH range of 6.25-6.64. Exh. 12 at 7. Mr. Hock testified that basing MACs upon low pH specific soil remediation objectives is not appropriate. Exh. 12 at 7. Mr. Hock submitted evidence gathered by CEC that indicates CCDD facilities pH will typically range above 7.3. *Id*. He also noted that groundwater monitoring data provided by First Environmental Laboratories, Inc. show that over 97.6 % of the 8500 samples had a pH of 6.25 or greater. Mr. Hock recommended that establishing MACs based upon a pH value of 6.25 or greater is more appropriate. *Id*. Mr. Wilcox and LRRA also assert that IEPA's use of conservative pH value is unnecessary and overly restrictive. Exh. 15 at 3.

Vulcan also contends that the proposed MACs based on a low conservative pH value is overly restrictive and results in more soil ending up in landfills. PC 14 at 4. Vulcan notes that IEPA's proposal is based on the premise that the pH affecting constituent leachability is the pH of soil being placed inside the fill area. However, pH of soil placed inside the fill area at Vulcan's facility during 2011 range from 7.48 to 8.20 with an average of 7.94. *Id.* at 3. Thus, Vulcan recommends that the MAC criteria be established on the basis of neutral pH values, or on pH of soil placed inside the fill area determined by the owner or operator. *Id.* at 4.

Finally, PBC states that the proposed MACs are without scientific justification. PC 20 at 10. PBC notes that the pH data presented by IEPA do not support the proposed lowest pH value. PC 20 at 11. PBC asks the Board to consider moving Subpart F into a separate docket for separate and independent science-driven consideration. *Id.* at 12.

IEPA Response. IEPA rejects the recommendation of some of the participants to establish MACs on the basis of site-specific pH values. First, IEPA clarifies how it considered pH sensitivity in proposing the soil MACs based on Tier I TACO soil remediation objectives. IEPA states that pH sensitivity refers to the effects of soil pH on leaching of certain inorganic and ionizing organic constituents and their migration to groundwater. PC 9 at 10. IEPA explains that the TACO Tier I soil remediation objectives for the soil component of the Class I groundwater ingestion exposure route apply only when the soil pH at the remediation site is 6.8. PC 9 at 11. However, fill operations are dynamic with additional loads of soil and materials originating from numerous sites and brought in day after day. *Id*. IEPA notes that at fill operations, the relevant pH affecting constituent leachability is the site where the soil is generated not the fill site. *Id*. Therefore, IEPA states that for pH sensitive constituents, TACO cannot be used in the same way for CCDD and soil fill operations as TACO is used for remediation sites. *Id*.

Regarding Mr. Hock's testimony, IEPA notes that he relied on geographically limited data from three facilities located in Northern Illinois. PC 9 at 14. IEPA also notes that most of the groundwater monitoring samples was obtained within two hours driving distance from the Chicago area. *Id.* IEPA submitted pH values for soils throughout the state derived from STATSGO database because of the relatively large amount of statewide data. PC 9 at 12. IEPA contends that the state soil data shows that soils with pH as low as 4.5 are found in Illinois, and soils with pH lower than 6.0 are not uncommon in Northern Illinois. IEPA also notes that Mr. Huff's suggestion to use information from dewatering may not be appropriate since not all water discharged will have encountered fill material. PC 9 at 15.

Discussion. The Board will first address whether the proposed rules must be amended to allow for the determination of MACs on site-specific basis for certain pH dependent ionizing organic and inorganic constituents. Then, the Board will address the issue of whether the rules should require the use of either a higher or a neutral pH range instead of the pH range considered by IEPA to determine MACs for the pH dependent chemical constituents.

Site-Specific MACs. The Board notes that Section 3.160(c) of the Act defines "uncontaminated soil" as soil that "does not contain contaminants that pose a threat to human health and safety and the environment". Further, Section 3.160(c)(1) sets forth, in part, that "the Board shall adopt, rules specifying maximum concentrations of contaminants that may be present in uncontaminated soil for purposes" of Section 3.160 of the Act. Thus, the Board must adopt MACs for uncontaminated soil constituents that are protective of human health, safety and the environment when such soil is used as fill material in accordance with Section 3.160. Although Section 3.160(c) is silent on the issue of whether the Board should adopt uniform statewide MACs or allow for determination of site-specific MACs, the Board agrees with IEPA's position that rules must define uncontaminated soil on a uniform statewide basis for several reasons.

First, the Board notes that the rules adopted pursuant to Section 3.160(c)(1) must apply to uncontaminated soil originating from any location in the state that is placed in fill operations located in any part of the state. The Board notes that it is well established in the Board rules concerning landfills, USTs, and TACO that soil conditions vary across the state. Further, the

information submitted by IEPA indicates that soil pH varies across the state. See Exh. 25. Thus, as a matter of general policy, the Board believes that a conservative approach is appropriate when defining soil as being "uncontaminated" on a statewide basis. This is especially so, since CCDD and uncontaminated soil fill operations are not regulated in the same manner as waste disposal sites or remediation sites. The Board believes that it is very important to ensure that materials being placed in the fills and quarries are not contaminated, and do not pose a threat to human health and the environment.

Next, the Board recognizes that TACO provides for site-specific determination of corrective action objectives based on extensive site characterization. However, as IEPA notes:

> Site-specific standards based on conditions at each fill operation would require additional rules for site investigation, reporting, review, and approval of site-specific MACs. Separate standards for each fill operation would substantially complicate compliance with Part 1100 for soil generators, reviewing licensed professional engineers and geologists, and state and local delegated inspectors. PC 9 at 10.

The proposed rules do not address site investigation and review processes necessary for establishing site-specific MACs. Given that many participants are opposed to the proposed provisions relating to groundwater monitoring and corrective action that may require minimal site investigation and IEPA oversight, the Board is not inclined to add additional provisions to establish MACs on a site-specific basis.

Finally, as discussed in the groundwater monitoring section, above, the Board found that groundwater monitoring is not warranted at CCDD and uncontaminated soil fill operations since the proposed soil testing and screening provisions would help to ensure only uncontaminated material would be used as fill material. This finding makes it all the more important to have uniform statewide MACs to define uncontaminated soil under Section 3.160. In light of this, the Board declines to amend the proposed rules to allow for the determination of site-specific MACs.

pH Range for Determining MACs. Now, the Board will address the issue of whether the rules should require the use of a neutral pH range instead of the pH range considered by IEPA to determine MACs for the pH dependent chemical constituents. IEPA's proposal at Section 1100.605 requires the use of lowest pH-dependent value for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742 Appendix B, Table C for certain inorganic and ionizing organic constituents. The lowest pH dependent value in some cases will be found at the higher pH ranges of Table C, and in others they will be found at the lower pH ranges of Table C. For pH-sensitive constituents, the proposed rules require that the worst case scenario be covered at each facility whenever the MAC is determined to be the pH-dependent value from the soil component of the groundwater ingestion exposure route. PC 9 at 12. IEPA observes that if the rules require MACs to be established on the basis of a specific pH range, then only soils with a pH in that specified range may be accepted at fill operations. In addition, incoming soil may have to be tested to confirm the pH range since the pH data in the record does not reflect soil conditions across the state. *Id.*

The Board has reviewed the pH data supplied by participants opposed to IEPA's proposal. While the data from the three facilities indicate soil pH values in the range of 7.3 to 11.0, the Board finds that the data is insufficient to support the application of a higher pH range to determine MACs on a statewide basis. The Board notes that pH data are geographically limited since all three facilities are located in Northern Illinois. In contrast, the summary of statewide pH data submitted by IEPA indicates a much wider pH range for the state soils. IEPA's data indicates soil pH ranges from 5.1 to 8.4 in the northern and central counties, while soil pH in southern counties range from 4.5 to 7.3. PC 9 at 13. Since the proposed rules are applicable statewide, without any limitation on the location of source site, the Board finds that the proposed use of the lowest pH-dependent value for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742 Appendix B, Table C for certain inorganic and ionizing organic constituents is appropriate. As noted by IEPA, this approach allows for the consideration of the worst case scenario when the MAC is determined to be the pH dependent value from the soil component of the groundwater ingestion exposure route. PC 9 at 12.

The Board finds that the proposed uniform statewide approach for determining MACs is appropriate for defining uncontaminated soil. Thus, the Board declines to amend the rules to allow for site-specific determination of MACs. Further, the Board finds that the record does not support the adoption of a pH range of 6.25-6.64 for determining MACs for certain pH-sensitive chemical constituents. The Board proposes for first notice the MAC provisions proposed under Subpart F by IEPA.

Ingestion and Inhalation Pathways

Participant Concerns. Mr. Huff takes issue with IEPA's proposal to consider ingestion and inhalation pathways in determining MACs. He notes that there is no statutory requirement to apply TACO Tier I ingestion and inhalation objectives to CCDD and uncontaminated soil placed below the water table. Exh. 10 at 7. However, he notes that the ingestion and inhalation pathways become relevant as the quarries reach the upper ten feet of fill. *Id*. Mr. LaDieu stated that the residential ingestion and inhalation standards will exceed the 1 in 1,000,000 risk level specified at Section 3.160 of the Act at any deep quarry or mine. Exh. 19 at 2. Mr. LaDieu suggested that materials placed 20 feet below grade do not present a residential ingestion or inhalation pathway. *Id*. Mr. LaDieu recommended that the MACs be evaluated based on a "true" risk assessment. *Id*. Mr. Wilcox states that the proposed use of TACO's residential ingestion and inhalation pathways to establish MACs are inappropriate and the TACO pathways that should have been used are the inhalation and ingestion pathway for construction workers and groundwater. Exh. 15 at 3.

IEPA Response. IEPA notes that applying ingestion and inhalation pathways for determining MACs based on the depth of the fill area would entail multiple MACs based on the depth of soil placement and a significantly expanded MAC table or tables. PC 9 at 9. This approach would require testing of soil placed in the fill to show compliance with the inhalation (top 10 feet) and ingestion (top three feet) standards. IEPA asserts that the adoption of MACs based on soil depth would complicate the implementation of the rules. *Id.* IEPA notes that

additional soil testing would be necessary to show compliance with inhalation and ingestion standards for soil placed in the upper layers.

Discussion. As discussed above, the Board is adopting a uniform statewide approach to determine MACs to ensure that "uncontaminated" soil managed in accordance with Section 3.160 does not pose a threat to human health and safety, and the environment. To this end, the Board cannot ignore the consideration of soil inhalation and ingestion pathways in determining MACs. These pathways, as noted by the participants and IEPA, are relevant in the upper layers of the fill operations and also may impact persons handling the material. Therefore, the Board will require the MACs to be based on the lowest TACO Tier 1 chemical-specific value of the exposure routes (ingestion, inhalation, soil component of groundwater ingestion, construction worker) for residential and commercial worker receptors. In addition, the Board declines to amend the rules to allow for MACs based on the depth of soil placement to avoid any implementation issues noted by IEPA.

The Board finds that soil inhalation and ingestion pathways must be considered in the determination of MACs from uncontaminated soil. Further, such consideration will not be based on the depth of soil placement in a fill operation.

Summary of Board Findings on MACs in Soils

In light of the above, the Board proposes for first notice the MAC provisions proposed under Subpart F by IEPA without any changes. The Board finds that the MACs for soil constituents must be based on the TACO Tier 1 objectives. The Board notes that the record does not support proposing a definition of "uncontaminated" on a qualitative basis. Next, the Board finds that the proposed uniform statewide approach for determining MACs is appropriate. Thus, the Board declines to amend the rules to allow for site-specific determination of MACs. Further, the Board finds that the record does not support participants' recommendation to specify a pH range of 6.25-6.64 for determining MACs for certain pH-sensitive chemical constituents. Finally, the Board finds that soil inhalation and ingestion pathways must be considered in the determination of MACs for uncontaminated soil. Such consideration will not be based on the depth of soil placement in a fill operation.

