

**87<sup>th</sup> Annual Meeting  
June 18-20, 2013  
Mason, Ohio**

August 31, 2012

Ohio Environmental Protection Agency  
Attn: Ms. Michelle Braun  
P.O. Box 1049  
Columbus, Ohio 43216

President  
Tom Angelo

Re: OEPA  
Early Stakeholder Outreach Comments  
Beneficial Use Regulatory Program Development

President-Elect  
Dan Sullivan

Dear Ms. Braun:

Vice-President  
Mike Frommer

The Ohio Water Environment Association (OWEA) is comprised of over 1700 wastewater professionals from varying backgrounds, including operators, engineers, and manufacturer representatives. Our mission is as follows:

Past President  
Doug Clark

- Educate our members through sharing information and networking
- Educate the public on preserving and enhancing our water quality
- Be proactive on water environment issues
- Build a positive professional image within and outside the Association

Secretary-Treasurer  
Jane Winkler

WEF Delegates  
Kim Riddell  
Mark Livengood

Based on our mission, we have a Technical Review Group, who bring forth their knowledge in their representative areas to review upcoming rules and regulations that impact our industry.

Northwest Delegate  
Elizabeth Wick

Northeast Delegate  
Ted Baker

Beneficial use of incinerator ash represents a significant opportunity to reduce costs and to benefit the environment. For instance, in 2006, approximately 90,000 tons of sewage sludge incinerator ash was generated each year at eight municipal wastewater treatment plants located within Ohio. The ash was hauled to municipal solid waste landfills in Ohio at a cost of approximately \$3.3 million / year (2006 dollars). Beneficial use has the potential to offset a significant portion of this cost (based on the evaluation of some of our members, this offset could be as much as 65%), and to preserve landfill space.

Southwest Delegate  
Jamie Gellner

Southeast Delegate  
Tyler Linton

Executive Manager  
Judi Henrich

We offer the following comments for consideration:

- 1) Sewage sludge incinerator ash is an inert, non-toxic material that is currently being beneficially reused in a number of states as a soil amendment, making bricks, as daily and final landfill covers, the manufacturing of Portland cement, as select-fill material, etc.
- 2) Sewage sludge incinerator ash has a more uniform makeup than traditional Municipal Solid Waste, and can be subjected to the sampling and characterization protocol for additional beneficial use materials set forth in the Draft Rules.
- 3) The municipal solid waste landfill operators require generators of sewage sludge incinerator ash to conduct Toxicity Characteristics Leachate Procedure (TCLP) analysis on their sewage sludge incinerator ash, on an annual basis, to demonstrate it is a non-toxic material. This data can be submitted to Ohio EPA upon request.

- 4) We suggest providing clarity in how reviews and approvals will be carried out between Division of Materials and Waste Management (DMWM) and Division of Surface Water (DSW). It will be important to define roles and responsibilities as well as the pathway for potential permittees to make application and receive approvals for the different tiers described in the early stakeholder documents.
- 5) We suggest providing clarity in how specific products that become components of “Tier 1” products will be approved or reviewed. Incinerator ash is a good example of a product that may be used as a component in some of these products. As stated previously, incinerator ash is generated in significant quantities at eight municipal wastewater treatment plants in Ohio. It can be used in several of the by-products listed in the “Tier 1” products as well as others that have been documented in commonly available literature.
- 6) A large amount of data exists among current wastewater treatment plants using incinerators and this data can be compiled for consideration by OEPA for inclusion of incinerator ash as a “Tier 1” industrial byproduct.

We appreciate the opportunity the OEPA provides for input and reviews of upcoming changes.

Should you have any questions, please contact either Dianne Sumego 330.515.5678 or the writer at 330.841. 2591.

Sincerely,



Thomas Angelo  
President  
The Ohio Water Environment Association

c: Ms. Dianne M. Sumego, PE



Ms. Michelle Braun, R.S.  
Solid Waste Rules Coordinator  
Ohio EPA – Division of Materials and Waste Management  
P.O. Box 1049  
Columbus, Ohio 43216-1049

August 30, 2012

Michelle,

Thank you for the opportunity to comment regarding the Ohio Environmental Protection Agency's (OEPA's) Division of Materials and Waste Management (DMWM) proposed regulatory program for beneficial use of industrial byproducts.

We are not opposed, per se, to the idea of regulating to some degree industrial byproduct beneficial use; however, we do believe a more specific approach is warranted. As a small business recycler of materials that may become subject to this program, we believe that recycling of otherwise useful materials may become disincentivized due to additional regulatory requirements. At the same time, we appreciate the concept of appropriate handling and use of beneficial materials to avoid adverse effects to people and the environment. Thus, our comments center on definitional issues rather than the overall regulatory framework being proposed.

We have reviewed the DMWM's "Early Stakeholder Outreach" materials (ESO) and have some concerns, primarily centered on the conceptual definition of "industrial byproduct."

The United States Environmental Protection Agency has an existing definition of "byproduct" [40 Code of Federal Regulations 261.1(c)(3)] that states a byproduct is "a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process." We have that definition in mind setting up the framework for our comments.

The ESO provides a working conceptual definition of industrial byproduct as "a residual material that can meet the definition of solid waste, industrial waste or other waste." This appears to be a very broad definition, encompassing a wide range of materials. Taken on its own, our concern is that this definition (and therefore, any applicable regulations) may include many materials that are readily and commonly recycled, such as paper, aluminum, plastic, etc., that originate from post-consumer sources.

Billy J. Watterson President & Recycling Innovations Officer  
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“Residual” material is not defined, and we note that the ESO mentions “waste-specific reuse rules such as hazardous waste, scrap tires, compose, sewage sludge and clean hard fill” for beneficial use would not be replaced by the proposed program. This implies a wide range of materials may become subject to the proposed regulations – including potentially post-consumer recyclables. If, ultimately, such materials are included within the industrial byproduct definition, it could make it more difficult to economically recycle some of these materials.

Furthermore, there are off-specification materials that may have been created as “products” during production and should not be considered “residuals” from the process. These off-specification materials are often good, usable materials with minor imperfections such as color being off standard, etc. These are materials that can be readily sold and/or used within the general marketplace to replace existing raw materials in other manufacturing or commercial processes. Such materials, if recycled, should not be subject to these proposed rules. Again, if these materials are included within the range of residual industrial byproducts to be managed under the proposed rules, it could make it economically difficult to divert such materials to other uses.

We assert that it could become economically difficult to recycle these materials under the proposed rules as they include concepts such as characterization plans that must be approved by the Ohio Environmental Protection Agency, annual reporting on such materials, permitting through the agency and even providing some or all of this documentation to the agency to the end-user of the products intended for beneficial use. These actions all add incremental documentation and administrative costs to the recycling process.

Reuse and recycling are environmentally responsible alternatives to disposal. Many economic transactions involving very large quantities of recyclable materials are performed daily within the marketplace. Often these transactions involve movement of beneficial use materials between states as these are commodity items that are only marketable when viewed from a national or even international marketplace. We would prefer to see very clear definitions and/or exemptions indicating how these materials would be classified versus what we have indicated are a broadly encompassing definition of residual industrial byproducts for beneficial use.

Sincerely,



Billy Watterson, CHMM  
President, Recycling Innovations Officer

# **BELDEN**

**THE BELDEN BRICK COMPANY**

August 31, 2012

Via email (michelle.braun@epa.ohio.gov)

Ohio EPA

PO Box

Columbus, Ohio 43216-1049

RE: The Belden Brick's Comments on Beneficial Use Regulatory Program

Dear Ms. Braun:

The Belden Brick Company has been making high quality brick in Ohio for the past 127 years and currently employs about 450 people. We recognize the need for and support reasonable, well developed environmental regulations to benefit the people of Ohio and America. The further development of OEPA's Beneficial Use Regulatory Program is something that we would like to be a part of as it may impact our operations.

As a brick manufacturer, The Belden Brick Company generates various types of wastes and byproducts and uses byproducts from other industries as our raw material feedstock. We want to ensure industry can continue to efficiently reuse these materials without a burdensome regulatory scheme that may create unnecessary bureaucratic hurdles to deal with. Please allow us to weigh in on further development of this regulatory program.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Bradley H. Belden

*Manager – Occupational & Regulatory Services*



Dax J. Blake, P.E.  
President, AOMWA  
1250 Fairwood Ave.  
Columbus, OH 43206  
(614)-645-7919

August 31, 2012

Michele Braun  
P.O. Box 1049  
Columbus, Ohio 43216-1049  
michelle.braun@epa.ohio.gov

**Re: Comments in response to Ohio EPA's June 2012 Early Stakeholder Outreach Request Concerning Development of a Beneficial Use Regulatory Program**

Dear Ms. Braun:

The Association of Ohio Metropolitan Wastewater Agencies ("AOMWA") appreciates the opportunity to provide early stakeholder input on Ohio EPA's development of an industrial byproduct beneficial use regulatory program. AOMWA is a non-profit organization that represents the interests of Ohio's public wastewater treatment agencies. As evidenced by AOMWA's comments on Ohio EPA's 2006 draft rule package on this issue, our members have a great interest in the development of a regulatory program that would recognize the beneficial use of waste materials, including sewage sludge incinerator ash, and reduce disposal costs for municipalities with limited budgets. Accordingly, in response to the Early Stakeholder Outreach ("ESO") request and the Beneficial Use Rules Development Concepts circulated by Ohio EPA's Division of Materials and Waste Management and Division of Surface Water in June of 2012, AOMWA submits the following comments for Ohio EPA's consideration:

1. AOMWA is supportive of the overall approach outlined in the outreach material which calls for a separate rules chapter pertaining to beneficial use of byproducts. Additionally, AOMWA believes that sewage sludge incinerator ash—a byproduct of our members' operations—should be expressly included in the regulatory program being developed by Ohio EPA. Sewage sludge incinerator ash is an inert, non-toxic material that is currently being beneficially reused in a number of states as a soil amendment, in the making of bricks, as daily and final landfill covers, in the manufacture of Portland cement, and as fill material. Allowing the beneficial reuse of sewage sludge incinerator ash would result in more space available in municipal solids waste landfills and a substantial costs savings to the municipal wastewater treatment agencies that practice incineration. Such an approach also furthers Ohio EPA's stated goals of addressing materials in a comprehensive and consistent manner and not over-regulating benign materials. Therefore, AOMWA requests that Ohio EPA expressly include this material under the contemplated program (or alternatively, develop an exception for sewage sludge incinerator ash from the definition of "Municipal Solid Waste" so that it may be beneficially reused pursuant to the program).

**c/o Northeast Ohio Regional Sewer District  
3900 Euclid Ave.  
Cleveland, OH 44115  
(216) 881-6600**

2. The ESO specifies that Ohio EPA is considering a three-tier approach for beneficial use approvals with Tier 1 consisting of pre-approved uses authorized in rule. AOMWA believes that sewage sludge incinerator ash should be included as an industrial byproduct that is pre-approved for the specific beneficial uses outlined under Tier I in the ESO. AOMWA understands that data is available and has been submitted to Ohio EPA to support such an approach.

3. The ESO also states that those industrial byproducts not qualifying for pre-approved use under Tier 1 would need a characterization plan and acceptable use determination to qualify under the Tier 2 general permit approach. AOMWA believes that beneficial uses of sewage sludge incinerator ash not qualifying for preapproved use under Tier 1 should be authorized by general permit. As mentioned above, based upon existing data that is available, byproduct characterization and use specifications can be developed specific to sewage sludge incinerator ash and included in the general permit. Only non-typical uses should be the focus of a Tier 3 individual permit. In addition, AOMWA would encourage that in the development of general permit terms the focus should be on standards for the end use and not on the by-product before such use.

4. Finally, AOMWA requests clarification in the rules regarding the respective roles of the Division of Materials and Waste Management and Division of Surface Water. Historically, the Division of Materials and Waste Management has been responsible for ensuring the proper handling of wastes and promoting reuse of materials and waste generated in Ohio. Conversely, the Division of Surface Water typically oversees sewage sludge disposition. Accordingly, AOMWA believes that the roles of these divisions within the beneficial use regulatory program should be clarified and delineated in accordance with their particular expertise.

AOMWA appreciates your attention and consideration in this matter and looks forward to further discussions with Ohio EPA regarding this very important issue. We would be happy to meet with you directly to discuss these comments in more detail if that would be helpful. Should you have any questions regarding our comments, please contact, Jessica DeMonte, Squire Sanders (US) LLP, at (614) 365-2809, or Andrew Etter, Squire Sanders (US) LLP, at (614) 365-2765.

Sincerely,



Dax J. Blake, P.E.  
President, AOMWA



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Ms. Michelle Braun  
Rules Coordinator  
Ohio EPA  
P. O. Box 1049  
Columbus, OH 43216-1049

Dear Ms. Braun:

On behalf of the officers, trustees, and members of the Ohio Cast Metals Association (OCMA), I am submitting the attached comments regarding the June 2012 Early Stakeholder Outreach Beneficial Use Regulatory Program Development Document. OCMA is hopeful that the process Ohio EPA has set forth will result in the development of a beneficial use regulatory program that creates opportunities for expanded use of industrial byproducts such as foundry sand and slag.

OCMA was proud to help Ohio EPA develop Ohio EPA Policy 400.007 back in 1994 when the policy was considered groundbreaking in its approach to the issue. Significantly, since the development of those rules, research concerning the environmental viability of foundry sand and slag has taken place that has overwhelmingly concluded that most foundry sands are actually cleaner than native soil. Unfortunately, despite these developments, the Ohio EPA has not chosen to expand the opportunities for beneficial use of these byproducts. We are hopeful that this process will rectify that situation.

The OCMA represents the interests of more than 150 metal casting companies in Ohio, the number one metal casting state in the nation. Sadly, this number is approximately half of what it was in 1994. OCMA's mission is to promote and protect the interests of the metal casting industry. Although we do have several large corporate members such as GM Powertrain-Defiance, Columbus Castings, and Honda of America Mfg., Inc., they are the exceptions. Most of our members are small or medium-sized businesses, often family-owned with less than 100 employees.

We appreciate the opportunity to provide comments on the Beneficial Use Regulatory Program Development Document. If we can provide any additional information about these initial comments, please do not hesitate to call or email. We are interested in being an integral part of any stakeholder group Ohio EPA decides to create during the rule-making process. We look forward to continuing to work with you on this important issue.

Sincerely,

*Russ Murray*  
Executive Director

Cc: OCMA Environmental Affairs Committee  
John Kurtz, OCMA Secretary

August 30, 2012

The Ohio Cast Metals Association (OCMA) Comments Regarding  
The June 2012 Early Stakeholder Outreach  
Beneficial Use Regulatory Program Development Document

**Section I – Basis for beneficial use rules**

Under this section of the Beneficial Use Rules Development Concepts document, the agency provides a definition for Industrial Byproduct. The definition specifies that an Industrial Byproduct is a residual material that, “can meet the definition of solid waste, industrial waste, or other waste.” This would appear to preclude any material that does not meet the definition of solid waste. OCMA would like to point out that certain foundry residual materials, such as spent, non-toxic foundry sand and slag, are exempt from the definition of solid waste by Ohio Administrative Code (OAC) 3745-27-01(S)(23). Thus, based upon this definition, it is OCMA’s belief that both spent non-toxic foundry sand and slag would not be subject to beneficial use rules as presently defined.

**Section II – Applicability and Exclusions**

As stated above, OAC 3745-27-01(S)(23) excludes spent nontoxic foundry sand, and slag and other substances that are not harmful or inimical to public health from the definition of “solid waste”. The OCMA believes the environmentally responsible beneficial reuse of spent foundry sand and slag is allowed today and would not be regulated by this rulemaking as set forth in the concept paper.

**Section III – Prohibitions**

The materials that are destined for reuse (byproducts) are not waste and must not be considered wastes. If the material meets beneficial use criteria (right now being proposed to have to be cleaner than dirt) then by definition the industrial byproduct cannot be harmful to human health or the environment nor can it create a nuisance. If the Agency truly desires to create rules that will provide opportunities for the beneficial use of industrial byproducts, it cannot create a rule package that suggests to the general public that the materials being beneficially used can in any way be harmful to the general public.

**Section IV – General Requirements**

Why is it necessary to include language clarifying that beneficial uses of an industrial byproduct must comply with applicable laws? Is there really any question that use of these materials must comply with applicable laws? Why would the Agency find it necessary to create additional language outlining the obvious?

The concept paper states that beneficial uses of an industrial byproduct must “conform to best management practices, accepted engineering standards, or agronomic practices.” As stated numerous times in these comments, if the Agency is truly interested in increasing the opportunities for beneficial use of industrial byproducts it must provide minimal direction to producers and users of the industrial byproduct once that byproduct has been proven to meet environmental standards of acceptability. For example, spent foundry sand has been found through numerous studies to be as clean as or cleaner than native soils. It makes little sense to place numerous barriers to the beneficial use of spent foundry sand once the sampling process has demonstrated that the spent foundry sand meets the environmental standards set forth.

