ASTSWMO
2006 Beneficial Use Survey Report

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ACKNOWLEDGEMENTS

The Task Force wishes to thank all those who helped complete this survey. Without their cooperation, this report would not be possible. Even so, the Task Force takes full responsibility for the information and conclusions presented in this report.

Information from this survey, and the one completed in April 2000, are helping the Task Force better understand how individual States and Territories approach decision-making about the beneficial use of solid wastes. The Task Force and ASTSWMO will continue to use this information in developing additional tools to assist States and Territories.

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I. INTRODUCTION

Many States and Territories continue to receive requests to approve the beneficial use of non-hazardous, industrial solid wastes (e.g., wood ash, coal ash, and foundry sand) in lieu of disposal. The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) believes the number of requests of this nature is continuing to increase. Based on previous work, we also know that some States have formal programs to handle such requests, other States have processes to handle limited aspects of these requests, and other States currently have no capability to respond.

ASTSWMO's Solid Waste Subcommittee established the Beneficial Use Task Force (Task Force) to study how States are managing requests to use non-hazardous, industrial solid wastes rather than dispose of them in landfills. The Task Force's primary goal is to collect and share information that will assist States and Territories in developing or improving programs and processes to handle these requests.

The Task Force's scope includes large-volume, non-hazardous solid wastes or by-products from industrial, commercial, or manufacturing operations that would normally be disposed in landfills if not recycled or used in some fashion. Its scope does not include materials from the mixed municipal waste stream that are traditionally recycled, such as aluminum, glass, plastic, metal and paper. A list of waste types considered by the Task Force is included in Appendix B.

In late 1998 and early 1999, the Task Force prepared a Beneficial Use Survey which was mailed to all States and Territories on May 20, 1999. This first survey was designed to gather information on beneficial use decision-making by States and Territories and on their current, approved uses of non-hazardous, industrial solid wastes. It was completed and distributed in April 2000 and is also available on the ASTSWMO web site, in the Publications area, under Solid Waste.

The Task Force has observed that interest in the beneficial use of non-hazardous waste has grown since the first survey report was issued. In addition, the U.S. Environmental Protection Agency's Resource Conservation Challenge program is promoting ways to beneficially use construction and demolition debris, coal ash and foundry sands. Given this interest, and the amount of time that has passed since the original survey was conducted, the Task Force prepared this second survey report to update the information on how States and Territories are approaching decision-making regarding the use of such waste streams. As in the first report, the second survey consisted of 23 questions, many of which were further divided into sub-questions. However, some of the original questions were changed, dropped or replaced with new ones that the Task Force believes are more relevant today.

To assist people in completing this survey, the Task Force also used the list from the first survey of frequently asked and expected questions, with corresponding answers, about terms or concepts that may have been confusing if not defined or explained (see Appendix A). This list of questions and answers clarifies the thinking of the Task Force

when the survey questions were initially created and may help others new to this program area.

The purpose of this second report is to compile the information obtained from the recent survey and make it available to all State and Territorial Solid Waste Managers and other interested parties. For ease of discussion, the report presents results by general topics and categories, rather than in the order in which questions were asked in the survey. The Task Force hopes this information will be useful in developing or aiding the implementation of beneficial use programs. The Task Force also will use this information to develop a list of additional needs, a work plan to address these needs, and educational materials for States and Territories.

At the time of this report, a total of 40 States, but no Territories, had completed the survey. The responding States are shown in Table 1. A few States have many years of experience in this program area and have much to offer other States. On the other hand, States new to the program have also contributed some innovative program enhancements. All programs continue to evolve and improve with experience. The Task Force therefore cautions readers not to discount or directly assess the value or utility of any given method or tool based solely on the statistical results of the survey. That is, an excellent method or tool may only currently be used by a limited number of States, but that fact, in and of itself, should not necessarily deter another State from considering that option.

Section II of this report discusses results of the survey (see Appendix C) by grouping them into categories of questions. Section III provides a brief overall summary and the Task Force's recommendations for follow-up activities which are based on the survey results and other feedback obtained through discussions with States.

II. BENEFICIAL USE SURVEY RESULTS

A. Status of Beneficial Use Programs and Processes in Responding States and Territories

A total of 34 of the 40 reporting States, or 85 percent, indicated they had either formal or informal decision-making processes or beneficial use programs relating to use of solid wastes. Two States, Nebraska and Utah, indicated that they did not have a formal or informal process, but that staff in their programs have been involved with the topic for several years. The responses of the 34 States are the basis for all statistical comparisons in this report.

The fact that so many States have some form of program or process, such as statutory or regulatory provisions for beneficial use, indicates requests for beneficial use of solid wastes are becoming more common throughout the country. This does not mean, however, there are always staff specifically dedicated to this issue or that there is a specific "beneficial use" listing in an agency or department directory.

The length of time that the 34 States have had experience with these programs varies considerably, from about three to more than 25 years. At the time of the survey, four States have had programs in existence for three years or less and seven States have had programs for more than three years but less than or equal to 10 years. Sixteen States reported beneficial use programs in existence for greater than 10 years but less than 20 years and four States reported programs in place for 20 or more years.

Not surprisingly, the underlying authority for these programs varies greatly between States, although there has been a trend towards the States adopting regulations. Some States have two or more of the mandates or provisions included in the survey (see Question 1c in Appendix C). Of the 34 responding States with beneficial use programs, 16 indicated they had statutory authority for their programs, 27 had regulations for beneficial use, and 15 used policy memoranda or guidance documents in their programs. Eight States also indicated that they used "agency discretion" in making beneficial use determinations. Of the six responding States without programs, three indicated they had regulatory authority for a program, two had policy memoranda or guidance documents for a program, and two had no provisions.

Appendix D of this report includes a listing of the States which provided copies of their definitions for beneficial use in response to this survey. Twenty-two of the 34 States with programs have a written definition of beneficial use or a similar term in statute, regulation, or policy. Several of these States indicated the definition appeared in a combination of statutes, regulations and policies (see Question 2 in Appendix C). Eleven States have statutes containing a definition of beneficial use, 21 have their definition in regulations, and five have policies or guidelines that specifically define beneficial use. Of the six States without programs only one (West Virginia) had a written definition.

While definitions differ and in a few cases apply only to a limited number of waste types (e.g., coal combustion products and waste tires), beneficial use typically constitutes use either in a manufacturing process to make a product or as a substitute for a raw material or product provided such use of the solid waste does not adversely impact human health or the environment. Other components that are less prevalent in definitions but are often used as evaluation review criteria are discussed in Section II. C.

The evolution of an individual State's beneficial use program or process beyond its environmental agency is typically a result of the State's environmental agency structure and the nature of its relationship with the agricultural and industrial sectors located within the State. Sixteen States reported that other agencies (predominantly health, agriculture and transportation) can be involved in reviewing beneficial use approvals. In addition, 10 States indicated that approvals can come from different segments of its environmental agency.

The survey asked for feedback on some of the most common barriers to making beneficial use determinations. Twenty States reported that the largest barrier was the lack of sufficient information to use in evaluating the risk to human health and the

environment. Often a beneficial use request involves diverting a waste from a relatively secure disposal facility into a use or location where there may be the potential for a release or exposure to one or more contaminants. Getting companies to provide good information and validating this information is a huge drain on staff resources which is the next highest barrier (reported by 15 States). The list of other significant barriers includes public acceptance (reported by 12 States) and lack of awareness.

B. Administrative Aspects of Beneficial Use Programs and Processes

Several questions in the survey focused on the administrative aspects of State programs, such as number of requests, review time limits, staff hours for review, fees, and administrative tools. This sub-section summarizes the results from these questions.

Number of Requests

Twenty-five of the responding States received up to 20 requests annually for beneficial use determinations, with the majority of States reporting less than 10 requests. Only five of the States reported greater than 30 requests annually. States with existing programs also were asked for information on the total number of requests that they had received since the inception of their program. Responses ranged from two requests to an estimated 1,000, and the State of New York reported 885 actual requests. A number of States indicated that they issued “generic” exemptions that more than one generator may use. Wisconsin pointed out that under their self-implementing beneficial use program only large projects (i.e., over 5,000 cubic yards) are required to notify the State, so many projects go uncounted.

The survey asked States to first indicate if they had received a beneficial use request for each of 31 different waste types, and then to indicate if they had completed approvals for these wastes. The waste types listed in the survey included such things as tires, wood ash, cooking oil, foundry sands, and railroad ties. There was also room in the survey to insert additional waste types. State responses to the survey added 36 more waste types which are shown in Appendix B. Wastes added to the survey list by the States included materials like fish waste, lime kiln dust, egg shells, and tobacco dust.

Review Time Limits

Fourteen of the States indicated that they have mandatory time limits for responding to a beneficial use request. These mandatory review time limits ranged from 18 days to 180 days. Two States have provisions for automatic approval if the time limit is exceeded, while 11 other States indicated the requests were not automatically approved if the time limit was exceeded. One State also indicated that fees are refunded in cases where the time limit is exceeded.

Staff Hours for Review

Significant variation exists among States in the average number of staff hours necessary to review beneficial use requests, for both routine and complex applications. This is probably due in part to variation in State approval processes and in the nature of waste streams prevalent in various regions. Estimates ranged from a low of a quarter of an hour for routine reviews to 2 calendar years for a complex, first-time review. Fourteen of the reporting States estimated that routine reviews could be accomplished in less than 10 hours.

Fees

The majority of State programs currently do not charge a fee to obtain authorization to reuse a waste material. Only seven of the responding States (21 percent) reported having fees associated with their programs. Three of these States used a flat fee that ranged from $50 to $2,000. The four other States used graduated fee systems that were based on the volume of material proposed to be used or the complexity of the projects. The fees in these cases ranged from $240 to $3,750 per request.

Administrative Tools

Several administrative tools are being used for approval of beneficial use projects. Many States grant approval in the form of permits (32 percent) or written authorizations (71 percent). Several reporting States (38 percent) have rules or statutes stipulating that formal approval is unnecessary. Fifty-nine percent of the States have developed lists of materials that are pre-approved for beneficial use.

When asked if a material used in compliance with the State/Territorial regulations is exempt from further solid waste regulations, 79 percent of the respondents answered affirmatively, provided the material is managed in compliance with the terms and conditions of the approval. One State indicated that if the material needed processing prior to being used the processing may be regulated under the solid waste regulations. Also, if the material is being applied to the land as a fertilizer or soil conditioner there may be a requirement that the material be licensed under the State's Department of Agriculture.

The survey also asked if a material was used in compliance with the State/Territorial requirements did it cease to be a solid waste and, if so, at what specific point in the process. This question deals with the difficult problem of deciding when a waste is no longer a waste and can be considered a "by-product," "co-product," or just "product". Seventy-one percent of the responding States agreed that the material was no longer a waste. As to when this occurred in the process, States indicated it could vary depending on the waste stream and the proposed use. Some of the responses on this issue by the States included statements like:

- when shipped to the user;
- when being used as an ingredient in an industrial process to make a product; used as an effective substitute for a commercial chemical product; or being returned to the process that generated it;
- when it is proven the material can be successfully used;
- when the beneficial use determination is issued; and
- when the material is actually used.

C. Factors in Making Beneficial Use Determinations

States use numerous factors to evaluate the nature of and make decisions on beneficial use proposals. This sub-section summarizes the results of the survey questions that address these factors.

Pass/Fail Criteria

The States and Territories were asked to identify the criteria they used when considering beneficial use requests and making their decisions. Proposals not consistent with these criteria would be candidates for rejection. It was clear from the results that all States place their mandate to protect human health and the environment foremost in the beneficial use evaluation process. All 34 responding States required that a proposed waste use not be expected to result in adverse impacts to human health or the environment. Ninety-four percent of these States consider whether or not the proposal constitutes a use rather than disposal. Eighty-eight percent of States consider whether or not the waste material constitutes an effective substitute for an analogous raw material, and 65 percent of respondents look for a demonstrated market or need for the material in their evaluations.

Chemically binding waste in a material such as cement, concrete, or asphalt is a practice considered acceptable by 62 percent of the responding States. However, only 21 percent allow blending to meet target contaminant levels. Thirty-two percent of the responding States rule out requests for materials that require decontamination or treatment.

Approximately 38 percent of the respondents consider diversion from a disposal facility to be an important factor and 32 percent consider a proposal's consistency with an integrated waste management policy. Twenty-four percent of the States included a consideration of the proposal's ability to save resources or energy. One State indicated they would consider whether a fee was paid by the waste generator to the waste user. Finally, 26 percent of respondents indicated that they consider additional pass/fail criteria (e.g., characteristics of the final product rather than the waste itself; whether or not the waste was a putrescible waste; the material may be suitable as a non-fertilizer soil amendment).

Elements Used When Making Determinations

A subtly different group of elements are considered by States when evaluating the waste materials proposed for beneficial use. States were asked to identify if they used any of 10 listed elements and to specify others they considered important. The need for having information on the chemical and physical characteristics of the wastes was considered important by 88 percent of the responding States. Eighty-five percent of the States conduct a benefit assessment, based on suitable physical, chemical, or agronomic properties, and may also impose special conditions which limit a material's use.

Approximately 68 percent of the reporting States may use institutional controls as one such special condition. Also, 68 percent of the States prefer to use specific numeric thresholds, standards or guidelines for evaluating a potential use. Informal risk evaluations are used by 59 percent of the States and formal human health evaluations are used by 38 percent. At this time only 32 percent of the States require an ecological risk assessment.

A small number of States also consider if a proposal will include provisions for financial assurance or public notification. Finally, 21 percent of the States consider other factors (e.g., compatibility with the State's Solid Waste Plan; acceptability of proposal to other State agencies; time limits to storage).

The States were also asked to rank the list of 10 factors in the order of first, second and third levels of importance. Summing these rankings together (i.e., adding the first, second and third scores for each factor giving a total score for each factor) lead to the following top five factors:

1st test data on the chemical and physical characteristics of the wastes;
2nd benefit assessment based on suitable physical, chemical or agronomic properties of the wastes;
3rd specific numeric thresholds, standard or guidelines used in the evaluations;
4th special conditions that limit use; and
5th human health risk evaluations.

Site- and Use-Specific Restrictions

The survey asked States to indicate if they used any of 12 different general restrictions or conditions in their beneficial use decisions. The results of the reporting States are summarized below:

- site location (85 percent);
- set-back distance restrictions to water supplies, surface waters, or wetlands (85 percent);
- restrictions based on depths to groundwater (74 percent);

- regular reporting of waste quantities used (71 percent);
- periodic follow-up testing or monitoring of products (59 percent);
- requiring the generator provide notice to users about how the material is to be used (59 percent);
- volume restrictions (53 percent);
- property or deed restrictions (41 percent);
- regular monitoring reports (35 percent);
- post-use ground water sampling (18 percent)
- post-use soil sampling (15 percent); and
- fee restrictions (6 percent).

Testing Methods

The survey asked for information on testing methods used in making beneficial use determinations with special emphasis on tests related to chemical analyses and leaching characteristics of the materials being evaluated. The survey did not ask for information about tests that may be necessary to determine, or document, physical characteristics or engineering properties needed for some beneficial use approvals. Test methods provided as examples in the survey were: 1) total metals and organics analyses; 2) leaching procedures including EPA Methods 1311 (Toxicity Characteristic Leaching Procedure or TCLP) and EPA Method 1312 (Synthetic Precipitation Leaching Procedure or SPLP); and 3) neutral water leaching procedure (ASTM Method D3987-06). The survey also asked if leaching tests were conducted on both metals and organic compounds.

Twenty-six of the reporting States (76 percent) require total metals testing, and 17 States (50 percent) require total organics analyses. To evaluate leaching potential, 23 States require the TCLP test, 15 require the SPLP test, and 6 require ASTM Method 3987-06. Eleven States indicated they require leaching tests for metals and 8 States require leaching tests for organic compounds.

More frequent use of the TCLP test is probably related to mandatory hazardous waste determinations. However, the SPLP test may be more appropriate for most beneficial use determinations since it simulates leaching conditions in an acid rain environment while the TCLP test simulates acid leaching conditions in a municipal solid waste landfill.

Many States also indicated that they could require additional analytical methods on a site-specific basis which would be tailored to risk evaluation or other protocols in place for waste characterization. For example, one State reported using a modified version of the ASTM 3987 Method to evaluate coal combustion by-products.

Parameters Evaluated

The survey asked for information on the chemicals that were actually tested in making beneficial use determinations. Groups of chemicals provided as examples in the survey

were: 1) primary drinking water parameters; 2) secondary drinking water parameters; 3) volatile organic compounds; 4) semi-volatile organic compounds; 5) specific metals; and 6) other parameters.

Nineteen of the reporting States (56 percent) require testing for the primary drinking water parameters and 13 States (38 percent) require testing for secondary drinking water parameters. Sixteen States (47 percent) specifically ask that volatile organic compounds be evaluated and 15 (44 percent) require the evaluation of semi-volatile organic compounds. Metals are required for analysis by at least 18 States. These metals usually include the 8 metals listed in the TCLP test. However the States also listed many other metals that are often of concern such as: zinc, copper, thallium, vanadium, aluminum, boron and cobalt.

Many States also indicated that they could require additional testing and analytical methods on a site-specific basis that were tailored to risk evaluation or other protocols in place for waste characterization. States typically test for constituents suspected of being present in the material, including but not necessarily limited to: pathogens, dioxins and furans, nitrates/nitrites, cyanides, sulfates, chlorides, total petroleum hydrocarbons, total kjeldahl nitrogen, organic nitrogen, polychlorinated biphenyls, and organochlorine pesticides. Some States also use methods to characterize application rates as outlined by 40 Code of Federal Regulations Part 503.

Risk Assessment and Other Forms of Evaluation

Using risk assessments or an established risk level for human or ecological receptors can be an important part of beneficial use determinations. Based on the survey, 27 of the reporting States (79 percent) use some level of risk assessment as part of their approval process. Thirteen States indicated that risk-based evaluations were used consistently in beneficial use determinations, 13 also responded that such evaluations were not used consistently, and seven responded that such evaluations were not used at all. Rather, these seven States used more informal processes such as comparing analytical results of the waste with drinking water standards, background soil concentrations and Superfund cleanup objectives. The risk evaluation process is just one method available to consider whether a proposed use of waste is harmful to the environment or threatens public health, safety or welfare.

Based on the results, thirteen States indicated they made risk determinations on a case-by-case basis. The most commonly-used risk level reported by eight States was a $1x10^{-6}$ excess cancer risk; however, the survey did not distinguish whether this risk level was based on a single substance or on cumulative effects of all constituents. Two States responded that they used a $1x10^{-4}$ excess cancer risk level and one State reported using a $1x10^{-5}$ excess cancer risk level. Five States reported using other risk levels (e.g., hazard index less than 1; $5x10^{-6}$ excess cancer risk). Four States reported using ecological health risks in their beneficial use evaluations.