Load Checking at CCDD and Soil Fill Operations

IEPA proposes that load checking be done for all CCDD and soil fill operations. Section 1100.205(b)(1)(A) requires that all loads be visually inspected and that an inspector use a photo ionization detector (PID), a flame ionization detector, or other device approved by IEPA to inspect each load. Any reading in excess of background levels must result in rejection of that load. IEPA originally required owner/operators to reject all loads that are suspected of being contaminated, including those rejected during the load testing process, and disposing of the loads in a landfill. In *errata* sheet 3, IEPA changed this to no longer require rejected loads to be taken to a landfill, if certain requirements are met. A number of participants raised concerns with the load checking requirements.

Participant Concerns

Mr. Huff expressed concern with the role of analytical testing as compared to the field screening using a PID. He testified that there is a problem in relying on field screening in that humidity can result in false positives in rich soils. Mr. Huff suggested that a process be included for rejected loads that would include the ability to retest. Exh. 10 at 7. Mr. Liss raised issues with the use of a PID, indicating it offers inadequate protection, and there is no standard protocol for its use. In addition, a PID cannot detect all potential contaminants. Exh. 17 at 4. IEC concurs with these issues. PC 18 at 2. The People and CARE raise concerns with the adequacy of the proposed load screening, questioning the lack of screening for inorganic heavy metals using XRF. PC 10 at 3. Mr. Huff raises concerns with IEPA's reliance on the PID for screening given the propensity for PID meters to yield false positives. Mr. Huff suggests establishing a screening threshold of 5 ppm to eliminate the unnecessary rejection of loads due to false positives.

Discussion

The IEPA's proposed pre-screening requirements are problematic for the Board. Therefore, the Board is proposing steps to help ensure that the CCDD and soil fill deposited in quarries, mines or other excavations are not contaminated, thus providing protection for groundwater. This includes requiring analytical soil testing for all sites determined to be PIPs. This requirement will address most of the concerns raised with relying on PIDs to detect contaminants.

The Board recognizes that PIDs have a propensity for false positives under certain environmental conditions, which would result in the rejection of loads that did not contain contaminants. However, the Board rejects the establishment of a minimum threshold to address the issue of false positives when using a PID because no information was provided to justify a specific threshold. To address the issue with the unnecessary rejection of loads due to false positive PID readings, the Board amends Section 1100.205(a)(4)(A)(iv) to clarify that soil in a rejected load may be tested or retested if it was previously tested to show that soil is uncontaminated. Further, the Board proposes that for all loads that are rejected using a PID, the site owner/operator's notice under Section 1100.205(b)(4)(A)(ii) must state that the rejected material must not be taken to another fill operation, except as provided in subsection 1100.205(b)(4)(A)(iv), or the material must be handled as waste and deposited in a permitted landfill.

Concerns were raised with the need to screen for heavy metals, recommending the use of a XRF. The Board shares this concern, but because no information was provided as to the economic and technical feasibility of using this technology, the Board is not taking a position at this time. The Board invites participants with information on the costs and effectiveness of the XRF to submit it for the Board's for consideration.

Board Findings

The Board finds that its proposal to require analytical soil testing for all PIP sites will address many of the issues raised with the limitations of using a PID to detect contaminants. The Board further proposes that when a load is rejected due to PID screening, the site source owner/operator has the choice of performing analytical testing or retesting the load to minimize unnecessary rejection of uncontaminated loads while protecting public health and safety and the environment, or rejecting the load as contaminated and disposing of it as waste in a permitted landfill.

Self-Implementing Provisions and Reporting & Registration Requirements

IEPA has added Subpart E, Uncontaminated Soil Fill Operations that includes recordkeeping comparable to that required for CCDD operations. Unlike CCDD operations, however, IEPA has not required that owners/operators of soil fill sites submit an annual report, opting for a self- implementation approach, including for groundwater monitoring. PA 96-1416 requires that soil fill operations be registered by IEPA rather than permitted as are CCDD operations. The proposed registration process, however, contains significantly less information than required in CCDD permit applications.

Participant Concerns

Concerns were raised regarding the self-implementation and registration components proposed for soil fill operations. Will County believes that the proposed self-implementation of the groundwater monitoring provisions is not sufficient. PC 6 at 2. WMI also raises concerns with the self-implementation of groundwater monitoring and recommends that the Board require groundwater monitoring plans for CCDD or soil fill operations to be pre-approved by IEPA as a part of the permitting process. PC 8 at 3-4. CARE asserts that IEPA's proposal is deficient, in part, due to unenforceable self-implementing groundwater monitoring provisions and a lack of permitting or a meaningful registration process for soil fill operations. PC 10 at 2. CARE contends that submission of groundwater monitoring records will enhance IEPA's oversight, and also allow for public access to such records via the Illinois Freedom of Information Act (FOIA) (5 ILCS 140/1 *et. seq*. (2010)). PC 10 at 7.

IEPA Response

IEPA is proposing that the rules related to soil fill operations and for groundwater monitoring be self-implementing because of IEPA's resource limitations. PC 9 at 3. IEPA further states that the review and approval of actions proposed by these rules would double their workload. PC 9 at 3. IEPA notes that other portions of the Board's rules contain similar self-implementing provisions. *Id.*, citing 35 Ill. Adm. Code 615 and 815. IEPA contends that the self-implementing procedures, including the groundwater monitoring provisions are an effective final check that will ensure that the materials placed in fill operations do not adversely impact groundwater. PC 9 at 3. IEPA plans to rely on field inspections of the facilities to verify compliance with the rules, planning on at least two inspections at each facility annually. PC 9 at 4.

Discussion

The Board, too, is concerned with the self-implementing nature of the proposed rules, even with the Board's decision to delete Subpart G requiring groundwater monitoring. The Board agrees with IEPA that the review and approval of the actions required by these rules would increase their workload, however, the impact to IEPA's resources can be minimized by requiring an annual report for soil fill operations that is similar to that required for CCDD operations. The deletion of the groundwater monitoring requirement will further reduce the administrative requirements that might exist.

The Board is not convinced by IEPA's assertion that because there are several examples in existing rules where self-implementation is allowed such a strategy should be used here. Actually, the Board notes that Part 815, which is cited by IEPA as an example of self-implementing rules, requires the filing of annual report with IEPA. See 35 Ill. Adm. Code 815, Subpart C. There is a substantial public interest in this rulemaking and concern about material being placed in quarries, mines and other excavations. Balancing that concern with adding requirements for annual reporting to IEPA makes clear that what additional workload IEPA may be tasked with is appropriate.

Regarding the recommendation to require permits for soil fill operations, the Board cannot support this because PA 96-1416 specifically requires a registration process for soil fill operations. However, the Board shares CARE's concerns regarding the lack of facility and operational information required to be submitted with a soil fill operation registration form. *See* Exh. 5 and 6. IEPA proposes requiring the registration form to include specific signatures, questions related to the procedures for closure and the termination of post-closure maintenance. Far more information is required in a CCDD permit application, which the Board believes is appropriate for soil fill operations as well.

Board Findings

The Board finds that even though soil fill operations are not required to be permitted, requiring additional information from the owner or operator to be submitted to IEPA is appropriate. The Board, therefore, will require soil fill operations to submit annual operating reports similar to that required by CCDD operations in Section 1100.211. In addition to providing for increased IEPA oversight, these requirements allow for public access to facility information via FOIA. The Board also notes that the Annual Report provisions for CCDD fill operations in Section 1100.211 require a summary of the number of loads accepted and rejected, the amount of CCDD and uncontaminated soil expected in the next calendar year, any modifications affecting the facility, the required signatures, and an annual facility map. The Board believes it is also important to include the amount of CCDD and uncontaminated soil accepted at the site in the calendar year. The Board proposes this requirement in Section 1100.211.

The Board also proposes that the soil fill operation registration form be expanded to include the information required for CCDD permits. This would include adding requirements for

the submission of a site location map (Section 1100.304), facility plan maps (Section 1100.305), narrative description of the facility (Section 1100.306), and proof of ownership (Section 1100.307), surface water control (Section 1100.308), closure plan (Section 1100.309), and postclosure plan (Section 1100.310). The Board amends the registration requirements at Section 1100.515 to reflect the additional registration requirements.

Licensed Professional Geologists

IEPA proposes authorizing Licensed Professional Geologists (LPG), along with Licensed Professional Engineers (LPE) for a portion of the responsibilities in the CCDD rules. LPGs were specifically excluded from certain sections, including those related to certification and load testing, assessment of painted materials, closure and post-closure maintenance and sign-off, and groundwater monitoring. A number of participants proposed increasing the responsibility of LPGs to be comparable to that of LPEs.

Participant Concerns

Mr. Krumenacher stated that LPGs in Illinois have been directly involved in planning, execution and management of the characterization and final disposition of contaminated soil and other materials for decades. Exh. 11 at 3. He suggested that "it is both appropriate and applicable to incorporate" references to LPGs in Sections 1100.205, 1100.212, 1100.412, 1100.525, 1100.530 and 1100.710. *Id*. Mr. Krumenacher provided four justifications for including LPGs in these sections. First, the language of the Professional Geologist Licensing Act provides justification for inclusion of LPGs in the rule. Exh. 11 at 5. The second justification for inclusion of LPGs is the educational curriculum of a professional geologist. Exh. 11 at 6. The third reason to support adding LPGs to these sections are the requirements of both the National Association of State Board of Geology and the Illinois Department of Financial and Professional Regulation that require a degree in geology, four years of professional experience and the passing of a written test. Exh. 11 at 7. The final reason cited by Mr. Krumenacher is the historic role of professional geologists. Exh. 11 at 11. Mr. Pyles (Exh. 14 at 1) and Mr. Dixon (Exh. 16 at 1) provided testimony concurring with Mr. Krumenacher, and Mr. Richards (PC 2 at 1), Ms. Bauer (PC 3), and Mr. Kreuger (PC 4 at 2) submitted written comments asking that LPGs be included in the groundwater monitoring requirements in Subpart G.

IEPA Response

IEPA did not include LPGs in areas where there was uncertainty about the extent of a geologist responsibilities under the Professional Geologist Act (225 ILCS 745 (2010). PC 9 at 18. IEPA contacted the Illinois Department of Financial and Professional Responsibility (IDFPR) seeking guidance on whether the activities to be certified in the proposed rule fell within the expertise of the LPE and LPG; however, IDFPR did not comment on whether LPGs should be added to the entire list of sections delineated above. PC 9 at 18-19. IEPA does not object to inclusion of LPGs where appropriate under the Professional Geologist Act. PC 9 at 19.

Discussion

Because the Board has proposed the elimination of the groundwater monitoring provision, the issue of giving LPGs the same responsibilities as LPEs, applies to the sections related to soil certification and load testing, assessing painted materials, and closure and post-closure procedures and sign-off. The Board believes that the language of the Professional Geologist Act includes the expertise required for these activities. Administrative rules provide examples of the practice of professional geology, which includes "the planning, review, and supervision of data gathering activities and interpretation of data on regional or site specific geological characteristics affecting groundwater; and the conducting of environmental property audits." The Board also believes that because the closure and post-closure requirements are far less stringent for CCDD sites than those for sanitary landfills, and therefore do not require the same engineering expertise, LPGs have the necessary expertise to provide these services.