Very few foundries in Ohio employ more than 100 employees. It is highly unusual for an operating foundry to have an individual on staff whose responsibilities are solely environmental. In many cases that same individual will be responsible for HR activities, workers compensation, and often safety and industrial hygiene as well. To expect that an individual in this situation would know, or have the time to learn, the best management practices, accepted engineering standards, or agronomic practices is unreasonable. It is highly likely that the users of the spent, foundry sand will be the experts in accepted engineering standards and/or agronomic practices. The Agency should be less concerned about these matters and more concerned about setting environmental standards that are sensible and practical.

#### **Section V – Industrial Byproduct Classification**

When necessary, OCMA supports the need for proper characterization of byproducts that are destined for reuse. We also support the development of a consistent approach that can be applied to similar materials so that individual generators do not have to develop their own byproduct characterization schemes and then go through a series of reviews and revisions prior to gaining approval to move forward with implementation of a given sampling and characterization approach. OCMA also believes that the Ohio EPA already has a significant amount of information and experience with characterization of foundry byproducts. In addition there is a wealth of research and evaluation of foundry byproducts that can be relied upon to establish reasonable and cost effective byproduct classification testing programs.

OCMA strongly encourages the Ohio EPA to strike a reasonable balance between the need to collect data on the characteristics of foundry byproducts and the economic realities of beneficial use projects. The easy path forward would be to require a significant number of duplicate tests on individual byproducts for a very long list of chemical constituents in order to assure the agency that a material is suitable for a given reuse option. Unfortunately the costs associated with most, if not all beneficial uses of industrial materials is such that the proposed testing costs associated with characterization of the byproduct can render the reuse option no longer economically feasible. Both the Ohio EPA and other state agencies already have a number of years of experience with successful beneficial use projects involving foundry byproducts. If this experience is not considered as part of the development of the beneficial use rulemaking process, the result will be a set of rules that may be easy to implement on the part of the agency, but are of no practical value to the regulated community because the cost to implement the rule exceeds the value of the benefit derived from implementation of the beneficial use.

For example, the Agency has suggested that it is considering adopting beneficial reuse concentration limits that are based on an increased cancer risk of 1 in 1,000,000. This risk factor is patently absurd! Being struck by lightning is a risk factor of one out of 100,000; the Agency is seriously considering a risk factor ten times more unlikely? The federal Part 503 Biosolids rule allows the distribution of biosolids on agricultural fields in Ohio, fields where the biosolids are absorbed by corn, soybeans, etc. The Guide to the Biosolids Risk Assessments for EPA rule states that a risk factor of 1 in 10,000 was used. Why on earth would the Agency attempt to move forward with beneficial use regulations for industrial byproducts that are so extreme relative to the federal biosolids rule?

## **Section VI – Approvals for Beneficial Use**

### **Tier 1- Pre-Approval**

OCMA supports Ohio EPA's efforts to identify a number of beneficial use options that can be pre-approved, thus minimizing the amount of effort required on the part of the generator to implement these specific beneficial use options. In the last sentence of this section the Ohio EPA states that the Director can require additional characterization "...if there is reasonable cause to believe that there is a threat to human health and/or the environment." OCMA understands the agency's duty to protect human health and the environment. That said, it is important that the agency also consider the cost/benefit aspect of providing this protection. Every citizen of the state of Ohio would like to take a "0% risk" approach to protecting our environment and protecting human health. Unfortunately this is simply not sustainable. Each day we are confronted with decisions that involve risk. Simple tasks such as crossing the street at a busy intersection, driving a vehicle, choosing what we eat, exposure to the sunlight, etc. all involve taking some level of risk. Many of these common risks far exceed the environmental or human health risks associated with beneficial use of industrial byproducts. Developing rules that specify "0% risk" or miniscule risk levels, while easy to develop and implement, can essentially preclude the option that the regulation intends to facilitate. OCMA requests that the Ohio EPA develop Pre-Approval beneficial use options that are based upon realistic risk levels that facilitate those end uses for which there exists sufficient successful experience or reasonably available research to support the specific beneficial use option.

### **Tier 2: General Permit**

Is it normal practice for the Agency to deny a permit when there are unresolved enforcement actions against a generator of an industrial byproduct? This provision is so ambiguous that it can only be expected to result in arbitrary and capricious judgments concerning what "unresolved" means.

There should be a reasonable time period during which the Agency must reach a decision on granting or denying a General Permit application. The Agency should be able to make this determination within 15 days of receiving a complete application and within 15 days of receipt of an amended application.

A general permit should not expire unless there is a change in the process by which the industrial byproduct is produced.

### Tier 3: Individual Permit

Again because of the lead-times associated with potential projects, we believe Ohio EPA shall act within 30 days following receipt of a complete application and within 15 days of receipt of an amended application.

### Section VII. Distribution and use of an industrial byproduct

Material that is designated as pre-approved should not require that the generator provide any information to the end-user. If the end-user asks for this information and the generator denies the request, the end-user can find another supplier. This is the type of requirement that is likely to diminish the beneficial use of industrial byproducts.

### Section VIII. Record-keeping and Reporting

Any identified record-keeping and reporting requirements should not be applicable to either Pre-Approval Materials or for material being beneficially reused via a General Permit. Economics are already precarious to keep these high volume, low toxic materials out of the landfill and requiring record-keeping and reporting only adds additional cost and time burdens to the generator and/or end-user.



Ross Environmental Services, Inc.

Nick L. Maoloni  
Senior Regulatory Affairs Manager  
Corporate EHS

150 Innovation Drive  
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**CERTIFIED MAIL: 7011-1150-0000-1465-7548**

August 30, 2012

The Ohio Environmental Protection Agency  
Division of Materials and Waste Management  
P.O. Box 1049  
Columbus, OH 43216-1049  
Attn: Michelle Braun

Re: Early Stakeholder Outreach - Development of a Regulatory Program for the Beneficial Use of Industrial Byproducts in Ohio

Dear Ms. Braun:

Ross Environmental Services, Inc. ("RES") hereby submits its comments on the Ohio Environmental Protection Agency's ("Ohio EPA's" or "the Agency's") proposed development of a regulatory program for the beneficial use of industrial byproducts in Ohio. Along with its sister company Ross Incineration Services, Inc. ("RIS"), RES has been deeply involved with the investigation and implementation of processes for the beneficial use of industrial byproducts for several years. As such, RES thanks you for reaching out to early stakeholders for input on the development of a regulatory program for the beneficial use of industrial byproducts, as well as for extending the comment period until August 31, 2012.

Ohio EPA has indicated that there is increasing interest in beneficially using industrial byproducts currently being disposed in landfills. Consequently, the Agency's Division of Materials and Waste Management ("DMWM") and Division of Surface Water ("DSW") have suggested the creation of a regulatory program to manage these industrial byproducts more sustainably. According to Ohio EPA, beneficial use programs may offer the following benefits:

- Provide byproduct generators with a science-based protocol for evaluating their byproducts.
- Assure potential users of the safety of these materials.
- Reduce disposal costs for generators.
- Provide sources of raw materials for end users.
- Extend the capacity of landfills and conserve resources.
- Make byproducts resources instead of waste.

RES agrees with the above suggestion and possible benefits. There are numerous industrial byproducts generated in Ohio which may not be beneficially reused due to the lack of regulations encouraging such reuse. As a result, these byproducts are taking up valuable landfill space, which is contrary to sustainable practices.

## Stakeholder Input Sought by Ohio EPA

The Agency has indicated that it is seeking stakeholder input on the proposed regulatory concepts by means of the ***bold faced, italicized*** questions below. Please accept RES' responses which are provided in normal font after each of Ohio EPA's questions.

### ***Is the general regulatory framework proposed the most appropriate framework?***

DMWM and DSW have suggested that beneficial use rules be created and organized into their own new program chapter. To that end, the Agency has created a document, titled *Beneficial Use Rules Development Concepts*, which contains a conceptual framework for the program. The concepts include: who is required to obtain authorizations and permits; the authorization (permitting) structure; and characterization of industrial byproducts, among others.

RES strongly urges Ohio EPA to make itself intimately aware of the United States Environmental Protection Agency's ("USEPA's") 2011 Definition of Solid Waste proposed rulemaking (informational link provided below):

<http://www.epa.gov/epawaste/hazard/dsw/rulemaking.htm>

In its 2011 proposed rule USEPA has put forward new, wide ranging safeguards for hazardous secondary materials recycling to protect public health and the environment. This includes many of the conceptual framework ideas that Ohio EPA is suggesting in its *Beneficial Use Rules Development Concepts*, as well as others that are not currently being considered by the State. USEPA has committed to take final action on the proposed federal rulemaking by no later than December 31, 2012. As such, RES recommends that Ohio EPA be mindful of the federal rules concerning this subject as it proceeds with its own regulatory program, to make sure that what is ultimately developed is consistent with and complementary to USEPA's final rules. The last thing that the Ohio regulated community needs to face is a state program that is inconsistent with or contradictory to a federal program, and/or which makes it more difficult to conduct beneficial use activities here than in neighboring states.

### ***Is there any alternative framework that the Agency should consider?***

***Are there options for improving a concept?***

***Are there any considerations that should be taken when developing a specific concept?***

See RES' response above.

### ***Is there any information or data the Agency should be aware of when developing concepts or rule language for a concept?***

On January 10, 2011, Governor Kasich signed Executive Order 2011-01K which established the Common Sense Initiative. RES suggests that Ohio EPA be sensitive to the principles established by this Initiative, so that any future rulemaking does not place Ohio businesses who are performing beneficial use of industrial byproduct activities at an economic disadvantage with competitors in other states who are not subject to a similar regulatory program.

See also the support studies and analyses referenced on USEPA's Definition of Solid Waste webpage.

### ***Would this regulatory program have a positive impact on your business? Please explain how.***

If developed properly, this regulatory program could better insure that businesses in the State are conducting 'legitimate' use, reuse, recovery and recycling activities involving industrial byproducts,

while having a more discouraging effect on ‘sham’ operations, thereby also increasing the protection of Ohio’s citizens from such bogus operations. The regulatory program would establish a bar that needs to be met by prospective players, thereby requiring them to demonstrate that they meet a specific set of compliance criteria before they can enter the marketplace. Under a best case scenario, the regulatory program would level the playing field amongst the various parties conducting such activities within the state, thereby encouraging a greater competitive spirit.

*Would this regulatory program have an adverse impact on your business? If so, please identify the nature of the adverse impact (e.g., license fees, fines, employer time for compliance).*

If not developed properly, this regulatory program could potentially make it cost prohibitive for businesses in Ohio to begin or continue performing valuable beneficial use activities involving industrial byproducts.

#### **Additional Comment**

During the rule drafting process, RES requests that Ohio EPA include the material “scrap metal” in the list of byproducts identified under the section entitled “Tier 1: Pre-Approval” of the Beneficial Use Concepts. Processed scrap metal is specifically excluded from the definition of solid waste under both OAC 3745-51-04 and 40 CFR 261.4 because both Ohio EPA and USEPA recognize the value of this material as a substitute raw material in steel making process.

In conclusion, RES can offer experience and expertise concerning the beneficial use of industrial byproducts, and hereby offers to participate and work with Ohio EPA as the rulemaking development proceeds. Should you have any questions regarding these comments, please do not hesitate contacting me at 440.366.2072.

Sincerely yours,



Nick L. Maoloni  
Senior Regulatory Affairs Manager  
Corporate EHS  
Ross Environmental Services, Inc.

cc: John Schierberl, Ohio EPA, DMWM, CO **CERTIFIED MAIL: 7011-1150-0000-1465-7555**



**AmericanCoatings**  
ASSOCIATION

August 31, 2012

Michelle Braun  
P.O. Box 1049  
Columbus, OH 43216-1049

**RE: Early Stakeholder Outreach Beneficial Use Regulatory Program Development;  
ACA Comments**

Dear Ms. Braun:

In general, the American Coatings Association (ACA)<sup>1</sup> supports the Ohio EPA Beneficial Use Rule Development Concepts that are intended to create a regulatory program to manage industrial byproducts more sustainably, and shift byproducts that are currently landfilled back into production. Overall, ACA believes that the concepts would have a positive impact on our industry. Further, ACA suggests Ohio adopt the Definition of Solid Waste rule (Revisions to the Definition of Solid Waste Final Rule, 73 Fed. Reg. 64667 (October 30, 2008)) and/or look to the Paint Universal Rule in Texas and the New Jersey Universal Waste regulations; the links are provided below.

Texas: <http://www.tceq.texas.gov/publications/rg/rg-370.html>)

New Jersey Universal Waste regulations: [http://www.gallowaytwp-nj.gov/departments/community\\_education/gogreen/guides/UNIVERSAL%20WASTE%20FLYER%20PDF%2009.pdf](http://www.gallowaytwp-nj.gov/departments/community_education/gogreen/guides/UNIVERSAL%20WASTE%20FLYER%20PDF%2009.pdf) )

Lastly, we are interested in participating in future meetings, so please add the following emails to the stakeholder contact list for this regulation: [ddarling@paint.org](mailto:ddarling@paint.org) and [tserie@paint.org](mailto:tserie@paint.org). Thank you for considering our request.

Sincerely,

/s/

/s/

David Darling, P.E.  
Director, Environmental Affairs

Tim Serie, Esq.  
Counsel, Government Affairs

*\*\* Sent via email \*\**

---

<sup>1</sup> The American Coatings Association (ACA) is a voluntary, nonprofit trade association working to advance the needs of the paint and coatings industry and the professionals who work in it. The organization represents paint and coatings manufacturers, raw materials suppliers, distributors, and technical professionals. ACA serves as an advocate and ally for members on legislative, regulatory and judicial issues, and provides forums for the advancement and promotion of the industry through educational and professional development services.



July 31, 2012

**VIA CERTIFIED US MAIL**

Michelle Braun  
P.O. Box 1049  
Columbus, OH 43216-1049

Re: Comments to Beneficial Use Rules Development Concepts

Dear Ms. Braun:

The following comments to the above-referenced beneficial use rules development concepts (the "Beneficial Use Concepts") are being submitted by Emerald Environmental, Inc. ("Emerald"). Emerald has been conducting work and demonstrations involving the beneficial use of alum residuals as a topsoil material. As part of its work, Emerald has obtained a process patent for the production of Conditioned Alum Residual (CAR). Emerald has also learned that blends of CAR and Biosolids Incinerator Ash (BIA) are beneficial and should be considered an acceptable beneficial use under these proposed rules.

Emerald appreciates that Ohio EPA has proposed the Beneficial Use Concepts for early review by interested stakeholders. Moreover, Emerald agrees with the structure of the proposed Beneficial Use Concepts. There are numerous industrial byproducts generated in Ohio that are not beneficially reused due to the lack of regulations authorizing such reuse. As a result, these byproducts are taking up valuable landfill space. Emerald encourages Ohio EPA to move forward with the drafting of rules based upon the Beneficial Use Concepts.

During the rule drafting process, Emerald requests that Ohio EPA include the term "Conditioned Alum Residuals" in the list of byproducts identified in the section entitled "Tier 1: Pre-Approval" of the Beneficial Use Concepts. Alum residuals are produced during the drinking water purification process when alum is used to cause particulate matter in the water to precipitate. Alum treated water is typically placed in settling tanks. Alum residuals form on the bottom of the settling tanks. The cleared water is removed from the tanks for further treatment, and the alum residuals are removed for drying and further management.

Unconditioned alum residuals contain raw water turbidity, unreacted alum coagulants and/or alum polymer coagulants and reactive hydroxide compounds. The two primary concerns with the reuse of alum residuals are nutrient binding by the residuals and elevated metals concentrations within the residuals. However, alum residuals can be reused in a manner that eliminates these concerns. A patent has been obtained for this conditioning process and other alum residual conditioning processes. (U.S. Patent No.: US 6,537,340). In fact, Ohio EPA has previously approved of the use of conditioned alum residuals as a soil blend.

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Michelle Braun  
July 31, 2012  
Page 2

When compared to the byproducts that are already identified in the Beneficial Use Concepts for pre-approved uses, conditioned alum residuals present no greater risk to the environment. Emerald has previously provided the Ohio EPA with studies and analysis demonstrating that Conditioned Alum Residuals do not post a risk to the environmental, and have an agronomic benefit. Emerald would be glad to provide Ohio EPA with additional copies of these studies and analysis upon request.

In addition to Emerald's request that Ohio EPA add "conditioned alum residuals" to the list of byproducts identified as "Tier 1: Pre-Approval", Emerald further requests that Ohio EPA include the following definition of "conditioned alum residuals" within the proposed rules:

"Conditioned alum residuals" means alum containing residuals generated during the water treatment process and conditioned in accordance with one of the processes identified in Patent No.: US 6,537,340."