Evaluating "Toxics Along For The Ride"

Some method of evaluating or quantifying the benefit derived from a proposed use of waste is generally made by a majority of States and is typically based on suitable physical, chemical, or agronomic properties of the waste or by-product. States also use a variety of mechanisms to assess "toxics along for the ride", i.e., undesirable constituents in materials that do not have a specific chemical or physical purpose in the beneficial use being evaluated. Sixteen States look at "toxics along for the ride" on a case-by-case basis. Sixteen of the States also reported having specific standards to limit the concentrations of some constituents. Nine States limit toxics in beneficial use approvals based on other toxicity benchmarks and nine also use cleanup rules or a risk evaluation process to look at undesirable constituents.

Sham Recycling

Reporting States also are concerned about "sham recycling", i.e., whether the beneficial use process could be misused by applicants to garner approvals for activities that do not legitimately constitute beneficial use. States use a variety of requirements to avoid this problem, such as:

- limits on waste stockpile volumes or storage times (76 percent);
- documentation of end markets (65 percent);
- evaluation of the role or purpose of the material in the proposed application (62 percent);
- comparison with use of an analogous raw material (53 percent);
- performance criteria or technical specifications (50 percent);
- provision by applicant of market information (38 percent); and
- mandatory turnover of a certain volume of BUD material stockpiled into an approved process (32 percent).

D. Compliance and Enforcement

Two questions in the survey focused on the compliance and enforcement aspects of beneficial use projects. These questions were expanded from the first survey to obtain more details on compliance and enforcement problems, if any, associated with beneficial use approvals and to clarify the processes used by the States.

For the reporting States, 17 indicated they require the generator to prepare reports on the wastes being used or evaluate if the wastes are being used in accordance with their respective approvals. Fourteen of those States required the reports or evaluations be submitted to the State. Sixteen of the States indicated they do not require reporting in their beneficial use approvals.

The survey also asked States if they "occasionally require" groundwater or other environmental monitoring at their beneficial use sites to ensure protection of human health and the environment. Of the 34 responding States, 21 (62 percent) indicated

they do not require any groundwater or environmental monitoring at locations where the wastes are beneficially used. Thirteen States do require some form of monitoring.

In order to determine what kinds of follow-up, if any, are performed, the States were asked if they had any inspection or enforcement processes used to ensure compliance with the requirements of their beneficial use approvals. Twenty of the responding States (59 percent) indicated they did have an established process in place. Of those 20 States, it appears that approximately 12 of them conduct routine inspections of the beneficial use projects. Of the 14 States that did not have an inspection or enforcement process, 13 indicated they did respond to complaints or when they were made aware of any improper uses of the wastes. One State reported that it sometimes did inspection and sometimes not depending on the circumstances. So in effect, 33 of the reporting States have some form of inspection or enforcement method in place. Examples of the types of compliance processes which were reported are:

- routine inspections are conducted when the beneficial use approvals are associated with specific solid waste permits;
- routine inspections to evaluate approved beneficial uses;
- inspections conducted for specific wastes such as coal ash;
- one inspection or more per year unless needed more frequently due to complaints;
- periodic, unannounced inspections and record reviews at waste generation sites; and
- inspections prompted by complaints.

The survey also asked States to identify the types of compliance issues they have experienced with their beneficial use approvals. Twenty-nine of the reporting States indicated some form of compliance issues with at least one or more of their beneficial use approvals. For the reporting States at sites having compliance problems, the following types of issues were identified:

- the conditions or requirements of the approval were not being followed (63 percent);
- waste or product material is accumulated speculatively (59 percent);
- use of wastes in non-approved applications (44 percent);
- use of wastes resulted in adverse impacts to surface or groundwater quality (29 percent); and
- adverse impacts to air quality (24 percent).

In addition to these compliance problems, States identified other special concerns. For example, Massachusetts described a problem called “product creep” which occurs when the specifications of the product being used no longer match the specifications of the product identified in the beneficial use approval. This change in the actual product characteristics from what was originally approved is a concern for future uses. Also, New Hampshire stated they have decided to ban the use of construction and demolition debris fines for daily cover at their landfills. They believe the sulfur content of the

gypsum wallboard in the fines is contributing to unacceptable hydrogen sulfide (H_2S) odor problems at their landfills.

The number of beneficial use approvals that have been revoked in reporting States during the life of their beneficial use programs appears to be from 30 to 38 approvals. Thirteen States reported having no revocations. The maximum number was seven in the State of New York. Other States reporting revocations were Pennsylvania with six, up to five in Maryland, North Carolina and Texas, two in Kansas, Missouri and Wisconsin and one in Iowa, Rhode Island and Tennessee. With the exception of New York, those States with five or more revocations have a formal inspection and enforcement process in place. But New York does require generator reporting, reviews reports and responds to complaints. Reasons for revocations include:

- nuisance complaints;
- failure to follow terms of the beneficial use approvals;
- excessive application rates of the waste material;
- using the material in unapproved locations or applications;
- improper storage of the material or speculative accumulation; and
- falsifying records.

From the data submitted, it is clear that there is a potential for compliance issues with beneficial use projects. Since beneficial use requests often involve diverting wastes from a relatively secure disposal facility into locations where there may be the potential for a release or exposure to one or more contaminants, tracking the compliance status of these projects remains an important consideration.

E. Comparison to the April 2000 Report

While 19 States reported there had been no significant changes in their beneficial use programs since the 2000 Report was prepared, 20 of the reporting States indicated there had been major changes or new trends in their programs. Washington reported they have revised their regulations to include a process for applicants to request being exempt from permitting for some beneficial uses. Massachusetts indicated they performed a complete redesign of their beneficial use process. Both Minnesota and Mississippi have adopted new regulations for beneficial use programs. Other reported changes included:

- revised screening levels/limits for certain chemicals;
- increased beneficial use of Resource Conservation Challenge related materials such as coal combustion byproducts, foundry sand and construction/demolition material as fill; and
- changes in beneficial use definitions to allow land use.

Since the 2000 Report, Michigan attempted rule changes that would have allowed for self-implementing, beneficial use of some industrial byproducts and would have changed the allowable risk level for beneficial uses from $1x10^{-6}$ to $1x10^{-5}$. These rule

changes did not occur, however, due to generator liability issues and concerns over relaxing the allowable risk level.

In 2000, 52 percent of the reporting States indicated that once a material was approved for beneficial use it was exempt from further solid waste regulation. In 2006, that percentage increased to 79 percent. While not evaluated in the 2000 Report, 71 percent of States reporting in 2006 indicated that materials cease to be considered waste when used beneficially.

Some aspects of beneficial use programs have not changed significantly. Only one more State reported having a formal or informal beneficial use program. The number of States charging a beneficial use application fee were less than 15 percent in 2000 but increased to 21 percent in 2006. Determining human or ecological risk and staff resources continue to be the most significant barriers to beneficial use.

Overall, the 2006 Report indicates that beneficial use is increasing primarily for coal combustion byproducts, foundry sands and construction and demolition debris. While State programs have improved, risk assessment concerns and staff limitations continue to be problematic.

III. Summary and Recommendations for Task Force Follow-Up

This second survey was designed to gather information about the status and nature of State and Territorial programs for making determinations about proposals for beneficial use of non-hazardous, industrial solid wastes. It was intended to be an update of the first survey report which was completed by the ASTSWMO Task Force in April 2000. A total of 40 States, but no Territories, responded to this second survey. Of these States, 34 have a formal or informal program or process for dealing with requests for beneficial use. The responses of these 34 States are the basis for all statistical comparisons in this report.

The range of experience with beneficial use programs for these States ranged from about three to more than 25 years, which is greater than the estimated experience level from the first survey. The maximum reported time by States to review complex requests dropped from 1440 hours in the first survey to 800 hours. It appears States are gaining more experience in dealing with beneficial use determinations.

States reported that they have considered beneficial use requests for at least 67 different waste types, and beneficial use appears to be increasing primarily for coal combustion byproducts, foundry sands and construction and demolition debris. While the underlying authority for evaluating these requests varies from State to State, there seems to be a trend towards States adopting regulations. The greatest barrier to issuing approvals for beneficial use of wastes continues to be the lack of sufficient information to evaluate the risk to human health and the environment. While the amount of available information has increased, it appears that more work is still needed

to collect, compile and publish data which will help regulators make decisions on beneficial use requests. The second greatest barrier for States is the lack of staff resources to review the beneficial use requests. States are continuing to experience staffing and funding shortages. With the increased desire by generators to beneficially use more wastes, these shortages experienced by States will continue to be a significant difficulty.

More States are now listing materials that are exempt from regulation and require no formal approvals. An increased number of States are also indicating that when a material is approved for beneficial use it is no longer regulated as a solid waste provided it is used in accordance with the approval.

When evaluating beneficial use proposals, States continue to place protection of human health and the environment as the most important consideration. However, only 38 percent of the responding States indicated that risk-based evaluations were used consistently in beneficial use determinations. The most commonly-used risk level reported by the States was a $1x10^{-6}$ excess cancer risk. It is clear that there continues to be difficulty for States to determine what are the true expected excess risks associated with proposed uses of some wastes.

Beneficial use proposals must also not simply be sham recycling or a disguised form of waste disposal. Proposing uses of wastes either as effective substitutes for similar raw materials or by chemically binding them in materials like cement, concrete or asphalt seem to be the preferred practices by responding States. Having sufficient information on the chemical and physical characteristics of the wastes continue to be the most important data component to beneficial use decisions. Chemical characterizations of the wastes usually involve total analyses and leaching analyses (using the TCLP or SPLP test methods) for metals and organic compounds that are likely to be in the wastes.

In spite of the staff shortages, some States are making efforts to conduct follow-up inspections for beneficial use projects. Approximately 20 States indicated they have some sort of inspection or enforcement process to evaluate these projects. Unfortunately, 29 of the reporting States also indicated they have experienced compliance problems with one or more of the projects they approved for beneficial use. The most common problems were that users were not complying with the terms of the approvals or were accumulating the wastes "speculatively." In some cases, uses of the wastes have resulted in adverse impacts to groundwater, surface waters or air. As a consequence, at least 30 beneficial use approvals have been revoked by reporting States.

It is clear to the ASTSWMO Task Force that beneficial use proposals need to be closely reviewed prior to granting approvals, and that a greater level of follow-up may be necessary to ensure compliance with the conditions or the approvals. The Task Force is also concerned that the occurrence of significant non-compliance problems could hinder approvals of future beneficial use projects. It is incumbent upon generators and

users of wastes for beneficial use projects that the materials are beneficially used in accordance with the terms of their approvals.

Recommendations for Task Force Follow-Up

As was done for the April 2000 survey, this second survey included a question for States that do not have an existing program to identify what would be their greatest needs to help them establish one. For the five items identified in the survey, their order of importance for the reporting States was as follows:

1st access to lists of materials approved for beneficial use by other States;
2nd the background information or criteria used to make specific determinations;
3rd models of existing programs;
4th lists of State program staff contacts; and
5th suggestions for overcoming barriers.

In addition to ranking these items, some States without beneficial use programs indicated it would be helpful to have case studies of approved beneficial use programs and model rules or guidance for establishing programs.

One of ASTSWMO's objectives is to facilitate the exchange of information among peers in State and Territorial waste management programs. Based on the results of this survey, a roundtable discussion on preliminary results of this survey at the 2007 ASTSWMO State Solid Waste Managers Conference, and other feedback, the Task Force makes the following recommendations:

1) Continue and Increase Data Collection

The Task Force recommends that ASTSWMO, States and Territories and waste generators continue to collect data on waste characterizations and environmental impacts, if any, of wastes that are beneficially used. This information needs to include an assessment of potential human health risks in the proposed uses. Having this information will help speed up the beneficial use determination process for regulators. In some cases, waste specific and use specific research may be needed.

2) Assist Other Organizations that Are Developing Guidance

The Task Force recommends that ASTSWMO continue to work with EPA and other organizations to provide input to the development of guidance documents for beneficial use. The experiences provided by States and Territories can contribute to the development of more workable final products.

3) Increase Communication Among States and Territories

The Task Force recommends that ASTSWMO and other appropriate entities facilitate communication and information exchange between States and Territories regarding beneficial use of non-hazardous, industrial solid wastes. Good communication between States and Territories in a geographic area, especially those with common borders, is very important to long-term, successful implementation of beneficial use programs. This communication could take the form, for example, of scheduled regional conference calls or meetings to exchange information and develop working relationships.

4) Make Existing Information More Readily Available

The Task Force specifically recommends that existing State Web sites, with links made directly through the ASTSWMO Web page, be used to post existing information about beneficial use programs and processes. This would be an important step towards making information more readily available and should result in saving time and resources for program implementation. Working with organizations like the Northeast Waste Management Officials' Association (NEWMOA), which is developing a beneficial use database for States, can also be very helpful in sharing information.

Table 1
List of Responding States in 2006 and 1999

STATE	RESPONDED TO 2006 SURVEY	RESPONDED TO 1999 SURVEY
Alabama (AL)		X
Alaska (AK)	X	X
Arizona (AZ)	X	X
Arkansas (AR)		
California (CA)		X
Colorado (CO)	X	
Connecticut (CT	X	X
Delaware (DE)		X
District of Columbia (DC)		
Florida (FL)	X	X
Georgia (GA)		X
Hawaii (HI)	X	X
Idaho (ID)	X	
Illinois (IL)	X	X
Indiana (IN)	X	
Iowa (IA)	X	X
Kansas (KS)	X	X
Kentucky (KY)	X	X
Louisiana (LA)		X
Maine (ME)	X	X
Maryland (MD)	X	
Massachusetts (MA)	X	X
Michigan (MI)	X	X

STATE	RESPONDED TO 2006 SURVEY	RESPONDED TO 1999 SURVEY
Minnesota (MN)	X	X
Mississippi (MS)	X	X
Missouri (MO)	X	X
Montana (MT)	X	
Nebraska (NE)	X	X
Nevada (NV)		X
New Hampshire (NH)	X	X
New Jersey (NJ)	X	X
New Mexico (NM)		
New York (NY)	X	X
North Carolina (NC)	X	X
North Dakota (ND)	X	
Ohio (OH)	X	X
Oklahoma (OK)	X	X
Oregon (OR)		
Pennsylvania (PA)	X	X
Rhode Island (RI)	X	X
South Carolina (SC)		X
South Dakota (SD)	X	X
Tennessee (TN)	X	X
Texas (TX)	X	X
Utah (UT)	X	X
Vermont (VT)	X	X
Virginia (VA)	X	X
Washington (WA)	X	X

STATE	RESPONDED TO 2006 SURVEY	RESPONDED TO 1999 SURVEY
West Virginia (WV)	X	
Wisconsin (WI)	X	X
Wyoming (WY)	X	X
American Samoa (AS)		
Guam (GU)		X
Puerto Rico (PR)		
Virgin Islands (VI)		
N. Mariana Islands (MP)		X

Table 2
State Beneficial Use Web Sites

Does your State/Territory have information regarding beneficial use available on the Internet?

STATE	BENEFICIAL USE INFORMATION ON STATE WEB SITE		
	YES	NO	WEB SITE ADDRESS
CT	X		www.dep.state.ct.us/wst/beneficialuse/beneficialuseindex.htm
FL	X		www.dep.state.fl.us/waste/categories/solid_waste/default.htm
HI		X	
ID		X	
IL		X	
IN		X	
IA		X	
KS		X	
KY	X		Solid Waste Beneficial Reuse PBR Application Form: http://www.waste.ky.gov/forms/Solid+Waste+Forms.htm Special Waste Beneficial Reuse Registered PBR Application Form: http://www.waste.ky.gov/forms/Solid+Waste+Forms.htm
ME	X		http://www.maine.gov/dep/rwm/solidwaste/beneficialuse.htm http://useit.umaine.edu/
MD	X		http://www.mde.state.md.us/Programs/LandPrograms/Recycling/index.asp
MA	X		www.mass.gov/dep
MI	X		http://www.michigan.gov/deq/0,1607,7-135-3312_4123---,00.html
MN	X		http://www.pca.state.mn.us/waste/sw-utilization.html
MS	X		www.deq.state.ms.us (at the opening web page, click on “solid waste” from the list of key topics)
MO		X	
MT		X	

STATE	BENEFICIAL USE INFORMATION ON STATE WEB SITE		
	YES	NO	WEB SITE ADDRESS
NH	X		http://des.nh.gov/sw/waste_derived.htm
NJ	X		http://www.state.nj.us/dep/dshw/permitting.htm
NY	X		http://www.dec.ny.gov/chemical/8821.html
NC	X		Rules for beneficial use of coal combustion byproducts: www.wastenotnc.org/swhome/17rul.htm Although by statute Recovered Material does not usually require State approval, there is information of the types of material recovered from the waste stream and markets for those materials at www.p2pays.org
ND	X		www.ndhealth.gov/wm/ documents/Guideline11AshUtilizationForSoilStabilizationFillerMaterialsAndOtherEngineeringUses.pdf
OH			http://www.epa.state.oh.us/dsiwm/
OK		X	
PA	X		http://www.depweb.state.pa.us/landrecwaste/cwp/view.asp?A=1239&Q=463067 http://www.depweb.state.pa.us/landrecwaste/cwp/view.asp?A=1239&Q=462836
RI		X	
SD		X	
TN		X	
TX	X		www.tceq.state.tx.us
VA		X	
WA	X		http://www.ecy.wa.gov/programs/swfa/bud/
WV		X	
WI	X		http://dnr.wi.gov/org/aw/wm/solid/beneficial/index.html
WY		X	

Appendix A

Questions and Answers Provided with the Survey

Questions And Answers Provided With The Survey

The Questions and Answers document was included as an attachment to the 2006 Beneficial Use Survey. It was initially developed for the 1999 Beneficial Use Survey by the ASTSWMO Beneficial Use Task Force to provide answers to some typical questions which the Task Force members believed might be asked by individuals completing the survey form. Definitions were developed by Task Force members for purposes of this survey.

Q1. What wastes are targeted by this survey?

A. This survey is intended to gather information on the beneficial use of non-hazardous, industrial solid wastes and construction and demolition debris. These waste types would normally be large-volume wastes or by-products from industrial, commercial or manufacturing operations which would normally be disposed in landfills if not recycled or used in some fashion. This survey does not address waste materials which are typically recycled such as aluminum, glass, plastic, metal and paper or mulch and compost produced from vegetative wastes. Examples of waste types intended to be addressed by this survey are listed in Survey Question #23.

Q2. What is the meaning of "Beneficial Use" (BU) of a waste?

A. Beneficial Use implies that there must be some benefit to diverting what was previously considered waste from a landfill or other disposal facility for use in another location or application. In general, for a waste to be used beneficially it must have chemical or physical properties similar to the raw material it is replacing or, when incorporated into another product, its use must have some enhancing qualities to the final product which would distinguish that use from disposal. Also, beneficial use of a waste must not be expected to result in adverse affects to human health or the environment. While there may be considerable confusion over when use of a waste is truly beneficial, the beneficial use of a waste would typically have one or more of the following characteristics: (1) used in a manufacturing process to make a product; (2) used as a substitute for a raw material or with other materials in a construction project; or (3) used as a substitute for a commercial product.