Board Findings

The Board believes that the language of the Act and the examples of professional geologists' functions in the administrative rules provide justification to include LPGs with LPEs in certain sections of the proposed CCDD rules. This will not include groundwater monitoring because the Board is proposing that this requirement be deleted. The Board therefore, proposes to add LPGs to Sections 1100.205, 1100.212, 1100.412, 1100.525, and 1100.530.

Miscellaneous Issues Raised

In addition to the issues the Board has already discussed there are several issues that were raised by the participants, and some issues the Board has discovered in preparing the rule for first notice. The following paragraphs will highlight those issues and explain the Board's actions on those issues.

MAC Table Not in Rules

In Section 1100.605, IEPA has proposed a methodology for determining MACs for chemical constituents in uncontaminated soil. IEPA has indicated that they will develop MACs in accordance with the proposed methodology and publish a table on their website. *See* SR at 25; Exh. 4 at 4. IEPA does not believe that the table constitutes a rule of general applicability under the IAPA. *Id.* The Board agrees. Section 1-70 of the IAPA defines "rule" as: "each agency statement of general applicability that implements, applies, interprets, or prescribes law or policy . . .." 5 ILCS 100/1-70 (2010). The procedures for determining MACs are in the rule (*see* Subpart F); IEPA will perform the calculations and develop a table for the ease of the regulated community. IEPA's table will merely set forth the number attained when applying the methodology adopted in the rule. IEPA is not setting forth a statement of general applicability that implements, applies, interprets, or prescribes law or policy. Therefore, the Board finds that the publication of the table is not a "rule" as defined by IAPA.

Development of MACs for Chemicals not listed in TACO rules (Section 1100.605(c))

In Section 1100.605(c), IEPA proposed language that allows for a request to be made to IEPA to obtain values for chemicals not listed in TACO. The proposed rule states that IEPA will "develop objectives based upon USEPA toxicity value hierarchy" for such chemicals. This language is different than the language proposed in subsections (a) and (b) where specific values are referenced. This language is troublesome to the Board as it appears that IEPA will develop a standard, outside the rulemaking process, with no recourse for the requestor. The Board is concerned that if IEPA makes a decision the requestor does not agree with, the requestor has no opportunity to challenge the basis for the decision. Therefore, for first notice the Board adds the following language:

> 3) If the person making the request of the Agency disagrees with the Agency's decision, the person who made the request may file an appeal of the Agency's decision with the Board pursuant to Section 40(a) of the Act (415 ILCS 5/40(a)) and 35 Ill. Adm. Code 105.

Pursuant to Section 5(d) of the Act (415 ILCS 5/5(d) (2010)), the Board is granted the authority to hear petitions for review of permit decisions by IEPA as well as other final determinations made pursuant to Board rules. Although soil fill operations are registered but not permitted, the Board finds that allowing for the appeal of IEPA's calculations is consistent with the Act. Absent an appeal to the Board, the requestor of a MAC for a chemical not included on the TACO lists has no opportunity to seek review of IEPA's calculations under Section 1100.605(c). Furthermore, the calculation performed under Section 1100.605(c) is unlike the MACs developed under subsections (a) and (b) because the subsection (c) calculation may require that IEPA use its discretion. Therefore, the Board proposes an appeal to the Board at first notice. The Board invites participants to comment on this addition.

Language Allowing "Other Agency Written Approval" (Sections 1100.205(b)(8)(C), 1100.205(c), 1100.209, and 1100.209(a))

IEPA proposes adding the phrase "or other written Agency approval" in several subsections. IEPA offered no testimony and nothing in the statement of reasons to explain the use of the phrase. The phrase generally follows a reference to a permit and the Board assumes that IEPA is attempting to address soil fill operations which are not required to have a permit. The language as proposed is vague and the Board is inclined to strike the language. However, the only proposed change to Section 1100.209 is to add this phrase and since the record is silent on this issue, the Board proposes the language for first notice. The Board expects IEPA to address this issue and invites other participants to comment on this during first notice.

Certification Language in Rule

Section 1100.205(a) requires that the source site owner or operator or a LPE or LPG provide certifications that the soil is uncontaminated. The rule requires that these certifications be included on forms provided by IEPA. IEPA submitted two forms, one for the source site owner or operator to certify that the site has never been used for commercial or industrial

purposes and one for the LPE or LPG to certify that the soil is uncontaminated. *See* Exh. 5 and 6. Both documents require source site location, source site owner or operator, and the basis for the certification. The LPE/LPG form also asks for information such as the project name. *Id.*

A review of other Board regulations indicates that certifications are, at times, included in the rule itself. *See* 35 Ill. Adm. Code 740.410, 740.705. The Board finds that adding the certification language to the rule in this instance is appropriate. If the language of the certification is included, failure to properly certify the soil or site would be a violation of the Board's regulations. Further, including the actual language of the certification puts all on notice as to what must be certified to. Therefore, the Board will include the language. In Section 1100.205(a)(1)(C), the Board adds for source site owner or operators certification:

> In accordance with the Environmental Protection Act (415 ILCS 5/22.51or 5/22.51a) and 35 Ill. Adm. Code 1100.205(a), I _____ [owner or operator of source site] certify that this site is not a potentially impacted property, as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, and the soil is presumed to be uncontaminated soil. I also certify that I am either the site owner or site operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to all attachments and other information is, to the best of my knowledge and belief, true, accurate and complete.

The Board adds for LPE/LPG certifications:

> I _____ [name of licensed professional engineer or geologist] certify under penalty of law that the information submitted, including but not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate, and complete. In accordance with the Environmental Protection Act (415 ILCS 5/22.51 or 5/22.51a) and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil based on a site evaluation conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site assessments: Phase I Environmental Site Assessment Process. All necessary documentation is attached.

Economic Reasonableness and Technical Feasibility

Pursuant to Section 27(a) of the Act (415 ILCS 5/27(a) (2010)) when promulgating a rule, the Board must take into account several matters including existing water quality and the technical feasibility and economic reasonableness of reducing pollution. 415 ILCS 5/27(a) (2008) Further, the Board must make a determination as to whether the proposed rule has any adverse economic impact on the people of Illinois. 415 ILCS 5/27(b) (2010). IEPA concedes that the amendments proposed will result in costs for source site owners or operators and CCDD and uncontaminated fill facilities. *See* SR at 5. However, IEPA does not believe that the new

requirements will have a detrimental impact as the requirements are being imposed by the statute. *Id*. IEPA acknowledges the new costs that will be imposed by IEPA's proposal to require groundwater monitoring, but IEPA did not provide any estimates of the cost impacts associated with the proposed rules. *Id*.

The Board heard testimony from members of the industry (*see e.g.* Exh. 12 and 13) and representatives of municipalities and government entities (*see e.g.* Exh. 10) addressing the costs of compliance with IEPA's proposed rules. The Board also received numerous public comments addressing the economics of IEPA's proposal. The cost of groundwater monitoring and particularly of testing samples was one area of concern. Also, industry representatives testified that facilities were closing due to the regulatory requirements.

As indicated above, the Board has determined that the record does not support proceeding with groundwater monitoring. Thus, the Board finds that concerns about the economic reasonableness of groundwater monitoring have been addressed. Furthermore, the Board has given additional direction to source owners and operators for evaluating whether or not the source is a potentially impacted property. The additional guidance should allow for some soils to be placed in uncontaminated soil fills and CCDD facilities that has not been allowed under the interim guidelines due to the strict reading of the requirements by industry. The Board is convinced that this additional guidance will lessen the economic impact on source sites, often owned by municipalities or government entities.

The Board does agree with IEPA that many of the requirements imposed by the interim guidance are reflected in the rulemaking. Those requirements were imposed by the legislature and are necessary to protect the human health and safety, and the environment. Therefore, with the changes made in the proposal, the Board finds that the proposed rule is economically reasonable. Further, the Board finds that the rules are technically feasible, as many of the technical requirements are based on rules already adopted by the Board.

The Board does take note of the concerns raised at hearing about DCEO's decision not to perform and EcIS. Section 27(b) of the Act requires the Board to request the DCEO to conduct an economic impact study on proposed rules prior to adoption of those rules. However, the Act does not require DCEO to perform such a study. DCEO notified the Board that at this time it is "unable to undertake" an economic impact study and declined the Board's request. The Board is not required by the Act to ask DCEO again for a study and the Board will not do so.

CONCLUSION

After reviewing the record in this proceeding and in consideration of the comments and testimony, the Board has made several changes to IEPA's proposal. First, the Board finds that no evidence was provided to demonstrate that CCDD or uncontaminated soil fill sites were a source of groundwater contamination. Also, considering the potentially sizeable costs for groundwater monitoring, the Board finds that this record does not support groundwater monitoring at this time. The Board therefore proceeds to first notice without Subpart G of IEPA's proposal.

Because the Board has determined not to proceed with groundwater monitoring, the Board strengthens soil certification and soil testing requirements. To that end, the Board finds that proposing the phrase "potentially impacted properties" (PIP) rather than the terms "commercial or industrial" is within the Board authority under the Act. The Board retains the term PIP, as proposed by IEPA, but addresses issues concerning PIP determination. The Board requires soil certification to be based upon source site evaluation conducted in accordance with the ASTM standards. The Board amends the source site owner or operator certification at Section 1100.205(a)(1)(A) to be based on ASTM Standard E1528-06, and LPE/LPG certification under Section 1100.205(a)(1)(B) to be based on ASTM Standard E1527-05. Further, the Board finds that the proposed soil certification requirements must include analytical soil testing data to show compliance with MACs when the soil is from a PIP. The Board is also including the certification language in the rule

The Board bases the MACs for soil constituents on the TACO Tier 1 objectives, as proposed by IEPA; and the Board declines to define "uncontaminated" soil on a qualitative basis. The Board proposes a uniform statewide approach for determining MACs when defining uncontaminated soil, and will not allow for site-specific determination of MACs. Further, the Board finds that the record does not support the adoption of a pH range of 6.25-6.64 to determine MACs for certain pH-sensitive chemical constituents. The Board adopts the MAC provisions proposed under Subpart F by IEPA to first notice. Likewise, the Board will not amend IEPA's proposal relating to inhalation and ingestion. As to IEPA's proposal for developing a table of MAC values to be available on the website, the Board agrees that such a procedure is appropriate and that the table need not be adopted as a rule. However, when IEPA develops objectives for chemical constituents not listed in TACO rules, the Board has added an opportunity for appeal of that IEPA determination to the Board.

The Board finds that even though soil fill operations are not required to be permitted, requiring the owner or operator to submit additional information to IEPA is appropriate and the proposed rule reflects the Board's decision. For example, the proposed rules require soil fill operations to submit annual operating reports similar to that required by CCDD operations, and the soil fill operation registration form is expanded to include the information required for CCDD permits.

The Board also amends IEPA's proposal by adding LPGs to Sections 1100.205, 1100.212, 1100.412, 1100.525, and 1100.530 as requested in comments.

The Board finds that the rule as proposed for first notice is economically reasonable and technically feasible.