As referenced in the Beneficial Use Concepts in 2006, Ohio EPA sought comments to proposed beneficial use rules. Emerald submitted comments in response to Ohio EPA's proposed rules. If Ohio EPA plans to use the beneficial use rules proposed in 2006, Emerald requests Ohio EPA to consider the comments submitted by Emerald at that time.

Emerald has also found that BIA poses notable agronomic nutrient value and when blended with CAR creates a soil product that supports vegetative growth superior to conventional topsoils. As such, Emerald would request that blends of CAR and up to 20% BIA be considered for a "Tier 2" General Permit approval for beneficial reuse so long as BIA meets Ohio Sewage Sludge metals criteria and complies with additional criteria contained in PADEP's General Permit #WMGM026. Emerald has found that use of CAR/BIA blends support growth better than blends of BIA with topsoil. Additional information can be provided upon request to substantiate this request.

Thank you for considering the foregoing comments. Emerald Environmental would appreciate the opportunity to meet with the Ohio EPA to discuss these comments. In the meantime, if you or any other member of the Ohio EPA have any questions or need anything further, please do not hesitate to contact me directly.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Hershberger", with a long, sweeping flourish extending to the right.

Scott Hershberger

**Early Stakeholder Outreach**  
**Beneficial Reuse Regulatory Program Development**  
**Ohio Department of Transportation Comments**  
**July 30, 2012**

The Ohio Department of Transportation (ODOT) is pleased to present the following comments for OEPA's Early Outreach for the Beneficial Reuse Regulatory Program Development. ODOT's comments are based on our experience with the reuse of various materials that are reflected in ODOT's Construction and Material Specifications (CMS). CMS is ODOT's contract document used to specify and construct highways and incorporates our experience, those of other departments of transportation across the country, the Federal Highway Administration, and contractors and vendors.

The ODOT's CMS and the materials pre-qualification standards are located at the addresses below.

CMS

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Pages/2010CMS.aspx>

Pre-qualifications/Materials Approval

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/Pages/default.aspx>

As per your guidelines on page 2 for comments we will attempt to provide as much detail as possible, however, the relative vagueness of the development concepts makes it difficult to be able to provide detailed specifics.

**Item III - Prohibitions**

The last sentence stating OEPA is considering clarifying that products until recycled are wastes is not clear to ODOT. As an example: is Recycled Asphalt Concrete (RAC) that is currently considered a beneficial material now going to be required to be tracked – cradle to grave – until recycled into pavement? As a highway owner with maintenance forces obtaining pavement millings and stockpiling them for use, will this now require that those materials are tracked and documented from the location they were obtained to the location they are installed along the roadway as berm aggregate?

**Item V - Industrial By-product Characterization**

Under item V, is OEPA proposing a characterization plan based on SW-846 and that it applies to all tier levels? However, the Tier 1 definition states these items are already known so why is there the additional burden of the characterization plan?

## **Item VI – Approvals for Beneficial Reuse**

### **Tier 1 Pre-approved**

- Items that can be classified as hard clean fill should not be regulated by the proposed beneficial reuse rules. These items have already been traditionally shown to be inert.
- Items that are considered Tier 1 should be exempt from tracking and documentation of placement of materials. Since the materials used by ODOT may come from a large number of sources, from various types of businesses, and are repeatedly recycled more than once, any tracking source to source, site to site, quantity to quantity will decrease or eliminate recycling that is currently occurring. A Tier 1 level without tracking and documentation requirements encourages continued reuse and recycling thus reducing the cost for reuse, costs of highway construction and costs to the taxpayer to maintain our transportation system.
  - Construction materials that are recycled, (i.e. concrete and asphalt, construction fill, aggregate base, steel, plastic, and others) are often not provided by a single vendor. A construction project may require materials from various sources. Because there would be multiple entities reporting the same number for the same material, the reports would provide a false amount of material being reused.
  - Currently, it is unrealistic to expect ODOT to be able to report quantities of recycled materials since our processes do not measure or specify a specific amount. ODOT establishes in our CMS specifications maximum limits set on engineering requirements for the total material (such as asphalt delivered). Contractors may use any materials, whether virgin, recycled or in combination, that are cost effective and meet these specifications. They are not required to use a specific amount.
  - If ODOT would change the CMS specification to direct contractors to use specific recycled materials instead of providing material specifications in a generic format, ODOT's costs would increase. Mandates of a specific material limit competition and competitive sources, often produce a lesser quality finished product because not all recycled materials (i.e. RAP) are the same, and the durability lowers for the specification item. As a simple example: Higher levels of RAP (depending on the RAP) decrease the pavement performance by 2 years in a 12 year cycle. This would increase ODOT paving frequency by 16% and would increase our costs by 16%.
  - If facilitating beneficial reuse, why not measure only what goes into a landfill and measure the decrease in quantity?
  - It appears you are pointing toward a cradle to grave traceability on these materials which would be cost prohibitive, nearly impossible to comply with, and doesn't appear to serve a beneficial purpose.

## Tier 2 and 3

- While ODOT can understand the environmental concerns, the criteria for Tier 2 level materials are not clear and should be more specific. Are the limits on the material being recycled or on the material after it has been incorporated into a final product that includes the recycled material?  
  
To benefit recycling, isn't the issue the finished product, not the recycled material?
- While ODOT's contracts under the competitive bid atmosphere will still be driven by low cost, the use of Tier 2 recycled materials will not be considered by contractors unless the total product, including recycled material, is the most cost efficient. The controls of permits, characterization plans and testing will not provide an economical edge during the bid process and will not likely encourage the use of a Tier 2 material but have the opposite effect.
  - As an example, ODOT developed CMS 203.03J to allow the reuse of petroleum contaminated soils in ODOT projects, as directed by ORC 5501.38. However, petroleum contaminated soils are not commonly reused in ODOT projects since the required analytical testing, monitoring and other required activities increases the cost of its reuse over native material unless there is a need for large amounts of fill that would make petroleum contaminated soils more cost effective to use.
- Expiration criteria will also limit the use. In a highway world that plans for 20 to 100 years in the future, what risk is passed on to the new owner of the recycled material if the permit expires and/or new controls, costs, etc. are required. These new responsibilities would impact the ability of ODOT, the contractor, a county, or a city to plan for the future maintenance of the roadway
- If recycling is the ultimate goal, a Tier 3 status would effectively result in no recycling as the unknowns on the material acceptance in a highway industry that thinks in periods of 20 to 100 years would eliminate any chance of acceptance and use.
- While specifications for a private industry site might be case by case, specifications in the highway construction world are more generic to assure system not site specific performance. While it is unclear what falls into Tier 3, how do you effectively start to continuously recycle and have a viable business market if the product can only be used at sites that are not established until a plan is not only developed but has the funds to sell it?

## **Item VII – Distribution and Use of an Industrial By-product**

- This appears to ODOT as a cradle to grave tracking of materials. The multiple handling of recycled materials by various owners, producers, and suppliers along with the perceived goal of continuous recycling would make the requirements for tracking unrealistic to meet, burdensome, costly, and ineffective, and in our opinion would do nothing but increase the amount of materials that end up in landfills.

## **General Comment**

- Because of the wide range of materials to be covered under the new rules, OEPA should consider providing guidance similar to the Technical Guidance Compendium under the Voluntary Action Program.



## Ohio Contractors Association

1313 Dublin Road • P.O. Box 909 • Columbus, Ohio 43216  
(614) 488-0724 • (800) 229-1388 • FAX (614) 488-0728 • [www.ohiocontractors.org](http://www.ohiocontractors.org)

August 29, 2012

Ms. Michelle Braun  
Ohio EPA  
P.O. Box 1049  
Columbus, OH 43216-1049  
[Michelle.braun@epa.ohio.gov](mailto:Michelle.braun@epa.ohio.gov)

Dear Ms. Braun;

Thank you for the opportunity to comment during Early Stakeholder Outreach on beneficial use of industrial byproducts. The Ohio Contractors Association represents nearly 500 companies involved in heavy/highway construction throughout Ohio. As such, our members are involved with many of the materials the proposal is referencing, including asphalt, asphalt concrete, cement, cement concrete, and chip and seal pavement.

While the concept of establishing a beneficial use program is well-intended, we consider it regulatory over-kill and believe that it will have the unintended affect of reducing the re-use of materials. Currently, under the existing system, a substantial 24% of asphalt paving is recycled pavement. Adding a regulatory process will only dampen the use of this and other materials, as newly defined generators, generating facilities, distributors and end users would all have new and sometimes costly requirements to follow in order to reuse industrial by-products.

While many of the products reused by our industry are in the Pre-Approved category of products, there would be new requirements for characterization of the material, which would require generators to develop and implement a materials characterization plan. According to the proposal, the plan might be based on standard sampling, processing and analytical methodology, such as those found in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. Annual reporting of quantities and types of industrial byproducts used and how they were used would also be required. This is for materials that are already quite commonly reused such as asphalt and cement concrete.

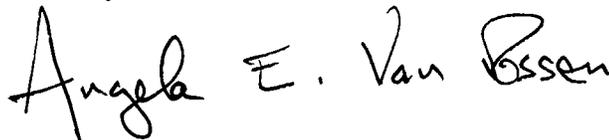
General permits would require Notice of Intent, materials characterization plans and analytical results, as well as an application fee. Individual permits would be even more burdensome and costly to obtain.

Another concern is the statement in the proposal that the Agency may clarify that wastes accumulated or stored in lieu of or prior to being recycled remain *wastes* until they are reused. If this means that these materials would need to be tracked “cradle to grave”, this would be a huge problem, as stockpiles of these materials – asphalt, for example - are brought from many sites over a period of time and then redistributed in pavement at potentially multiple sites. Requiring documentation of the origin and the final location will discourage use of this product and others.

For contractors engaged in a competitive bidding environment, beneficial reuse of materials is dependent on the cost. Adding requirements for reporting, testing, tracking, characterization plans, record-keeping and application fees will only reduce cost efficiency and thereby reduce the use of the materials the agency is presumably trying to facilitate.

We encourage the Agency to reconsider the effort to implement beneficial use rules. The unintended effect will be to reduce the amount of materials that are recycled and reused in Ohio while increasing the amount of materials needlessly being disposed of in solid waste facilities.

Sincerely,



Angela E. Van Fossen  
Director, Legislative and Environmental Affairs





2600 Corporate Exchange Dr., Ste. 165  
Columbus, OH 43231  
Phone: 614/891-0210

Fax: 614/891-2675  
E-mail: [ormca@ohioconcrete.org](mailto:ormca@ohioconcrete.org)  
Web: [www.ohioconcrete.org](http://www.ohioconcrete.org)

August 29, 2012

Ms. Michelle Braun, R.S.  
Solid Waste Rules Coordinator  
Ohio EPA - Division of Materials and Waste Management  
P.O. Box 1049  
Columbus, Ohio 43216-1049

**Re: Proposed Beneficial Use Regulatory Program**

Dear Ms. Braun:

The Ohio Ready Mixed Concrete Association is a trade association representing ready mixed concrete producers in Ohio. Ready mixed concrete is a key component of residential and commercial structures, roadways, bridges and other important infrastructure including water storage, water treatment, wastewater treatment and storm and sanitary sewer systems. Ready mixed concrete that is not used at a construction site is returned to the concrete plant and is either used to cast concrete products, is processed for use as construction aggregate or is used as clean hard fill.

We are not aware of the routine and intentional landfill disposal of any ready mixed concrete products in Ohio. Therefore the stated goal of the beneficial use program (increasing interest in the beneficial use of industrial byproducts currently disposed in landfills) will not be achieved by including ready mixed concrete products. These new regulations will not facilitate the greater use of ready mixed concrete but will label products derived from returned concrete as "industrial byproducts" and discourage their use.

Fly ash from power plants and slag from steel mills have been used in ready mixed concrete as cement supplements for over 90 years. The use of these materials is based on market forces and additional regulations will also discourage their use.

In summary, we are strongly opposed to the proposed Beneficial Use Program as these rules will be burdensome to our industry, will increase the cost of our products and will result in an increase in the landfill disposal of industrial byproducts including fly ash and slag.

Respectfully Submitted,  
**Ohio Ready Mixed Concrete Association**

A handwritten signature in black ink that reads "G. A. Colvin".

Greg Colvin  
President & Executive Director



August 27, 2012

Michelle Braun  
P.O. Box 1049  
Columbus, Ohio 43216-1049  
[michelle.braun@epa.ohio.gov](mailto:michelle.braun@epa.ohio.gov)

RE: City of Columbus Input on Industrial Byproducts Program in Ohio

Dear Ms. Braun:

The City of Columbus submits the following comments to the Ohio EPA's June 2012 early stakeholder outreach concerning the development of an industrial byproduct beneficial use regulatory program. Since at least the early 1990s, the City has promoted the concept of an industrial byproduct beneficial use program and is encouraged that the Agency has acknowledged the benefits of such a program to business interests, local government utilities, and communities. Cost benefit considerations are substantial. By way of example, using incinerator ash from City sewage sludge incinerators to augment the compost product at a profit of \$12 per yard avoids the cost of disposal in a landfill that approaches \$35 per yard. Not only is landfill space preserved, the City obtains needed funds to complete its many environmental projects required under federal and state law. The City provides the following comments for your consideration.

1. Clarify the Roles of DHMW and DSW

In general, the City is supportive of the overall approach outlined in the outreach material which calls for a separate rules chapter pertaining to beneficial use of byproducts with the establishment of three levels of permission for such use. However, we believe that the Agency should clarify which division within the Agency has approval authority depending upon the final product in which the industrial byproduct is to be beneficially used. For example, if the City were to seek general permit coverage for the beneficial use of incinerator ash in sewage sludge or compost, or obtain an individual permit if required, it would expect the Division of Surface Water ("DSW"), the division which oversees sewage sludge disposition, to have final approval authority. The new rule chapter should clarify the roles of the Division of Materials and Waste Management ("DMWM") and DSW in this regard.



## 2. Screening levels for industrial byproducts in Tier 1

For the Tier 1 pre-approval approach, the outreach simply states that Ohio EPA is considering pre-approving beneficial use of industrial products in certain specified products. The outreach, while defining an industrial byproduct as a residual material that can meet the definition of solid waste, industrial waste or other waste, is silent as to whether any industrial byproduct to be used in one of the specified products is acceptable without further agency approval. The City recommends that the final rule clarify the Agency's intent in this regard.

## 3. General permit considerations

The outreach states that those industrial byproducts not qualifying for pre-approved use would need a characterization plan and acceptable use determination to qualify under the Tier 2 general permit approach. Regarding the characterization plan, for incinerator ash, the standards for land application set forth in 40 CFR 503 could be used as a helpful guide. Regarding use determinations, there is readily available information supporting general permit terms that would allow for incinerator ash to be used to augment Compost product and to improve athletic tracks and ball diamonds. Indeed, the City submitted this type of information to the Agency when seeking approval of an incinerator ash pilot project in the mid 1990s. So long as the incinerator ash meets set established criteria, the City proposes that the general permit specify acceptable uses such as mentioned above.

The outreach states that the Director could deny coverage under the general permit for one of several reasons including unresolved enforcement actions against the generator or the co-permittee. This language creates concern in that typically Ohio general permits do not include this language. The purpose of a general permit is to create needed controls while reducing administrative burdens. Establishing a compliance record criterion to the process would negate these benefits by discouraging applicants from seeking permit coverage for covered activities and imposing a potentially significant burden on permit reviewers. Moreover, even though an action may be "unresolved" in a technical sense, the applicant for general permit coverage may have already corrected the cause for concern. Should the criterion of "unresolved enforcement action" remain in the rule, however, definitions of each of these words – "unresolved", "enforcement", and "action" will certainly be needed.

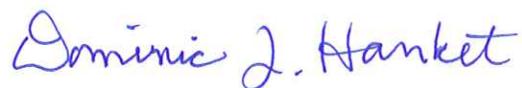
Page 3 – M. Braun  
August 27, 2012

4. Certification requirement

The outreach includes a certification of permit compliance requirement. The City asks that if such requirement is included, permittees that are municipalities or other public agencies be given the ability to designate employees as authorized representatives to review and sign required statements as provided under 40 CFR 122.22.

The City appreciates the opportunity to comment prior to draft rule publication and would be happy to work on a team with Agency staff in the development of these rules.

Sincerely,



Dominic J. Hanket  
Assistant Director, Regulatory Compliance Section

**Payton, Amanda**

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**From:** Braun, Michelle  
**Sent:** Friday, July 06, 2012 2:37 PM  
**To:** Schierberl, John  
**Subject:** FW: Beneficial Use Regulatory Program  
**Attachments:** SKMBT\_C652D12070613190.pdf

*Michelle Braun, R.S.*

*Solid Waste Rules Coordinator  
Ohio EPA – Division of Materials and Waste Management  
P.O. Box 1049  
Columbus, Ohio 43216-1049  
614.728.5372*

---

**From:** HUSTON, Bill [<mailto:Bill.Huston@veoliawater.com>]  
**Sent:** Friday, July 06, 2012 2:34 PM  
**To:** Braun, Michelle  
**Subject:** FW: Beneficial Use Regulatory Program

Michelle,

Beneficial use projects are very important to lessen environmental impacts of how by-products and secondary materials are handled. Attached is an example project from the 1990s, and while Champion no longer exists as a Company, the project allowed the Company to discontinue entirely the use of landfill as a means of handling by-products and secondary materials. The approach OEPA is proposing for the new Beneficial Use Program seems like a good approach that should encourage conserving resources and recycling.