Q3. What is the meaning of "Beneficial Use Determinations" (BUDs)?

A. Beneficial Use Determinations refer to the decisions made by the reviewing agency to approve or deny beneficial uses proposed by an applicant. The BUD will normally be based upon the information and demonstrations provided by the applicant as well as the policy criteria used by the reviewing agency to evaluate

the proposed beneficial use. Some typical policy criteria used by the reviewing agency when making BUDs are shown in Survey Question #9.

Q4. What is the meaning of "toxics along for the ride"?

A. Typically, a high percentage of the volume of waste constituents will contribute to or are a necessary part of the proposed beneficial use. The phrase "toxics along for the ride" refers to contaminants in a waste, other than the main constituents, which may be in sufficiently high concentrations to pose a potential threat to human health or the environment if the waste is not properly managed.

Q5. What is the meaning of "sham recycling"?

A. American Heritage Dictionary says a sham is "something false or empty that is purported to be genuine; a spurious imitation." Thus, sham recycling is when someone uses the concept of "recycling" as a decorative cover to sell or convince others that a waste material has a legitimate application and true value when in fact it does not. In these cases, the "recycled waste" has little or no market or value and sometimes its use may result in adverse environmental impacts.

Q6. What should I do if I do not know how to answer a Survey Question?

A. The Task Force realizes there will be significant differences in interpretation and program structures between different States and Territories which may lead to difficulties in completing the Survey. The Task Force requests that you try not to leave any questions blank. Rather, you are encouraged to call or e-mail your Regional Task Force member for clarification, or make your best attempt to guess or estimate an answer that would reflect the activities of your program.

Q7. What is the meaning of the word "request" when used in the survey such as in Survey Question #23?

A. Beneficial use requests can be made formally, in writing, or informally, as a verbal request. For the purposes of this survey, a beneficial use request can be verbal or written if its result is to require the reviewing agency to evaluate the request and make a beneficial use determination. General inquiries about possible beneficial uses of waste materials would not normally be counted as requests unless the reviewing agency was obligated to conduct further evaluations of the proposed beneficial use.

Q8. How can you approve waste being diverted from a landfill and still protect the environment?

A. In the past, the safest and easiest way to handle a non-hazardous industrial waste was assumed to be disposal of this material in a secure landfill. Some States also have approved the beneficial use of waste materials in a landfill as alternate grading material, daily cover, leachate collection systems, etc. Beneficial Use Determinations are often challenging because the use of a waste may pose a greater risk to human health or the environment than the risk that would be expected from disposal. Good policy judgments and technical evaluations are necessary to make these decisions. ASTSWMO wants to help equip programs with the best available information. The two over-riding principles for making these determinations are: (1) that beneficial use decisions should always maintain what your State or Territory chooses as an acceptable level of risk; and (2) that the approved waste uses are protective of human health and the environment.

Appendix B

List of Wastes Evaluated for Beneficial Use Requests and Uses

WASTE TYPE	HAVE YOU RECEIVED A BENEFICIAL USE REQUEST?		
	YES	NO	SPACE LEFT BLANK
Auto Shredder Residue	FL, KY, MD, MA, MI, MS*, NH, NJ, NY, ND, OK, TN, TX, VA, WI	CT, HI, IL, IN, IA, KS, ME, MN, PA, SD, WA, WV, WY	MT, NC, OH, RI
Cement Kiln Dust	FL, ID, IL, IN, KY, ME, MD, MI, MS, NJ, NY, PA, TN	CT, IA, KS, MA, MN, NH, ND, SD, TX, VA, WA, WV, WI*, WY	MT, NC, OH, OK, RI
Chicken Litter	FL, KS, MD, MI, MN, PA, TX, WA	CT, HI, IL, IN, IA, KY, ME*, MA, MS*, NH, NJ, NY, SD, VA, WV, WI*, WY	MT, NC*, ND, OH, OK, RI, TN
Construction and Demolition Debris	FL*, HI, IA, KY, ME, MD, MA, MI, MN, NH*, NJ, NY, ND, OK, PA, SD, TN*, TX, VA, WI*	CT, IN, KS, MS, WA, WV, WY	MT, NC, OH, RI
Contaminated Soil	CT, FL, HI, IL, IN, KS, KY, ME, MD, MA, MI, MS, NH, NJ, NY, NC, ND, OH, OK*, PA, SD, TX, VA, WI*, WY	IA, MN, WA, WV	MT, RI, TN
Dredge Material	CT, FL, HI, KY, ME, MD*, MA, MI, NY, NC, OK, PA, TX, WI*	IL, IN, KS, MN, MS, NH, NJ, ND, SD, VA, WA, WV, WY	IA, MT, OH, RI, TN
Drinking Water Treatment Sludge:*			
- Aluminum	FL, IN, KY, MD, MA, MI, MS, NJ, NY, ND, OH*, PA, RI, WI*	HI, MN, NH, SD, TX, VA, WA, WV, WY	CT, IA, KS, ME, MT, NC*, OK, TN
- Ferric	FL, KY, MD, MI, NJ, PA, RI, WI*	HI, IN, MA, MN, MS, NH, NY, SD, TX, VA, WA, WV, WY	CT, IA, KS, ME, MT, NC*, ND, OH, OK, TN
- Lime	FL, KS, KY, MD, MI, MN, MS, NY, ND, OH*, PA, SD, VA, WI	HI, IN, MA, NH, NJ, TX, WA, WV, WY	CT, IA, ME, MT, NC*, OK, RI, TN
Gypsum Wallboard	FL, HI, IL, IN, KS, KY, MD, MA, MI, NJ, NY, NC, ND, OH*, OK, PA, TN*, VA, WI	CT, MN, MS, NH, SD, TX, WA, WV, WY	IA, ME, MT, RI
Phosphogypsum from fertilizer manufacturing	FL	CT, HI, IL, IN, KS, KY, MD, MA, MI, MN, MS*, NH, NJ, NY, ND, PA, SD, TX, VA, WA, WV, WI, WY	IA, ME, MT, NC, OH, OK, RI, TN

WASTE TYPE	HAVE YOU RECEIVED A BENEFICIAL USE REQUEST?		
	YES	NO	SPACE LEFT BLANK
Power Plants:			
- Coal Fly Ash	CT, FL, HI, IA, KS, KY*, ME, MD, MA*, MI, MN, MS, MT, NH, NJ, NY, NC, ND, OH*, PA, SD, TN, TX, VA, WV*, WI, WY	IN*, WA	OK, RI
- Coal Bottom Ash	CT, FL, HI, KS, ME, MD, MA*, MI, MN, NH, NJ, NY, NC, ND, OH*, PA, SD, TN, VA, WV*, WI, WY	IN*, IA, KY, MS, TX, WA	MT, OK, RI
- Circulating fluidized bed ash	FL, HI*, MI, MS, NY, ND, OH, PA, VA	CT, IN*, IA, KS, KY, MA, MN, NH, NJ, SD, TX, WA, WV, WI, WY	ME, MD, MT, NC, OK, RI, TN
- Flue gas desulfurization sludge	FL, KS, KY, MD, MI, MN, MS, NJ, NY, NC, ND, OH, PA, VA, WI	CT, HI, IN*, IA, MA, NH, SD, TX, WA, WV, WY	ME, MT, OK, RI, TN
Pulp and Paper Mill Wastes (all by-products)	FL, IA, KY, ME, MA, MI, MS, MT, NJ, NY, NC*, OH*, PA, TN, TX, VA, WA*, WI	CT, HI, IL, IN, KS, MN, ND, SD, WV, WY	MD, OK, RI
Railroad Ties	FL, IL, IA, MD, MI, NJ, NY, ND, OK, PA, SD, WY*	CT, HI, IN, KS, KY, MA, MN, MS, NH, VA, WA, WV, WI	ME, MT, NC, OH, RI, TN, TX
Roofing Shingles	CT, FL, IL, IN, IA, KS, ME, MD, MA, MI, MN, NH, NJ, NY, OH, OK, PA, TX, WA*, WI	HI, KY, MS, ND, SD, VA, WV, WY	MT, NC, RI, TN
Sands:			
Foundry Sand:			
- Green Sands	FL, IA, KY, ME, MD, MA, MI, MN, NY, NC, ND, OH*, OK, PA, RI, TN, TX, VA, WI	CT, HI, IN*, KS, MS, NH, NJ, SD, WA, WV, WY	MT
- Chemically-Bonded Sands	KS, MD, MA, MI, MN, NY, OH*, P'A, VA, WI	CT, FL, HI, IL, KY, MS, NH, NJ, SD, TX, WA, WV, WY	IA, ME, MT, NC, ND, OK, RI, TN
Sand Blasting Media	FL, HI, IL, IN*, KS, ME, MA, NJ, NY, OK, WI	CT, IA, KY, MD, MI, MN, MS, NH, ND, PA, SD, TX, VA, WA, WV, WY	MT, NC, OH, RI, TN

WASTE TYPE	HAVE YOU RECEIVED A BENEFICIAL USE REQUEST?		
	YES	NO	SPACE LEFT BLANK
WWTP Filter Sand	IL, KY, MA*, NJ, NY, OH	CT, FL, HI, IN, IA, KS, MD, MI, MN, MS, NH, ND, PA, SD, TX, VA, WA, WV, WI, WY	ME, MT, NC*, OK, RI, TN
Slag:			
Foundry Slag	IN, IA, MI, MS, NJ, NY, OH*, PA, TN, VA, WI	CT, FL, HI, KS, KY, MD, MA, MN, ND, SD, TX, WA, WV, WY	ME, MT, NH, NC, OK, RI
Lead Slag		CT, FL, HI, IL, IN, KS, KY, MD, MA, MI, MN, MS, NH, NJ, NY, ND, PA, SD, TX, VA, WA, WV, WI, WY	IA, ME, MT, NC, OH, OK, RI, TN
Steel Slag	IA, KY, MD, MI, MS*, NJ, NY, NC, OH*, PA, TN, VA, WI	CT, FL, HI, IN*, KS, MA, MN, NH, ND, SD, TX, WA, WV, WY	ME, MT, OK, RI
Street Sweepings	CT, FL, IN, KS, ME, MA, MT, NJ, NY, NC, ND	HI, IL, IA, KY, MD*, MI, MN, MS, NH, PA, SD, TX, VA, WA, WV, WI, WY	OH, OK, RI, TN
Stormwater Sediments	CT, FL, ME*, MD, MA*, NJ, NY, OK, TX	HI, IL, IN, IA, KS, KY, MI, MN, MS, NH, PA, SD, VA, WA, WV, WI, WY	MT, NC, (ND – N/A), OH, RI, TN
Used Cooking Oil	CT, HI, IN, MD, MA, MT, NJ, NY, ND, PA, RI, SD, TX	FL, IL, IA, KS, KY, MN, MS, NH, VA, WV, WI, WY	ME, NC, OH, OK, TN, (WA: N/A)
Waste-to-Energy (WTE) Ash	CT, FL, HI, MD, MA, MI, MS, NH*, NJ, NY, PA, TN	IL, IN, IA, KS, KY, MN, ND, SD, TX, VA, WA, WV, WI, WY	ME, MT, NC, OH, OK, RI
Wood Ash	CT, FL, KY, ME, MD, MA, MI, MN, MS, NH, NY, NC, ND, TN, TX, VA, WA*, WI	HI, IL, IN, IA, KS, NJ, PA, SD, WV, WY	MT, OH, OK, RI
Waste Tires	CT*, FL, HI, ID, IN, IA, KS, KY, ME, MD, MA, MI, MN, MS, MT, NY, ND, OH, OK, PA, SD, TN*, TX*, VA, WA*, WI, WY	NJ, WV	NC, RI
Other:			
Scrubber residue from brick manufacturing	CT		

WASTE TYPE	HAVE YOU RECEIVED A BENEFICIAL USE REQUEST?		
	YES	NO	SPACE LEFT BLANK
Glass (Hg)	CT		
Industrial sludges and filtercake	CT		
Vegetative Hurricane Debris	FL		
Unleaded Glass (IA)	IA		
Lime Kiln Dust (IA, OH)	OH		IA
Multi-Fuel Ash (ME)	ME		
Clean Wood Waste (ME)	ME		
Lime Mud (ME)	ME		
Blood/Fish Wastes (ME) **Fish and Shellfish Wastes** **Poultry Ofal** **Food Wastes**	ME		
Mixed Glass Cullet (MA)	MA		
Fish Wastes (MI)	MI		
Manure, Paunch and Pen Wastes (MI)	MI		
Industrial Sludges (MI)	MI		
Crushed Egg Shells from processor (MS)	MS*		
Vegetative Debris Ash from burning hurricane debris (MS)	MS		
Waxed Cardboard (NY)	NY		
Shell (NY)	NY		
Coal Tar (NY)	NY		
Wood Waste (NY, NC)	NY, NC		
Concrete, rock, bricks, gravel, uncontaminated soil (NC)			NC
Cement Siding (NC)	NC		
Porcelain (NC)	NC		
Tobacco Dust (NC)	NC		
Ag Processing Waste (NC)	NC		

WASTE TYPE	HAVE YOU RECEIVED A BENEFICIAL USE REQUEST?		
	YES	NO	SPACE LEFT BLANK
WWTP Sludge Ash (OH)	OH		
Manufactured Stone/Concrete (OH)	OH		
Fines contaminated with TPH from a waterway marine terminal recycling operation (VA)	VA		
Vegetative Waste (VA)	VA		
Silica-based byproduct from bronze casting (VA)	VA		
Food Processing Wastes (WA)	WA		
Glass (WI)	WI		
Blast Furnace Slag (WI)	WI		

NOTES:

AK, AZ, CO, NE, UT, VT: Did not complete survey past Question 6 – the rest of the survey is N/A. MO indicated they did not have the staff to complete this portion of the survey.

CT: Waste Tires/Tire Chips

FL: For recovered screened material.

HI: Mixed with fly ash as conditioned ash.

ID: Idaho's BUD involves either waste tires or alternative daily cover at MSWLFs.

IL: Construction and Demolition Debris: No approval needed. Authorized uses specified in Sec. 3.160 of Illinois Environmental Protection Act.

Drinking Water Treatment Sludge: Drinking Water Sludge application authorized by Bureau of Water Permit.

Power Plants: Uses authorized in Sec. 3.135 of Illinois Environmental Protection Act. Currently reviewing first request for use of fly/bottom ash as structural fill in a manner that is not authorized in the statute.

Foundry Sand: Beneficial use of foundry sand is subject to 35 IAC 817. No formal process for approval of beneficial use is in place.

Slag: Beneficial use of foundry slag is subject to 35 IAC 817. No formal process for approval of beneficial use is in place.

IL (cont.):

Waste Tires: Tires are regulated under Title XIV of the Illinois Environmental Protection Act. No formal BUD process is in place.

IN: Coal Fly Ash, Coal Bottom Ash, Circulating fluidized bed ash, and Flue gas desulfurization sludge: No – covered under IN statute; IDEM cannot approve or deny.

Foundry Sand, Chemically-Bonded Sands: No - covered under statute; no IDEM approval needed.

Steel Slag: No – covered under IN statute; IDEM cannot approve.

Sand Blasting Media: One request – no follow-up on request for additional information.

IA: For complete Beneficial Use Project List, see Iowa Administrative Code 567 Chapter 108.4, others may include Solid Waste Composting Chapter 105, Tires Chapter 117.8, Landfarming Petroleum Contaminated Soil Chapter 120, Land Application of Waste Chapter 121.

KY: Coal Fly Ash: A structural fill where the owner or operator wanted written approval.

ME: Chicken Litter: An agriculture waste, therefore not regulated if not creating a problem.

Stormwater Sediments and Car Wash Grit.

MD: Dredge Material: Dredge spoils are not considered a waste, but contaminated dredge spoil is regulated.

Street Sweepings: Due to litter content, it is considered solid waste.

MA: Coal Fly Ash, Coal Bottom Ash: Coal ash is statutorily exempt if used in or as raw material for concrete block manufacture, aggregate, fill, base for road construction, or other commercial or industrial purpose, or stored for such use.

WWTP Filter Sand: Yes, normally it is mixed with drinking water treatment residuals.

Stormwater Sediments: Yes (called catch basin cleanings or CBC).

MS: Auto Shredder Residue: For landfill cover.

Chicken Litter: These are exempt from solid waste regs in Mississippi already.

Phosphogypsum from fertilizer manufacturing: Restricted by Federal NESHAPs.

Steel Slag: Under review to use as road aggregate.

Crushed Eggs Shells from Processor: Under review.

NH: C&D Fines

Pulp and Paper Mill Wastes: Not solid waste – by rule.

Waste-to-Energy Ash: R&D only.

Waste Tires: By rule.

NC: Pulp and Paper Mill Wastes: "Lime Mud"

Chicken Litter: Division of Water Quality

OH: Aluminum: "Yes?"

OK: Contaminated Soils: Yes for Petroleum-contaminated Soils.

Drinking Water Treatment Sludge: Yes, as alternative daily cover at landfills.

TN: C&D: screened residuals

Gypsum Wallboard: crushed

Waste Tires: processed into chips

TX: Waste Tires: chipped

WA: Pulp and Paper Mill Wastes: Application for use of boiler ash returned due to lack of needed info.

Roofing Shingles: Need for a BUD is currently under discussion.

Foundry Sand (general category): Not yet but expect one to arrive soon. Proposing structural fill value.

Wood Waste: See response to Pulp and Paper Mill Wastes.

Waste Tires: Application set aside because of conflicting regulatory interpretations and change in business plans by applicant.

WV: Coal Fly Ash and Coal Bottom Ash: No responses filled in to the questions about uses.

WI: Cement Kiln Dust: Don't have in Wisconsin.

Chicken Litter: Land applied under wastewater permit.

C&D Debris: Approvals are issued under Recycling Group for dry wall, wood, shingles, concrete.

WI (cont.):

Contaminated Soils: Approval issued under State statutes case-by-case.

Dredge Material: Approval issued under State statutes.

Drinking Water Treatment Sludge (general category): Approval issued under Land Application NR 18 Code
-- Aluminum: Under Recycling Group
-- Ferric: Approved under wastewater permit.

WY: Railroad Ties: But nothing formal.