ORDER

The Board directs the Clerk to cause the publication of the following rule in the *Illinois Register* for first notice:

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE J: CLEAN CONSTRUCTION OR DEMOLITION DEBRIS

CHAPTER I: POLLUTION CONTROL BOARD

PART 1100

CLEAN CONSTRUCTION OR DEMOLITION DEBRIS FILL OPERATIONS AND UNCONTAMINATED SOIL FILL OPERATIONS

SUBPART A: GENERAL

Section

SUBPART B: OPERATING STANDARDS FOR CCDD FILL OPERATIONS

Section

SUBPART C: PERMIT APPLICATION INFORMATION FOR CCDD FILL OPERATIONS

Section

SUBPART D: PROCEDURAL REQUIREMENTS FOR PERMITTING CCDD FILL OPERATIONS

Section

SUBPART E: UNCONTAMINATED SOIL FILL OPERATIONS

SUBPART F: STANDARDS FOR UNCONTAMINATED SOIL USED AS FILL MATERIAL AT FILL OPERATIONS REGULATED BY THIS PART

AUTHORITY: Implementing Sections 5, 3.160, 22.51, and 22.51a and authorized by Sections 3.160, 22.51, 22.51a, and 27 of the Environmental Protection Act [415 ILCS 5/5, 22.51, 22.51a, and 27].

SOURCE: Adopted in R06-19 at 30 Ill. Reg.14534, effective August 24, 2006; amended in R12-9 at 36 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL

Section 1100.101 Scope and Applicability

a) This Part applies to all clean construction or demolition debris (CCDD) fill operations that are required to be permitted pursuant to Section 22.51 of the Act, other than CCDD fill operations permitted pursuant to 35 Ill. Adm. Code 807 or

811 through 814, and to all uncontaminated soil fill operations that are required to be registered pursuant to Section 22.51a of the Act.

b) This Part does not apply to:

1) CCDD or uncontaminated soil that is not ~~other than CCDD~~ used as fill material in a current or former quarry, mine, or other excavation;

2) The use of CCDD or uncontaminated soil as fill material in a current or former quarry, mine, or other excavation located on the site where the CCDD or uncontaminated soil was generated ~~*The use of* CCDD *as fill material in a current or former quarry, mine, or other excavation located on the site where the* CCDD *was generated* [415 ILCS 5/22.51(b)(4)(A)]~~;

3) The use of CCDD or uncontaminated soil as fill material in an excavation other than a current or former quarry or mine if the use complies with Illinois Department of Transportation specifications ~~*The use of* CCDD *as fill material in an excavation other than a current or former quarry or mine if* the *use complies with Illinois Department of Transportation specifications* [415 ILCS 5/22.51(b)(4)(B)]~~;

BOARD NOTE: The Illinois Department of Transportation (IDOT) specifications applicable to the use of CCDD or uncontaminated soil as fill can be found at Articles 107.22 and 202.03 of IDOT's "Standard Specifications for Road and Bridge Construction." According to IDOT specifications, this exemption applies to IDOT, a county, a municipality, or a township.

4) Current or former quarries, mines, and other excavations that do not use CCDD or uncontaminated soil as fill material ~~*Current or former quarries, mines, and other excavations that do not use clean construction or demolition debris as fill material* [415 ILCS 5/22.51(b)(4)(C)]~~;

5) The use of the following types of material as fill material:

A) CCDD or soil that is considered "waste" under the Act or rules adopted pursuant to the Act; or

B) Any material other than CCDD or uncontaminated soil, including, but not limited to, material generated on site as part of a mining process; and

6) The portions of a site not used for a CCDD fill operation or an uncontaminated soil fill operation.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.103 Definitions

Except as stated in this Section, or unless a different meaning of a word or term is clear from the context, the definition of words or terms in this Part will be the same as that applied to the same words or terms in the Environmental Protection Act [415 ILCS 5]:

"10-year, 24-hour precipitation event" means a precipitation event of 24-hour duration with a probable recurrence interval of once in 10 years.

"100-year, 24-hour precipitation event" means a precipitation event of 24-hour duration with a probable recurrence interval of once in 100 years.

"Act" means the Environmental Protection Act [415 ILCS 5].

"Acceptable Detection Limit (ADL)" means the detectable concentration of a substance that is equal to the lowest appropriate Practical Quantitation Limit (PQL) as defined in this Section.

"Agency" is the Illinois *Environmental Protection Agency established by* the *Act.* [415 ILCS 5/3.105]

"Applicant" means the person submitting an application to the Agency for a permit for a CCDD fill operation.

"Aquifer" means saturated (with groundwater) soils and geologic materials which are sufficiently permeable to readily yield economically useful quantities of water to wells, springs, or streams under ordinary hydraulic gradients and whose boundaries can be identified and mapped from hydrogeologic data. (Section 3 of the Illinois Groundwater Protection Act [415 ILCS 55/3]).

"Board" is the Pollution Control Board established by the *Act.* [415 ILCS 5/3.105]

"CCDD" means clean construction or demolition debris.

"CCDD fill operation" means *a current or former quarry, mine, or other excavation where clean construction or demolition debris is used as fill material* [415 ILCS 5/22.51(e)(3)]. ~~the use of CCDD as fill material in a current or former quarry, mine, or other excavation. For purposes of this Part, the term "other excavation" does not include holes, trenches, or similar earth removal created as part of normal construction, removal, or maintenance of a structure, utility, or transportation infrastructure.~~

"Clean construction or demolition debris" means uncontaminated broken

concrete without protruding metal bars, bricks, rock, stone, reclaimed or other *asphalt pavement, or soil generated from construction or demolition activities.* For purposes of this Part, CCDD may include uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed or other asphalt pavement that has been painted ("painted CCDD") if the painted CCDD is used as fill material at a CCDD fill operation in accordance with Section 1100. 212 of this Part.

Clean construction or demolition debris does not include uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads provided the uncontaminated soil is not commingled with any clean construction or demolition debris or other waste. For purposes of this Part, uncontaminated soil may include incidental amounts of stone, ~~clay~~, rock, ~~sand~~, gravel, roots, and other vegetation. [415 ILCS 5/3.160(b)]

~~*To the extent allowed by federal law, clean construction or demolition debris shall not be considered "waste" if it is*~~:

~~*used as fill material outside of a setback zone if the fill is placed no higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area, and if covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or if covered by a road or structure; or*~~

~~*separated or processed and returned to the economic mainstream in the form of raw materials or products, if it is not speculatively accumulated and, if used as a fill material, it is used in accordance with* the first identical paragraph immediately above *within 30 days of its generation; or*~~

~~*solely broken concrete without protruding metal bars used for erosion control; or*~~

~~*generated from the construction or demolition of a building, road, or other structure and used to construct, on the site where the construction or demolition has taken place, a manmade functional structure not to exceed 20 feet above the highest point of elevation of the property immediately adjacent to the new manmade functional structure as that elevation existed prior to the creation of that new structure, provided that the structure shall be covered with sufficient soil materials to sustain vegetation or by a road or structure, and further provided that no such structure shall be constructed within a home rule municipality with a population over 500,000 without the consent of the municipality*. [415 ILCS 5/3.160(b)]~~

"Documentation" means items, in any tangible form, whether directly legible or legible with the aid of any machine or device, including but not limited to affidavits, certificates, deeds, leases, contracts or other binding agreements,

licenses, permits, photographs, audio or video recordings, maps, geographic surveys, chemical and mathematical formulas or equations, mathematical and statistical calculations and assumptions, research papers, technical reports, technical designs and design drawings, stocks, bonds, and financial records, that are used to support facts or hypotheses.

"Facility" means the areas of a site and all equipment and fixtures on a site used for a CCDD fill operation or uncontaminated soil fill operation. A facility consists of an entire ~~CCDD~~ fill operation. All structures used in connection with or to facilitate the ~~CCDD~~ fill operation will be considered a part of the facility.

"Filled area" means areas within a unit where CCDD or uncontaminated soil has been placed as fill material.

"Fill operation" means a CCDD fill operation or an uncontaminated soil fill operation, as the context requires.

~~"Malodor" means an odor caused by *one or more contaminant emissions into the atmosphere from a facility that is in sufficient quantities and of such characteristics and duration as to be* described as malodorous and which may be *injurious to human, plant, or animal life, to health, or to property, or may unreasonably interfere with the enjoyment of life or property*. [415 ILCS 5/3.115]~~

"Mine" means an excavation created for the purpose of extracting ore or minerals, including, but not limited to, coal.

"National Pollutant Discharge Elimination System" or "NPDES" means the program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits and imposing and enforcing pretreatment requirements under the Clean Water Act (33 USC 1251 et seq.), Section 12(f) of the Act, Subpart A of 35 Ill. Adm. Code 309, and 35 Ill. Adm. Code 310.

"NPDES permit" means a permit issued under the NPDES program.

"Operator" means a person responsible for the operation and maintenance of a ~~CCDD~~ fill operation. [415 ILCS 5/22.51(e)(1)]

"Other excavation" means a pit other than a quarry or mine created primarily for the purpose of extracting resources including , but not limited to, clay or other soil ~~(e.g. soil, sand, gravel, clay)~~ and does not include holes, trenches, or similar earth removal created as part of normal construction, removal, or maintenance of a structure, utility, or transportation infrastructure.

"Owner" means a person who has any direct or indirect interest in a ~~CCDD~~ fill operation or in land on which a person operates and maintains a ~~CCDD~~ fill operation. A "direct or indirect interest" does not include the ownership of

publicly traded stock. The "owner" is the "operator" if there is no other person who is operating and maintaining a ~~CCDD~~ fill operation. [415 ILCS 5/22.51(e)(2)]

"Person" is any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, State agency, or any other legal entity, or their legal representative, agent or assigns. [415 ILCS 5/3.115]

"Potentially impacted property" means property on which a historical or current use, or contaminant migration from a proximate site, increases the presence or potential presence of contamination at the source site.

"Potentially impacted property" is intended to identify soil that is more likely to be contaminated and in need of professional evaluation and certification before placement in a fill site. The following should be considered when determining whether property is "potentially impacted property": the current use of the property, prior uses of the property, and the uses of adjoining property. For example, for transportation rights of way or utility easements, the current use of the property as a right of way or easement, the uses of the property prior to its use as a right of way or easement, and the uses of adjoining property should be considered. Source site owners are encouraged to coordinate with the receiving facility on soil certifications.

"Quarry" means an open surface excavation or pit created for the purpose of extracting stone, rock, sand and gravel.

"Practical Quantitation Limit (PQL)" means the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions in accordance with "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846, incorporated by reference in Section 1100.104 of this Part.

"Professional engineer (PE)" means a person who has registered and obtained a seal pursuant to the Professional Engineering Practice Act of 1989 [225 ILCS 325].

"Professional Geologist (PG)" means a person licensed to practice as a professional geologist pursuant to the Professional Geologist Licensing Act [225 ILCS 745].

"Runoff" means water resulting from precipitation that flows overland before it enters a defined stream channel, any portion of such overland flow that infiltrates into the ground before it reaches the stream channel, and any precipitation that falls directly into a stream channel.

"Salvaging" means the return of CCDD to use other than use as fill at a CCDD fill operation.

"Setback zone" means a geographic area, designated pursuant to the *Act, containing a potable water supply well or a potential source or potential route, having a continuous boundary, and within which certain prohibitions or regulations are applicable in order to protect groundwaters.* [415 ILCS 5/3.450]

"Site of origin" means the site where the CCDD or uncontaminated soil was generated from construction or demolition activities.

"Source site operator" means a person responsible for the operation of the site of origin of the CCDD or uncontaminated soil.

"Source site owner" means a person having an ownership interest in the site of origin of the CCDD or uncontaminated soil.

"Uncontaminated soil" means soil generated during construction, remodeling, repair or demolition of utilities, structures and roads *that does not contain contaminants in concentrations that pose a threat to human health and safety and the environment.* [415 ILCS 5/3.160(c)] Subpart F of this Part establishes standards for soil that is considered uncontaminated for purposes of this Part.