Bill Huston

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**From:** [crown.copier@veoliawater.com](mailto:crown.copier@veoliawater.com) [<mailto:crown.copier@veoliawater.com>]  
**Sent:** Friday, July 06, 2012 1:20 PM  
**To:** bill.huston  
**Subject:** Message from KMBT\_C652DS

\*\*\*\*\*  
This e-mail message and any attachments to it are intended only for the named recipients and may contain confidential information. If you are not one of the intended recipients, please do not duplicate or forward this e-mail message and immediately delete it from your computer. If you received this email in error, please notify [postmaster@veoliawater.com](mailto:postmaster@veoliawater.com)  
\*\*\*\*\*

# Case Study:

## How Champion International Recycles Plant Sludge and Boiler Ash into Portland Cement

*Billy Huston, Kenneth L. Hardesty, and Enrique H. Beer*

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**Company:**

Champion International Corporation

**Location:**

Hamilton, Ohio

**Number of Employees:**  
1,500

**Business:**

Manufacturing of printing and writing grades of paper

**Program:**

Recycling of nonintegrated paper mill sludge and boiler ash as raw materials for the manufacture of portland cement

**Objective:**

Find and implement a cost-effective and technically feasible alternative disposal method for process waste materials to reduce the paper mill's dependency on landfills.

**Bottom Line:**

100 percent of sludge and boiler ash is now recycled as a raw material in portland cement instead of being sent to a landfill. Recycling will soon be achieved at a price of \$30 to \$35 a ton, which is competitive with state-of-the-art landfill costs.

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WIDESPREAD PUBLIC OPPOSITION and the rising costs of using landfills, coupled with compelling economic and environmental reasons to support pollution prevention, are driving businesses to try harder to avoid, reduce, or reuse the waste by-products of industrial processes. Although source reduction is at the top of the hierarchy of waste management techniques, practical financial and technical considerations require companies to pursue cost-effective recycling too. In fact, companies in many industries have made significant progress with a variety of recycle/reuse strategies including in-process recycling, the sale of waste by-products as replacements for commercial raw materials, and waste exchanges between plants.

In particular, the utility and paper industries have made great strides in finding strong markets to sell their wastes for reuse as raw materials in the manufacturing of other products. This article<sup>1</sup> discusses Champion International Corporation's successful recycling of sludge and boiler ash waste by-products from paper manufacturing for use as a raw material in the production of portland cement.<sup>2</sup>

### Weighing the Options

Champion International's paper mill, located in Hamilton, Ohio, produces printing and writing grades of paper. About 500 tons of paper are manufactured each day. In the process, the Hamilton Mill generates up to 120 tons of primary waste treatment plant sludge (60 tons dry) and 50 tons of coal-fired boiler ash a day. From 1970 to 1989 all the sludge and boiler ash were deposited in Hodapp Landfill, an industrial landfill six miles from the paper mill and owned and operated by Champion. In 1984, Champion began planning for a replacement landfill for Hodapp. The final selection, made in

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*Billy Huston is the supervisor of process analysis and environmental control, for Champion International in Hamilton, Ohio. Kenneth L. Hardesty is a senior process engineer. Enrique H. Beer is a chemist. This article has been adapted from a paper originally presented at the TAPPI Environmental Conference, San Antonio, Texas, April 7-10, 1991. Copyright © TAPPI 1991.*

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1989, was a site in Reily Township, about fifteen miles from the mill.

Although a state-of-the-art landfill was designed, Champion still encountered fierce opposition to the operation from neighbors. As a result, the company intensified its efforts to find alternatives in case legal delays barring the operation of the landfill should occur. The criteria established to judge the alternatives were:

- Technical feasibility
- Economic feasibility
- Environmental soundness
- Strong demand for the final product containing the recycled waste
- Market acceptability for all forms of waste used to replace commercial materials
- A market large enough to use all waste generated

Among the major processes available—the ones with the most potential were:

- Strip mine land reclamation
- Composting
- Aggregate
- Portland cement raw material

The first three did not meet all of the criteria for successful commercial operation in this part of the country. Strip mine land reclamation involved placing the sludge and ash in the excavation area where coal had been removed. Because of the similarity of this process to landfilling, it was felt that strip mine land reclamation was not more environmentally sound than using a landfill. This was further complicated by the fact that Champion had no direct control over the reclamation of land, but still had a high potential liability. Composting by itself was technically not a feasible option to process Champion's material due to the waste material's low organic content. Mixed composting with other materials, such as yard waste, was technically viable, but no composting operations of this type were available in the area at the time. Making the material into lightweight aggregate pellets was also a workable option. Because of the presence of a large number of sand and gravel quarries in the area, however, the market for aggregate was doubtful. The last option, the portland cement process, appeared to best meet Champion's needs. Based on experimentation and field trials at various cement kiln locations arranged by a waste brokerage firm, Systech Environmental Corporation, it was determined that both the sludge and boiler ash could be substituted as a component of the raw material mixture used to manufacture portland cement.<sup>3</sup> Limestone, clay, and silica are typical ingredients in the cement manufacturing process, and large quantities of all three elements appear in the mill waste and boiler ash.

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*... the portland cement process, appeared to best meet Champion's needs. Based on experimentation and field trials at various cement kiln locations, it was determined that both the sludge and boiler ash could be substituted as a component of the raw material mixture used to manufacture portland cement.*

---

Experimentation began in mid-1988.<sup>4</sup> Since September 1991, 100 percent of the sludge and boiler ash have been used as raw materials in the production of portland cement. This has eliminated the need to send these papermaking wastes to a landfill, and the cost of recycling the waste and boiler ash into cement is competitive with a modern landfill operation.

### Paper Wastes in Cement Production

Cement manufacturing covers an enormous variety of types and chemical composition, but Portland Type I comprises the bulk of the industry's production. It is estimated that 50 percent of industrial by-products are potential raw materials for portland cement manufacture. For example, flue gas desulfurization sludge from fossil fuel-fired boilers contain the same limestone and silica substitutes found in the waste materials from the paper manufacturing process. Electrostatic precipitator dust from steel mills, sludge from lime-soda water softening systems, and some wastewater treatment may also be appropriate substitutes for the Portland Type I cement raw materials.

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*Electrostatic precipitator dust from steel mills, sludge from lime-soda water softening systems, and some wastewater treatment may also be appropriate substitutes for the portland type I cement raw materials.*

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As shown in Figure 1, the portland cement manufacturing process has four major steps. Rock is quarried, crushed, and each raw material in the stone mixture (limestone, cementous rock, clay, and iron ore) is stored separately. In the second step, the raw materials are carefully proportioned and are ground to a powder and blended. Alternatively, the raw materials are ground, mixed with water to form a slurry, and blended. Third, the raw mix is subjected to high temperatures—1500° to 1800° C (2500° to 2800° F)—in a rotary kiln. The high temperature chemically changes the raw materials into cement clinker. In the final stage of the manufacturing process, the clinker, with gypsum, is ground into a fine powder.

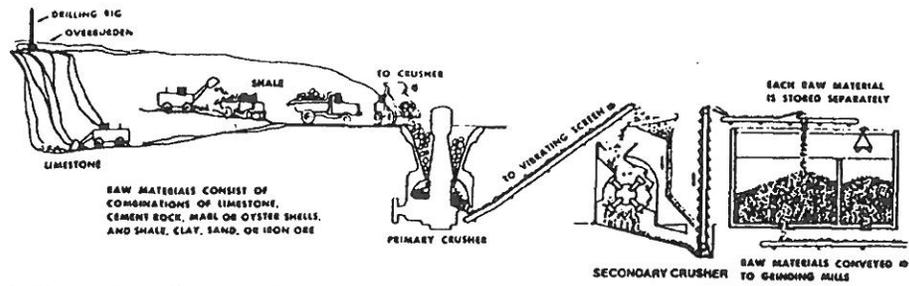
### Trials and Success with Paper Waste Recycling

The chemical composition of the sludge and the boiler ash compared to Portland Cement Type I is detailed in Table 1. As the table shows, each of the waste materials has the same chemical composition as cement, confirming the suitability of substituting sludge and fly ash for rock in the production of cement. Normal raw material ratios are adjusted slightly to accommodate sludge and ash variations. (Sludge and ash represent only 2 percent of the total mix.)

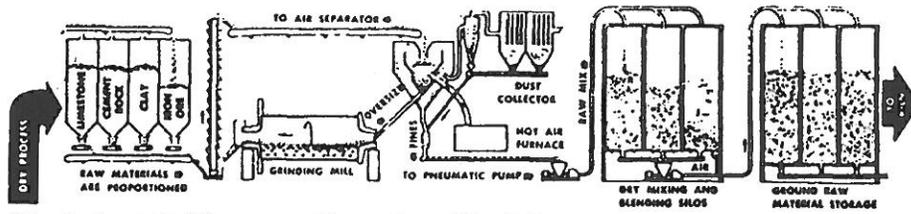
The substitution of the sludge and boiler ash takes place in Step 2 of the portland cement manufacturing process. (See Figure 1.) There was no problem processing the boiler ash from the start. However, two minor problems occurred with the use of the Hamilton Mill's primary clarifier sludge after it was dewatered by screw pressing. First, all cement making feed materials are ground to pass through a 40-mesh screen. (Mesh is the number of wires per inch of screen area.) Because the sludge from the paper making process has 30 percent wood fiber, it tended to get caught and "blind" the screen. (See Table 2.)

The other problem with the process was the odor that developed from the sludge after it was kept in storage piles for a few days before

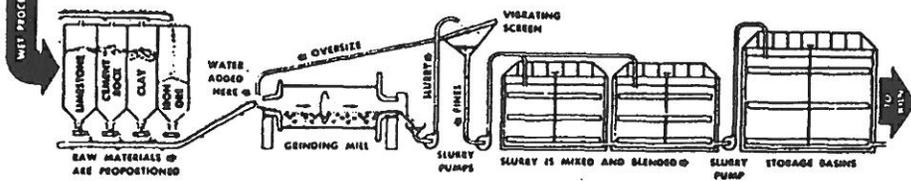
Figure 1. Steps in the Manufacture of Portland Cement



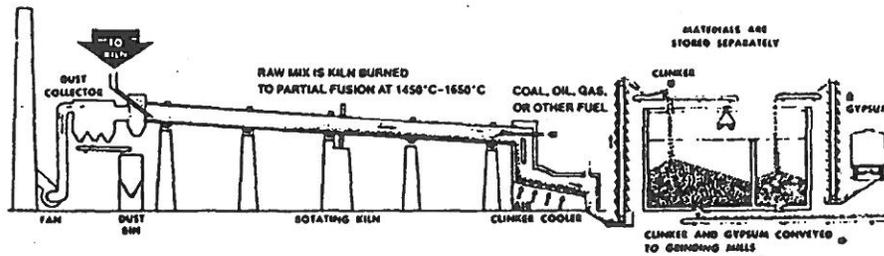
1. Stone is first reduced to 125 mm size, then to 20 mm, and stored.



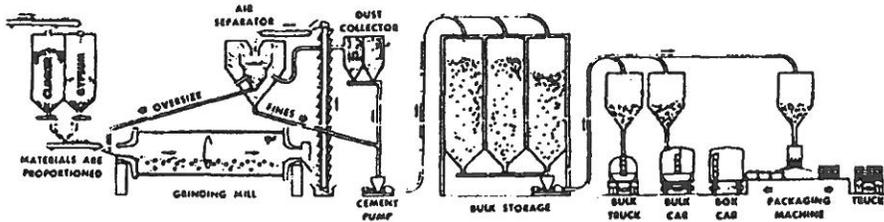
OR 2. Raw materials are ground to powder and blended.



2. Raw materials are ground, mixed with water to form slurry, and blended.



3. Burning changes raw mix chemically into cement clinker.



4. Clinker with gypsum is ground into Portland cement and shipped.

**Table 1. Chemical Composition of Sludge, Boiler Ash, and Cement**

<i>Material</i>	<i>Silicon Dioxide</i>	<i>Aluminum Oxide</i>	<i>Iron Oxide</i>	<i>Calcium Oxide</i>	<i>Magnesium Oxide</i>	<i>Sulfate</i>
Cement	20.9	5.2	2.3	64.0	2.8	2.9
Sludge	27.0	20.0	.6	19.0	.8	.4
Fly Ash	37.0	17.0	3.4	1.3	.6	2.4

the grinding took place. The odor led to complaints from the operators at the cement plant.

After dewatering by screw pressing, the Hamilton Mill's primary clarifier sludge had a moisture level of about 45 percent. The sludge odor and screening problems were ultimately solved by further drying the waste in a rotary dryer to achieve a 5 percent to 15 percent moisture content. This made it possible to establish a different proprietary feed point that bypassed the screens. Also, it was possible to stabilize the odor when the sludge was dried.

#### **Cost Advantage over Landfill Disposal**

From January to July 1989, more than 5,300 tons of boiler ash and more than 5,400 tons of sludge were processed as a component (2 percent of the mix) of portland cement. Further development trials continued through mid-1991. Beginning September 9, 1991, 100 percent of both materials have been processed into portland cement, eliminating the Hamilton Mill's need to use a landfill for process waste materials. The total costs of processing the boiler ash and waste, which are carried by the mill, have ranged from \$30 to \$50 a ton. The costs are expected to fall to the \$30 to \$35 a ton range during 1992. The \$30 to \$35 cost to the mill of processing the paper manufacturing waste materials sludge and passing those waste materials on to the cement producer is competitive with the cost of disposal in a state-of-the-art landfill, which averages about \$30 to \$40 a ton in the region.

#### **Summarizing the Benefits**

Recycling of paper mill waste and boiler ash into portland cement has proven to be very attractive. Advantages include the following:

- The solid waste is recycled into a commercial product.
- The recycling of this nonhazardous waste into cement meets all environmental regulations. It requires no special permits and no routing monitoring other than TCLP (toxicity characteristic leaching procedure) analysis annually.

**Table 2. General Composition of Primary Clarifier Sludge  
(Percent)**

Clay	40
Wood Fiber	30
Calcium Carbonate	19
Casein and Soy Protein	4
Latex, Dye, and Defoamer	4
Starch	2
Titanium Dioxide	1

- The high process temperature of 1500° to 1800° C destroys the fiber and other organic materials in the waste.
- The high cost of a modern landfill operation has closed the gap with the costs of recycling materials into the cement process.
- The strong domestic and international market for cement prevents a possible glut in the market for recycled raw materials.
- The huge size of the cement industry (U.S. 60 million and the world 1100 million metric tons) provides an abundance of cement plants for recycling paper industry and other industries' waste.
- Truly, one company's wastes have become another company's raw materials.

These factors all reinforce the economic and environmental advantages of recycling rather than simply throwing the material away. The cement industry is an old and stable industrial sector. Its product, portland cement, is a multicomponent product that is able to accommodate a wide variety of trace elements without adversely affecting product quality. In addition, the income realized from the cement kilns by using by-products can enable them to improve their market position against foreign competition. ♦

### Notes

1. Formal presentations on this recycling process have been made at the following conferences:

Great Lakes Section Meeting of National Council for Air and Stream Improvement for the Paper Industry (NCASI), September 1990.

Technical Association of The Pulp and Paper Industry (TAPPI) Environmental Conference, April 1991.

University of Wisconsin Symposium on the Utilization of Industrial Sludges and Ashes, October 1991.

University of Dayton Green Manufacturing Conference, December 1991.

Chairman of the Board  
RICK SCHOSTEK  
*Senior Vice President, Honda of America Manufacturing*



President  
ERIC L. BURKLAND

August 31, 2012

Michelle Braun  
Ohio Environmental Protection Agency  
Post Office Box 1049  
Columbus, Ohio 43216-1049

**Re: OMA's Comments on Beneficial Use Regulatory Program**

Dear Ms. Braun:

The Ohio Manufacturers' Association (OMA) is dedicated to protecting and growing manufacturing in Ohio. The OMA represents over 1,000 manufacturers in every industry and in every county of Ohio. For more than 100 years, the OMA has supported reasonable, necessary, and transparent environmental regulations that promote the health and well-being of Ohio's citizens.

OMA participated in Ohio EPA's previous efforts to develop rules for the beneficial use of industrial by-products. We actively follow all the developments in this area because of the importance of this issue to our members. Regulation and further disposition of these materials significantly impact many OMA members, including foundries, steel manufacturers and brick and tile manufacturers. The beneficial use of industrial by-products in an environmentally safe manner is critical to many Ohio manufacturers, from both a generation/disposition standpoint and the ability to access such by-products as alternative raw material feedstock.