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Auto Shredder Residue	Cover: (FL) Landfill initial cover (KY, MD, MA, MI, NH, NY, TN, VA, WI) Alternate Daily Landfill Cover Liquid Solidification: (MI) Liquid solidification in licensed landfill. (TX) Liquid waste solidification Other: (MS, NJ) None	(WA) Approved in a few cases as alternative daily cover in facility permitting process (WI) Landfilling (KY, MS, NJ, NY, VA) None	(MS, ND, OK) Landfill cover (ND) Landfill drainage material (VA) Do not approve use of Auto Shredder Fluff as ADC – only Auto Shredder Silt (KY) None (NJ) N/A
Cement Kiln Dust	Liming Material: (MD, MI, PA) Liming agent (NY) Ag liming agent (TN) Ag lime substitute Stabilization: (ME, MI) Soil stabilization (IN) Soil stabilization in poor quality soils subsequently used in structural fill applications (PA) Sludge stabilization; Sub-grade stabilizer Other Soil Uses: (ME) Soil drying agent (MI) Soil solidification Other: (KY) Road base	Cement: (FL) Manufacture of cement (IA) Raw material in cement Other: (ID) MSWLF Alternative Daily Cover (IA) Raw Material in Absorbants; Sub-base for road construction; Soil Amendment (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (ME) Possibly as flowable fill (MD) Can be used without separate site approval if the material has been approved	(KY, MS) None (NJ) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(MI) Waste solidification, stack scrubbing agent (NJ) Mix with dredged material (NY) Asphalt filler (PA) Construction material (IL, MS) None	as a soil amendment by Maryland Department of Agriculture. (MS) Contained Solidification within a lined landfill for liquid wastes (IN, NJ) None	
Chicken Litter	Compost: (MI) Produce compost with scrap wood (TX) Compost ingredient Fertilizer: (MD) Fertilizer (MN) Use incinerated turkey litter in the production of fertilizer. Fuel: (MD, PA) Fuel Land Application: (KS) Land application (ND) Land application - fertilizer Other: (WA) Production of mushroom substrate (KY) Not applicable	Compost: (IA) Compost amendment (TX) Compost ingredient Fertilizer: (KY) Law allows use as fertilizer amendment and it is not a solid waste (MD) Can be used as fertilizer. We recommend use of a Nutrient Management Plan. (ND) Fertilizer Other: (IA) Soil amendment (WA) Land application at agronomic rates	(FL) Mixing with coal fly ash and short paper fiber to make "artificial soil" (KY) Not Applicable, since we do not regulate it when applied to the land.

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Construction and Demolition Debris	C&D Fines/Residuals: (MA) C&D Fines-Alternative Daily Cover Material & grading and shaping material; C&D residuals-grading and shaping (NH) Alternate Daily Cover with 50/50 mix of sand (this is re: C&D Fines) Cover: (MD) Shredded, as daily cover at MLFs (NY) Landfill daily cover (TN, VA) Alternate Daily Cover Fill: (IA) Fill material (FL) Fill material pending analytical results (SD) Fill material (concrete and brick only) (HI) Clean, uncontaminated concrete w/no rebar and cured asphalt may be crushed for use as general fill (inert fill) (KY) Structural Fill for concrete, asphalt, etc. (ND) Structural fill (TX) Man-made inert as fill Fuel: (ME) Fuel substitution (MI) Scrap wood as fuel Other: (MI) Drywall as soil additive or in compost (NJ) Landfill uses	Aggregate: (MN) Glass and porcelain fixtures as aggregate; Recycled concrete, asphalt, and brick as aggregate (NY) Recognizable, uncontaminated concrete and concrete products, asphalt pavement, brick, glass, soil, and rock as conventional aggregate (ND) Ground concrete and asphalt as aggregate Fill: (MA) Asphalt, brick &concrete (ABC) - can be used on-site if it is non-coated or brought to processing facility and used as fill material. (OH) Clean hard fill as fill material (SD) Fill material (concrete and brick only) (TX) Man-made inert as fill (concrete, imbedded rebar, aged asphalt) Other: (FL) Initial cover at landfills and C&D disposal facilities (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (MN) Unadulterated wood as animal bedding; Uncontaminated glass as sandblast agent; Latex paint in the production of ASTM specialty cement	Fill: (FL) Fill in water bodies or wetlands (KY) Wood or paper is not approvable as structural fill. No hazardous materials. (SD) Fill material other than concrete and brick Other: (VA) Limits on wood and sulphate (wallboard) content (NJ) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(SD) Erosion control (ND) Ground concrete and asphalt as aggregate (OK) Grinding sheetrock and unused lumber to spread on site at home construction sites and use of brick, shingles and mortar to be used under driveways at home construction sites—approval given to the grinding contractors to enter into contracts with home builders. (VA) Recognizable, uncontaminated concrete and concrete products, asphalt pavement, brick, glass, soil, and rock used as a substitute for aggregate; Unadulterated wood (PA) Construction material; Construction wood as mulch; Concrete/asphalt production (TX) Chipping, mulching, compost	(SD) Erosion control (WA) Ground clean wood waste and "wood derived fuel" as hogged fuel, mulch (NJ, VA) None	
Contaminated Soil	Asphalt: (ME) Asphalt aggregate (IN) Addition to asphalt mix Cover: (FL) Landfill initial cover	Backfill: (NY) Backfill on same site (VA) §9 VAC 20-80-150.E.2.(4) - Nonhazardous, contaminated soil which has been excavated as part of a construction project and which is used as backfill for the same excavation or excavations containing	Fill: (KY) Structural Fill; ADCM when benzene is above 1 ppm. (MD) Excessive concentrations cannot be used as fill.

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(MA, MI, TX, VA) Alternative Daily Cover Material (KY) Alternate Daily Landfill Cover below 1 ppm benzene. (MD): Daily, intermediate, and final cover at MLFs (SD) Daily cover at MSWLFs dependent upon the contaminant (HI) Daily cover (landfills), depending on concentration of contaminants (ND, WY) Landfill cover (NC) Petroleum-contaminated soil as landfill cover Fill: (MD, NJ, NY, ND) Fill (HI) General fill, waste filling, depending on concentration of contaminants (IN) Structural fill under asphalt paved surface for petroleum contaminated soil (OH) Engineered fill material? Roads: (MT) Subgrade for roads or parking lots (NY) Road sub-base (OK) Underlay for roads to be paved with concrete or asphalt (WY) Roads and road base Other: (ME) Cement production (KS) Landfarm then use	similar contaminants at the same site, at concentrations at the same level or higher. Excess materials from these projects are subject to the requirements of this chapter. Fill: (IA) Remediated Petroleum Contaminated Soil – Fill Material Cover: (IA, KY) Alternate Daily Landfill Cover (for KY, see 401 KAR 48:090, Section 3(1)(a)). (MA) Use at cover at landfills if it meets pre-set standards. (MS) Landfill cover in MSW landfill Other: (NY) Conventional aggregate; incorporated into asphalt pavement product (HI, IN, NJ, WY) None	(SD) Fill material Other: (VA) Not approved for exterior slopes or intermediate cover (WY) Any that require institutional or other restrictions to prevent impacts to HH&E (MS) None (NJ) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(NY) Landfill; shaping material (NH) By-rule with quality and site restrictions (PA) Use as soil after processing (WY) Tank farm berms (IL, MS) None		
Dredge Material	Cover: (FL) Landfill initial cover (MD) Daily cover at MLFs. No others yet but are considering diverse requests. (MA, MI, TX) Alternate Daily Cover (NY) Landfill cover/closure material Fill: (KY, ME, NY, TX) Fill material (HI) General fill, depending on concentration of contaminants (NC) Mixed with coal ash as fill (OK) Fill in low lying areas and eroded areas Other: (ME) Landfill contour (NY) Aggregate; Topsoil; Road sub-base (PA) Construction material; mine reclamation	(KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (ME) As Fill	Fill: (FL) Residential fill (KY) Fill, if contaminant concentration is above background.

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(MA) Land application		
Drinking Water Treatment Sludge			
- Aluminum	Cover: (MI) Alternate Daily Cover (NY) Landfill daily cover (ND) Landfill cover Fill: (NJ, NY) Fill (IN) Use as structural fill in land development (KY) Structural fill Soil amendment: (FL) Soil amendment pending analytical results (NY, PA) Soil amendment Other Soil Uses: (NY) Soil blending material (PA) Soil additive (RI) Manufactured soil product Other: (MS) Only limited site spreading	(MD) Can be used without separate site approval if the material has been approved as a soil amendment by Maryland Department of Agriculture. (ND) Landfill cover (KY, MS, NJ) None	(MI) Not approved for land application due to elevated aluminum (KY, MS) None (NJ) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
- **Ferric**	Cover: (MA, MI) Alternative Daily Cover Material Fill: (NJ) Fill (KY) Structural fill (MA) Fill material (site specific) Soil Amendment: (FL) Soil amendment pending analytical results (PA) Soil amendment Other Soil Uses: (PA) Soil additive (RI) Manufactured soil product	(MD) Can be used without separate site approval if the material has been approved as a soil amendment by Maryland Department of Agriculture. (KY, NJ) None	(MI) Not approved for land application due to elevated iron (KY) None (NJ) N/A
- **Lime**	Cover: (ND) Landfill cover (VA) Alternate Daily Cover Land Application: (KS) Land application (MI) Land application as liming material (OH) Land application for agronomic benefit? Soil Amendment: (MS) Liming agent/soil amendment (NY, PA) Soil amendment (SD) Soil amendment for pH adjustment	Soil Amendment: (FL, IA) Soil amendment (MD) Can be used without separate site approval if the material has been approved as a soil amendment by Maryland Department of Agriculture. (SD) Soil amendment for pH adjustment Other: (IA) Raw material for Calcium Carbonate or similar substance (MN) Liming agent (ND) Landfill cover; some land application	(SD) Fill material (KY) None (MS) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	Other: (KY) Ag uses (PA) Soil additive (SD) Feedlot use for soil stabilization (WI) pH adjustment	(SD) Feedlot use for soil stabilization (WI) Landfilled (KY, VA) None	

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Gypsum Wallboard	Ag Applications: (KY) Ag use (TN) Lime substitute in Ag operations Compost: (MD, MI) Additive to compost Soil Amendment: (FL, HI, MD, PA) Soil amendment Other Soil Uses: (NY) Soil supplement (PA) Soil additive (WI) Soil conditioning Land Application: (KS) Land application (MI) Land application as gypsum (NC) Calcium and sulfur land application (NY) Landfill application Wallboard: (NY) Wallboard manufacture (MA) No BUD issued. It can be recycled, if clean, into new wallboard under different regs. Other: (NY) Spill absorbent (OK) Grinding sheetrock and unused lumber to spread on site at home construction sites and use of brick, shingles and mortar to be used under	Soil Amendment: (IA) Soil amendment if not treated to be water resistant or flame retardant (MD) Can be used without separate site approval if the material has been approved as a soil amendment by Maryland Department of Agriculture. Other: (FL) Manufacture of gypsum wallboard (IA) Raw material for absorbents; Landfill Alternative Daily Cover (WA) Use on land regulated under State fertilizer program when liming value claimed and limited to non-demolition sources. (WI) Landfilled (KY, NJ, VA) None	(HI) Soil amendment/land application (KY) Wallboard that is not ground up into small pieces. (ND) Fill material (VA) No longer approved due to hydrogen sulfide problems (NJ) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	driveways at home construction sites—approval given to the grinding contractors to enter into contracts with home builders. (VA) Alternate Daily Cover (IN) Current request – no determination made yet (IL, NJ) None		
Phosphogypsum from fertilizer manufacturing	(FL) Under research for addition to landfills to enhance decomposition (KY) None	(KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8)	(FL) Use in road construction (KY) None
Power Plants:			
- Coal Fly Ash	Cement: (ME) Cement kiln (MD) Cement additive (MA) Cement manufacturing Concrete: (WI, WY) Concrete (HI) If meets certain criteria, may be used as an ingredient in concrete products. (MT, PA) Concrete production (NH) Low strength concrete (SD) Concrete additive	Asphalt: (IA) Asphalt use (ME) In some asphalt and concrete batching. Cement: (FL) Additive for Portland cement manufacturing (IA, KY, NJ) Cement (for KY, see 401 KAR 45:060, Sec. 1(7)) (NY) Raw feed in cement manufacture (TN) Cement production	Fill: (FL) General fill, fill in water bodies. (HI) If does not meet criteria, no longer usable as: -Ingredient in flowable fill -Ingredients in slurry mix for use as general fill (SD) Fill material Other: (FL) Soil amendment

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	Construction: (PA) Construction material (IA) Construction berm additive (MI) To construct coal pile storage (SD) Soil stabilization for construction purposes Cover: (MA, MI, VA) Alternative Daily Cover Material Fill: (MD, NC) Fill (VA) General fill (MA, MN, NH) Flowable fill (FL) Flowable fill pending analytical results (HI) If meets certain criteria, may be used as flowable fill, slurry mix as general fill (TN, VA) Structural fill (KY) Structural fill, when mixed with bottom ash. (MT) Open cut fill (OH) Fill material? Reclamation: (IA) Rock quarry reclamation (PA) Mine reclamation Roads: (KS) Road construction (MS) Highway road base Stabilization: (MN, MT, NY, ND, WI) Soil Stabilization	Concrete: (KY) Concrete (see 401 KAR 45:060, Sec. 1(7)) (ME) In some asphalt and concrete batching. (MN) Production of aggregate to be used in concrete or concrete products (MS) Component in concrete blocks (NY) Cement substitute in concrete; Aggregate substitute in concrete products (ND) Admixture for concrete (PA) Concrete production Fill: (IA) General fill material (KY) Structural fill (see 401 KAR 45:060, Sec. 1(7) (MI) As construction fill under impervious pavement, bonded by lime, cement or asphalt (NY) Structured fill within building foundations (VA) Structural fill Plastics: (IA) Raw material in plastic (KY) Plastics (see 401 KAR 45:060, Sec. 1(7)) Reclamation (KY, PA) Mine reclamation material (for KY, see 401 KAR 45:060, Sec. 1(7)) Roads: (IA) Sub-base for road construction	(KY) Fly ash used by itself as fill without soil cover (too dusty). (ND) Landfill liners (WY) Any that require institutional or other restrictions to prevent impacts to HH&E (MS) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(ND) Waste stabilization (NJ) Dredge material stabilization (TX) Metals stabilization in contaminated soil Other: (IA) Grain storage pad (ME) ash/CRETE (MT) Surface material (NY) Liming agent; Posishell ingredient; Absorbent	(KY) Anti-skid material; Highway base course (see 401 KAR 45:060, Sec. 1(7)) Other: (IA) Mineral Recovery; Landfill Alternative Daily Cover; Raw Material in absorbants; Raw Material for Calcium chloride; Raw Material for gypsum, wallboard, plaster, or similar product (KY) See 401 KAR 45:060, Sec. 1(7): Paint; Anti-skid material; Blasting grit; Roofing granules; and Mine stabilization material (MN) Class C as pozzolan replacement (NJ) Structural products (NY) Light weight block manufacture; Light weight aggregate; Low strength backfill material; Manufactured gypsum/calcium chloride (ND) Reagent for power plant scrubbers (PA) Construction material (WI) Landfilled (MT) N/A (WY) None	

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
- Coal Bottom Ash	Cement: (MD) Cement additive (MA) Cement manufacturing Cover: (HI) If meets certain criteria, may be used as landfill daily cover (MA, MI, VA) Alternative Daily Cover Material Fill: (MD, NJ) Fill (TN, VA) Structural fill (VA) General fill (MA) Flowable fill (FL) Flowable fill pending analytical results (HI) If meets certain criteria, may be used as general fill (OH) Fill material? Roads: (NY) Road sub-base (NJ, PA) Road anti-skid (SD) Road sanding additive (ND, WY) Road traction (WY) Road base Sand Blast: (ND) Sand blast (NH) “Black Beauty” sand blast grit Other: (HI) If meets certain criteria, may be used soil amendment, ingredient in concrete	Asphalt: (IA) Asphalt use (ME) In some asphalt and concrete batching (NY) Component in asphalt product Cement: (IA) Cement use (NY) Raw feed in cement manufacture Concrete: (ME) In some asphalt and concrete batching (NJ) Concrete manufacture (NY) Cement substitute in concrete; Aggregate substitute in concrete products Fill: (IA) General fill material (ME) Flowable fill (MI) As construction fill under impervious pavement, bonded by lime, cement or asphalt (NY) Structured fill within building foundations (VA) Structural fill Roads: (IA) Sub-base for road construction (IA, NY, ND) Road traction material (KY, PA) Anti-skid (for KY, see 401 KAR 45:060, Sec. 1(7)) Roofing Material: (KY) Roofing granules (see 401 KAR 45:060, Sec. 1(7))	(HI) No longer usable as track/road cover (MN) Ice traction agent; Aggregate Replacement (SD) Fill material (WY) Any that require institutional or other restrictions to prevent impacts to HH&E (KY) None

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(ME) Construction pad; paving substrate (MI) Berm construction (NC) Drainage layer (ND) Landfill uses (drain and cover) (WI) Structural sub-base and base (KS) Mine stabilization (PA) Mine reclamation (MI) Berm construction (NH) Shingles (NY) Blasting media (KY) Not applicable	(NY) Component in roof shingle manufacture (SD) Asphalt shingle additive Other: (IA) Mineral Recovery; Raw Material in Plastic; Landfill Alternative Daily Cover; Sandblasting abrasive (KY) Paint, Base course, Blast grit (WI) Landfilled (WY) None	
- Circulating fluidized bed ash	Construction: (FL) Construction of laydown yards, temporary roads, and subgrade material under permanent pavements (HI) If meets certain criteria, may be used in the construction of a fire barrier in a permitted landfill (MS) Construction uses in mine haul roads, ramps, etc. Fill: (VA) General fill; Structural fill	Fill: (MI) As construction fill under impervious pavement, bonded by lime, cement or asphalt (VA) Structural fill Other: (FL) Manufacture of cement (KY) Paint, Anti-skid, Base course, Blast grit, Roofing granules. (IA) None	Fill: (FL) Fill in water bodies or wetlands (HI) Because it did not meet criteria, no longer usable as general fill Other: (KY) None (MS) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(HI) If meets certain criteria, may be used in general fill (ND) Flowable fill (OH) Fill material Roads: (NY) Road base (OH) Roadbed material Other: (NY) Asphalt storage pad (PA) Mine reclamation; Soil additive (VA) Alternate Daily Cover (KY) None	(MS) N/A	
- Flue gas desulfurization sludge	Cover: (KS) Utility landfill alternate cover (NJ) Landfill cover (VA) Alternate Daily Cover Fill: (MD) Fill (OH) Fill material (VA) General fill; Structural fill Land Application: (MI) Land application in place of gypsum (NC) Land applied for sulfur and calcium	Calcium chloride: (IA) Raw material for calcium chloride (NY) Manufactured calcium chloride Concrete: (MN) Production of aggregate to be used in concrete or concrete products (NY) Cement substitute in concrete; Aggregate substitute in concrete products Fill: (MI) As construction fill under impervious pavement, bonded by lime, cement or asphalt	(KY) Did not work as highway concrete amendment due to swelling (MS) None