"Uncontaminated soil fill operation" means a current or former quarry, mine, or other excavation where uncontaminated soil is used as fill material but does not include a clean construction or demolition debris fill operation. [415 ILCS 5/22.51a(a)(2)].

"Unit" means a contiguous area within a facility where CCDD or uncontaminated soil is placed ~~that is permitted for the placement of CCDD~~ as fill material.

"Working face" means any part of a unit where CCDD or uncontaminated soil is being placed as fill.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.104 Incorporations by Reference

a) The Board incorporates the following material by reference:

ASTM. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. (610) 832-9585

ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved November 1, 2005.

ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, approved February 1, 2006.

"Human Health Toxicity Values in Superfund Risk Assessments (2003)". U. S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC, OSWER Directive 9285.7-53, 2003. (Available online at http://www.epa.gov/oswer/riskassessment/pdf/hhmemo.pdf).

IRIS. Integrated Risk Information System, National Center for Environmental Assessment, United States Environmental Protection Agency, 26 West Martin Luther King Drive, MS-190, Cincinnati, OH 45268, (513) 569-7254.

"Reference Dose (RfD): Description and Use in Health Risk Assessments," Background Document IA (March 15, 1993).

"Guidelines for Carcinogen Risk Assessment (2005)". U. S. Environmental Protection Agency, Washington, DC, EPA Publication No. EPA/630/P-03/001F, 2005. (Available online at http://www.epa.gov/ttn/atw/cancer_guidelines_final_3-25-05.pdf).

NTIS. National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847 ~~U.S. Government Printing Office, Washington, D.C. 20402, Ph: 202-783-3238~~:

Test Methods for Evaluating Solid Waste, Physical/Chemical methods, EPA Publication SW-846 (Third Edition, 1986 as amended by Updates I, II, IIA, IIB, III, IIIA, ~~and~~ IIIB, IVA and IVB ~~and IV).~~

b) This incorporation includes no later amendments or editions.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

SUBPART B: OPERATING STANDARDS FOR CCDD FILL OPERATIONS

Section 1100.201 Prohibitions

a) *No person shall conduct any* CCDD *fill operation in violation of* the *Act or any regulations or standards adopted by the Board.* [415 ILCS 5/22.51(a)].

b) CCDD fill operations must not accept waste for use as fill.

c) CCDD fill operations must not be located inside a setback zone of a potable water supply well. (See Section 3.160(b)(i) of the Act.)

d) *No person shall use soil other than uncontaminated soil as fill material at a CCDD fill operation.* [415 ILCS 5/22.51(g)(1)]

e) *No person shall use construction or demolition debris other than CCDD as fill material at a CCDD fill operation.* [415 ILCS 5/22.51(g)(2)]

f) Except as provided in Section 1100.212 of this Part, no person shall use painted clean construction or demolition debris ("painted CCDD") as fill material at a CCDD fill operation.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.203 Annual Facility Map

The owner or operator must submit an annual facility map with the annual report required under Section 1100.211 to the Agency each calendar year by the date specified in the Agency permit. The map must have a scale no smaller than one inch equals 200 feet, show the horizontal extent of filled areas as of the date of the map, and show the same information as required for facility plan maps under Sections 1100.305(a) through (d) of this Part.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.204 Operating Standards

a) Placement of Fill Material
Fill material must be placed in a safe manner that protects human health and the environment in conformance with the provisions of the Act and the regulations adopted under the Act.

b) Size and Slope of Working Face
The working face of the fill operation must be no larger than is necessary, based on the terrain and equipment used in material placement, to conduct operations in a safe and efficient manner in conformance with the provisions of the Act and the regulations adopted under the Act.

c) Equipment
Equipment must be maintained and available for use at the facility during all hours of operation, so as to achieve and maintain compliance with the requirements of this Part.

d) Utilities
All utilities, including but not limited to heat, lights, power, and communications equipment, necessary for safe operation in compliance with the requirements of this Part must be available at the facility at all times.

e) Maintenance
The owner or operator must maintain and operate all systems and related appurtenances and structures in a manner that facilitates proper operations in compliance with this Part.

f) Dust Control
The owner or operator must implement methods for controlling dust so as to minimize off-site wind dispersal of particulate matter.

g) Noise Control
The facility must be designed, constructed, and maintained to minimize the level of equipment noise audible outside the site. The facility must not cause or contribute to a violation of the Board's noise regulations or Section 24 of the Act.

h) Fill Elevation
The owner or operator must not place CCDD used as fill *higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area.* [415 ILCS 5/3.160(b)]

BOARD NOTE: This does not prohibit non-CCDD materials, such as uncontaminated soil and other non-waste material, from being placed above grade in accordance with the Act and regulations adopted thereunder to increase elevations at the fill site.

i) Mud Tracking
The owner or operator must implement methods to minimize tracking of mud by hauling vehicles onto public roadways.

j) Odor and Nuisance
The fill operation must not cause foul odors or other nuisance.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.205 Certifications and Load Checking

a) The owner or operator must do all of the following activities and document all the activities for all CCDD and uncontaminated soil accepted for use as fill material:

1) For all soil, including soil mixed with CCDD, obtain:

A) a certification from the source site owner or source site operator that the site is not a potentially impacted property, as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, incorporated by reference at Section 1100.104 and is presumed to be uncontaminated soil. If soil is consolidated from more than one source site, a certification must be obtained from each source site owner or source site operator; or,

B) a certification from a PE or PG that the soil is uncontaminated soil based on a site evaluation conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site assessments: Phase I Environmental Site Assessment Process, incorporated by reference at Section 1100.104. A certification under this subsection (a)(1)(B) must include analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to Subpart F of this Part.

C) Certifications required under subsections (a)(1)(A) and (a)(1)(B) must be on forms and in a format prescribed by the Agency and must provide at a minimum:

i) for source site owners or source site operators who certify under subsection (a)(1)(A) the following language: In accordance with the Environmental Protection Act (415 ILCS 5/22.51or 5/22.51a) and 35 Ill. Adm. Code 1100.205(a), I _____ [owner or operator of source site] certify that this site is not a potentially impacted property, as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, and the soil is presumed to be uncontaminated soil. I also certify that I am either the site owner or site operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to all attachments and other information is, to the best of my knowledge and belief, true, accurate and complete.

ii) for PE or PG who certify under subsection (a)(1)(B) the following language: I _____ [name of licensed professional engineer or

geologist] certify under penalty of law that the information submitted, including but not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate, and complete. In accordance with the Environmental Protection Act (415 ILCS 5/22.51 or 5/22.51a) and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil based on a site evaluation conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site assessments: Phase I Environmental Site Assessment Process. All necessary documentation is attached.

2) Confirm and document that the CCDD or uncontaminated soil was not removed from a site as part of a cleanup or removal of contaminants, including, but not limited to, activities conducted under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended; as part of a Closure or Corrective Action under the Resource Conservation and Recovery Act, as amended, or under an Agency remediation program, such as the Leaking Underground Storage Tank Program or Site Remediation Program, but excluding sites subject to Section 58.16 of this Act where there is no presence or likely presence of a release or a substantial threat of a release of a regulated substance at, on, or from the real property.

3) For all testing conducted to determine that the soil is uncontaminated, obtain documentation to show that the soil was tested in accordance with the requirements of Subpart F of this Part.

4) Obtain documentation on rejected loads

A) For loads rejected from the same or another fill operation, the owner or operator may accept a rejected load if subsections (a)(1) through (a) (3) of this Section are satisfied and the owner or operator also obtains the following information:

i) Information identifying the rejected load and the reasons it was rejected, including, but not limited to, a copy of the written notice the driver received pursuant to subsection (b)(4)(A) of this Section when the load was rejected;

ii) Information demonstrating that the load proposed for acceptance is the rejected load identified in subsection (a)(4)(A) of the Section;

iii) Information demonstrating that the reasons for rejection of the load have been addressed by measures which would include but not be limited to testing and retesting of soils or removal of nonconforming materials; and

iv) For all soil, including soil mixed with CCDD, a certification meeting the requirements of subsection (a)(1) of this Section that is executed after correction of the reasons for the load rejection. This subsection (a)(4)(A)(iv) does not apply if load rejection was due to the detection of non-CCDD or non-soil material, including, but not limited to, wood, glass, piping, vegetation, plastic, metal, electrical wiring, or concrete with protruding rebar.

B) Except as provided in subsection (a)(4)(A)(iv) above, the information required under subsection (a)(4)(A) must be on forms and in a format prescribed by the Agency, and must be certified by the source site owner, the source site operator, a PE or PG. Loads accepted pursuant to this subsection (a)(4) are subject to all other requirements of this Part, including but not limited to the load checking program in effect at the receiving fill operation pursuant to subsection (b) of this Section.

~~a~~b) The owner or operator must institute and conduct a load checking program designed to detect attempts to dispose of waste at the facility. At a minimum, the load checking program must consist of the following components:

1) Routine Inspections

A~~1~~) An inspector designated by the facility must inspect every load before its acceptance at the facility utilizing an elevated structure, a designated ground level inspection area, or another acceptable method as specified in the Agency permit. In addition to a visual inspection, the inspector must use an instrument with a photo ionization detector utilizing a lamp of 10.6 eV or greater or an instrument with a flame ionization detector, or other monitoring devices approved by the Agency, to inspect each load. All instruments shall be interpreted based on the manufacturer's margin of error. Any reading in excess of background levels using any of these instruments must result in the rejection of the inspected load. In addition, any reading in excess of background levels on any monitoring device used by the Agency during an Agency inspection must result in the rejection of the inspected load.

B2) Cameras or other devices may be used to record the visible contents of shipments. Where such devices are employed, their use should be designated on a sign posted near the entrance to the facility.

2b) Random Inspections

A1) In addition to the inspections required under subsection (b)(1)(a) of this Section, an inspector designated by the facility must conduct a discharge inspection of at least one randomly selected load delivered to the facility each day. The driver of the randomly selected load must be directed to discharge the load at a separate, designated location within the facility. The inspector must conduct an inspection of the discharged material that includes, but is not limited to, additional visual inspection and additional instrument testing using the instruments required under subsection (b)(a)(1)(A) of this Section. All instruments shall be interpreted based on the manufacturer's margin of error. Any reading in excess of background levels using any of these instruments must result in the rejection of the inspected load. In addition, any reading in excess of background levels on any monitoring device used by the Agency during an Agency inspection must result in the rejection of the inspected load.

B2) Cameras or other devices may be used to record the visible contents of shipments. Where such devices are employed, their use should be designated on a sign posted near the entrance to the facility.

3c) Documentation of Inspection Results: The documentation for each inspection must include, at a minimum, the following:

A1) The date and time of the inspection, the date the CCDD or uncontaminated soil was received, the weight or volume of the CCDD or uncontaminated soil, the name of the hauler, the name of the hauling firm, the vehicle identification number or license plate number, the source site owner and source site operator, and the location of the site of origin of the CCDD or uncontaminated soil ~~source of the CCDD~~;

B2) The results of the routine inspection required under subsection (b)(1) (a) of this Section, including, but not limited to, the monitoring instruments used, whether the load was accepted or rejected, and for rejected loads the reason for the rejection;

C~~3~~) The results of any random inspection required under subsection (b)(2) of this Section, including, but not limited to, the monitoring instruments used, whether the load was accepted or rejected, and for rejected loads the reason for the rejection; and

D~~4~~) The name of the inspector.