Any new rule package must provide flexibility to re-use these materials in a cost-effective manner. If a by-product is determined "non-toxic," as provided for in the Ohio Revised Code, then the new rules must include certainty that these materials can be reused in a proper regulated manner without enduring a drawn out bureaucratic paperwork maze.

OMA is currently reaching out to our members for suggestions on how to create a safe and workable program. We want to ensure that any new regulations address the concerns of manufacturers, Ohio EPA and the public. We certainly appreciated the opportunity to provide these comments and would like to be involved in Ohio EPA's rulemaking process on this subject moving forward. We welcome the opportunity to work with Ohio EPA in creating a workable, sustainable solution to this issue.

As Ohio EPA develops these rules or convenes work groups or interested-party meetings, please include the OMA in these developments, including me and our environmental counsel Frank L. Merrill at Bricker & Eckler. We look forward to working with Ohio EPA on this issue.

Sincerely,

Rob Brundrett  
Director, Public Policy Services

cc: Frank L. Merrill, Esq.

August 31, 2012

**ORIGINAL BY U.S. MAIL**  
**COPY BY EMAIL ([michelle.braun@epa.ohio.gov](mailto:michelle.braun@epa.ohio.gov))**

Michelle Braun  
Ohio Environmental Protection Agency  
P.O. Box 1049  
Columbus, Ohio 43216-1049

***Re: Comments of the Construction and Demolition  
Association of Ohio, Inc. regarding the  
Ohio EPA's Proposed "Beneficial Use" Regulatory Program***

Dear Ms. Braun:

Within the construction and demolition debris ("C&DD") industry, there continues to be substantial interest in the recycling of C&DD for beneficial reuse. In the recycling process, various components of C&DD are recovered and sold as products or as a substitute for a raw material. Examples would include metals, wood, paper, roofing shingles, concrete and other "clean hard fill". As a result, the Construction and Demolition Association of Ohio, Inc. ("CDAO") is maintaining a continuing dialog with Ohio EPA and its Division of Materials and Waste Management ("DMWM") concerning Best Management Practices ("BMPs") for the legitimate recycling of C&DD. In these regards, the CDAO and its member facilities have a continuing interest in Ohio EPA's proposed regulatory programs that might impact the beneficial reuse of C&DD materials. While the disposal of C&DD is regulated by Ohio Administrative Code ("O.A.C."), Chapter 3745-400, a variety of sections in the regulatory program recognize an exclusion for C&DD which is "reused or recycled in a beneficial matter". See, e.g., O.A.C., Rule 3745-400-03(C). Similarly, the definition of "recycling" in C&DD regulatory program already recognizes a component of "use in a beneficial manner". See, O.A.C., Rule 3745-400-01(II). Hence, the CDAO and its member facilities have an interest in the Agency's deliberations on beneficial use so that any resulting regulatory program is consistent with the concepts for recycling of C&DD and the BMPs which are being developed by the CDAO and DMWM concurrently for the C&DD recycling industry.

At this early stage, it appears that the Agency can independently develop proposals for the beneficial use of "industrial byproducts" which do not, inadvertently, impede the legitimate

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recycling of C&DD. As generally understood, the term “industrial byproducts” does not include C&DD; nor does the regulatory definition of “solid waste” in O.A.C. Rule 3745-27-01(S)(23) or the definition of “industrial solid waste” in O.A.C. Rule 3745-29-01(A). As we understand from the Agency’s Early Stakeholder Outreach document (June 2012) (the “Outreach Document”), the current considerations addressing “beneficial use” deal solely with residual material from industrial operations that fall within the definition of solid waste, industrial waste or other waste.

Further clarification of the Agency’s intent would be necessary to assure that C&DD would not be regulated by the proposed regulatory program. While C&DD is specifically excluded from the definition of “solid waste” in O.A.C., Rule 3745-27-01(S)(23), the term “other waste”, if used as that term is defined in Revised Code, Section 6111.01(D), might potentially apply to some of the components of C&DD (*e.g.* “other wood debris”). We also see from the Outreach Document that certain materials, such as asphalt and concrete, are considered “industrial byproducts” which would be subject to pre-approval. Yet, these “clean hard fill” components of C&DD are already regulated under O.A.C., Rule 3745-400-05. As a result, care must be taken to avoid a duplicative (and potentially inconsistent) program for clean hard fill already regulated under Ohio Revised Code, Chapter 3714 and O.A.C., Chapter 3745-400. The CDAO is interested in following the Agency’s consideration of regulatory proposals for beneficial use to assure that recycling of C&DD is not adversely impacted.

In light of the current discussions between the CDAO and the Agency, we would suggest expressly exempting C&DD and other “C&DD like” materials from consideration in the proposed beneficial use rules to allow the C&DD industry to complete its discussions with Ohio EPA to establish written guidance on legitimate C&DD recycling operations and the use of BMPs. C&DD and C&DD like materials, such as wood, concrete, asphalt, asphalt shingles, and many others, are generally recycled in large volumes currently. For example, most roadways include recycled asphalt as a replacement for virgin material in the asphalt mixture; asphalt millings and crushed concrete are regularly used as replacements for stone; and wood is used in the composting and mulch markets in very large quantities. To burden these established markets with additional regulatory paperwork would discourage legitimate recycling. There is simply no need for these established markets to receive permission to recycle these materials. In the CDAO’s view, C&DD and C&DD like materials would not benefit from this separate, beneficial use program. The unintended stress to the markets themselves would be counterproductive. Rather than burden established recycling markets, discussions should focus on ways to make other recycled C&DD materials more readily available in the marketplace.

Michelle Braun  
August 31, 2012  
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The CDAO intends to continue to follow developments in the beneficial use rules and requests that it be kept informed of all developments.

Sincerely,



Michael A. Cyphert  
General Counsel for the Construction and  
Demolition Association of Ohio, Inc.

MAC:lak

cc: CDAO Trustees

CHERI A. BUDZYNSKI  
419.321.1332  
[cbudzynski@slk-law.com](mailto:cbudzynski@slk-law.com)

August 31, 2012

Michelle Braun  
Ohio Environmental Protection Agency  
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Columbus, Ohio 43216-1049  
[michelle.braun@epa.ohio.gov](mailto:michelle.braun@epa.ohio.gov)

VIA EMAIL AND U.S. MAIL

**Re: Early Stakeholder Outreach - Beneficial Use Regulatory Program  
Development**  
*Our File No. 042895*

Dear Ms. Braun:

On June 29, 2012, Ohio EPA issued a notice of Early Stakeholder Outreach for Beneficial Use Regulatory Program Development. The issued notice is intended to seek input from stakeholders regarding the framework that would be put in place surrounding responsible and beneficial use of industrial byproducts.

The following comments regarding this action are submitted on behalf of the Ohio Utility Group and its member companies ("OUG" or "the Utilities"),<sup>1</sup> which is an association of individual electric utilities in the State of Ohio. The electric utilities own and operate power plants and other facilities that generate electricity for residential, commercial, industrial, and institutional customers. These power plants and other facilities are subject to Ohio's solid waste rules. OUG's purpose, in part, is to participate collectively on behalf of its members in administrative proceedings under various environmental laws, including the solid waste rules and in litigation arising from those proceedings that affect electric generators. Thus, the notice affects the members of OUG.

The timing of this proposed action seems inopportune considering that U.S. EPA has not provided any final rules for management of Coal Combustion Residuals ("CCR"), which may ultimately impact each state's rules and beneficial use programs. Thus, the Utilities recommend that Ohio EPA wait on the development of the CCR rules before implementing a beneficial use program in order that unnecessary efforts and expenditures are not put forth by the Agency and regulated community.

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<sup>1</sup> The member companies include: Buckeye Power, Inc., The Dayton Power and Light Company, Duke Energy Ohio, FirstEnergy, Ohio Power Company (a unit of AEP), and Ohio Valley Electric Corporation.

In 2006, Ohio EPA issued draft rules for a beneficial use program. After receiving negative comments from the Utilities and others, Ohio EPA did not finalize the beneficial use rules. Once again, Ohio EPA is proposing to develop a beneficial use program. The Utilities have reviewed Ohio EPA's proposed Beneficial Use Rules Development Concepts and have compared these concepts to the rules that Ohio EPA released in 2006 and have concluded that the two are nearly identical. See, Attachment A, Comments on Interested Party Draft of Beneficial Use Rules, Proposed §3745-525 et seq. of the Ohio Administrative Code (February 6, 2007). As was our stance in 2006, the Utilities recommend that Ohio EPA defer moving forward with these rules. The Utilities note, both now and in the past, that the proposed program would discourage recycling and beneficial use.

The Utilities believe Ohio EPA is treating beneficial use as "disposal" rather than treating it as recycling and reuse. The advantage and goal of beneficial use is to use benign industrial byproducts, such as boiler slag, fly ash, bottom ash and gypsum, in various construction projects and consumer products as an alternative to virgin materials, rather than disposing of the byproduct in landfills. The Utilities believe that Ohio EPA should evaluate their definition of "disposal" and "beneficial use" as this current program development effort appears to create more rules for disposal rather than beneficial use.

Further, the Utilities request in the next comment period that Ohio EPA provide the technical basis for the requirements or restrictions it intends to include in these rules, as well as any detailed analysis, including a review of the technical justifications of this rule. Although the Early Stakeholder Outreach publication states that Ohio EPA's current approach was developed in consideration of earlier comments received through outreach from the 2006 program, this does not appear to be the case. Thus, the Utilities assume that Ohio EPA has "recycled" its 2006 rules without further analysis. Because, at this time, Ohio EPA has not provided a justification for this program, it is difficult for the Utilities to provide meaningful or technical comments that are not a duplication of our comments submitted in 2006.

Adding unnecessary bureaucratic permitting and reporting requirements will only discourage beneficial use resulting in greater volumes of byproduct in landfills rather than being recycled. Ohio EPA's goal for this program should be to encourage the reduction of the amount of waste that ends up in landfills. The proposed development of these rules, in the current form, completely contradicts this goal, thwarts an opportunity for recycling, and is not technically sound. It should not be implemented.

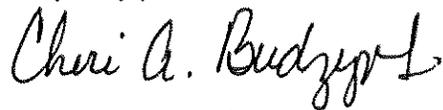
Currently, some of the member companies are working or previously worked under some type of beneficial use program in Ohio or in other states. Some of these programs include requirements to submit reports, demonstrate that the industrial byproduct is not hazardous, and other compliance measures that involve some recordkeeping. Thus, the Utilities are not necessarily opposed to rules for beneficial use so long as these rules are simple, flexible, and do not impose an unnecessary administrative burden on industry. As an example, Ohio EPA's regulations governing the recycling of used oil follows the Resource Conservation and Recovery Act ("RCRA") Used Oil

Michelle Braun  
Early Stakeholder Outreach - Beneficial Use Regulatory Program Development  
August 31, 2012  
Page 3

Management Standards, which are very straightforward and encourage recycling of used oil by their very nature. In addition, Ohio has adopted the RCRA Universal Waste Rules, which also encourage reuse of specific materials in lieu of placing these materials in landfills. None of these programs have extensive monitoring, recordkeeping, and reporting requirements. Thus, the Utilities recommend that, should Ohio EPA move forward with these rules, the rules should be similar in nature to the used oil rules or other recycling rules as found under the RCRA. This approach would truly encourage beneficial use of industrial byproducts.

The Utilities appreciate the opportunity to comment on this proposal. The Utilities would like to meet with Ohio EPA and discuss this proposal before Ohio EPA moves forward in developing a beneficial use program. Mike Born will be in contact to schedule such a meeting.

Very truly yours,



Cheri A. Budzynski

CAB\bd  
Attachment

Attachment A

SHUMAKER, LOOP & KENDRICK, LLP

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February 6, 2007

Chris Bowman  
Ohio EPA  
Lazarus Government Center  
122 South Front Street  
P.O. Box 1049  
Columbus, Ohio 43216-1049

Re: Comments on Interested Party Draft of Beneficial Use Rules, Proposed  
§ 3745-525 et seq. of the Ohio Administrative Code

Dear Chris:

This letter is on behalf of the Environmental Committee of the Ohio Electric Utility  
Institute and the following member companies:

Buckeye Power, Inc.  
Columbus Southern Power Company (a unit of AEP)  
Duke Energy  
Dayton Power & Light Company  
Ohio Power Company (a unit of AEP)  
Ohio Valley Electric Corporation

hereinafter, "the Utilities" or "the utility industry."

First, the Utilities continue to have concerns with the lack of time provided to review and develop comments on this rule proposal. While the Agency has provided an extension to the original thirty days for review and comment on the interested party draft, it is a dramatic and radical change from past policies for the beneficial use of both solid and other waste and it is a new and previously unseen regulatory scheme and should have had greater public input prior to this comment period.

Overall, the proposal is a grave disappointment as it completely fails to encourage the beneficial use of by-product materials. In fact, the proposed rule will over control and over regulate industry, serving as a barrier to the beneficial use of by-product materials. The proposed rule sets up obstacles that will bring to a halt recycling and beneficial use projects throughout the state. As such, the Agency should scrap the entire proposal and start over with a

Chris Bowman  
Ohio EPA  
February 6, 2007

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process that will include important and vital input from affected parties before drafting any rule language.

There is no technical basis for any of the requirements or restrictions in the proposed rule. As with the industrial waste disposal rule proposal, Ohio EPA appears to have completely disregarded any consideration of science or risk factors while drafting the proposal. Ohio EPA cannot justify most of the rule restrictions or requirements under any factual or technical consideration of risk factors or waste characterization.

Ironically, the beneficial use proposal may be more of a disappointment than the industrial waste proposal. While completely unfounded in either law or fact, the industrial waste proposal did, at least, live up to its title in that it proposed a sweeping (albeit, unreasonable) new approach for regulating disposal facilities. The beneficial use rule, on the other hand, which purports to exist for the purpose of allowing and encouraging the beneficial use of by-product materials, is utterly unsuccessful in advancing its goal and is, therefore, more unfounded than the industrial waste disposal rule.

The limited amount of time provided by Ohio EPA in which to review and comment upon the beneficial use rule has prevented a detailed or specific analysis of the whole package as the rule deserves. Attached is an outline of some of the more important technical aspects of the draft. Also, the Utilities would highlight the following three comments, which were also provided on the industrial waste disposal rule proposals:

- 1) As mentioned above, there is no technical or factual foundation for the rule. There exists no basis, technical studies, or risk analysis to support any of the standards or requirements placed in the proposal.
- 2) There is no explanation as to how the Agency developed limits or arrived at the requirements put forward in the rule. Many of the limits proposed for setting requirements, in addition to having no technical basis, are more stringent than the natural or original characteristics of numerous raw materials that would be used in similar situations and that, if so tested, would have higher constituent levels than those required by Ohio EPA's proposal.
- 3) The limits proposed by Ohio EPA go beyond existing limits for a multitude of other programs, whether they be agricultural uses or land applications of sludges or the use of materials in remediating mining sites. Ohio EPA appears to have derived the proposed rule in a vacuum without any consideration of existing programs and without any comparison of the relative risks of different materials and their already established uses in the environment.

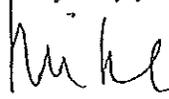
The issues cited above require a more detailed analysis. As the Agency has provided no justification for the rule, it is almost impossible to accurately or scientifically provide meaningful comments. However, even with the truncated review period, it is clear that the proposal is overly cumbersome, restrictive, and unworkable. The Utilities would, again, urge Ohio EPA to scrap

Chris Bowman  
Ohio EPA  
February 6, 2007

- 3 -

this proposal and begin anew with an interested party workgroup to provide both input and feedback before any rules are formally drafted.

Very truly yours,



Michael B. Born

MEB/md  
O23415-042895  
cc: Ohio Utilities

## COMMENTS ON OEPA'S DRAFT BENEFICIAL USE RULES

The following comments are intended to elaborate on the many shortcomings in the draft rule. They are not intended as an endorsement of the rule structure or format which clearly needs to be re-invented.

OEPA's stated objective is to "develop common sense regulations that promote the beneficial use of ... fly ash, bottom ash and foundry sand". OEPA defines "common sense regulation" as:

- Rules that are easily understood;
- Rules that include clear definitions for non-toxic fly ash, bottom ash and foundry sand;
- Rules that align beneficial use waste characterization with disposal waste characterization; and
- Rules that encourage beneficial uses that are protective of human health and the environment.

The proposed beneficial use rules accomplish none of OEPA's stated objectives or goals. Many aspects of the rule are vague and ambiguous such as the requirement to "analyze for any other pollutants [beyond those required] which may be expected to be found in the industrial byproduct". The rules do not attempt to define "non-toxic fly ash, bottom ash or foundry sand". The rules do not align waste characterization protocols for beneficial use with those for disposal. The leachate tests and constituent lists are significantly different for beneficial use vs. disposal. Lastly, the rules are structured in a manner to virtually stifle beneficial use rather than encourage it.