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	Soil Amendment: (FL) Soil amendment pending analytical results (MS) Currently approved for demonstration only as a soil amendment on peanut, cotton and some vegetables Wallboard/Drywall: (KY, NJ) Wallboard (NC, WI) Dry wall Other: (MD) Cement additive (ND) Soil stabilization (when included with fly ash) (PA) Mine reclamation; mine sealing; mine subsidence control	(NY) Structured fill within building foundations (VA) Structural fill Gypsum: (FL) Manufacture of gypsum wallboard (IA) Raw material for gypsum (NY) Manufactured gypsum (WA) Facility had plans to use as feedstock for synthetic gypsum production but sulfur levels too high. Other: (IA) Raw Material in absorbants; Raw material for wallboard, plaster, or similar product (NY) Light weight block manufacture; Light weight aggregate; Low strength backfill material; Raw feed in cement manufacture (WI) New proposals (KY, MS) None	
Pulp and Paper Mill Wastes (all by-products)	Cover: (NY) Alternative daily cover (TX) Spray mulch ADC (VA) Alternate progressive cover Land Application: (MI) Land application as soil additive	Fuel: (IA) Fuel and Energy Source (MS) Wood wastes can be used for fuel Other: (IA) Bulking Agent or Carbon Source for Composting; Animal Bedding; Raw Material	(FL) Mixing with chicken litter and coal fly ash to make "artificial soil" (KY, MS) None

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(OH) Land application for agronomic benefit? Liming Material: (MI) Liming material (MS) Lime muds for liming agent, wood ash for liming agent (NC) Liming agent land applied Soil Amendment: (NY, TN) Soil amendment (PA) Soil additive/amendment for mine reclamation Other: (MT) In progress-Smurfit (NH) Used as landfill cap material (NJ) Soil mixing (NY) Animal bedding; Bulking agent; Absorbent (MI) Burned as fuel (TX) Compost (WA) None – wanted to use in gravel mine reclamation but failed to demonstrate any beneficial use.	in absorbents; Landfill Alternative Daily Cover (MS) In addition to use as fuel, wood wastes can be used for a variety of other things (NJ) Concrete manufacture (KY, VA) None	

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Railroad Ties	Fuel: (MD, PA) Fuel (IA) Fuel and Heating Source (MI) Burned as fuel in industrial boiler or furnace (ND) Use as fuel in high temp burner Landscaping/Fencing: (FL, NY) Landscaping timbers (ND) Use as fence posts (OK) Home use for retention walls, fences, gardens, etc. (SD) Fencing, retaining walls, landscaping Other: (NJ) Resource recovery (WY) Nothing formal (IL, KY) None	Landscaping/Fencing: (ND, SD, TX, WY) Landscaping (for WY, by default) (WA) Any structurally sound typically sold for landscape purposes (ND) Fence posts (SD) Fencing, retaining walls Other: (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (WA) Ground creosote timbers acceptable fuel when facility has proper air permits.	(KY) None
Roofing Shingles	Asphalt: (NJ, WI) Asphalt (KS, TX) Asphalt plant (MD) Asphalt additive (ME, MA) Asphalt cold-patch (MA) Hot mix, cold mix asphalt (MI) Approved factory seconds in asphalt production (NY) Asphalt manufacture (PA) Asphalt concrete production (IN) Verbal inquiry about large scale grinding and use in asphalt (no official decision as of time of survey response)	Asphalt: (FL) Manufacture of asphalt (IA) Raw material in asphalt (MN) Asphalt pavement (NJ) Asphalt (WA) Use as component of asphalt production would not typically require a solid waste permit Roads: (IA) Sub-base for road construction; Road surfacing granular material (MN) Road sub-base	(FL) Fill in water bodies (KY) None

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	Roads/Parking Lots/Driveways: (FL) Parking lot subgrade (MD, OH) Roadbed material (MA, NY, WI) Road base (MA) Sub-base (NH) Part of a road aggregate product (PA) Road/driveway construction (WA) Requests have included use in driveways Other: (IN) One for dust suppressant (OK) Grinding sheetrock and unused lumber to spread on site at home construction sites and use of brick, shingles and mortar to be used under driveways at home construction sites—approval given to the grinding contractors to enter into contracts with home builders. (TX) Cement kilns (WA) Requests have included use in horse arenas, hiking trail surface (IL, KY) None	Other: (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8)	

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Sands:			
Foundry Sand:			
- Green Sands	Asphalt: (MI, NY, PA) Asphalt production/manufacture Cement: (ME) Cement kiln (MD) Cement additive (VA) Production of Portland Cement Concrete: (PA, RI) Concrete production (WI) Concrete Cover: (MA, MI, NY, OK, VA) Alternative Daily Cover Material (ND, RI) Landfill cover Fill: (FL, KY, NY) Fill material (MI) Clean fill (TN) Structural fill Roads: (NY) Road sub-base (RI) Road base material (TX) Road base Other: (IA) Rock Quarry Reclamation	Fill: (IA) Fill material (TN) Structural fill < 200 tons; flowable fill Other: (IA) Raw Material in Asphalt; Raw Material in Cement; Landfill Leachate control drainage material; Emergency flood control use for sandbags; Landfill Alternative Daily Cover (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (MN) Cement Kiln ingredient (TN) Mulch additive (WI) Landfill (VA) None	Fill: (FL) Fill in water bodies or wetlands (NC) Fill Other: (NC) Building sand (KY) None

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(MD) Topsoil additive (PA) Construction material; Pipe bedding (WI) Structural sub-base, base		
Chemically-Bonded Sands	Asphalt: (MI, PA) Asphalt production Concrete: (PA) Concrete production (WI) Concrete Cover: (MI, VA) Alternate Daily Cover Other: (KS) Road surface (MD) Topsoil additive; cement additive (MI) Clean fill (PA) Construction material; Pipe bedding (WI) Sub-base, base (MA) Never approved due to phenols (KY) None	(KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (MN) Cement Kiln ingredient (VA) None	(KY) None

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Sand Blasting Media	Fill: (IL, KS) Use as fill material (WI) Structural fill Other: (FL) Component of soil cement for road sub-bases (ME) Asphalt aggregrate (NJ) Concrete (NY) Aggregate; Cement Manufacture (OK) To till in eroded areas or low spots on property (MA) Not approved, hazardous waste rules apply. (HI, KY) None	(IA) Raw material in cement; Raw material in asphalt; Sub-base for Road Construction; Raw Material for abrasive products; Fill Material; Alternative Daily Cover (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8)	Sand Blast Grit: (HI) Did not approve use of sand blast grit in concrete products (IN) IDEM would not approve any application of sandblast grit used to blast painted equipment Other: (KY) None
WWTP Filter Sand	Fill: (KY, NJ, NY, OH) Fill (MA) Fill material (site specific) Roads: (NY) Road base (OH) Roadbed Other: (MA) Alternative Daily Cover Material	(IA) Fill Material; Sub-base for road construction (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8)	(KY) None. Dispose of grit at MSW landfill.

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(NY) Pipe bedding (IL) None		
Slag:			
Foundry Slag	Fill: (NY) Fill (NY, WI) Structural Fill (OH) Fill material? Roads: (MS, VA) Road aggregate (MS' use is in demonstration phase currently) (NJ) Roadbed (NY) Road sub-base (PA) Roadway construction material Other: (IA) Rock Quarry reclamation (PA) Construction material (TN) Aggregate (VA) Production of insulation (WI) Tile manufacturing (IN) None approved – did not submit sufficient information. (KY) None	(KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (ME) In Cement production. (MI) Exempted in statute for any use – no restrictions (MS) N/A (WI) Landfill (VA) None	(VA) General fill (KY) None (MS) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Lead Slag	(KY) None	(KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8)	(KY) None
Steel Slag	Cement: (IA) Raw material in cement (NY) Cement manufacture Fill: (IA) Fill material (NJ) Fill (KY, TN, VA) Structural fill Roads: (IA) Anti-skid aggregate (snow and ice); Sub-base for road construction (MD) Roadbed aggregate (OH) Roadbed? (WI) Stabilized shoulders, banks Other: (IA) Aggregate in pavement surfaces, bases, surface treatments, seal coats, slur coats, and cold patch; Sand blast grit (NC) Land applied fertilizer (PA) Construction material; Liming agent (TN) Aggregate (WI) Surface course, Base course, Sub-base course, Railroad ballast, Concrete, Asphalt	(KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (MI) Exempted in statute for any use – no restrictions (VA) Structural fill (WI) Landfill (MS) N/A	(KY) Fill that exceeds engineering needs, such as a 40 ft. wide road, that is disposal. (MS) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(MS) None		
Street Sweepings	Fill: (KS, ME, NJ, ND) Fill material Other: (MT) MDT highway revegetation (NC) Incorporate into compost (ND) Landfill cover (IN) Could not approve; contained MSW and unfeasible to separate. (KY) None	Fill: (FL) Fill material (MA) Fill in public ways Other: (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (MA) Reused as street sweeping; Restricted use compost; Alternative Daily Cover Material (NY) Conventional aggregate (same as C&D debris) (ND) Landfill cover (MT) N/A	(FL) Fill in water bodies or wetlands (KY) None (MT) N/A
Stormwater Sediments	Fill: (NJ) Fill (FL) Fill material pending analytical results (MA) Fill in public ways (OK) Fill in low lying areas or eroded areas Cover: (MD) Daily cover at MLFs (MA) Alternative Daily Cover Material (TX) Landfill cover	Cover: (FL) Landfill initial cover (ND) Cover Other: (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (ME) Road maintenance; material aggregate	Fill: (FL) Fill in water bodies or wetlands (ME) as Fill Other: (KY) Cannot exceed background on contaminants.

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	Other: (MA) Restricted use compost (KY) None	(MD) Unless contaminated it is considered to be dirt, not a waste. If contaminated, it is treated as a contaminated soil. (NY) Conventional aggregate (same as C&D debris) (ND) Fill	
Used Cooking Oil	Biodiesel: (HI) Process into biodiesel (MT) Biodiesel, 100,000 gal (ND, TX) Biodiesel (PA) Biodiesel production Fuel: (MA) Fuel (NJ) Biofuels (PA) Alternative fuel Other: (ND) Rendering (PA) Dust suppressant (KY, MS) None	Biodiesel: (MT) Biodiesel (NY) Biodiesel production (WA) We are not requiring solid waste permit for production of biodiesel from waste cooking oils at this time. Other: (MD) It is routinely recycled as feedstock for rendering plants, and lately as fuel. No need to ask. (SD) Fuel additive (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (MS) Reuse or reprocessing would not be considered a solid waste	(IN) Denied use as dust suppressant at public facility (KY) None (MT) N/A
Waste-to-Energy (WTE) Ash	Asphalt: (FL, MA, PA) Manufacture of asphalt	(FL) Initial cover at lined landfills	Asphalt: (HI) Did not approve use

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	Cover: (HI) Alternate daily cover, with specific conditions (MD, NY) Daily cover at MLFs Other Landfill Uses: (FL) Subgrade material for landfill construction (MA) Landfill gas vent layer (MS) Use of WTE Ash in interior access roads in lined cells of ash landfill (NY) Landfill closure Other: (NH) R&D use of bottom ash as aggregate in base course asphalt paving (NJ) Dredged material amendment (NY) Manufactured stone (PA) Construction material; Roadway sub-base (TN) Structural fill in foundations – revoked (KY) None	(KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (MS) N/A	in asphalt (PA) Asphalt production Fill: (FL) Fill in water bodies or wetlands (NH) General fill (TN) Structural fill in foundations – revoked Other: (HI) Did not approve use as final cover at a MSW landfill (MI) Not approved as additive in concrete road (MS) Use of ash in construction is longer used (KY) None
Wood Ash	Liming Material: (ME) Lime substitute (MN, MS) Liming agent (NC) Liming agent land applied	Soil Amendment: (IA, NY, VA) Soil Amendment	(MS) Use of wood ash in stabilization of lagoon levy system is no longer approved.

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	Land application: (MA, ND) Land application Soil Amendment: (FL, KY, ME, TX) Soil amendment (MS) Soil amendment (NH) Agriculture, soil amendment Other: (ME) Compost additive (MI) Alternate Daily Cover; Waste solidification (MS) Potting soil additive (NY) Sludge stabilizer; Bulking agent; Traction agent (TN) Fertilizer (VA) Structural fill (WI) Concrete	Other: (IA) Compost Carbon Source; Raw material in Cement; Fill Material (KY) Any sound beneficial reuse is a solid waste permit-by-rule. See 401 KAR 47:150, Section 1(8) (ME) Bottom ash in road construction. (MD) Can be used without separate site approval if the material has been approved as a soil amendment by Maryland Department of Agriculture. (MI) Exempted in statute as liming material (NY) Soil fertilizer (WA) Use on land regulated under State fertilizer program when liming value claimed. (MS) N/A	(KY) None
Waste Tires	Aggregate: (MD, NY) Aggregate (MN) Aggregate Replacement Cover: (MI) Alternate Daily Cover (VA) Alternate Daily Cover (with soil) (WI) Daily cover	Agricultural Uses: (IA) Whole tires: Ag uses to hold down covers for commodities (OH) Whole tires: Agricultural use to hold down tarps/covers (KS) Silo cover (ND) Ag uses – hold sileage covers; water troughs, etc.	Fill: (FL) Fill in water bodies or wetlands (KY) Structural Fill. (SD) Fill material.

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(TX) Protective cover (WY) Landfill cover mix Crumb Rubber: (PA) Crumb rubber (MN) Crumb rubber in asphalt Drainage: (MA) Drainage applications (MI) Sewage drain fields (MS) Use of landfill leachate drainage media and septic tank draining medium (TN) Drainage material (WI) Drainage in landfill (WY) Leachfield drainage Fill: (IN, NY) Structural fill (ME, MA, MN) Lightweight fill (OK) To fill in low lying areas or farmers property (WY) Road and highway fill Fuel: (MD, PA) Fuel (KY) Tire Derived Fuel (ME) Fuel substitute TDF (ND) Use as fuel in high temperature boiler Other Landfill Uses: (MI, TX) Leachate collection (NH) Substitute for aggregate as filter material for landfill cap swales	(SD) Various agricultural-related uses Asphalt: (MA) Asphalt manufacture (NY) Aggregate for asphalt Crash Barriers: (IA, OH) Whole tires: Crash barriers at racetracks (NC) Crash Barriers Dock Bumpers: (IA) Whole tires: Marine and Vehicle loading/unloading area Dock Bumpers (KS) Bumper for boat dock Drainage: (FL) Drainage material (VA) Drainage media Landfill Uses: (ID) MSWLF Alternative Daily Cover; MSWLF gas collection system (KY) Landfill Liner Protection (OH) Tire shreds: Civil engineering applications at a landfill Playgrounds: (FL, KS, ND) Playgrounds (IN) Wire-free grounds around playground equipment (IA) Whole tires: Children's play area equipment (KY) Playground safety bedding	Fences/Walls: (HI) No longer able to use whole tires for construction of walls (ND) Fences (WY) Bale and loose tire fences Other: (KY) Daily Cover never approved. (ND) Baled uses (SD) Erosion control (WY) Windbreaks (MS) N/A

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(KY) Landfill liner protection (PA) Recapping Playgrounds/Athletic Fields: (MA, NY, WI) Playground material (KY) Playground safety bedding (KY) Athletic Field Soil Amendment (MI) Athletic tracks, hiking trails Other: (HI) Approved use of tire shreds for energy recovery and concrete-encapsulated tire bales (IN) Septic systems (IA) Use in Shooting Ranges (KS) Structures (MT) Per solid waste MCA and rules (NY) Mulch; Road base (OK) Go-cart tracks or paint gun target fields (PA) Civil engineering practices (SD) Various agricultural-related uses (TX) Concrete plants (VA) Erosion control (within lined footprint)	(OH) Tire shreds: Playground cover material Rifle/Shooting Ranges: (ID) Base material for shooting range backstop (OH) Whole tires: Rifle range backstop Roads: (FL) Crumb rubber for road construction (ME) Tire chips in road building (NY) Aggregate for road base Tire-Derived Fuel: (IN) TDF (facility must have proper air permit) (IA) TDF among material exempted (NC) TDF (VA) Fuel Other: (IN) Other products with tire content (floor mats, etc.) (IA) See Iowa Administrative Code 567 Chapter 117.8 for complete list. - (IA) Material Exempted: Tire-Derived Fuel Asphalt rubber, Buffing Rubber, Carbon Black, Crumb Rubber - (IA) Whole Tires: Structures for military and police training under ownership of local, state, federal agencies	

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
	(WY) Fences, wind breaks, stock tanks, feeders	(IA) Artificial fishing reefs and fish habitat structures for government agencies (KS) Traffic control; Feed bunks; Water tanks; Windbreaks (baled) (KY) Athletic Field Soil Amendment (ME) Tire chips in wastewater leachfields (NY) Energy recovery (NC) Retreading, Erosion control, Chips for oyster cultch (ND) Miscellaneous uses, e.g., flower pots (OH) Tire shreds: Light weight fill in embankment Compost bulking agent Aggregate in septic leach fields (TX) Concrete plants (WA) Currently view tire bales as product but this has become a problem in some areas because of no markets (MS) N/A (WY) None	

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Other: **(added by States)**			
Vegetative Hurricane Debris (FL)	(FL) Mulch as soil amendment, use as fuel in wood boilers		(FL) Fill in water bodies
Unleaded Glass (IA)	(IA) Fill material	(IA) Raw material in asphalt; Fill Material; Sandblasting or other abrasive; Leachate control drainage material at landfill; Filter Media; Sub-base for road construction; Landfill Alternative Daily Cover Material	
Lime Kiln Dust (IA, OH)	(OH) Soil amendment for construction	(IA) Raw Material in absorbents; Raw material in cement; Sub-base for road construction; Soil amendment; Stabilizer for manure and waste sludge; Soil Stabilizer for construction purposes; Fill Material	
Muti-Fuel Ash (ME)	(ME) Concrete	(ME) In some asphalt and concrete batching, and road construction flowable fill	
Clean Wood Waste (ME)	(ME) Fuel; mulch	(ME) Landspreading; Compost; Mulch	
Lime Mud (ME)	(ME) Soil amendment; Papermaking		
Blood/Fish Wastes (ME) **Fish and Shellfish Wastes** **Poultry Ofal** **Food Wastes**	(ME) Compost/soil amendments; Commercial compost products.		
Mixed Glass Cullet (MA)	(MA) Drainage material		

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Fish Wastes (MI)	(MI) Land application at agronomic rates		
Manure, Paunch, and Pen Wastes (MI)	(MI) Land application at agronomic rates, used to produce compost		
Industrial Sludges (MI)	(MI) Land application at agronomic rates		
Crushed Egg Shells from Processor (MS)	(MS) Demonstration project involving use of egg shells as a soil amendment.	(MS) N/A	(MS) N/A
Vegetative Debris Ash from burning Hurricane Debris (MS)	(MS) Use of ash in soil amendment uses	(MS) N/A	(MS) N/A
Waxed Cardboard (NY)	(NY) Fuel pellets		
Shell (NY)	(NY) Oyster beds		
Coal Tar (NY)	(NY) BTEX solvent fuel		
Wood Waste (NY, NC)	(NY, ND) Mulch/landscaping (NY, ND) Fuel production (NY) Animal bedding; Bulking agent (ND) Landfill cover (mixed with soil)		
Concrete, rock, bricks, gravel, uncontaminated soil (NC)		(NC) Beneficial fill	
Cement Siding (NC)	(NC) Beneficial fill		
Porcelain (NC)	(NC) Marine habitats		
Tobacco Dust (NC)	(NC) Fertilizer and liming agent		

WASTE TYPE	LIST THE BENEFICIAL USES YOU HAVE APPROVED	LIST PRE-APPROVED BENEFICIAL USES	LIST USES NOT APPROVED OR NO LONGER APPROVABLE
Ag Processing Waste (ND)	(ND) Livestock feed; soil amendment		
WWTP Sludge Ash (OH)	(OH) Soil amendment for agronomic benefit		
Manufactured Stone/Concrete (OH)	(OH) Aggregate		
Fines contaminated with TPH from a waterway marine terminal recycling operation (VA)	(VA) Alternate Daily Cover	(VA) None	
Vegetative Waste (VA)	(VA) Enhance habitat and wetlands		
Silica-based byproduct from bronze casting (VA)	(VA) Fill potholes in private driveway		
Food Processing Wastes (WA)	(WA) Soil amendments		
Glass (WI)	(WI) Utility pipe back fill	(WI) Landfilled	
Blast Furnace Slag (WI)	(WI) Concrete		

NOTES:

CT: Did not indicate uses for the wastes they added for which they have received requests for beneficial use (Scrubber residue from brick manufacturing; Glass (Hg); Industrial sludges and filtercake).