4~~d~~) Rejection of Loads

A~~1~~) If material other than CCDD or uncontaminated soil is found or suspected, the owner or operator must reject the load and present the driver of the rejected load with written notice of the following:

i~~A~~) That only CCDD or uncontaminated soil is accepted for use as fill at the facility;

ii~~B~~) The reasons for rejections of the load, that ~~That the rejected load contains or is suspected to contain material other than CCDD, and that,~~ the material must not be taken to another ~~CCDD~~ fill operation, except as provided in subsection (b)(4)(A)(iv) of this Section ~~and~~ or the material must be ~~properly recycled or~~ disposed of at a permitted landfill;

iii~~C~~) That for all inspected loads the owner or operator is required to record and make available for Agency inspection, at a minimum, the date and time of the inspection, the weight or volume of the CCDD or uncontaminated soil, the name of the hauler, the name of the hauling firm, the vehicle identification number or license plate number, the source site owner and source site operator, and the location of the site of origin of the fill and ~~source of the fill and is required to make this information available to the Agency for inspection.~~;

iv) That a load rejected from a fill operation may be accepted by the same fill operation or another fill operation if the requirements of subsection (a)(4) of this Section are satisfied.

B~~2~~) The owner or operator must ensure the cleanup, transportation, and proper disposal of any material other than CCDD or uncontaminated soil that remains at the facility after the rejection of a load.

5~~e~~) The owner or operator must take special precautionary measures ~~as specified in the Agency permit~~ prior to accepting loads from persons or

sources found or suspected to be responsible for sending or transporting material other than CCDD or uncontaminated soil to the facility. The special precautionary measures may include, but are not limited to, communication with the source site owner or source site operator of the CCDD or uncontaminated soil, communication with the PE or PG certifying pursuant to subsection (a)(1)(B) of this Section, questioning the driver about the load prior to its discharge and increased visual inspection and instrument testing of the load.

6f) If material other than CCDD or uncontaminated soil is discovered to be improperly accepted or deposited at the facility, the owner or operator must remove and properly dispose of the material.

7g) The owner or operator must ensure that all appropriate facility personnel are properly trained in the identification of material that is not CCDD or uncontaminated soil.

8h) All field measurement activities relative to equipment and instrument operation, calibration and maintenance and data handling shall be conducted in accordance with the following:

A1) ""Test Methods for Evaluating Solid Waste, Physical/Chemical Methods"" (SW-846), Vol. One, Ch. One (Quality Control), incorporated by reference at Section 1100.104 of this Part;

B2) The equipment or instrument manufacturer's or vendor's published standard operating procedures; or

C3) Other operating procedures specified in the Agency permit or other written Agency approval.

ci) Documentation required under this Section must be kept for a minimum of 3 years at the facility or in some alternative location specified in the Agency permit or other written Agency approval. Documentation relating to an appeal, litigation or other disputed claim must be maintained until at least 3 years after the date of the final disposition of the appeal, litigation, or other disputed claim. The documentation must be available for inspection and copying by the Agency and by units of local government upon request during normal business hours.

d) For painted CCDD to be accepted for use as fill material in accordance with Section 1100.212 of this Part, the owner or operator of the CCDD fill operation must:

1) Obtain a certification from a PE or PG that the painted CCDD satisfies the requirements of Section 1100.212. The certification required under this subsection must be on forms and in a format prescribed by the Agency.

Documentation required by subsection (c)(2) of Section 1100.212 of this Part must be attached to the certification form.

2) Comply with the load checking requirements of subsection (b) of this Section.

3) Comply with the document retention requirements of subsection (c) of this Section for the PE or PG certification and the attached documentation required under subsection (c)(2) of Section 1100.212 of this Part.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.206 Salvaging

a) All salvaging operations must in no way interfere with the ~~CCDD~~ fill operation, result in a violation of this Part, or delay the construction of final cover.

b) All salvaging operations must be performed in a safe manner in compliance with the requirements of this Part.

c) Salvageable materials:

1) May be accumulated onsite by an owner or operator, provided they are managed so as not to create a nuisance, harbor vectors, cause foul odors ~~malodors~~, or create an unsightly appearance; and

2) May not be accumulated at the facility for longer than one year unless a longer period of time is allowed under the Act or is specified in the Agency permit.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.207 Boundary Control

a) Unauthorized vehicular access to the working face of all units and to all other areas within the boundaries of the facility must be restricted.

b) A permanent sign must be posted at the entrance to the facility or each unit stating that only CCDD or uncontaminated soil is accepted for use as fill.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.208 Closure

a) Completion of Filling

1) The owner or operator is deemed to have completed ~~CCDD~~ filling with CCDD or uncontaminated soil:

A) 30 days after the date on which the facility receives the final load of CCDD or uncontaminated soil for use as fill; or

B) If the facility has remaining capacity and there is a reasonable likelihood that the facility will receive additional CCDD or uncontaminated soil for use as fill, no later than one year after the most recent receipt of CCDD or uncontaminated soil for use as fill.

2) The Agency must grant extensions beyond the one year deadline in subsection (a)(1)(B) of this Section if the owner or operator demonstrates that:

A) The facility has the capacity to receive additional CCDD or uncontaminated soil for use as fill; and

B) The owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the facility.

b) Closure

1) Final Cover

All filled areas must be *covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or* must be *covered by a road or structure*. [415 ILCS 5/3.160] The minimum amount of soil to support vegetation is one foot. The final surface must prevent or minimize erosion.

2) Final Slope and Stabilization

A) The final slopes and contours must be constructed to complement and blend with the surrounding topography of the proposed final land use of the area.

B) All drainage ways and swales must be constructed to safely pass the runoff from the 100-year, 24-hour precipitation event without scouring or erosion.

C) The final configuration of the facility must be constructed in a manner that minimizes erosion.

D) Standards for Vegetation

i) Vegetation must minimize wind and water erosion;

ii) Vegetation must be compatible with (i.e., grow and survive under) the local climatic conditions;

iii) Temporary erosion control measures, including, but not limited to, the application, alone or in combination, of mulch, straw, netting, or chemical soil stabilizers, must be undertaken while vegetation is being established.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.209 Postclosure Maintenance

The owner or operator must conduct postclosure maintenance in accordance with this Section and the Agency permit for a minimum of one year after the Agency issues a certificate of closure in accordance with Section 1100.412 of this Part unless a shorter period of time for postclosure maintenance is specified in the Agency permit or other written Agency approval. Reasons for which the Agency may specify a shorter period of time for postclosure maintenance include, but are not limited to, conformance with existing reclamation plan requirements, zoning requirements, local ordinances, private contracts, or development plans.

a) The owner or operator must remove all equipment or structures not necessary for the postclosure land use, unless otherwise authorized by the Agency permit or other written Agency approval.

b) Maintenance and Inspection of the Final Cover

1) Frequency of Inspections. The owner or operator must conduct a quarterly inspection of all surfaces during closure and for a minimum of one year after closure.

2) All rills, gullies, and crevices 6 inches or deeper identified in the inspection must be filled. Areas identified by the owner or operator or the Agency as particularly susceptible to erosion must be recontoured.

3) All eroded and scoured drainage channels must be repaired and lining material must be replaced if necessary.

4) All holes and depressions created by settling must be filled and recontoured so as to prevent standing water.

5) All reworked surfaces, and areas with failed or eroded vegetation in excess of 100 square feet cumulatively, must be revegetated in accordance with the approved closure plan for the facility.

c) The Agency must approve postclosure use of the property if the owner or operator demonstrates that the disturbance of the final cover will not increase the potential threat to human health or the environment.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.211 Annual Reports

The owner or operator must submit an annual report to the Agency each calendar year by the date specified in the Agency permit. For uncontaminated soil fill operation, the first annual report shall be filed on the first of January that follows the year in which the facility is registered in accordance with this Part. The annual report must include, at a minimum, the following information:

a) A summary of the number of loads accepted and the number of loads rejected during the calendar year.

b) Amount of CCDD and uncontaminated soil accepted in the calendar year.

c) Amount of CCDD and uncontaminated soil expected in the next year.

d~~c~~) Any modification affecting the operation of the facility.

e~~d~~) The signature of the owner or operator, or the owner or operator's duly authorized agent as specified in Section 1100.303 of this Part.

f) Annual facility map required pursuant to Section 1100.203 of this Part.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.212 Use of Painted CCDD as Fill Material

a) For purposes of this Part, uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed or other asphalt pavement that has been painted ("painted CCDD") may be used as fill material at a CCDD fill operation if it is evaluated analytically under the supervision of a PE or PG and if all requirements of this Section are satisfied. Acceptance or management of painted CCDD for any purpose other than use as fill material at a CCDD fill operation must be in accordance with applicable law and may require a permit(s) or beneficial use determinations(s) from the Agency. Such other purposes include, but are not limited to, processing of painted CCDD for reuse.

1) The PE or PG must determine on a site-specific basis the number and location of paint samples that will provide a representative analysis of paint from the painted CCDD to be used as fill material.

2) The PE or PG must obtain paint samples consisting of representative paint chips or scrapings that include all layers of paint in the area sampled and that minimize the amount of substrate in the sample.

3) Paint samples must be analyzed for arsenic, cadmium, chromium (total), lead, mercury and zinc ("contaminants of concern") using the TCLP or SPLP extraction test analytical procedures in accordance with Methods 1311 and 1312 respectively in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," USEPA Publication No. SW-846 incorporated by reference at Section 1100.104 of this Part.

A) Paint samples must not be composited for analysis, and analytical results from paint samples must not be averaged.

B) All quantitative analyses of paint samples must be completed by an accredited laboratory in accordance with the requirements of 35 Ill. Adm. Code 186 and the scope of the accreditation.

C) Documentation of any chemical analysis must include, but is not limited to:

i) Chain of custody control;

ii) A copy of the lab analysis;

iii) Accreditation status of the laboratory performing the analysis; and

iv) Certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental laboratories and the scope of the accreditation.

4) For painted CCDD to be used as fill material, analytical results for each paint sample must not exceed the chemical-specific Class I groundwater quality standard at 35 Ill. Adm. Code 620.410 for any contaminant of concern identified in subsection (c) of this Section.

b) Notwithstanding subsection (a) of this Section, broken concrete, asphalt pavement, and other roadway CCDD with pavement markings, including but not limited to striping, may be used as fill material at a CCDD fill operation provided that:

1) The pavement markings comply with IDOT specification for pavement markings; and

2) The CCDD is accompanied by a PE or PG certification, on forms prescribed by the Agency, affirming that the pavement markings comply with IDOT specification for pavement markings.

BOARD NOTE: The IDOT specifications for pavement markings can be found at Section 1095 of IDOT's "Standard Specifications for Road and Bridge Construction."