The following are comments on specific aspects of the proposed rules.

### 3745-525-801 (Definitions)

Section (B) (2) – "Beneficial use" means the "disposal" of an industrial byproduct in accordance with the beneficial use rules. In order to support OEPA's objective to "promote" or "encourage" beneficial use, the term "disposal" should be replaced with the term "use". Beneficial use should not be viewed as "disposal". This important distinction is consistent with the previous definition of beneficial use in OEPA-DSW Policy 400.007 and the current definition of beneficial use in ORC 1513.02.

Section (I) (1) – "Industrial byproduct" only includes bottom ash, fly ash, and FGD materials that are "source-separated". It would appear that non source-separated bottom ash, fly ash, and FGD material would not qualify as an industrial byproduct and thus, would not be eligible for beneficial use.

Section (S) (2) – “Source-separated” refers to an industrial waste or other waste that has been separated at the point of generation from other industrial wastes or other wastes. Given the broad definitions of industrial waste (which includes any solid, liquid or gas associated with a process) and other waste (which includes lime, sand, silt or any other substance), it would appear that the vast majority of bottom ash, fly ash, and FGD material would not qualify as being “source-separated”. Certainly, any ash managed via wet handling systems would not qualify as “source-separated”. Virtually all bottom ash and the majority of fly ash is handled via wet handling systems. It is also commonplace to mix FGD solids generated from one process with fly ash generated from a separate process to improve the physical properties of the end product. Lime may also be added to further enhance physical properties.

#### 3745-525-803 (Exclusions)

The following three additional exclusions should be added:

(EE) Coal combustion byproducts as defined in Section 1513.02 of the Revised Code and regulated in accordance with Section 1513.02 of the Revised Code and rules adopted thereunder.

(FF) Solidification/stabilization of other wastes for disposal. (This has traditionally been a pre-authorized use under former OEPA-DSW Policy 400.007).

(GG) Bottom ash that is used for geotechnical fill, utility trench backfill, drainage aggregate, roadway/parking lot base, or cold weather road abrasive at the site of generation.

#### 3745-525-805 (Initial Characterization)

Section (A)(2)(a) – There is no scientific justification for including cyanide or the 15 organic compounds as constituents of concern associated with bottom ash or fly ash. Likewise, cyanide is not a constituent of concern in FGD material. Furthermore, the requirement to test for “... any other pollutant which may be expected to be found in the industrial byproduct” defies reason. The term “pollutant” is undefined. Does it include every element in the Periodic Table and all compounds containing these elements, or is the concentration of the element or compound the key to defining a “pollutant”?

Section (A)(2)(b) – This provision suggests that a much broader list of “pollutants” must be evaluated if the industrial byproduct proposed for use is subject to an individual permit. There is no sound basis for requiring one set of constituents of concern for pre-approved uses and a different set of constituents of concern for uses requiring permits. This approach is also inconsistent with OEPA’s established goal of standardizing the waste characterization process for similar materials that could be subject to utilization vs. disposal facility regulatory programs.

Section (B)(1) – For soil blends, it is not clear if the total pollutant concentration limit applies to the industrial byproduct or to the soil blend product.

Section (B)(2) – This provision established a single leachate test, the Synthetic Precipitation Leaching Procedure (SPLP – Method 1312), to be used for industrial byproduct characterization. This waste characterization test is inconsistent with past agency practice. OEPA's existing residual solid waste landfill rules (OAC 3745-30-03) and the rescinded beneficial use policy (OEPA-DSW Policy 400.007) specify using the Toxicity Characteristic Leaching Procedure (TCLP – Method 1311) or the modified TCLP test for leachate characterization. The utility industry has amassed a large database over the past 15 years for constituents of concern associated with bottom ash, fly ash and FGD material using the modified TCLP test. The combination of a new single leachate test, a new list of constituents of concern, and new regulatory limits make it virtually impossible to evaluate the potential impact of the proposed beneficial use rule.

Section (C)(1) – As long as the practical quantification limit (PQL) is below the regulatory limit, there is no need to report the method detection limit (MDL).

Section (D) – It is not clear if the annual characterization must consist of one, or seven, representative grab samples. Furthermore, is the annual sample required during those years when the industrial byproduct is not beneficially used? If the initial characterization was performed for a use requiring a permit and the industrial byproduct is used in a subsequent year for a pre-approved use, will initial characterization need to be repeated for those constituents of concern that were not included in the first initial characterization. For example, total dissolved solids (TDS) is not a "priority pollutant". It is not required to be analyzed for a beneficial use project requiring a permit but must be analyzed for a pre-approved use project. Requiring different constituent lists for different types of beneficial use projects unnecessarily complicates the regulatory program.

Section (E) – The requirement to "... include all additional pollutants" when subsequently characterizing an industrial byproduct after a "... change in the raw materials or processes ..." is vague. For example, if lime is added to a process, would calcium be considered an additional pollutant? At what concentration would calcium be considered a pollutant?

#### 3745-525-806 (Limits for Pre-approved Uses)

Sections (B)(1) and (B)(2) – The list of pollutants and limits for bottom ash and fly ash appear to be identical. Thus, it is not clear why two tables are necessary.

As mentioned earlier, there is no scientific justification for including cyanide or the 15 organic compounds as constituents of concern associated with bottom ash or fly ash. Although cyanide was listed as a constituent of concern in OEPA-DSW Policy 400.007 for spent foundry sand, cyanide was not included as a constituent of concern for bottom ash or fly ash. OhioEPA and the utilities have three decades of ash pond effluent data on cyanide demonstrating that it is not a constituent of concern associated with bottom ash

or fly ash. Cyanide is rarely, if ever, detected in ash pond effluents. Cyanide data is reported to OEPA in NPDES permit renewal applications as a Form 2C priority pollutant.

Although polycyclic aromatic hydrocarbons (PAHs) occur naturally in trace amounts, their presence in the environment are largely the result of incomplete combustion of carbon containing materials such as wood, coal and petroleum. PAH concentrations in fly ash are roughly equivalent to those found in rural surface soils. Although PAH concentrations in bottom ash are generally higher than fly ash, bottom ash concentrations are lower than urban area surface soil concentrations. Most of the PAH compounds listed in the beneficial use tables are also NPDES Form 2C base/neutral priority pollutants. After years of ash pond monitoring data showing non-detectable concentrations, USEPA no longer requires ash pond effluents to be analyzed for PAH compounds. It is also curious to note that the proposed beneficial use rules require certain pre-approved confined ash fill applications be covered with products such as asphalt pavement. Asphalt pavements contain higher PAH concentrations than either the fly ash or bottom ash materials.

The proposed limits are as perplexing as the list of pollutants. The leachate concentration limits for "unconfined geotechnical fills" are unrealistically low. For some pollutants, the limit is the drinking water standard. Thus, if the leachate is not suitable for consumption, the industrial byproduct could not be used in a highway embankment project unless it was authorized under an individual permit. For other pollutants, such as cobalt, molybdenum, zinc, organics and TDS, it is not clear how the limit was established. If OEPA is serious about encouraging the beneficial use of industrial byproducts, the industrial byproduct must be able to compete fairly with traditional materials. No traditional construction materials are subject to a standard that requires the leachate to be safe to drink.

The basis for the proposed limits for materials used in "confined geotechnical fills" is also unsupported by any logic or scientific justification. The limits for some pollutants are as low as 1.5 times the drinking water standard while the limits for other pollutants are greater than 1000 times the drinking water standard. Thus, many limits are unrealistically low while others may be unrealistically high.

Lastly, the proposed limits for "soil blends" are also unsupported. For some pollutants (Cu, Pb, Mo, Ni, Se and Zn), the limits appear to have been borrowed from the USEPA 503 Rule. However, limits for other pollutants such as arsenic are an order of magnitude lower than the corresponding limit in the USEPA 503 Rule. For many other pollutants, there are no corresponding USEPA 503 Rule limits and OEPA does not provide any basis for how the limits were derived. It should also be noted that the USEPA 503 Rule limits were largely based on studies conducted on biosolids (i.e., sewage sludge). It is a stretch to equate bioavailability and environmental risks associated with trace metals in biosolids with those associated with industrial byproducts.

Section (B)(3) – This table establishes a list of regulated pollutants and limits applicable to FGD material. For the reasons stated above, cyanide should not be listed as a

constituent of concern in FGD material. Also, as stated above, the proposed limits for “unconfined geotechnical fill”, “confined geotechnical fill” and “soil blends” are largely ultra-conservation and unsupported by any scientific justification.

3745-525-807 (Pre-Approved Uses)

Section (A)(1)(2) and (3) - The quantity limitations (i.e., three foot maximum depth below buildings, roadways and parking lots) and the requirements to cover with asphalt or concrete are unnecessarily restrictive. These severe restrictions will discourage, rather than encourage beneficial use.

Section (A)(4) – The utility trench backfill use provision should be simplified by requiring that the industrial byproduct be covered with pavement or soil. It would not be practical to mound soil over the width and length of the trench to eliminate the potential for standing water on the final surface grades as suggested by this provision.

Section (D) – The cost of processing and testing bottom ash to meet a gradation specification will eliminate this material as a viable cold weather road abrasive alternative for township, county and state highway departments. This is another example of how this proposed rule will discourage, rather than encourage, beneficial use of an industrial byproduct (i.e., bottom ash) that has a long proven track record of performance. Many local governments rely on bottom ash as an economical alternative or supplement to traditional sand and road salt for winter road use. Does OBPA require that sand or road salt meet a gradation specification? Furthermore, does OBPA specify application rates such as the proposed one-half ton per lane mile for road salt or brine applications? Would ODOT want to use bottom ash if their drivers were required to record bottom ash application rates?

3745-525-808 (Beneficial Use Permit)

Section (B)(4) – The requirement to submit a risk assessment and modeling (if available) is vague and disconcerting. Most risk assessments and modeling involve the development of detailed site specific information such as potential receptors, exposure pathways, soil characteristics, and hydrogeologic characteristics. These efforts are typically very time consuming and expensive endeavors. Any expectation that risk assessments or modeling would be a prerequisite to permit approval would be a major barrier to encouraging the beneficial use of industrial byproducts. The reference to risk assessment and modeling should be removed from the proposed rule.

Section (B)(6) – The requirement to optionally perform a “priority pollutant scan” to characterize the industrial byproduct is confusing. Is OBPA referring to the list of 129 priority pollutants regulated under the Clean Water Act? If so, this would be an expensive and extremely wasteful option and should be deleted.

The second industrial byproduct characterization alternative is equally confusing and ambiguous. The applicant must submit a report describing “... the research methodology used to determine which pollutants may be expected to be found in the industrial

byproduct". The report must include information obtained from the Agency for Toxic Substance Disease Registry (ATSDR) and the USEPA Office of Compliance Inspection Assistance. ATSDR is not in the business of identifying sets of pollutants that are associated with a specific industrial byproduct. The principal role of ATSDR is to assist with the prevention or reduction of harmful effects from exposure to hazardous substances. Although ATSDR maintains useful information on many hazardous substances, it is not clear how this database would be used to identify a set of pollutants for a particular industrial byproduct. Likewise, it is not clear what role the USEPA Office of Compliance Inspection Assistance would play in identifying pollutants. The electric utility industry has spent millions of dollars over decades to define constituents of concern associated with bottom ash, fly ash and FGD materials. Utilizing the resources available at ATSDR and USEPA should be optional, not mandatory.

Section (E) -- This provision implies that beneficial use permit application fees have been (or will be) established in the Ohio Revised Code. OEPA should clarify the nature and magnitude of the referenced application fee as well as any anticipated "permit" fee. Any fees associated with beneficial use permit applications or issued permits will serve as a deterrent to beneficial use.

Section (G) -- This provision requires an applicant for a beneficial use permit to supply any additional information that OEPA deems necessary. An open ended requirement such as this could result in unnecessary delays in permit issuance if risk assessments, modeling or any other long lead time requests for additional information are made. This process could frustrate the industrial byproduct supplier and end user to the point that beneficial use projects get cancelled because the end user decides to use a conventional construction material to avoid further project delays.

#### 3745-525-809 (Beneficial Use Permit Renewal)

Section (A)(4) -- See previous comment for Section (B)(4) of 3745-525-808 regarding risk assessment and modeling.

Section (D) -- See previous comment for Section (E) of 3745-525-808 regarding the application fee.

Section (F) -- See previous comment for Section (G) of 3745-525-808 regarding the requirement to supply additional information.

#### 3745-525-811 (Records and Reports)

Section (A)(3) -- Records should be maintained for industrial byproducts that are used, not generated. In addition, annual quantity should be specified rather than volume since units may be in cubic yards or tons.

Section (A)(4) -- See previous comments regarding modeling and risk assessments.

Section (A)(9) – “Quantity” rather than volume should be specified since units may be in cubic yards or tons.

Section (E) – See previous comment for Section (E) of 3745-525-805 regarding identification of new pollutants following a raw material or process change.



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August 31, 2012

**VIA E-MAIL**

Michelle Braun  
Division of Materials and Waste Management  
Ohio Environmental Protection Agency  
P.O. Box 1049  
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[michelle.braun@epa.ohio.gov](mailto:michelle.braun@epa.ohio.gov)

**Re: Comments in Response to Ohio EPA's Early Stakeholder Outreach With Respect to Development of a Program to Regulate Beneficial Use of Industrial Byproducts**

Dear Ms. Braun;

The following are comments of the Ohio Steel Group (AK Steel Corporation, ArcelorMittal USA, Inc., The Timken Company, Thomas Steel Strip Corporation and U.S. Steel Corporation, Lorain Tubular Products Division) regarding Ohio EPA's Early Stakeholder Outreach with respect to the proposed development of a program to regulate the recycling or "beneficial use" of "industrial byproducts." A fact sheet is currently being circulated by the Division of Materials and Waste Management and the Division of Surface Water for stakeholder review and comment.<sup>1</sup> Comments are being accepted through August 31, 2012.

The stated purpose of the proposed program is to "promote responsible and beneficial use of industrial byproducts." The fact sheet outlines a conceptual framework for an extremely broad regulatory program which would require approval from Ohio EPA for the "beneficial use" of an "industrial byproduct" under one of three tiers: (1) Tier I approvals would include pre-approval in the rule itself; (2) Tier II approvals would be through a general permit to be developed by Ohio EPA; and (3) Tier III approvals would be through an individual permit issued by Ohio EPA. Tiers II and III would require a thorough characterization of the industrial byproduct, which may be based on standard sampling, processing and analytical methodology, such as those found in *SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. All tiers would require approved uses to conform to best management practices,

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<sup>1</sup> See [http://www.epa.ohio.gov/portals/34/document/currentrule/BUESO\\_599.pdf](http://www.epa.ohio.gov/portals/34/document/currentrule/BUESO_599.pdf)

accepted engineering standards or agronomic practices. All tiers would be subject to record keeping and annual reporting requirements as well.

The conceptual framework defines the term “beneficial use” as “the end use of an industrial byproduct in lieu of a competing raw material.” The term “industrial byproduct” is defined as “a residual material that can meet the definition of a solid waste, industrial waste or other waste.”<sup>2</sup> By defining the term “industrial byproduct” to include **residual materials that may potentially meet the definition of solid waste, industrial waste, or other waste**, Ohio EPA brings within the purview of the program the universe of materials that are currently being responsibly managed as co-products or otherwise valuable commodities that are never actually discarded. These should not be regulated.

The iron and steel industry has had tremendous success with the use of the co-products and residual materials that it generates. Recycling is an integral aspect of this industrial sector and the co-products and residual materials it generates can be readily used or recovered and converted to useful products. Ohio Steel Group members are concerned that a prohibition against use of these materials without the approval of Ohio EPA would add additional cost and thereby discourage their continued use as products. This is particularly troublesome since it is unclear exactly what environmental concern Ohio EPA is attempting to address by development of this program.

Consider the following:

- Slag is produced as a co-product of iron and steelmaking process. Slag has a variety of recognized uses, including use as an aggregate in bituminous mixes, a concrete aggregate or ingredient in cement, as an agricultural soil amendment, landfill daily cover material and as environmental remediation material. Ohio Steel Group members produce significant amounts of slag annually, 100% of which is sold for use and actually used without incident. Indeed, the Ohio General Assembly has long recognized slag’s value as a useful co-product, having exempted “slag and other substances not harmful or detrimental to public health” from the definition of “solid waste” for purposes of regulation under R.C. §3734.01(E). Is this program intended to address slag and other “exempt wastes”? If so, what is Ohio EPA attempting to address through pre-approval of this widely used material by Ohio EPA, particularly where the Ohio Department of Transportation has already developed specifications for use of this material in roadway applications?
- Mill scale is material that forms on the surface of the steel produced during reheating, conditioning, hot rolling or hot forming operations, which is removed through high pressure water spray and recovered for use. Mill scale is either sintered for metals

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<sup>2</sup> Definitions of the terms “solid waste, industrial waste and other wastes” are found at R.C. §3734.01(E), R.C. §§6111.01(C) and (D) and presumably Ohio EPA believes that its authority to regulate the beneficial use of these wastes is derived from R.C. Chapters 3734 and 6111. There is no specific authority in either of these Chapters of the Revised Code to develop a program for the recycling of these wastes.

recovery or sold to a third party, such as a cement manufacturer, for its iron content. Again, it is unclear whether this program is intended to address the use of mill scale, and, if so, what issues are attempting to be addressed and what purpose would be served by requiring pre-approval of this material by Ohio EPA?