IL Construction and Demolition Debris: No approval needed. Authorized uses specified in Sec. 3.160 of Illinois Environmental Protection Act.

Drinking Water Treatment Sludge: Drinking Water Sludge application authorized by Bureau of Water Permit.

Power Plants: Uses authorized in Sec. 3.135 of Illinois Environmental Protection Act. Currently reviewing first request for use of fly/bottom ash as structural fill in a manner that is not authorized in the statute.

Foundry Sand: Beneficial use of foundry sand is subject to 35 IAC 817. No formal process for approval of beneficial use is in place.

Slag: Beneficial use of foundry slag is subject to 35 IAC 817. No formal process for approval of beneficial use is in place.

Waste Tires: Tires are regulated under Title XIV of the Illinois Environmental Protection Act. No formal BUD process is in place.

IN: Coal Fly Ash, Coal Bottom Ash, Circulating fluidized bed ash, and Flue gas desulfurization sludge: No – covered under IN statute; IDEM cannot approve or deny.

Foundry Sand, Chemically-Bonded Sands: No - covered under statute; no IDEM approval needed.

Steel Slag: No – covered under IN statute; IDEM cannot approve.

IA: For complete Beneficial Use Project List, see Iowa Administrative Code 567 Chapter 108.4, others may include Solid Waste Composting Chapter 105, Tires Chapter 117.8, Landfarming Petroleum Contaminated Soil Chapter 120, Land Application of Waste Chapter 121.

MO: Indicated that they did not have the staff available to complete this portion of the survey.

OK: Drinking Water Treatment Sludge: received a beneficial use request as Alternative Daily Cover at Landfills

Appendix C

Compilation of Survey Results

1a. Does your State/Territory have a formal or informal beneficial use decision making process or program?

1b. How many years has your program or similar process been in place?

STATE	YES	NO	# OF YEARS IN PLACE	COMMENTS
AK		X	N/A	
AZ		X	N/A	
CO	X			This is located in the Water Quality Control Division.
CT	X		10	
FL	X		12	
HI	X		~12	
ID	X		13	Idaho's BUD involves either waste tires or alternative daily cover at municipal solid waste landfills.
IL*	X		12	We have a beneficial use process for coal combustion byproducts. Other reuse may be allowed by the statutes, but we have no specific approval process.
IN	X		17	
IA	X		3	
KS	X		10	
KY	X		15	It is automatic, but sometimes end users request a written decision for structural fill and similar uses, so we use a form and make a BUD even though it is an automatic permit-by-rule.
ME	X		8	
MD	X		20	
MA	X		16	
MI	X		25+	
MN	X		2.5	
MS	X		1* ~ 6**	
MO	X*		~7	
MT	X		13	
NE		X	13	
NH	X		20	
NJ	X		~12	
NY	X		18	
NC	X		--	
ND	X		11	
OH	X		12	
OK	X			
PA	X		14	
RI	X		6	Temporarily suspended to make changes in the program.

STATE	YES	NO	# OF YEARS IN PLACE	COMMENTS
SD	X		Unknown	
TN	X		15+	
TX	X		15	Texas enacted recycling rules that require notification to the State of municipal recycling programs. Not all beneficial use is captured.
UT		X	5	
VT		X		Vermont does not have a beneficial use program. We do make acceptable use determinations but these are generally one-time events.
VA	X		18	
WA	X		3	
WV		X		
WI	X		20	
WY	X		8	

NOTES:

IL: Illinois has had authority since January 2006 to do limited beneficial waste determinations on coal combustion by-products. We lack authority to do formal determinations on other waste. Whenever possible we respond to letters and advise people whether or not their proposed activity is waste management and would need a permit.

MS: * Formal program
** Informal approvals

MO: * Informal

1c. Please indicate whether or not your State/Territory has a mandate or provision for beneficial use (or a similar term) of non-hazardous solid waste in a:

STATE	STATUTE	REGULATION	POLICY/ GUIDELINES	AGENCY DISCRETION	OTHER (PLEASE SPECIFY)	NOT APPLICABLE
AK		X				
AZ	--	--	--	--	--	X
CO	X	X	X			
CT	X*					
FL	X	X	X			
HI		X				
ID	X					
IL	X*					
IN	X	X	X	X		
IA		X				
KS				X		
KY	X	X		X		
ME		X				
MD	X	X*		X		
MA		X	X			
MI	X	X	X			
MN		X				
MS		X				
MO	X	X	X			
MT				X		
NE		X	X			
NH		X	X			
NJ		X*				
NY		X				
NC	X*	X*	X*			
ND			X			
OH					Policy rescinded, in process of making rule.	

STATE	STATUTE	REGULATION	POLICY/ GUIDELINES	AGENCY DISCRETION	OTHER (PLEASE SPECIFY)	NOT APPLICABLE
OK		X				
PA	X	X				
RI	X		X*			
SD				X		
TN			X*			
TX	X	X	X			
UT			X			
VT						X
VA		X		X		
WA	X	X				
WV		X				
WI	X	X	X	X		
WY		X				

NOTES:

CT: Sec. 22a – 209f

IL: For coal combustion byproducts only.

MD: For a few things.

NJ: Regulations for beneficial use.

NC: Statute: Recovered Materials.
Regulation: Coal Combustion Byproducts and Beneficial Fill.
Policy/Guidelines: Wood Ash.

RI: Temporarily suspended to make changes.

TN: See attached Policy/Guidelines in Appendix D.

1d. How many full-time employees (FTEs) do you estimate that your State uses annually to make beneficial use determinations?

Are any of these FTEs dedicated solely to beneficial use projects?
If Yes, how many:

STATE	# OF FTEs	DEDICATED SOLELY TO BENEFICIAL USE PROJECTS?		
		YES	# of FTEs	NO
AK	<1			X
AZ	--			
CO	1			X
CT	1			X
FL	Unknown			X
HI	1			X
ID	N/A			X
IL	*			
IN	1			X
IA	2			X
KS	.25			X
KY	.25			X
ME	No estimate			X
MD	4			X
MA	2.5-3.0			X
MI	½			X
MN	1	X	.3	
MS	.75			X
MO	.25-.50			X
MT	2*			X
NE	.5			X
NH	4			X
NJ	3			X
NY	3	X	2	
NC	2			X
ND	3 (part time), estimate (.5 equivalent)			X
OH	1			X
OK	1			X
PA	4	X	2	
RI	1			X
SD	.5			X
TN	2			X
TX	2			X
UT	1			X
VT	0			
VA	8			X
WA	.5	X	.5*	

STATE	# OF FTEs	DEDICATED SOLELY TO BENEFICIAL USE PROJECTS?		
		YES	# of FTEs	NO
WV	0			
WI	1	X	1	
WY	7			X

NOTES:

IL: We have only received two requests since authority was granted to us in January 2006. Of these requests, we have rejected one and have not made a final decision on the second one.

MT: Recycling and Market Development Specialists.

WA: Currently the BUD coordinator position is dedicated half time. Other staff assist with review of BUD applications as needed.

1e. Have there been any major changes or trends that have taken place in your beneficial use determination (BUD) program since the 1999 Survey?

STATE	YES	NO	MAJOR CHANGES/TRENDS
AK		X	
AZ	--	--	
CO		X	
CT	X		Since March 2006, Connecticut has now been considering BUDs in addition to only writing General Permits (GPs). In the past year, the State has issued 3 GPs and is currently writing several BUDs.
FL		X	
HI		X	By 1999, BUD was already risk-based. The primary changes since then have been with the applicable screening levels, appropriate for both human health and ecology.
ID		X	
IL	X		The Illinois Environmental Protection Act was amended to require the Illinois EPA to review beneficial use determinations for coal combustion by-products.
IN		X	
IA	X		Large Fill Projects, mostly for Rock Quarry Reclamation using Coal Combustion By-products and Foundry Sand. Have been using C&D material as fill.
KS		X	
KY	X		Kentucky changed the definition of "Beneficial Reuse" in special waste regulations to allow land disposal options that were already outlined in the permit-by-rule regulations, such as structural fill, mine reclamation, etc. (i.e., eliminated a conflict in the rules that could have stopped land use beneficial reuse).
ME	X		- Rules amended in 2006 to establish more specific standards for using wood recovered from demolition and construction debris as a fuel substitute. - Changed allowable limits for certain chemicals.
MD		X	The program is basically the same as in 1999.
MA	X		There was a complete redesign of the BUD process for which new BUD regulations were issued in October of 2005. There is also a BUD guidance document with standards that is still pending issuance and therefore still in draft form.
MI		X	We were working on a rules package in 2004 and 2005 that would allow for a self-implementing beneficial use of certain industrial by-products. We had proposed to change our allowable risk from 1 in a million to 1 in 100,000, which would have raised the concentration of contaminants allowed. We also proposed to allow a number of things to be used for daily cover at licensed landfills and to

STATE	YES	NO	MAJOR CHANGES/TRENDS
			be used to stabilize/treat liquid wastes. The package did not move forward because we could not overcome generator liability issues or raise the criteria high enough so that specific wastes could be used with less control.
MN	X		Minnesota has developed new rules and formally developed a beneficial use program. The new rules outline definitions, administrative tools to be used, submittal requirement, and approval or denial steps to be taken by the agency.
MS	X		In July 2005, Mississippi adopted formal regulations governing the beneficial use of nonhazardous solid wastes.
MO		X	
MT	X		Montana Department of Transportation (MDT) will allow up to 20% fly ash in concrete and considering raising the limit due to shortage of concrete. MDT developing specifications for fly ash in road base.
NE	X		In March 2006, a clarification was made to Nebraska Administrative Code Title 132, Chapter 2.002. It now explicitly allows for fill (irrespective of whether it is contaminated or not) to be used for certain land improvement practices. Beneficial use of food processing wastes via land application for agronomic purposes is receiving more attention in Nebraska. Currently such practices are reviewed only when there is reason to believe there may be "disposal". Coal Combustion Ash is currently the only waste that is "pre-approved" for beneficial use through published Department guidance.
NH	X		The legislature has instituted a 1-1/2 year moratorium on using processed C&D wood waste as Bio-fuel.
NJ		X	
NY		X	
NC		X	
ND	X		More interest in BU determinations for CCB's. With experience, approval process has smoothed considerably.
OH		X	
OK		X	
PA	X		A major overhaul of the municipal and residual waste regulations has begun. This could result in major changes to the definition of waste and the general permitting (beneficial use) program. Currently, major general permit formatting changes are being implemented. This includes to changes our chemical constituent concentration levels.
RI	X		Legislation was passed that severely restricted the program (to be operable in only one city/town in the State), which essentially defeated the existing program. Recent legislation changed the

STATE	YES	NO	MAJOR CHANGES/TRENDS
			program back to being allowed throughout the State, with some additional controls added. RIDEM is currently in the process of modifying its policies/guidelines on BUDs to comply with the new State law.
SD	X		We have seen a modest trend in that we have seen greater interest in the potential beneficial use of agriculturally generated solid wastes.
TN	X		Applications for land application of food processing waste have been upgraded to a permit-by-rule process.
TX	X		State legislature passed laws requiring municipal recycling operations to notify the Texas Commission on Environmental Quality prior to operation and provide financial assurance.
UT		X	
VT		X	
VA	X		See attachment in Appendix D.
WA	X		At the time of the 1999 survey, Washington was discussing establishment of a formal BUD process as a result of changes in the State's solid waste statute that occurred during the 1998 session. Since that time, State solid waste regulations have been revised and included a formal process for applying to the Washington Department of Ecology (Ecology) for relief from solid waste permitting for use of specific waste in a specific manner as proposed. These regulations became effective February 10, 2003. The 1998 legislative action also contains provisions that *allow* the department to exempt from permitting certain beneficial uses of solid waste by rule. The department chose to limit rule making to development of the required application and approval process, and hold a section in reserve for future development of a list of approved beneficial uses.
WV		X	
WI	X		Wisconsin-DNR has developed several guidance/approval for beneficial use of excavated waste, flowable fill, soil stabilization, etc. Wisconsin-DNR has revised its beneficial use code in 2005 to include additional waste streams and clarify several issues.
WY		X	

2. Does your State/Territory have a written definition of beneficial use or a similar term?

3. Where is your definition of beneficial use (or similar term) located? Check all that apply

STATE	DEFINITION OF BENEFICIAL USE				
	YES	NO	STATUTE	REGULATION	POLICY OR GUIDELINES
AK		X			
AZ		X			
CO	X		X	X	
CT	X		X		X
FL	X		X	X	X
HI		X			
ID		X	--	--	--
IL		X			
IN	--	--	--	--	--
IA				X	
KS		X			
KY	X		X	X	
ME	X			X	
MD	X*		X		
MA	X			X	X
MI		X			
MN	X			X	
MS	X			X	
MO		X			
MT		X			
NE		X			
NH	X			X	
NJ	X			X	
NY	X			X	
NC	X		X*	X*	X
ND		X			
OH		X	X*	X**	
OK	X			X	
PA	X		X	X	
RI	X		X		
SD		X			
TN		X			X*
TX	X		X	X	
UT		X			
VT		X			
VA	X			X	
WA	X			X	
WV	X			X*	
WI	X		X	X	
WY	X			X	

NOTES:

MD: No definition of Beneficial Use; Maryland uses the terms “recyclable materials” and “recycling”. In the Environment Article, Section 9-1701 of the *Annotated Code of Maryland*, the term recyclable is defined:

“(k) "Recyclable materials" means those materials that:

(1) Would otherwise become solid waste for disposal in a refuse disposal system; and

(2) May be collected, separated, or processed and returned to the marketplace in the form of raw materials or products.

(l) (1) "Recycling" means any process in which materials that would otherwise become solid waste are collected, separated, or processed and returned to the marketplace in the form of raw materials or products.

(2) "Recycling" includes composting.”

The key there is “returned to the market place” – it’s got to come and go to a viable use, not pile up or be sham-recycled, e.g. as fill, which we generally view as unpermitted landfilling.

NC: Statute: Recovered Material is not regulated as a waste.
Regulation: Beneficial use of Coal Combustion By-products.

OH: * Definition for scrap tires only
** Definition for scrap tires only
For all other materials, Ohio does not have a definition.

TN: See Definitions.

WV: The only West Virginia regulations that we are familiar with regarding beneficial uses are referenced in Title 33, Series 1, Solid Waste Management Rule, Section 5.5.b.4, concerning coal combustion by-products. Only beneficial uses for coal combustion by-products are addressed in Title 33, Series 1.

4. What are the major barriers to implementing BUDs in your State/Territory? Check all that apply

STATE	MAJOR BARRIERS TO IMPLEMENTING BUDs						
	PUBLIC ACCEPTANCE	LACK OF AWARENESS	STATUTORY OR RULE LIMITATIONS THAT RESTRICT BENEFICIAL USE	STAFF RESOURCES	INSUFFICIENT INFORMATION TO DETERMINE HUMAN OR ECOLOGICAL IMPACTS OF USE RATHER THAN DISPOSAL	LACK OF AUTHORITY TO IMPLEMENT	OTHERS (PLEASE SPECIFY)
AK							Costs and logistics of implementing major beneficial use projects
AZ							Have not identified potential applications.
CO*							We need to modify the solid waste regulations to allow for broader interpretation and implementation of beneficial use concepts.
CT				X			Strict guidelines.
FL			X		X	X	Many proposed materials do not meet the existing criteria used to evaluate human and environmental impacts upon reuse.
HI	X	X	X		X	X	
ID				X	X	X	
IL						X	

STATE	MAJOR BARRIERS TO IMPLEMENTING BUDs						
	PUBLIC ACCEPTANCE	LACK OF AWARENESS	STATUTORY OR RULE LIMITATIONS THAT RESTRICT BENEFICIAL USE	STAFF RESOURCES	INSUFFICIENT INFORMATION TO DETERMINE HUMAN OR ECOLOGICAL IMPACTS OF USE RATHER THAN DISPOSAL	LACK OF AUTHORITY TO IMPLEMENT	OTHERS (PLEASE SPECIFY)
IN	X	X		X	X		
IA	X	X	X				
KS				X			
KY		X					
ME	X*						
MD					X		Some proposed materials are not acceptable for the proposed uses due to the risk of unacceptable exposure or water pollution. Or other adverse ecological impact.
MA					X		
MI		X	X		X		
MN		X					
MS		X	X	X	X		
MO	X			X	X		
MT	X			X	X		
NE				X		X	
NH	X*	X*					Some States reluctant to embrace BUDs (e.g., coal ash embankments).

STATE	MAJOR BARRIERS TO IMPLEMENTING BUDs						
	PUBLIC ACCEPTANCE	LACK OF AWARENESS	STATUTORY OR RULE LIMITATIONS THAT RESTRICT BENEFICIAL USE	STAFF RESOURCES	INSUFFICIENT INFORMATION TO DETERMINE HUMAN OR ECOLOGICAL IMPACTS OF USE RATHER THAN DISPOSAL	LACK OF AUTHORITY TO IMPLEMENT	OTHERS (PLEASE SPECIFY)
NJ							Materials that qualify for uses.
NY					X		How clean is clean issues.
NC					X		
ND				X	X		
OH			X		X		
OK	X			X			
PA	X			X	X		
RI				X			
SD					X		
TN							Lack of suitable requests.
TX	X	X					
UT		X			X		
VT	X						Lack of demand for this type of program.
VA	X		X		X		
WA							*
WV				X		X	
WI		X		X	X		
WY				X	X		

NOTES:

CO: Note: Colorado did not respond to the questions after Question 4.