(Source: Added at 36 Ill. Reg. _____, effective _____)

SUBPART C: APPLICATION PERMIT INFORMATION FOR CCDD FILL OPERATIONS

Section 1100.304 Site Location Map

All permit applications must contain a site location map on the most recent United States Geological Survey (USGS) quadrangle of the area from the 7½ minute series (topographic) that clearly shows the following information:

a) The site boundaries, the facility boundaries, and all adjacent property extending at least 1000 meters (3300 feet) beyond the facility boundaries;

b) All surface waters;

c) All potable water supply wells within 1000 meters (3300 feet) of the facility boundaries;

d) All potable water supply well setback zones established pursuant to Section 14.2 or 14.3 of the Act;

e) Any wellhead protection areas pursuant to Section 1428 of the Safe Drinking Water ~~Drinking~~ Act (SDWA) (42 USC 300f) and any sole source aquifer designated by the United States Environmental Protection Agency pursuant to Section 1424(e) of SDWA; and

f) All main service corridors, transportation routes, and access roads to the site and facility.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.306 Narrative Description of the Facility

The permit application must contain a written description of the facility with supporting documentation describing the procedures and plans that will be used at the facility to comply with the requirements of this Part. Such descriptions must include, but are not limited to, the following information:

a) A description of the CCDD and the uncontaminated soil being used as fill and a load checking plan describing how the owner or operator will comply with Section 1100.205 of this Part;

b) The types of CCDD and uncontaminated soil expected in each unit, an estimate of the maximum capacity of each unit, and the rate at which fill~~CCDD~~ is to be placed in each unit;

c) The estimated density of the CCDD and the uncontaminated soil;

d) The length of time each unit will receive CCDD and uncontaminated soil;

e) A description of all equipment to be used at the facility for complying with the facility permit, the Act, and Board regulations;

f) A description of any salvaging to be conducted at the facility, including, but not limited to, a description of all salvage facilities and a description of how the owner or operator will comply with Section 1100.206 of this Part;

g) A description of how the owner or operator will comply with the requirements of Section 1100.207 of this Part;

h) A description of how the owner or operator will comply with Sections 1100.204(c) and (e) of this Part;

i) A description of the methods to be used for controlling dust in compliance with Section 1100.204(f) of this Part;

j) A description of how the owner or operator will control noise in compliance with Section 1100.204(g) of this Part; and

k) A description of all existing and planned roads in the facility that will be used during the operation of the facility, the size and type of such roads, and the frequency with which they will be used.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.307 Proof of Property Ownership and Certifications

The permit application must contain a certificate of ownership of the facility property and certifications regarding the provisions of Sections 39(i) and 39(i-5) of the Act. The owner and operator provide written notification to the Agency ~~must certify that the Agency will be notified~~ within 7 days after any changes in ownership.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

Section 1100.309 Closure Plan

The permit application must contain a written closure plan that contains, at a minimum, the following:

a) Maps showing the configuration of the facility after closure of all units, including, but not limited to, appropriate contours as needed to show the proposed final topography after placement of the final cover for all filled areas. All maps must have a scale no smaller than one inch equals 200 feet;

b) Steps necessary for the temporary suspension of the fill operation ~~CCDD filling~~ in accordance with Sections 1100.208(a)(1)(B) or (a)(2) of this Part;

c) Steps necessary for closure of the facility at the end of its intended operating life;

d) An estimate of the expected year of closure;

e) Schedules for temporary suspension of the fill operation ~~CCDD filling~~ and closure, which must include, at a minimum, the total time required to close the facility and the time required for closure activities that will allow tracking of the progress of closure;

f) A description of how the applicant will comply with Section 1100.208 of this Part; and

g) A description of the final cover, including, but not limited to, the material to be used as the final cover, application and spreading techniques, the types of vegetation to be planted, and the types of roads or structures to be built pursuant to Section 1100.208 of this Part.

(Source: Amended at 36 Ill. Reg. _____, effective _____)

SUBPART D: PROCEDURAL REQUIREMENTS FOR PERMITTING CCDD FILL OPERATIONS

Section 1100.412 Procedures for Closure and Postclosure Maintenance

a) Notification of Closure ~~Receipt of Final Volume~~

The owner or operator must provide written notification of closure to the Agency within 30 days after the date the owner or operator is deemed to have completed filling under subsection (a) of Section 1100.208 of this Part. ~~Within 30 days after the date the final volume of CCDD is received, the owner or operator must notify the Agency in writing of the receipt of the final volume of CCDD.~~

b) Certification of Closure

1) When the closure of the facility is complete, the owner or operator must submit to the Agency:

A) Documentation concerning closure of the facility, including, but not limited to, plans or diagrams of the facility as closed and the date closure was completed.

B) An affidavit by the owner or operator and the seal of a PE ~~professional engineer~~ or PG that the facility has been closed in accordance with the closure plan and the closure requirements of this Part.

2) When the Agency determines, pursuant to the information received pursuant to subsection (b)(1) of this Section and any Agency site inspection, that the facility has been closed in accordance with the specifications of the closure plan and the closure requirements of this Part, the Agency must:

A) Issue a certificate of closure; and

B) Specify the date the postclosure maintenance period begins, based on the date closure was completed.

c) Termination of the Permit

1) At the end of the postclosure maintenance period, the owner or operator may submit to the Agency an application for termination of the permit. The application must be submitted in a format prescribed by the Agency and must include, at a minimum, the certification of a PE~~professional engineer~~ or PG and the affidavit of the owner or operator demonstrating that, due to compliance with the postclosure maintenance plan and the postclosure maintenance requirements of this Part, postclosure maintenance is no longer necessary because:

A) Vegetation has been established on all nonpaved areas;

B) The surface has stabilized sufficiently with respect to settling and erosion so that further stabilization measures, pursuant to the postclosure maintenance plan, are no longer necessary; and

C) The owner or operator has completed all requirements of the postclosure maintenance plan~~.~~; and

2) Within 90 days after receiving the certification required by subsection (c)(1) of this Section, the Agency must notify the owner or operator in

writing that the permit is terminated, unless the Agency determines, pursuant to the information received pursuant to subsection (c)(1) of this Section and any Agency site inspection, that continued postclosure maintenance is required pursuant to the postclosure maintenance plan and this Part.

3) For purposes of appeal pursuant to Section 40(d) of the Act and the appeal provisions of this Part, Agency action pursuant to subsection (c)(2) of this Section is deemed a denial or grant of permit with conditions.

SUBPART E: UNCONTAMINATED SOIL FILL OPERATIONS

Section 1100.500 Prohibitions

a) No person shall conduct any uncontaminated soil fill operation in violation of the Act or any regulations or standards adopted by the Board.

b) *No person shall use soil other than uncontaminated soil as fill material at an uncontaminated soil fill operation.* [415 ILCS 5/22.51a(b)].

c) Uncontaminated soil fill operations must not accept waste for use as fill.

d) Uncontaminated soil fill operations must not accept CCDD for use as fill.

e) Uncontaminated soil fill operations must not be located inside a setback zone of a potable water supply well.

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.505 Operating Standards

Uncontaminated soil fill operations are subject to all of the standards and requirements of Sections 1100.202 through 1100.2111 of Subpart B of this Part, excluding Sections 1100.203 and 1100.210.

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.510 Recordkeeping Requirements

The owner or operator must maintain an operating record at the facility or in some alternative location approved by the Agency. The owner or operator must make the operating record available for inspection and copying by the Agency upon request during normal business hours. Information maintained in the operating record must include, but is not limited to, the following:

a) Any information submitted to the Agency pursuant to this Part;

b) Written procedures for load checking, load rejection notifications, and training required under Section 1100.205 of this Part;

c) A site location map as described under Section 1100.304 of Subpart C of this Part.

d) A facility plan map as described under Section 1100.305 of Subpart C of this Part.

e) A narrative description of the facility as described under Section 1100.306 of Subpart C of this Part.

f) Proof of property ownership. The owner and operator must notify the Agency within 7 days after any changes in ownership.

g) A surface water control plan as described under Section 1100.308 of Subpart C of this Part.

h) A closure plan and postclosure maintenance plan as described under Sections 1100.309 and 1100.310 of Subpart C of this Part.

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.515 Registration

a) Owners and operators of uncontaminated soil fill operations must register the fill operation with the Agency.

1) Uncontaminated soil fill operations must be registered with the Agency within 60 days after the effective date of this Section. Uncontaminated soil fill operations already registered with the Agency pursuant to subsection (c) of Section 22.51a of the Act must be re-registered in accordance with this subsection (a)(1).

2) Uncontaminated soil fill operations that first receive uncontaminated soil on or after the effective date of this Section must be registered with the Agency prior to the receipt of any uncontaminated soil.

b) Registrations must be submitted on forms and in a format prescribed by the Agency and must include information set forth at Sections 1100.304 through 1100.310, excluding the certifications required under Section 1100.307.

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.520 Required Signatures

a) All registrations must contain the name, address, and telephone number of the owner and operator, and any duly authorized agents of the owner or operator to whom inquiries and correspondence should be addressed.

b) All registration applications must be signed by the owner and operator or by their duly authorized agents with an accompanying oath or affidavit attesting to the agent's authority to sign the application on behalf of the owner or operator. The following persons are considered duly authorized agents of the owner and operator:

1) For corporations, a principal executive officer of at least the level of vice president;

2) For a sole proprietorship, the sole proprietor;

3) For a partnership, a general partner;

4) For a municipality, state, federal or other public agency, by the head of the agency or a ranking elected official; and

5) For a member-managed limited liability company, by a member and for a manager-managed limited liability company, by a manager or member.

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.525 Procedures for Closure

a) Notification of Closure

The owner or operator must provide written notification to the Agency within 30 days after the owner or operator begins closure in accordance with the closure plan required pursuant to Section 1100.510(h) and the closure requirements of Section 1100.208 required pursuant to Section 1100.505 of this Part.

b) Certification of Closure

When the closure of the facility is complete, the owner or operator must submit to the Agency:

1) Documentation concerning closure of the facility, including, but not limited to, plans or diagrams of the facility as closed and the date closure was completed.

2) An affidavit by the owner or operator and the seal of a PE or PG that the facility has been closed in accordance with the closure plan required

pursuant to Section 1100.510(h) and the closure requirements of Section 1100.208 required pursuant to Section 1100.505 of this Part.

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.530 Termination of Postclosure Maintenance

At the end of the postclosure maintenance period, the owner or operator must submit a certification by a PE or PG and an affidavit by the owner or operator demonstrating that, due to compliance with the postclosure maintenance plan and the postclosure maintenance requirements of this Part, postclosure maintenance is no longer necessary because:

a) Vegetation has been established on all nonpaved areas;

b) The surface has stabilized sufficiently with respect to settling and erosion so that further stabilization measures, pursuant to the postclosure maintenance plan, are no longer necessary; and

c) The owner or operator has completed all requirements of the postclosure maintenance plan.

(Source: Added at 36 Ill. Reg. , effective)

SUBPART F: STANDARDS FOR UNCONTAMINATED SOIL USED AS FILL MATERIAL AT FILL OPERATIONS REGULATED BY THIS PART

Section 1100.600 Purpose and Applicability

a) The purpose of this Subpart F is to establish standards for soils that are considered uncontaminated for purposes of this Part.

b) This Subpart F applies only to soil that is:

1) Generated during construction, remodeling, repair, or demolition of utilities, structures and roads as provided in Section 3.160 of the Act (415 ILCS 5/3.160); and

2) Used as fill material at Clean Construction or Demolition Debris Fill Operations or Uncontaminated Soil Fill Operations as provided at Sections 22.51 and 22.51a of the Act (415 ILCS 5/22.51, 5/22.51a) and in this Part 1100.

c) Soil that is generated during construction, remodeling, repair, or demolition of utilities, structures and roads and commingled with CCDD must satisfy the standards for maximum allowable concentrations of chemical constituents in

uncontaminated soil as set forth in this Subpart F if used as fill material at CCDD Fill Operations pursuant to Section 22.51 of the Act.

d) Soil or materials to which this Subpart F does not apply include, but are not limited to:

1) Soil that must be managed as hazardous waste;

2) Soil that has at any time been treated or diluted to reduce contaminant concentrations or contaminant mobility (e.g., treatment to reduce extraction test contaminant concentrations) except for soil that has been treated to reduce contaminants by physical separation from construction or demolition debris at the site where the soil was generated or at a site authorized by applicable law to perform such separation; and

3) Soil that has been *removed from a site as part of cleanup or removal of contaminants, including, but not limited to, activities conducted under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended; as part of a closure of corrective action under the Resource Conservation and Recovery Act, as amended; or under an Agency remediation program, such as the leaking Underground Storage Tank Program or Site Remediation Program, but excluding sites subject to Section 58.16 of [the] Act (415 ILCS 5/58.16) where there is no presence or likely presence of a release or a substantial threat of a release of a regulated substance at, on or from the real property* and excluding soil that is uncontaminated and has not been excavated or treated as part of the cleanup or removal of contaminants. [415 ILCS 5/22.51(f)(2)(C), 5/22.51a (d)(2)(C).