The stated object of the program is to “promote responsible and beneficial use of industrial byproducts.” However, there is nothing to suggest that in the case of slag or other residual materials being generated by the Ohio iron and steel industry that beneficial use is not already occurring in a responsible manner. Without revisions to these concepts to allow for continued flexibility, the program will not meet this objective and the Ohio Steel Group urges Ohio EPA to more carefully refine the focus of this program. If the aim of the program is to allow for better tracking of the flow of these materials throughout the state, there are less burdensome means to accomplish this goal than creating new permitting obligations.

Thank you for the opportunity to comment on the fact sheet and conceptual framework for the proposed program. Given the significance of these issues to the Ohio Steel Group, we would appreciate meeting with Ohio EPA’s Beneficial Use Rule Development Team to discuss this rulemaking in further detail, as well as its applicability to the co-products and residual materials produced by the Ohio Steel Group.

Very truly yours,



Karen A. Winters

Cc: Ohio Steel Group Representatives



August 31, 2012

Michelle Braun  
Ohio EPA – Materials & Waste Division  
50 W Town Street, Suite 700  
Columbus, OH 43215 - 1049

Re: Early Stakeholder Outreach  
Beneficial Use Regulatory Program Development

Dear Ms. Braun,

General Motors appreciates the opportunity to provide input to the Ohio Environmental Protection Agency's (Ohio EPA's) Early Stakeholder Outreach Beneficial Use Program. GM is committed to resource conservation and reuse and shares Ohio EPA's desire to encourage the reuse of industrial by-products in a beneficial manner that minimizes the need to send these materials to landfills. However, several of the proposed provisions in this program appear to be too restrictive to encourage this reuse.

Below are some areas in the proposed program we believe Ohio EPA should focus on to develop an effective beneficial use program:

- Create a program that will encourage the reuse of industrial by-products and other materials while providing regulatory certainty for those who choose to participate.
- Reduce regulatory burden by making the program as self-implementing as possible. This can be accomplished by including more Tier 1, preapproved uses. The proposed permitting scenarios are likely to inhibit the beneficial reuse of materials under these rules.
- Limit reporting and notification requirements to what is necessary for Ohio EPA to manage the program.
- Provide a user-friendly waste characterization scheme which includes the use of "generator knowledge" and limits the number of samples and parameters only to those that are required to protect human health and the environment specific to the beneficial use being undertaken.
- Encourage the beneficial use of spent foundry sand (and slag) by addressing the current regulatory ambiguity around its regulatory status under the solid waste rules, and, therefore, its status under the beneficial use program.
- Address the void that was created when Policy 400.007 was rescinded.

General Motors looks forward to continuing to dialog with the Ohio EPA as this stakeholder process proceeds. Please contact Carl Schroeder at 419-467-9253 or me at 765-451-6728 to discuss the issues identified in this letter.

Best regards,

John P. Maher  
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Warren MI 48090-9026

[john.maher@gm.com](mailto:john.maher@gm.com)



August 23, 2012

Ms. Michelle Braun  
Rules Coordinator  
Ohio EPA  
P.O. Box 1049  
Columbus, Ohio 43216-1049

RE: Early Stakeholder Input on New Draft Beneficial Use Rules; 3000.100.1619

Dear Ms. Braun:

Hull & Associates, Inc. (Hull) appreciates the opportunity to provide early input into Ohio's beneficial use rule making process. We support the process of making changes in Ohio's solid waste rules and related programs that will engage the issue of sustainability through the implementation of an improved beneficial use program. Modern, engineered landfill facilities provide a long-term, safe containment option for waste and materials. Beyond this option, many stakeholders are evaluating alternatives based on life cycle assessment approaches to assure the highest and best use of our landfills, conserve raw materials and promote recycling initiatives. Hull supports the beneficial use of select materials that meet or exceed the performance standards of raw materials if the end use is deemed safe from a risk-based perspective.

As we communicated during our August 21, 2012 meeting with Ohio EPA's Division of Materials and Waste Management rule review team, Hull supports the 3 Tier approach. Listed below are several suggestions and observations that Hull shared during our meeting:

1. Ohio EPA should consider not integrating beneficial use rules into the multi-rule program structure and instead develop rules that can be quickly approved and administered under a stand-alone program within the framework of the existing regulations.
2. Ohio EPA should consider revising its current position that "a waste is a waste is always a waste." We support the concept of "delisting" a waste or byproduct and reclassifying the material as a "product" if it meets standards established in the new beneficial use rules.
3. Regional storage and/or treatment (stabilization) facilities should be developed to allow for staging waste and byproducts. Management practices for transferring and staging material need to be considered. Monofills should be considered for containing select materials that may be beneficially used in the future.
4. Accommodations should be made to address deferring or reducing fees associated with materials that are converted from a waste or byproduct into a product and subsequently beneficially used.

Ms. Michelle Braun  
3000.100.1619  
August 23, 2012  
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5. A working group of stakeholders should be established to discuss waste characterization and end use protocols.

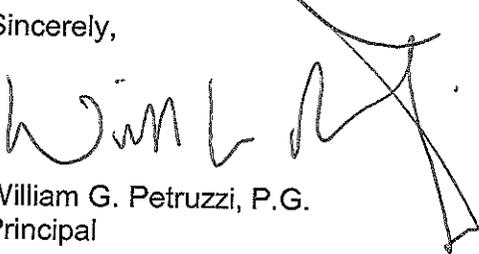
As Ohio EPA and program stakeholders move forward with developing new beneficial use rules, Hull would like the integration of the following overriding principles to be considered:

1. Apply sound engineering, science and economic principles.
2. Use performance-based standards.
3. Engage sustainability concepts based on life cycle assessments.
4. State standards should not exceed federal rules or policies in any case without justification.
5. Risk-based standards should be applied.
6. New rules should be concise and clear.

Hull is an engineering and science firm with four offices in Ohio (Cincinnati, Cleveland, Columbus, and Toledo), one office in Pittsburgh, Pennsylvania, and one office in Indianapolis, Indiana. We have assisted public and private industry clients with the implementation of safe and responsible waste management programs for over 30 years. Consequently, we are very familiar with the evolution of state and federal environmental regulations that have led to our work with clients in more than 10 states at over 100 landfill, transfer station, composting, and materials management and recycling facilities.

Thank you for considering our input and for the opportunity to be part of the early stakeholder outreach group for the development of the beneficial use rules. If we can provide any additional information about these initial comments, please let us know. We are interested in being an integral part of any stakeholder group Ohio EPA decides to form during the rule making process. We look forward to continuing to work with you on this important issue.

Sincerely,



William G. Petruzzi, P.G.  
Principal

WGP/jab

cc: John H. Hull, P.E., BCEE



August 30, 2012

Ms. Michelle Braun  
Division of Materials and Waste Management  
Ohio Environmental Protection Agency  
P.O. Box 1049  
Columbus, Ohio 43216-1049

RE: Early Stakeholder Input – Beneficial Use Rule Concepts, June 2012

Dear Ms. Braun,

On behalf of Waste Management of Ohio, I thank you for the opportunity to provide comments on the Early Stakeholder Outreach for the Beneficial Use Rule development by the Division of Materials and Waste Management issued in June 2012. Overall, we support the development of the proposed three-tiered approach for the beneficial use of industrial byproducts. Waste Management supports extracting as much value from waste materials as possible. This is evidenced by the development of several gas-to-electric generation plants at our landfills as well as operation of our recycling facilities throughout Ohio. We also believe materials managed at our licensed disposal facilities may also provide environmentally sound management alternatives for industrial materials. These activities may range from the simple utilization of industrial byproducts in alternative daily cover application, construction of interior berms and roadways and in the solidification of liquids prior to disposal. These types of beneficial re-uses have and will continue to provide options for the beneficial re-use of industrial materials inside an already licensed and regulated disposal facility operation.

We suggest that any new rules developed recognize and continue to permit the environmentally sound and beneficial re-use of industrial materials at solid waste disposal facilities. These facilities already have undergone extensive review and evaluation through permitting a disposal facility and are highly regulated with routine inspections by the agency. When developing the beneficial use rules the concepts should recognize, perhaps thru a generalized permit section the management of industrial wastes at landfills when alternatives to disposal are proposed. The reuse of industrial material, even at a licensed disposal facility should not be attached to the collection of Ohio EPA disposal fees or solid waste disposal or generation fees.

I thank you for the opportunity to comment on this early stakeholder outreach. I look forward to the development of the proposed rule package.

Sincerely,

Waste Management

A handwritten signature in cursive script that reads 'Kathryn A. Trent'.

Kathryn A. Trent  
Director Government Affairs

Cc: Pam Allen, Chief DMWM

Gregory D. Russell  
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September 21, 2012

**DELIVERY VIA REGULAR U.S. MAIL AND E-MAIL**

Michelle Braun  
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Re: *Initial Comments of the Ohio Oil and Gas Association - Early Stakeholder Outreach: Beneficial Use Regulatory Program Development*

Dear Ms. Braun:

In June 2012, Ohio EPA released a conceptual framework paper for a Beneficial Use of Industrial Materials Regulatory Program, requesting comments from interested stakeholders. The Ohio Oil and Gas Association (Association), on behalf of itself and its members, is pleased to submit these initial “early stakeholder response” comments on the Ohio EPA concept paper, as requested. The Association thanks Ohio EPA for this opportunity and looks forward to assisting in the further development of a Beneficial Use Program for Ohio.

**I. Introduction**

The Association is one of the largest and most active state-based oil and natural gas associations in the country and has served as the representative of Ohio’s oil and gas producing industry since 1947. Its over 2,600 members are involved in all aspects of the exploration, development, production and marketing of crude oil and natural gas resources in the State of Ohio. Because of the small size of many of the Association’s members, they often rely on the Association as their primary source of information on industry trends, activities, tax changes, legislation and regulatory matters. The Association also serves to protect its members’ interests by participating in federal and state regulatory actions involving the crude oil and natural gas industry.

Ohio is experiencing a resurgence of economic energy activity today, due in large part to the development of the Marcellus and Utica Shale. The Association believes the continued

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development of these natural resources can be accomplished in a manner that is efficient and effective, while being protective of our natural environment and human health. It is in that spirit that the Association submits these comments.

## **II. Initial Comments**

### **A. *A Beneficial Use Program Will Benefit the Oil and Gas Industry and State of Ohio***

The Association supports the overall concept of a Beneficial Use Regulatory Program for industrial byproduct materials that otherwise would be considered a solid waste and need to be disposed of in a regulated landfill.<sup>1</sup> A beneficial reuse program could have a positive impact on the oil and gas industry, particularly with respect to drill cuttings. In general, drill cuttings are primarily naturally occurring materials removed from a borehole during the drilling process and can contain, for example, anhydrite, calcite, chalk, chert, clay, dolomite, feldspar, glauconite, granite, gypsum, hematite, iron, kaolinite, lime, marlstone, mica, mudstone, pisolite, pyrite, quartz, sand, sandstone, shale, silica, silt and sulfur. Under Division of Oil and Gas Resources Management regulations, drill cuttings can be (and have historically been) properly disposed of on-site in Ohio. However, the preferred method of disposal for many (but not all) large horizontal shale operators is by landfill, which can unnecessarily consume landfill capacity when safe and responsible reuse alternatives are available. A Beneficial Use Regulatory Program that establishes reasonable standards for allowing qualifying forms of drill cuttings that are already considered to be solid wastes to be reused is strongly supported by the Association.

The three-tiered approach being considered seems reasonable. Tier 1 would be for beneficial uses that have the least environmental or human health risks, and would be “pre-approved”. Tier 2 uses would be approved via a stream-lined general permit, perhaps with the submission of a Notice of Intent to be Covered/Permit Application. The materials under a Tier 2 general permit may need some physical characterization data for the application/notice of intent, and some use specifications that would be included in the general permit issued in response to the application/notice of intent. Tier 3 would be reserved for individual customized permitting of materials that do not qualify for either Tier 1 or Tier 2 approval, but are still appropriate materials to consider for beneficial re-use. The tiered approach allows for a reasoned program that increases the level of regulation as the risk to the environment and human health increases. We think this approach, as a conceptual matter, is workable and should be considered further.

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<sup>1</sup> The Association understands the proposal to involve only industrial byproducts that are already considered waste materials over which Ohio EPA has jurisdiction, and does not understand the proposal to involve – and does not support – an expansion of that jurisdiction through this rulemaking.

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B. *Classification of Vertical Drill Cuttings as Not a "Solid Waste"*

As a preliminary matter, the Association believes that it is important for Ohio EPA to clarify under current law whether certain drill cuttings are classified as "solid waste." Horizontal well drilling can be viewed in two components, the vertical (or tophole) portion and the horizontal (or lateral) portion. The vertical portion, similar to a conventional vertical well, is typically drilled using air, while the horizontal portion, including the "curve," typically also involves use of a drilling mud. It is the Association's understanding that Ohio EPA does not classify drill cuttings associated with the vertical portion of the wellbore (down to relatively 6,000 feet) as "solid waste," due to the fact that drilling operations for the vertical portion of a wellbore do not include drilling mud containing chemicals or other contaminants of concern. The Association believes that Ohio EPA should continue this understanding when drafting beneficial use guidelines, policies rules, or standards. As a result, drill cuttings from a vertical wellbore should not be regulated as a "solid waste" and can continue to be re-used wherever appropriate, and would not fall under a regulated beneficial use tier. On the other hand, the Association understands that Ohio EPA may consider drill cuttings associated with the horizontal component of a wellbore containing contaminants to be a "solid waste" and thus properly included in a beneficial re-use program at the appropriate tier level – which is discussed below.

C. *Existing Re-use of Drill Cuttings*

Historically, drill cuttings have been successfully reused in a number of different ways, such as:

- Road Spreading – Drill cuttings act to stabilize road surfaces that are subject to erosion.
- Clean fill material.
- Construction Material – Drill cuttings have been used in road pavements, bitumen, and asphalt, and cement manufacture.
- Plugging Abandoned Wells.
- Landfill Cover.
- Wetlands Restoration.

Some, or all, of these existing beneficial uses of solid waste drill cuttings should be considered under a Beneficial Use Program. There may be other uses for drill cuttings, and we welcome the opportunity to work with Ohio EPA to develop appropriate and reasonable standards for the reuse of drill cuttings that are appropriately classified as "solid waste." Some of these uses may even be appropriate for Tier 1 "pre-approval" of solid waste drill cuttings under the Ohio EPA three-tiered approach.

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D. *General Permit for Solid Waste Drill Cuttings Containing Contaminants*

In the June 2012 concept paper, a “general permit” would be used for those industrial byproducts not qualifying for preapproved Tier 1 use and needing some physical characterization, while not requiring a full blown individual “custom” permit. The Association believes that the creation of a general permit for drill cuttings associated with the horizontal component of the wellbore is an appropriate regulatory method to facilitate the responsible reuse of drill cuttings that meet prescribed criteria or thresholds.

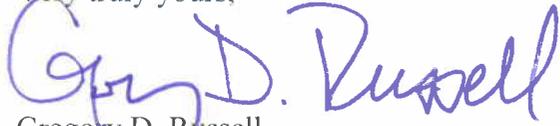
For example, when a drilling mud is used to drill a well, the solid waste drill cuttings may need to be cleaned, treated or remediated in some capacity in order to meet pre-determined criteria for the specific intended use (e.g., subsequent to using a saltwater-type mud, the cuttings may need to be washed to remove dissolved salts prior to beneficial use as road stabilization/erosion control). Similarly, some cuttings may need to be thermally treated to remove residual hydrocarbons to meet appropriate standards for reuse in construction materials. These types of common recurring uses of the solid waste drill cuttings would be appropriately handled under a stream-lined general permit. The Association looks forward to working with Ohio EPA to develop an acceptable general permit for appropriate solid waste drill cuttings, including providing characterization and reuse data and developing reasonable treatment and stabilization standards for certain solid waste drill cuttings prior to reuse.