ME: Of some activities.

NH: Public acceptance of C&D wood.
Lack of awareness of users/contractors/DOT

WA: One of the more difficult aspects of implementing a BUD program has been debate over whether a material is a waste or a product with value. Arguments have been made that a material, once processed (such as crushing, baling, etc.) it is no longer a solid waste and therefore not subject to the regulation containing the provisions for the State BUD program. This becomes a very circular discussion with few "off-ramps". Unfortunately, there is only ambiguous authority to require demonstration of an actual market for the "transformed materials". Speculative accumulation and sham recycling have sometimes resulted in need for remedial response after problems have been created. A better defined distinction between "waste" and "product" would help prevent unpermitted solid waste handling facilities from being established and limit the confusion over when solid waste regulations are applicable.

5a. In a twelve month period, estimate the number of written requests / applications your State/Territory receives for a beneficial use notice or approval for non-hazardous, solid wastes which would normally have been disposed of if not used?

1-10; 11-20; 21-30; 31 or more; None (skip to #6)

5b. If possible, for the history of the program, give the total number of written requests your State/Territory has received: _____ (circle one: actual or estimate)

STATE	TWELVE MONTH PERIOD # OF WRITTEN REQUESTS/APPLICATIONS					HISTORY OF PROGRAM # OF WRITTEN REQUESTS (indicate whether Actual or Estimate)	
	1-10	11-20	21-30	31 or MORE	NONE	ACTUAL	ESTIMATE
AK					X		
AZ	--	--	--	--	--	--	--
CT	X						10
FL	X						18
HI	X						30
ID	X						7
IL	X					*	*
IN		X					80+
IA	X					*	*
KS	X						20
KY		X				272	
ME			X			199*	
MD	X		X				50?
MA	--	--	--	--	--	--	--
MI			X				300
MN	X					45	
MS		X					50+
MO		X					125
MT	X						7
NE					X		
NH	X						<30
NJ				X			450
NY				X		885*	

STATE	TWELVE MONTH PERIOD # OF WRITTEN REQUESTS/APPLICATIONS					HISTORY OF PROGRAM # OF WRITTEN REQUESTS (indicate whether Actual or Estimate)	
	1-10	11-20	21-30	31 or MORE	NONE	ACTUAL	ESTIMATE
NC	X*						30
ND	X						40-50
OH	X					26*	
OK			X			*	*
PA				X			600
RI	X						6
SD	X						20
TN	X						50
TX				X			>1,000
UT					X		10
VT	X						40
VA	X						50
WA	X					9	
WV	X						5
WI				X*			100
WY			X				160

NOTES:

IL: We have only received two requests since authority was granted to us in January 2006. Of these requests, we have rejected one and have not made a final decision on the second one.

IA: Unknown.

ME: May have missed some.

NY: As of 8/14/06.

NC: Primarily beneficial use of ash.

OH: 26 from Division of Solid and Infectious Waste Management; don't know how many from the Division of Surface Water.

OK: 5,000

WI: The number represents formal requests. The NR 538 program is mostly self-implementing and formal approval is not needed in most beneficial use. However, some uses over 5000 yards need concurrence from the Department in 10 business days.

6. If your State/Territory does not have a BUD process, what information would be most useful to begin developing such a process (or revising an existing one)?

STATE	MODELS OF EXISTING PROGRAMS	SUGGESTED WAYS TO OVERCOME MAJOR BARRIERS	LIST OF APPROVED MATERIALS AND USES BY STATE	LIST OF STATE CONTACTS IN STATES WITH BUD PROGRAMS	LIST OF CRITERIA OR OTHER STANDARDS USED FOR DECISION MAKING	OTHER (PLEASE SPECIFY)
AK		X				
AZ			X	X	X	
CT*	X	X	X	X	X	
FL						
HI			X		X	
ID	--	--	--	--	--	--
IL	--	--	--	--	--	--
IN	--	--	--	--	--	--
IA	X					
KS	X		X		X	
KY			X		X	State rules for automatically approved beneficial uses.
ME	--	--	--	--	--	--
MD	--	--	--	--	--	--
MA	--	--	--	--	--	--
MI	--	--	--	--	--	--
MN	--	--	--	--	--	--
MS	X		X		X	Case studies on approved uses or demonstration projects.
MO	--	--	--	--	--	--
MT	X		X	X		

STATE	MODELS OF EXISTING PROGRAMS	SUGGESTED WAYS TO OVERCOME MAJOR BARRIERS	LIST OF APPROVED MATERIALS AND USES BY STATE	LIST OF STATE CONTACTS IN STATES WITH BUD PROGRAMS	LIST OF CRITERIA OR OTHER STANDARDS USED FOR DECISION MAKING	OTHER (PLEASE SPECIFY)
NE	X	X	X	X	X	
NH	--	--	--	--	--	--
NJ	--	--	--	--	--	--
NY	--	--	--	--	--	--
NC	--	--	--	--	--	--
ND	X		X	X	X	Need model rules, definitions, guidance, etc. Training of generators/users on issues of concern to regulators would also be helpful. Also suggest incentives to encourage use in federally funded activities i.e., DOT projects, DOE projects, etc.
OH			X		X	
OK	--	--	--	--	--	--
PA	--	--	--	--	--	--
RI	--	--	--	--	--	--
SD			X		X	
TN	--	--	--	--	--	--
TX	X		X			
UT	X		X		X	
VT	X				X	

STATE	MODELS OF EXISTING PROGRAMS	SUGGESTED WAYS TO OVERCOME MAJOR BARRIERS	LIST OF APPROVED MATERIALS AND USES BY STATE	LIST OF STATE CONTACTS IN STATES WITH BUD PROGRAMS	LIST OF CRITERIA OR OTHER STANDARDS USED FOR DECISION MAKING	OTHER (PLEASE SPECIFY)
VA						
WA	--	--	--	--	--	--
WV						
WI	--	--	--	--	--	--
WY	--	--	--	--	--	--

NOTE:

CT: Responded to this question as information that would be most useful to revising an existing BUD process.

7a. Does your State/Territory have time limits that beneficial use applications must be reviewed within? 30 days; 60 days; 90 days; 120 days; Other (please specify); None

7b. If you have a time limit, does the request become automatically approved when the limit is exceeded? Yes; No; Other (specify outcome(s))

STATE	TIME LIMIT FOR REVIEW OF BENEFICIAL USE APPLICATIONS						IF TIME LIMIT EXCEEDED, IS REQUEST AUTOMATICALLY APPROVED?		
	30 days	60 days	90 days	120 days	Other (please specify)	NONE	YES	NO	OTHER (specify outcome)
CT						X			
FL						X			
HI					180 days*	X*			If no action by State within 180 days, permit applications are considered default permits and operation is automatically approved. Other requests for inert fill determination require written approval from the Department.
ID	--	--	--	--	--	--	--	--	--
IL			X					X	
IN						X			
IA						X			
KS						X			
KY					135 days				For solid waste, it is already approved by a permit-by-rule unless we "disapprove" the use. The application is for a written

STATE	TIME LIMIT FOR REVIEW OF BENEFICIAL USE APPLICATIONS						IF TIME LIMIT EXCEEDED, IS REQUEST AUTOMATICALLY APPROVED?		
	30 days	60 days	90 days	120 days	Other (please specify)	NONE	YES	NO	OTHER (specify outcome)
									letter of confirmation that is not normally given unless the end user requests one. The same is true for coal combustion coal ash that is used as a permit-by-rule in 401 KAR 45:060. For special waste reused in a manner not specified in 45:060, the end user must await a "Letter of Acknowledgement" per 45:070.
ME					18 working days to 180 days depending on the activity.		X*	X*	
MD						X		X	
MA		X							The application fee is refunded if the timeline is exceeded.
MI					180 days			X	
MN						X			
MS						X			

STATE	TIME LIMIT FOR REVIEW OF BENEFICIAL USE APPLICATIONS						IF TIME LIMIT EXCEEDED, IS REQUEST AUTOMATICALLY APPROVED?		
	30 days	60 days	90 days	120 days	Other (please specify)	NONE	YES	NO	OTHER (specify outcome)
MO						X			
MT						X			
NH				X				X*	
NJ						X			
NY						X			
NC	X*						X**		
ND						X			
OH						X			
OK	X							X	
PA	X*	X*			160*			X	
RI*						X			
SD						X			
TN						X			
TX	X							X*	
VA			X					X	
WA			X*					X	
WV						X			
WI		X						X	
WY						X			

NOTES:

HI: 180 days as part of solid waste permit application.
None as part of determinations of sediment/soil as inert fill.

ME: Yes and No. Yes for 18-day permit-by-rule activities. No for major projects (with or without risk assessments).

NH: 120 days to issue substantially complete.

NC: * Coal Combustion By-products rules: 30 days
** Coal Combustion By-products

PA: New applications 160 days; DOAs 60 days; Registrations 30 days

RI: The answers refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

TX: Agency can extend processing time.

WA: The application process is explicit that the 90-clock begins once the application is determined to be complete by Ecology. We work with applicants to identify data gaps and other deficiencies and offer a preliminary assessment as to the viability of the proposal. Once all information is collected, the applicant is notified via certified mail of the date an application is deemed complete. This action initiates the 90-day formal review period.

8. Estimate the range of staff hours it takes to review a beneficial use request / application:_____ to_____ hours for an average written request; _____ to _____ hours for first time / unique or more complex request.

STATE	RANGE OF STAFF HOURS TO REVIEW	
	AVERAGE WRITTEN REQUEST	FIRST TIME/ UNIQUE/ COMPLEX REQUEST
CT	1–1 ½ (years, not hours)	1–2 (years, not hours)
FL	20–40	400-800
HI	8-24	40
ID	10–20	--
IL	*	*
IN	10-15	60-80
IA	2-5	10-20
KS	1-2	24-40
KY	4-12	16-24
ME	Unknown	Unknown
MD	2-10	10-50?
MA	--	--
MI	1-2	5-10
MN	4-12	8-40
MS	3-6	6-8
MO	8-15	40-60
MT	--	--
NH	20-40	40-80
NJ	3-4	15-40
NY	7.5-37.5	30-75
NC	4-6	16-40
ND	1-40	8-40
OH	*	*
OK	¼ - ½	1-2
PA	25-50	50-100
RI*	7-14	35-70
SD	4-8	10-20
TN	4-10	16-40
TX	1-2	4-8
UT	N/A	N/A
VA	4-8	20-40
WA	~20-30	~40-60*
WV	1-20	20-40
WI	20-30	80-100
WY	1-3	8-24

NOTES:

IL: We have only received two requests since authority was granted to us in January 2006. Of these requests, we have rejected one and have not made a final decision on the second one.

OH: One office indicated 16-48 hours for a typical request, 80-160 hours for a complex request. Another office indicated 3-4 hours for a typical request, 20-40 hours for a complex one.

RI: The answers refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WA: Unique or more complex request

9. Which of the following criteria does your State/Territory use when considering beneficial use requests and making decisions? Check all that apply (i.e., if the request is not consistent with the criteria, it would be grounds for rejection). It must:

Key:

A: not be expected to result in adverse impacts to human health or the environment
B: constitute a use rather than a disposal
C: be consistent with an integrated waste management policy or hierarchy
D: be effective substitute for an analogous raw material
E: not require decontamination or treatment
F: have demonstrated market or need for the material
G: divert waste from a landfill or other disposal facility
H: save resources or energy
I: (may allow) blending allowed to meet target contaminant levels
J: use in a product or activity where contaminants are chemically bound (i.e., cement, concrete, asphalt)
K: not involve a fee that is paid by the waste generator to the waste user

State	Criteria Used in Beneficial Use Decision-Making											
	A	B	C	D	E	F	G	H	I	J	K	Other
CT	X	X	X	X		X	X	X		X		Have demonstrated a legitimate benefit, other than reducing disposal costs.
FL	X	X		X					X			We prefer uses in cement, concrete or asphalt but it is not required.
HI	X	X	X	X	X*	X	X			X		Final product does not possess a physical, chemical or biological characteristic of concern.
ID	X			X		X						
IL	X	X		X		X						
IN	X	X	X	X	X				X	X		
IA	X	X	X	X		X	X	X		X		

State	Criteria Used in Beneficial Use Decision-Making											
	A	B	C	D	E	F	G	H	I	J	K	Other
KS	X	X			X		X					
KY	X	X		X			X		X	X		
ME	X	X		X		X						
MD	X	X		X		X				X		Depends on the specific material and the proposed use.
MA	X	X		X		X	X	X		X		Meet risk-based contaminant levels established in the guidance document, not increase background levels of concentrations of critical contaminants of concern, or meet industry specifications.
MI	X	X		X	X	X				X		
MN	X	X		X		X						
MS	X	X		X	X	X						Waste cannot be a putrescible waste. Putrescible wastes are eligible for beneficial use under site specific solid waste permits.
MO	X	X		X								
MT	X	X	X	X		X	X	X		X		
NH	X	X	X			X				X		
NJ	X	X		X		X				X		
NY	X	X	X	X	X	X						

State	Criteria Used in Beneficial Use Decision-Making											
	A	B	C	D	E	F	G	H	I	J	K	Other
NC	X	X										
ND	X	X	X	X	X	X	X	X	X	X	X	
OH	X											Constitute disposal rather than as a legitimate product.
OK	X	X		X		X	X	X		X		
PA	X	X		X					X	X		
RI	X	X		X*		X	**		X			Re-used end products that have soil type properties must satisfy specific contaminant limits for several defined parameters.
SD	X	X		X			X	X	X	X		
TN	X	X		X		X				X		
TX	X	X		X		X	X			X		
VA	X	X	X	X	X	X	X			X		
WA	X	X		X	X							*May* be a suitable material for a non-fertilizer soil amendment to build organic content, help retain moisture, or other benefit where guaranteed plant nutrient, liming characteristics or other claimed benefit does note result in required registration with the State Agriculture

State	Criteria Used in Beneficial Use Decision-Making											
	A	B	C	D	E	F	G	H	I	J	K	Other
												Department as a fertilizer.
WV	X	X	X	X	X		X	X		X		
WI	X	X	X	X	X	X				X		
WY	X	X		X						X		

NOTES:

HI: Not require decontamination or treatment after use.

RI: * Be effective substitute for an analogous raw material or for a commercial product.
** In RI, a plus, but not a requirement.
The answers refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

10a. Which of the following <u>administrative tools</u> does your State/Territory use when making beneficial use decisions? Check all that apply

STATE	ADMINISTRATIVE TOOLS USED IN BENEFICIAL USE DECISIONS						
	LIST(S) OF EXEMPTED MATERIALS OR PREAPPROVED USE FOR WASTES	RULE OR STATUTE DIRECTS THAT NO FORMAL APPROVALS ARE NEEDED	LETTERS SIMPLY ACKNOWLEDGING BENEFICIAL USE OF A MATERIAL BUT NOT AN APPROVAL	SPECIAL CONSIDERATION WHEN MATERIAL USED AS A SUBSTITUTE FOR ANOTHER RAW MATERIAL	LETTERS GRANTING APPROVAL	PERMITS	OTHERS
CT	X					X	BU determinations (approvals)
FL	X				X	X	
HI					X	X	
ID	--	--	--	--	--	--	--
IL		X	X				
IN	X	X	X		X		
IA	X	X		X	X		
KS					X		
KY	X	X	X		X		
ME	X					X	
MD				X	X	X*	
MA	X	X				X	General BUD that allows specific uses for materials without the need to get a permit.
MI	X	X	X	X	X		

STATE	ADMINISTRATIVE TOOLS USED IN BENEFICIAL USE DECISIONS						
	LIST(S) OF EXEMPTED MATERIALS OR PREAPPROVED USE FOR WASTES	RULE OR STATUTE DIRECTS THAT NO FORMAL APPROVALS ARE NEEDED	LETTERS SIMPLY ACKNOWLEDGING BENEFICIAL USE OF A MATERIAL BUT NOT AN APPROVAL	SPECIAL CONSIDERATION WHEN MATERIAL USED AS A SUBSTITUTE FOR ANOTHER RAW MATERIAL	LETTERS GRANTING APPROVAL	PERMITS	OTHERS
MN	X						Case Specific Beneficial Use Determinations. These are legal documents that outline the approval, conditions for use, and reporting requirements.
MS	X	X			X		
MO					X		
MT				X			Analytical data which demonstrates that a certain material will not pollute or harm the environment.
NH	X	X		X	X	X	
NJ	X	X				X	
NY	X				X		Permits when processing is required prior to beneficial use.

STATE	ADMINISTRATIVE TOOLS USED IN BENEFICIAL USE DECISIONS						
	LIST(S) OF EXEMPTED MATERIALS OR PREAPPROVED USE FOR WASTES	RULE OR STATUTE DIRECTS THAT NO FORMAL APPROVALS ARE NEEDED	LETTERS SIMPLY ACKNOWLEDGING BENEFICIAL USE OF A MATERIAL BUT NOT AN APPROVAL	SPECIAL CONSIDERATION WHEN MATERIAL USED AS A SUBSTITUTE FOR ANOTHER RAW MATERIAL	LETTERS GRANTING APPROVAL	PERMITS	OTHERS
NC	X*	X*					
ND	X				X		We have used letters of approval, but have also approved plans that do not require case-by-case approval.
OH					X		Exemption from regulation as a solid waste disposal facility.
OK		X			X		
PA*	X			X		X	
RI					X		
SD					X	X	
TN					X		
TX					X		Issue Recycling Notification approvals.
VA	X			X	X		Coal Combustion By-products Regulations

STATE	ADMINISTRATIVE TOOLS USED IN BENEFICIAL USE DECISIONS						
	LIST(S) OF EXEMPTED MATERIALS OR PREAPPROVED USE FOR WASTES	RULE OR STATUTE DIRECTS THAT NO FORMAL APPROVALS ARE NEEDED	LETTERS SIMPLY ACKNOWLEDGING BENEFICIAL USE OF A MATERIAL BUT NOT AN APPROVAL	SPECIAL CONSIDERATION WHEN MATERIAL USED AS A SUBSTITUTE FOR ANOTHER RAW MATERIAL	LETTERS GRANTING APPROVAL	PERMITS	OTHERS
WA				X	X		1998 amendment in statute specified that that the mandated formal application process did not affect the status of any previous determinations by Ecology that occurred as a result of informal decisions.
WV	X	X		X	X		
WI	X	X			X	X	
WY	X				X		

NOTES:

MD: For some materials, like sewage sludge, natural wood waste or scrap tires.