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.605 Maximum Allowable Concentrations for Chemical Constituents in Uncontaminated Soils

a) Except as provided for background concentrations in subsection (b) of this Section, the maximum allowable concentrations for chemical constituents in uncontaminated soil must be determined pursuant to subsections (a)(1) through (a)(5) of this Section.

1) The maximum allowable concentration for a chemical constituent in uncontaminated soil will be the lowest Tier 1 chemical-specific soil value of the exposure routes for residential and construction worker receptors set forth in 35 Ill. Adm. Code 742.Appendix B, Tables A and B (e.g., soil ingestion exposure route, outdoor inhalation exposure route, soil component of the groundwater ingestion exposure route, construction worker exposure route). Class I values must be used when determining

the lowest Tier 1 chemical-specific value for the soil component of the groundwater ingestion exposure route. Before making the comparison among exposure routes to determine the lowest value for ionizing organic chemical constituents and inorganic chemical constituents, the requirements of subsections (a)(2) and (a)(3) of this Section must be satisfied, as applicable.

2) For ionizing organic constituents, the lowest pH-dependent value for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742.Appendix B, Table C must be substituted for the pH-neutral value provided for the soil component of the Class I groundwater ingestion exposure route in Appendix B, Table A before determining the lowest Tier 1 chemical-specific soil value pursuant to subsection (a)(1) of this Section.

3) For inorganic constituents, the remediation objectives for the soil component of the Class I groundwater ingestion exposure route in Appendix B, Tables A and B are based on the contaminant concentration resulting from an extraction test and are not directly comparable to the remediation objectives provided for the ingestion and inhalation exposure routes, which are based on total concentrations. The following values, based on total concentrations, must be substituted for the extraction test values in Table A before determining the lowest Tier 1 chemical-specific soil value pursuant to subsection (a)(1) of this Section:

A) The lowest chemical-specific, pH-dependent values in Appendix B, Table C; or

B) For inorganic constituents that are listed in Appendix B, Table A but not in Appendix B, Table C, the extraction test values for the soil component of the groundwater ingestion exposure route in Appendix B, Table A may be multiplied by twenty (i.e., 20 liters/kilogram, the liquid to solid ratio in the extraction test assuming complete constituent leaching) to enable direct comparison with the ingestion and inhalation exposure route values. The resulting value must be substituted for the extraction test value before determining the lowest Tier 1 chemical-specific soil value pursuant to subsection (a)(1) of this Section.

4) If the lowest Tier 1 soil value for a chemical is less than the Acceptable Detection Limit (ADL), the ADL will serve as the lowest soil value.

5) The total concentration of organic contaminants may not exceed the attenuation capacity of the soil as determined in accordance with subsections (b)(1) and (b)(1)(A) of 35 Ill. Adm. Code 742.215 using a default value of 2000 mg/kg for the natural organic carbon fraction (f_{oc})

b) Background concentrations from 35 Ill. Adm. Code 742.Appendix A, Tables G and H may be used as the maximum allowable concentrations at locations specified by the tables if the most stringent exposure route value for the chemical constituent as determined pursuant to subsection (a) of this Section is lower than the chemical's applicable background value listed in Tables G or H. The chemical's applicable background value in Table G or H must be established based on the location of the fill operation where the soil is placed.

c) For chemicals not listed in 35 Ill. Adm. Code 742.Appendix B, Tables A, B, or C, the values may be obtained from the Agency by making a request for chemical-specific values.

1) The Agency will develop these objectives based upon the United States Environmental Protection Agency's (USEPA) toxicity value hierarchy as specified in OSWER Directive 9285.7-53, incorporated by reference at Section 1105.115 of this Part. USEPA's Integrated Risk Management System (IRIS), incorporated by reference at Section 1100.104 of this Part, is the first tier of this hierarchy.

2) Calculation of the maximum allowable concentrations must use the applicable risk-based soil screening level equations from 35 Ill. Adm. Code 742.Appendix C, Table A. Default exposure durations and contact rates from 35 Ill. Adm. Code 742.Appendix C, Table B must be used in making these calculations.

3) If the person making the request of the Agency disagrees with the Agency's decision, the person who made the request may file an appeal of the Agency's decision with the Board pursuant to Section 40(a) of the Act (415 ILCS 5/40(a)) and 35 Ill. Adm. Code 105.

d) Other provisions of 35 Ill. Adm. Code 742 (e.g., institutional controls, engineered barriers, exposure route exclusions, site-specific evaluations, local area background calculations) may not be used to exclude or otherwise alter exposure routes or exposure route values for the purpose of determining the maximum allowable concentrations under this Part.

e) For purposes of this Part, the Agency shall publish at its website a list of chemical-specific values for maximum allowable concentrations of chemical constituents in uncontaminated soils based on the methodology for determining those values set forth in this Section. In addition, the Agency shall publish at its website a list of chemical-specific values for chemicals not listed in 35 Ill. Adm. Code 742.Appendix B, Tables A, B or C when values are calculated by the Agency in accordance with subsection (c) of this Section or subsection (c) of 35 Ill. Adm. Code 742.510.

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.610 Compliance Evaluation; Performance and Documentation of Soil Sampling and Chemical Analysis

a) For purposes of this Subpart F, the chemical constituents to be evaluated, if any, and the soil sample points must be determined on a site-specific basis by the PE or PG.

b) If soil sampling and analysis are used to evaluate compliance with the maximum allowable concentrations for chemical constituents in uncontaminated soils, compliance generally must be determined by comparing total soil concentrations from the laboratory reports with the maximum allowable concentrations as determined pursuant to Section 1100.605 of this Part. The following procedures will be required, as applicable, when making the comparisons:

1) If the background value from 35 Ill. Adm. Code 742.Appendix A, Tables G or H was determined to be the maximum allowable concentration in accordance with Section 1100.605 of this Part for an inorganic constituent or a polynuclear aromatic hydrocarbon constituent, compliance must be determined as follows:

A) The applicable background value from Table G or H may be compared directly with the total soil concentration from the laboratory report; or

B) If, as determined pursuant to subsections (a) and (b) of Section1100.605, the applicable background value for an inorganic chemical constituent from Table G has been selected as the maximum allowable concentration in place of a more stringent value for the Class I soil component of the groundwater ingestion exposure route in 35 Ill. Adm. Code 742. Appendix B, Table A, concentration in the extract from the Toxicity Characteristic Leaching Procedure (TCLP) or Synthetic Precipitation Leaching Procedure (SPLP) analytical extraction test in accordance with Methods 1311 and 1312, respectively, in SW-846 incorporated by reference at Section 1100.104 of this Part may be compared with the chemical's Class I soil component of the Groundwater ingestion exposure route value in Appendix B, Table A.

2) For ionizing organic constituents, if, as determined pursuant to Section 1100.605 of this Part, the lowest Tier 1 chemical-specific soil value is for the soil component of the Class I groundwater ingestion exposure route, the total soil concentration from the laboratory report must be compared with the lowest corresponding pH-dependent value in 35 Ill. Adm. Code 742.Appendix B, Table C.

3) For inorganic constituents and except as provided in subsection (b)(1)(B) of this Section, if, as determined pursuant to Section 1100.605 of this Part, the lowest Tier 1 chemical-specific soil value is for the soil component of the Class I groundwater ingestion exposure route, compliance must be evaluated by comparing the total soil concentration from the laboratory report using the following methods:

A) Total soil concentrations from the laboratory report must be compared with the lowest chemical-specific, pH-dependent value for the soil component of the Class I groundwater ingestion exposure route in Appendix B, Table C; or

B) For inorganic chemical constituents that are listed in Appendix B, Table A but not in Appendix B, Table C, the total soil concentrations from the laboratory report must be compared with the product of the extraction test values for the soil component of the Class I groundwater ingestion exposure route in Appendix B, Table A multiplied by twenty (20) to convert to total soil concentration values; or

C) As an alternative to subsections (b)(3)(A) and (b)(3)(B) of this Section, concentrations in the extract from the Toxicity Characteristic Leaching Procedure (TCLP) or Synthetic Precipitation Leaching Procedure (SPLP) analytical extraction test in accordance with Methods 1311 and 1312, respectively, in SW-846 may be compared with the chemical's Class I soil component of the groundwater ingestion exposure route value in Appendix B, Table A.

c) *Chemical analysis* of soil samples *conducted under this* Subpart F *must be conducted in accordance with the requirements of 35 Ill. Adm. Code 742, as amended and "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," USEPA Publication No. SW-846,* incorporated by reference at Section 1100.104 of this Part [415 ILCS 5/22.51(f)(3), 22.51a(d)(3)]. If SW-846 methods do not support detection at the concentration specified for a particular chemical constituent (e.g., aldicarb, carbofuran, endothall), the laboratory may use modified or alternative methods available to the laboratory to achieve the lowest practical detection level possible. If concentrations of these constituents in soil are demonstrated to be equal to or lower than the applicable maximum allowable concentrations using modified or alternative methods pursuant to this subsection (c), the soil may be certified as complying with the maximum allowable concentrations.

d) Samples must not be composited for analysis, and analytical results from samples must not be averaged.

e) All quantitative analyses of samples must be completed by an accredited laboratory in accordance with the requirements of 35 Ill. Adm. Code 186 and the scope of the accreditation. *Documentation of any chemical analysis must include, but is not limited to:*

1) Chain of custody control;

2) *A copy of the lab analysis;*

3) *Accreditation status of the laboratory performing the analysis; and*

4) *Certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental laboratories and the scope of the accreditation.* [415 ILCS 5/22.51(f)(2)(D)]

(Source: Added at 36 Ill. Reg. , effective)

Section 1100.615 Waste and Materials Other Than Chemical Constituents in Soils

For purposes of this Part:

a) Uncontaminated soil may include incidental amounts of stone, rock, gravel, roots, and other vegetation.

b) Except as provided in subsection (a) of this Section, soil containing waste or other materials or exceeding the standards for chemical constituents in uncontaminated soil is not uncontaminated soil and must be managed in accordance with applicable provisions of the Act and implementing rules.

1) Soil satisfying the standards for chemical constituents in uncontaminated soil but that is commingled with general construction or demolition debris is general construction or demolition debris and must be managed as such in accordance with applicable provisions of the Act and implementing rules. [415 ILCS 5/3.160(a)]

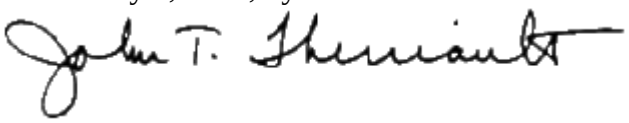
2) Soil satisfying the standards for chemical constituents in uncontaminated soil but that is commingled with clean construction or demolition debris is clean construction or demolition debris and must be managed as such in accordance with applicable provisions of the Act and implementing rules. [415 ILCS 5/3.160(b)]

(Source: Added at 36 Ill. Reg. , effective)

IT IS SO ORDERED.

Board Member J. A. Burke abstains.
Board Member C.K. Zalewski abstains.

I, John T. Therriault, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on February 2, 2012, by a vote of 3-0.



John T. Therriault, Assistant Clerk
Illinois Pollution Control Board