### **III. Conclusion**

The Association supports Ohio EPA’s intention to develop a Beneficial Use Regulatory Program for the responsible reuse of industrial byproducts. In this connection, the Association respectfully requests that Ohio EPA continue to not consider clean drill cuttings associated with the vertical component of the wellbore as “solid waste.” The Association and its members offer their support to Ohio EPA in developing Beneficial Use Concepts into a functional regulatory program, including developing a general permit, and particularly in the context of solid waste drill cuttings associated with the horizontal component of the wellbore.

Michelle Braun  
September 21, 2012  
Page 5

Very truly yours,

  
Gregory D. Russell  
On behalf of the Ohio Oil and Gas Association

GDR/zms

cc: John Schierberl, Ohio EPA  
john.schierberl.@epa.ohio.gov



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Ohio EPA - DMWM

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AUG 24 2012

Ohio EPA - DMWM

August 24, 2012

Ms. Michelle Braun  
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**Re: Early Stakeholder Outreach Beneficial Use  
Regulatory Program Development**

Dear Ms. Braun:

Materion Brush Inc. is pleased to have the opportunity to provide early stakeholder input to the Ohio EPA on an approach to promote responsible and beneficial use of industrial byproducts. It is our understanding that the Ohio EPA is suggesting the creation of a regulatory program to manage these industrial byproducts more sustainably. A beneficial use program may offer the following benefits that have been identified by the Ohio EPA:

- Provide byproduct generators with a science-based protocol for evaluating their byproducts.
- Assure potential users of the safety of these materials.
- Reduce disposal costs for generators.
- Provide sources of raw materials for end users.
- Extend the capacity of landfills and conserve resources.
- Make byproducts resources instead of waste.

The Ohio EPA has broadly summarized in a document, titled *Beneficial Use Rules Development Concepts*, a conceptual framework for the program being proposed, and our comments are correspondingly broad.

According to this document, Ohio EPA is considering requiring beneficial uses of an industrial byproduct to:

- Comply with all applicable federal, state and local laws;
- Be authorized by one of the mechanisms authorized by rule, which might include pre-approval by rule, approval via a general permit or approval through an individual permit;

- Conform to best management practices, accepted engineering standards or agronomic practices.

We understand that Ohio EPA is considering a characterization requirement for evaluating a byproduct's potential beneficial use that would be flexible enough to accommodate byproducts not yet considered for beneficial use. The agency contemplates the adoption of a rule specifying how to characterize industrial byproducts, which would require generators to develop and implement a materials characterization plan for each industrial byproduct. The Ohio EPA has stated that a characterization plan might be based on standard sampling, processing and analytical methodology, such as those found in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, also known as SW-846, and allowing for demonstrated generator knowledge.

Materion Brush supports Ohio EPA's efforts to increase the beneficial use of industrial byproducts currently being disposed in landfills. A program encouraging the beneficial use of industrial byproducts to replace or supplement a raw material or competing product will conserve landfill space, energy and natural resources. The value of such a program will depend upon how effective it is as a tool for achieving beneficial reuse. Materion Brush recommends that the Ohio EPA keep in mind while developing its beneficial use regulatory program that the regulations that the agency adopts may thwart these objectives if those regulations are unnecessarily restrictive.

One example of an unnecessarily restrictive regulation would be to limit the types of industrial wastes eligible for beneficial reuse to a subset of RCRA non-hazardous wastes. Another example of an unnecessarily restrictive regulation would be to embrace the RCRA regulations that govern the reuse of hazardous waste as a model for an industrial waste beneficial reuse regulatory program. The RCRA program has done much to limit recycling of secondary materials, and replicating a RCRA-type program would have a similarly restrictive approach on the reuse of industrial wastes.

The Ohio EPA should, where possible, expedite reuse by including as many byproducts into the "pre-approved" category as possible. Characterization plans will discourage beneficial use, especially for Tier 1 "pre-approved" byproducts, and should not generally be required. A copy of a characterization plan, as opposed to the data from that plan, should not be required to be sent from a generator to a distributor. Reporting, whether to a distributor or to the Ohio EPA, should be kept to a minimum and should more closely resemble the reporting of raw and manufactured materials than the reporting of waste.

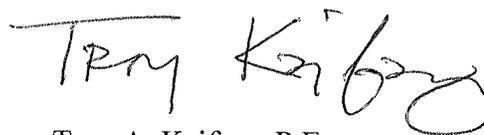
Ohio EPA should not impose duplicative standards. If Ohio EPA plans on using leaching or some other exposure-based approach to establishing concentration standards, then the agency should not apply an additional arbitrary (e.g., 500 feet from a well) location standard. To do so

is overly conservative and would unnecessarily restrict potential reuse. Especially in establishing concentration standards, the Ohio EPA should avoid the use of overly conservative aggressive methodologies, like TCLP, or overly conservative risk assessment methodologies. Care should be taken not to disqualify industrial byproducts from reuses that can be conducted safely based on risk assessments that assume unrealistic exposure scenarios and apply overly conservative, duplicate safety factors. In such cases, the conservative, unrealistic assumptions and safety factors tend to outweigh the scientific toxicity data such that a material is deemed to present an unacceptable risk in scenarios that can only be charitably referred to as far-fetched at best. This is particularly true of naturally occurring substances to which the general population is routinely exposed.

These comments are based on observations as to how reuse of industrial byproducts are constrained by other regulatory programs, either by fiat or by a thicket of requirements that make reuse too unreliable to explore and too expensive to conduct. As noted in the attached article reporting on a recent Solid Waste Association of North America panel discussing the public demand for resource recovery exists and innovative methods for the recovery of materials are being developed. Environmental protection is taken as a given in the development of those methods. The Ohio EPA should develop a beneficial reuse program that stifles neither that demand nor innovation with respect to industrial materials.

I would be pleased to respond to any questions.

Sincerely yours,

A handwritten signature in black ink that reads "Troy Kajfasz". The signature is written in a cursive, slightly slanted style.

Troy A. Kajfasz, P.E.  
Director of Environmental Affairs

attachment



Source: Daily Environment Report: News Archive > 2012 > August > 08/16/2012 > News > Solid Waste: Economic Markets, Demand Seen Driving Decline of Landfills, Recovery of Materials

**158 DEN A-2**

### **Solid Waste**

## **Economic Markets, Demand Seen Driving Decline of Landfills, Recovery of Materials**

*By Anthony Adragna*

Solid waste management leaders said at a conference Aug. 15 that economic markets and public demand for recovery of materials, not government regulation, will drive innovation in the field.

Panelists at WASTECON 2012, sponsored by the Solid Waste Association of North America, said the industry will need a public relations push to fight perceptions that solid waste produces "dirty energy."

Most of the group said the role of landfills will continue to decline in the next couple of decades as the public demands more resource recovery. They also said rural communities will continue to struggle to fund technological improvements.

"We've pretty much conquered the problem of the environment," said Jim Warner, chief executive officer of the Lancaster County Solid Waste Management Authority in Pennsylvania. "We have made such strides in the core mission of protecting the environment that we're off to the next paradigm," which is recovering materials for reuse.

### **Government Regulation Attacked**

Several of the panelists said government regulations were rarely effective at producing positive changes in the solid waste sector.

"Part of problem in our regulatory system is we assume certain characteristics about the waste stream and assume they'll still be there in 10 years," N.C. Vasuki, former chief executive officer of the Delaware Solid Waste Authority, said. "Well, they're not always there. The less mandates we have from the government, the better off we are."

Steve Viny, chief executive officer of Envision Holdings, which designs and builds material recovery systems, said states need to adopt the definition of solid waste that excludes certain recovered materials from Subtitle D regulation under the Resource Conservation and Recovery Act.

"Those kinds of tools are what we need from the government," Viny said. "Government ought to stop making goals and start making tools."

Viny was referring to a March 2011 final rule that redefined certain materials as fuels, subject to regulation under Section 112 of the Clean Air Act, rather than subjecting them to stricter regulation as solid wastes under Section 129.

EPA proposed revisions to the final rule in December, and the Office of Management and Budget is reviewing the agency's proposal (233 DEN A-13, 12/5/11).

### **Lack of Population Base**

John Welch, interim solid waste manager in Dane County, Wis., said the problem with national regulations is not that rural communities do not want to comply, but they often lack the population base to do so.

### **BNA Snapshot**

Solid Waste Management, Recovery

**Key Development:** Solid waste management leaders say economic markets and public demand for recovery of materials will drive innovation in the field.

**Potential Impact:** Panelists say the role of landfills will continue to decline as private markets demand more recovered materials.

Solid waste provides a stable source for energy production and, as the cost of other energy products continues to rise, private interest in material recovery for energy production will continue to grow, according to the panelists.

"As long as energy prices keep creeping up, there is greater opportunity for material recovery," Vasuki said. "Markets dictate what is desired, not the government."

H. Lanier Hickman, former executive director of SWANA, agreed private markets had changed the industry but said the solid waste industry has not done a good enough job of selling itself to the market.

"We've never attacked the markets," Hickman said. "That has been the biggest problem with managing resources. I still see no vision and emphasis in our field to get the markets to open up."

Welch agreed that the private market would play an important role in the industry's development but said the public would demand the recovery of these resources.

"It's going to be market driven, but another piece that we see is it's driven by what our public wants," Welch said. "The public is demanding we recover these resources."

### **PR Push Said Needed**

Sarah Bixby, director of the South Central Iowa Solid Waste Agency, said the industry continues to struggle with its public image.

"There's a perception that waste is a dirty industry," she said. "Waste is really not what the people want to use to burn as an alternative energy source."

Welch said politicians are reluctant to invest in new waste energy projects because of those perceptions but said educating the public more effectively could help fight the public's negative view of waste energy.

"We haven't done a good enough job of promoting the available technologies with renewable energy sources that we can provide," he said. "If we can do a better job of promoting ourselves, the political will can follow."

Most of the panelists predicted the role of landfills will continue to decline as technological innovation and public demand lead to greater material recovery.

"It's a land consumption issue," Warner said. "We need to get away from landfilling resources. We're doing way too much of it."

### **Economic Costs Cited**

Viny said the country throws away more than \$1 billion annually just in aluminum cans, and Vasuki said mining landfills to recover materials is a technology worth exploring.

"We can mine your landfills and get resources," Vasuki said. "Right now, we put everything into the landfills and stomp it and cover it, but we can do better things than that."

Despite the technological innovation in the industry, rural communities continue to struggle with untested technologies, dwindling populations, and scant financial resources, Bixby said.

"We still struggle to get people to manage waste correctly," she said. "We have a lot of progress that still needs to be made. The gaps are going to get wider. Urban areas are going to continue moving forward, and the people left in the rural areas are going to continue to struggle."

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ISSN 1521-9402

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An Association for the Development, Improvement and  
Advancement of Quality Asphalt Pavement Construction

August 13, 2012

RECEIVED

AUG 16 2012

Ohio EPA - DMWM

Michelle Braun  
Ohio EPA  
P.O. Box 1049  
Columbus, OH 43216-1049

Subject: Comments Regarding Proposed Beneficial Use Rules

Dear Ms. Braun,

Flexible Pavements of Ohio is a trade association representing entities having interest in asphalt paving in Ohio. Our membership is comprised of manufacturers of asphalt paving mixtures, contractors, local and county governments, architectural and engineering firms, and other associated members. We strongly discourage the OEPA from adopting the proposed beneficial use rules. The reading of the Beneficial Use Rules Development Concept leads us to believe that adopting such rules will be the single largest impediment to reuse and recycling of construction and manufactured byproducts in asphalt pavements, and will only increase the cost of asphalt mixtures used in roadway and parking lot construction. At a time when sustainable construction is being advocated from all corners of government and private industry, adopting a regulation that impedes reuse and recycling is counterproductive. Please allow me to explain.

**The proposed Beneficial Use Rules interjects regulation into an already efficient process and imposes testing, recordkeeping and reporting which do not facilitate greater use of manufacturers' byproducts.**

A recent survey of the Ohio asphalt paving industry indicates that approximately 15 million tons of asphalt mixtures were produced in 2010; in 2009 approximately 14.5 million tons were produced. Of that material approximately 24% of it was from the reuse of existing pavement. That equates to approximately 3.5 million tons of old pavement removed and reused into new roads and parking lots – all of which was accomplished without regulation, but rather, by market forces. Reuse of asphalt pavement into new asphalt mixtures began in the 1980s as an asphalt industry initiative to thwart rising costs induced by the OPEC Oil Embargo. It was a market driven solution that has resulted in asphalt reuse being the nation's greatest recycling effort.

***Asphalt...Defining Value! Safe, Smooth and Sustainable***

Any impediment to reuse/recycling will have large ramifications. The reuse of asphalt pavement in Ohio is so great that each year, just in reused asphalt pavement, a 4-lane road could be paved from Columbus, OH, to Los Angeles, CA. The approximate value of this material is \$168 million; currently a cost savings. Any impediment to reusing manufacturers byproducts into new asphalt pavement will exchange this cost savings for an expense passed on to the consumers; the local, county and state government having responsibility over roadway construction and maintenance, private industry owning automobile parking facilities, bike paths, and the residential driveway owner.

In addition to reuse of asphalt pavement (RAP) the industry has advanced its sustainable construction initiative to include recycled asphalt shingles (RAS). This technology is in its infancy in Ohio. There are other byproducts that are used in asphalt such as scrap tires, slag aggregate from steel production, recycled used oil as a heat source in the manufacture of asphalt, and others. The list continues to grow. What is true of these byproducts is that the viability of each was self determined by market forces, not by regulation. Each is confirmed on its own merits based on how it improves the final product's quality, economy, and sustainability.

**Recordkeeping requirement suggested in the proposed Beneficial Use Rules would be so burdensome to the asphalt industry that the rules only serve to discourage use of recyclable manufacturers' byproducts.**

The life-cycle of an asphalt pavement – be it a road, parking lot or driveway – is one where the material from which it is composed is manufactured, reclaimed years later by cold-milling, and reused into new asphalt for building new pavements or resurfacing existing pavements. The new asphalt containing reused asphalt is sourced to various paving projects around the geographical region. Thousands of projects in a region, all of varying size, are sourced in this way; each with portions of reused asphalt pavement from a multitude of other projects from which asphalt was reclaimed.

What is true of the life cycle for reused asphalt pavement is also true for the various manufacturers byproducts used in asphalt manufacturing; that is, they come from multiple sources and find their way into multiple projects. Consider recycled asphalt shingles; currently, shingles removed from residential dwellings (tearoffs) are allowed for use in asphalt mixtures. There are a vast number of dwellings from which tearoffs are obtained, and numerous roofing contractors – of varying qualification – involved in the process. It simply is not possible to track the use of manufacturer byproducts to a degree of confidence that reporting under a beneficial use rule is accurate. As such, asphalt producers will opt out, or in the least part be greatly discouraged from using shingles – or any other construction or manufacturers' byproduct. The likelihood is high that shingle availability for asphalt production would sharply decline, tearoff shingles would be redirected to landfills, and costs to the consumer will increase as virgin (raw) materials replace byproducts – all due to the complexity and cost of reporting and characterization under the proposed beneficial use rule. At risk is approximately 40 thousand

tons of recycled asphalt shingles being incorporated into new asphalt paving mixtures in Ohio, and other emerging materials.

**By-products from and used by the road construction industry are not “Solid Wastes”.**

By-products from and used by the road construction industry are not “Solid Wastes” as that term is defined in Ohio law (R.C. 3734.01(E) and O.A.C. 3745-27-01(A)(23). As such, no regulation is needed as business has been and is capable of managing “product” like RAP without additional regulation by OEPA. It appears OEPA recognizes this fact since it has specifically identified asphalt and AC as “Tier 1” by-products in its concepts overview. Clearly, the road construction industry should be exempt from the proposed Beneficial Rules Regulation.

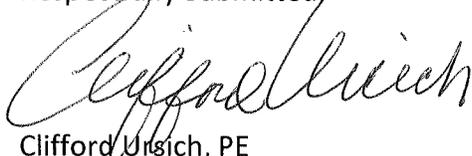
**Proposed Beneficial Use Rules provide no defined environmental benefit.**

There is no defined “environmental benefit” or “environmental protection concern” identified by OEPA as the basis for this rulemaking. While OEPA states the purpose of the rule is to save landfill space/allow for science-based evaluation of the byproducts, there is no support or evidence to demonstrate that such a “benefit” will be accomplished.

**Concluding Remarks**

Implementing the proposed Beneficial Use Rules will discourage the goals of increasing byproducts reuse, extending the capacity of landfills, and conserving virgin (raw) materials. We advocate for an open system – one without regulator intervention – where the suitability of byproducts is based on generators initiative to do the investigation/characterization necessary to demonstrate their byproducts viability in the marketplace as one that promotes quality, economy and sustainability. History of asphalt reuse in Ohio and around the nation has shown an open system stimulated by market factors is the most efficient. It results in growing amounts of byproducts being incorporated into new marketable products, lower costs to the consumer, and building a culture of sustainability within an industry.

Respectfully Submitted,



Clifford Ursich, PE  
President & Executive Director