NC: *Coal Combustion Byproducts; Beneficial Fill
** Recovered Materials

PA: Some coal ash uses are pre-approved by regulations.

10b. If the material is used in a manner that meets State/Territorial requirements for beneficial use, is it exempt from further solid waste regulation (including permitting)?

STATE	EXEMPT FROM FURTHER SOLID WASTE REGULATION	
	YES	NO
CT	X	
FL	X	
HI	X	
ID		X
IL	X	
IN		X
IA		X
KS	X	
KY	X	
ME		X
MD	X*	
MA		X*
MI	X	
MN	X	
MS	X*	
MO	X	
MT	X	
NH	X	
NJ	X	
NY	X	
NC	X*	X**
ND	X	
OH	X	
OK	X	
PA		X
RI	X	
SD		X
TN	X	
TX	X	
VA	X*	
WA	X*	
WV	X	
WI	X	
WY	X	

NOTES:

MD: Usually yes but some materials require permits -- for example, application of Class B sludge as fertilizer requires a permit -- and the commercial manufacturing of wood mulch from natural wood waste generally requires a natural wood waste recycling permit (although the use of the mulch does not). Also, the 'beneficial use' of any material as a soil amendment (e.g., cement kiln dust as a liming agent) requires the approval of the material by the Maryland Department of Agriculture; but again, the material is approved, not the site of use. For most materials, however, if it qualifies as a recyclable, then it is not a waste and is regulated like any other product.

MA: The waste may not need further permitting but there may be other solid waste regulations that apply, for example, if the BUD material requires some type of processing prior to use there may be a need for a modification to the facility's operation permit.

MS: Unless mismanaged.

NC: * Recovered Materials; Beneficial Fill
** Coal Combustion By-products

VA: The material is exempt if it is managed so that it does not create an open dump, hazard, or public nuisance.

WA: Provided the nature of the material does not change, the exemption holder continues to manage the material consistently with terms and conditions of the approval, and assuming no new information becomes available that would cause Ecology to change its position on the approval.

10c. If the material is used in a manner that meets State/Territorial requirements for beneficial use, does it cease to be a solid waste? Yes; No If Yes, at what specific point

STATE	CEASE TO BE A SOLID WASTE		
	YES	NO	IF YES, AT WHAT SPECIFIC POINT
CT	X*	X*	* Potentially, Connecticut may exempt materials once it's proven they can be successfully reused.
FL	X		At the point the material is used as approved or processed as approved prior to use.
HI	X		The material would cease to be a solid waste when it no longer has a physical, chemical, or biological characteristic of concern, serves a beneficial purpose (i.e., after it meets permit requirements for reuse or after a new permit-approved, product has been manufactured), or can be considered inert fill.
ID		X	
IL	X		It is no longer a waste when shipped to the user.
IN	--	--	The status as a solid waste (or rather, the application of solid waste regulations) is dependent on the management practices. The Indiana statutes for use of coal ash and steel slag state that use is not subject to the provisions of the rules passed by the solid waste board. That is not the equivalent of stating they are not a solid waste. If they are used in a sham use, such as "structural fill" without any structure needing support, IDEM would require a clean-up of the site or other acceptable mitigation. The other regulatory provisions for use do not exempt a waste from further regulation. It should also be noted that a release to the environment is considered disposal and may be regulated. So, in the case, for example, steel slag is used in a fill project where constituents are released to surface water, IDEM would regulate that release and would require clean-up or other acceptable mitigation.
IA	X		Solid by-products determined by the Department not to be a solid waste through a beneficial use determination may not be subject to all sanitary disposal project (SDP) permitting requirements. Furthermore, the purpose of this rule is to encourage the utilization of solid by-products as resources when such utilization improves, or at a minimum does not adversely affect, human health and the environment. The issuance of a beneficial use determination by the department relieves the generator and user(s) of all Iowa solid waste requirements specifically noted in the written determination.
KS	X		--

STATE	CEASE TO BE A SOLID WASTE		
	YES	NO	IF YES, AT WHAT SPECIFIC POINT
KY	X		When "... diverted or removed from the solid waste stream for sale, use, reuse, or recycling..." per the definition of "Recovered Material" at KRS 224.01-010(20).
ME		X	
MD	X		If a material that 'would otherwise be a waste' is being returned to the market place (not just piled up) in place of a raw material or product, and the use is legitimate, then legally it is a recyclable, not a waste. As an example, if I wish to recycle a soft drink can, I put it with my other recyclables, and the County collects it with my other recyclables and sells or gives it to a recycler, and it is in fact recycled, then it was never a waste. However, if I throw it in the trash, but it goes to a processing facility and is pulled out to be recycled, then it was solid waste for the time it was in the trash but becomes a recyclable again when it is pulled out and returned to the market place.
MA	X		The material ceases to be a solid waste upon approval and only when used in accordance with the terms and conditions of the specific approval.
MI	X		It is not a solid waste at the point it is used in compliance with all the conditions put on the material.
MN	X		At the point of incorporation.
MS	X		At the point of use of the material or by-product.
MO		X	
MT		X	
NH	X		At the point where it meets the specifications in the Certification.
NJ	X		When approved.

STATE	CEASE TO BE A SOLID WASTE		
	YES	NO	IF YES, AT WHAT SPECIFIC POINT
NY	X		By default, the BUD attaches when the BUD material is used – either as a component of a manufacturing process or as an effective substitute for a raw material. The point of attachment can be set at another point at the discretion of the Department.
NC	X		As soon as it is diverted from waste stream for any use.
ND	X		It is considered a product or material in use; however, if problems arise or if the material may later become a waste, we may have some conditions requiring proper management.
OH		X	
OK	X		Being used as an ingredient in an industrial process to make a product; used as an effective substitute for commercial products; being returned to the original process from which it is generated, without first being reclaimed; in the possession of persons who actually possess the equipment necessary to process the material to comply with one of the above conditions; and DEQ may make a reuse determination on other proposals based upon an evaluation of the contemplated use of the material and potential effects on human health and the environment.
PA	X		On a case-by-case basis as a condition of the General Permit. Usually at the point of use.
RI	X		When it is meets the requirements for re-use (when processing of the solid waste is required to make it suitable for re-use and when sampling and testing verifies that it meets the acceptable contamination limits for re-use) and additionally, when it is re-used in the approved manner.
SD		X	
TN	X		At the point of use.
TX	X		See attached definitions in Appendix D.
VA	X		When it is used in a manner prescribed by the regulations or approval is issued by the Department.

STATE	CEASE TO BE A SOLID WASTE		
	YES	NO	IF YES, AT WHAT SPECIFIC POINT
WA		X	
WV	X		When it becomes a product acceptable for beneficial use.
WI		X	
WY		X	

NOTE:

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

11a. What elements below do you consider in your routine process for making a BUD? Check all that apply

Key:

A: benefit assessment (based on suitable physical, chemical or agronomic properties)
B: institutional controls where materials are used
C: financial assurance or bonding for beneficial use projects
D: informal risk evaluation
E: formal human health risk assessment
F: formal ecological risk assessment
G: testing chemical / physical characteristics of materials
H: specific numeric thresholds, standards or guidelines
I: special conditions that limit use
J: public notification
K: other elements (please specify)

STATE	ELEMENTS USED IN ROUTINE BENEFICIAL USE DETERMINATION PROCESS										
	A	B	C	D	E	F	G	H	I	J	K (Other)
CT	X	X	X		X	X	X	X	X	X	
FL	X	X		X	X	X	X	X	X	X	
HI		X		X	X	X	X	X	X		
ID	X										
IL				X	X	X	X	X	X		
IN	X	X		X	X		X	X	X		
IA	X	X		X			X	X	X	X	
KS	X	X		X			X				
KY	X	X		X					X		
ME	X	X			X	X	X	X	X	X	
MD*	X	X		X	X	X	X	X	X		
MA	X	X	X	X	X	X	X	X	X		Notification of the local board of health.
MI	X	X					X	X	X		
MN	X	X		X	X	X	X		X	X	
MS	X						X	X	X		
MO	X						X		X		
MT	X	X	X		X	X	X		X		

STATE	ELEMENTS USED IN ROUTINE BENEFICIAL USE DETERMINATION PROCESS										
	A	B	C	D	E	F	G	H	I	J	K (Other)
NH					X	X	X	X	X		Compatible with the State Solid Waste Plan and Hierarchy.
NJ	X	X	X	X			X	X	X		
NY	X	X					X	X	X		
NC							X*	X*	X*		
ND	X			X			X	X	X		Coordination, review and/or approval by other agencies, public entities, local zoning, local health units, etc.
OH	X			X			X	X			Siting, amount of waste involved.
OK	X	X			X	X	X				
PA	X	X	X	X			X	X	X	X	
RI	X			X			X	X	X		
SD	X			X			X		X		
TN	X	X		X	X			X	X		
TX	X	X	X				X		X		Limit storage time to 6 months; if not

STATE	ELEMENTS USED IN ROUTINE BENEFICIAL USE DETERMINATION PROCESS										
	A	B	C	D	E	F	G	H	I	J	K (Other)
											reused, may be declared a waste.
VA	X	X		X			X	X	X		Known or reasonably probable market for intended use; proposed use of material constitutes a reuse rather than disposal.
WA	X	X		X			X		X	X	
WV*											
WI	X	X					X	X	X	X	Our specific numerical thresholds are based on human health risk assessment.
WY	X	X		X			X	X	X		

NOTES:

MD: It depends on the material and the use, but these are used, although which might vary from case to case.

NC: Coal Combustion Byproducts. Recovered Materials are not in our “routine process” but we have approved a few.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WV: N/A

11b. From the list above, which 3 items are the most important? (you may use the letters): most important (#1); 2nd most important; 3rd most important

Key:

A: benefit assessment (based on suitable physical, chemical or agronomic properties)
B: institutional controls where materials are used
C: financial assurance or bonding for beneficial use projects
D: informal risk evaluation
E: formal human health risk assessment
F: formal ecological risk assessment
G: testing chemical / physical characteristics of materials
H: specific numeric thresholds, standards or guidelines
I: special conditions that limit use
J: public notification
K: other elements (please specify)

STATE	1ST MOST IMPORTANT	2ND MOST IMPORTANT	3RD MOST IMPORTANT
CT	F	E	G
FL	G	H	I
HI	G/H	E/F	Blank
ID	--	--	--
IL*	--	--	--
IN	A	I	G
IA	G	A	I
KS	A	G	D
KY	I	D	B
ME	E	G	I
MD	G	D	E
MA	H	E	I
MI	H	A	B
MN	A	G	D and E
MS	H	A	G
MO	G	A	I
MT	A	G	B
NH	E	F	K
NJ	G	H	A
NY	A	G	H
NC	I	G	H
ND	D	G	H
OH	D	A	--
OK	E	F	G
PA	G	H	A
RI*	--	--	--
SD	A	G	D
TN	E	I	A
TX	A	G	I
VA	G	H	D
WA	A*	G*	D
WV*			
WI	G	H	I
WY	G	H	D

NOTES:

IL: We have not developed formal criteria, so we cannot specify at this time.

RI: All are equally important.

WA: 1 and 2 are ~ equally important.

WV: N/A

12. Please check any general restrictions or conditions your State/Territory places on beneficial use decisions. Check all that apply

Key:

A: site location
B: set back distances from water supplies, surface waters or wetlands
C: depth to ground water
D: property or deed restrictions
E: post use soil sampling
F: post use ground water sampling
G: periodic follow-up testing or monitoring of products
H: quarterly or annual monitoring reports
I: reporting of quantities of wastes utilized at the end of the year or quarter
J: volume restrictions
K: fee restrictions
L: generator provides notice to users about how the material is to be used

STATE	GENERAL RESTRICTIONS OR CONDITIONS ON BENEFICIAL USE DECISIONS												
	A	B	C	D	E	F	G	H	I	J	K	L	Other
CT	X	X	X				X	X	X	X		X	
FL	X	X	X	X	X	X	X			X		X	
HI	X	X	X	X	X	X		X	X	X		X	
ID	X												
IL	X	X	X			X						X	
IN	--*	--*	--*	--*	--*	--*	--*	--*	--*	--*	--*	--*	
IA	X	X	X				X	X				X	
KS	X												
KY		X*							X*			X*	
ME	X	X	X	X*	X*	X*	X		X			X	
MD*	X	X	X	X	X	X	X	X	X	X		X	
MA	X	X	X	X			X	X	X	X		X	Limits on specific contaminants.
MI	X	X	X	X			X		X	X			
MN		X						X	X			X	
MS									X	X		X	
MO	X	X	X						X				
MT	X	X	X	X			X		X	X			
NH	X	X					X					X	

STATE	GENERAL RESTRICTIONS OR CONDITIONS ON BENEFICIAL USE DECISIONS												
	A	B	C	D	E	F	G	H	I	J	K	L	Other
NJ	X	X	X	X			X	X	X	X	X	X	
NY	X	X	X				X		X		X	X	
NC	X	X	X	X	X		X		X	X			
ND	X	X	X				X	X	X			X	
OH	X	X	X						X	X			
OK	X	X	X										
PA	X	X	X			X	X	X	X	X		X	
RI							X						
SD	X	X	X	X			X		X	X			
TN*	X	X	X	X			X		X	X		X	
TX	X	X					X	X	X	X			
VA	X	X	X	X			X	X	X			X	
WA	X	X	X				X		X				
WV	X	X	X	X						X		X	
WI	X	X	X	X				X	X	X		X	
WY	X	X	X						X	X			

NOTES:

IN: None of these are general restrictions but may be used in case-by-case approvals.

KY: Coal combustion ash, only.

ME: "may" place these general restrictions or conditions on beneficial decisions

MD: It totally depends on what the material is, and all these are certainly not always required, but all these have been used in one case or another.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

TN: Restrictions implemented are case specific. Not all of the above conditions are used on every project**.**

13a. What analytical tests do you require for making BUDs? Check all that apply

STATE	ANALYTICAL TESTS REQUIRED							
	TOTAL METALS ANALYSIS	TOTAL ORGANIC ANALYSIS	TCLP (EPA METHOD 1311)	SPLP (EPA METHOD 1312)	NEUTRAL WATER (ASTM D3987-06)	LEACHING TESTS FOR METALS	LEACHING TEST FOR ORGANICS	OTHERS
CT	X	X	X			X		
FL	X	X	X	X		X	X	Total and leaching pesticides, if applicable.
HI	X	X	X	X				To be determined based on the type of waste. Examples of other analytical tests include pH, PCBs, pesticides/herbicides, dioxins/furans.
ID	--	--	--	--	--	--	--	--
IL*	--	--	--	--	--	--	--	--
IN	X	X	X	X	X			
IA	X		X	X		X		
KS	X	X	X	X				
KY			X*	X*	X*			
ME	X		X					May also include: Tox (total organic halogens), dioxins, furans, target volatiles and semi-volatiles, PCBs.
MD*	X	X	X					Total Petroleum Hyrocarbons for oil contaminated soils, PCBs for shredder fluff, etc.
MA	X	X	X	X				
MI	X	X		X		X	X	
MN	X	X		X				
MS	X		X					MDEQ will allow other leaching tests outside of TCLP where shown appropriate.

STATE	ANALYTICAL TESTS REQUIRED							
	TOTAL METALS ANALYSIS	TOTAL ORGANIC ANALYSIS	TCLP (EPA METHOD 1311)	SPLP (EPA METHOD 1312)	NEUTRAL WATER (ASTM D3987-06)	LEACHING TESTS FOR METALS	LEACHING TEST FOR ORGANICS	OTHERS
MO	X		X	X		X		
MT	X	X	X	X				
NH	X*	X*	X*					
NJ	X	X	X	X				
NY	X	X						Hazardous waste determination: TCLP if necessary. Others as needed on case-by-case basis.
NC	X		X					
ND					X	X	X	For CCBs, we use the ASTM 3987 method modified to a 4:1 liquid to solid ratio.
OH			X	X	X			
OK	X	X				X	X	Any other contaminant identified by knowledge of process.
PA	X	X	X	X	X	X	X	
RI								Types of analyses will depend on the type of solid waste being processed for reuse.
SD	X	X	X					
TN	X					X	X	It depends on the nature and origin of the materials.
TX								Case specific. May use one or all of the tests listed. TCLP most common.

STATE	ANALYTICAL TESTS REQUIRED							
	TOTAL METALS ANALYSIS	TOTAL ORGANIC ANALYSIS	TCLP (EPA METHOD 1311)	SPLP (EPA METHOD 1312)	NEUTRAL WATER (ASTM D3987-06)	LEACHING TESTS FOR METALS	LEACHING TEST FOR ORGANICS	OTHERS
VA	X		X			X	X	
WA	X		X*					Demonstration that the material is not a RCRA Hazardous Waste or State-Only Dangerous Waste. Demonstration that the material meets the standards for metals published in State commercial fertilizer regulations (for materials applied to the land), nutrient analysis, other pollutant analysis dependant of the material and proposed use.
WV			X					
WI	X		X		X	X	X	
WY	X	X		X				

NOTES:

IL: We have not developed formal criteria, so we cannot specify at this time.

KY: TCLP (EPA Method 1311) – for hazardousness only.
SPLP (EPA Method 1312) – recommended for large structural fill sites, but not required by regulation.
Neutral Waster (ASTM 39876) - recommended for large structural fill sites, but not required by regulation.

MD: It depends on what it is, but these are commonly requested.

NH: Not in every case, but these are the most frequently used.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WA: Usually

13b. What parameters do you require to be tested in the BUD? Check all that apply

STATE	PARAMETERS					
	PRIMARY DRINKING WATER PARAMETERS	SECONDARY DRINKING WATER PARAMETERS	VOCS	SVOCS	SPECIFIC METALS (indicate which metals)	OTHERS
CT	X		X	X	RCRA 8: As, Ba, Cd, Cr, Hg, Pb, Se, Ag	
FL	X	X	X	X	8 RCRA Metals, then others depending on the process or byproduct material characteristics.	Pesticides, if applicable.
HI			X	X	X*	To be determined based on the type of waste. Examples of other analytical tests include pH, PCBs, pesticides/herbicides, dioxins/furans.
ID	--	--	--	--	--	--
IL	X					
IN	X	X	X	X		Any constituent determined to be of interest based on knowledge of the waste and/or process generating the waste.
IA					As, Sb, Ba, Be, B, Cd, Cr, Cu, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn	
KS						KS RSK Manual parameters.
KY	X					

STATE	PARAMETERS					
	PRIMARY DRINKING WATER PARAMETERS	SECONDARY DRINKING WATER PARAMETERS	VOCS	SVOCS	SPECIFIC METALS (indicate which metals)	OTHERS
ME	X	X	X	X	Depends: Arsenic, Barium, Cadmium, Chromium, Lead Mercury, Selenium, Silver, Nickel, Zinc, maybe Copper, Molybdenium, Thallium, Vanadium, etc.	Any of the above, based upon what is expected to be found in that waste.
MD	X*	X*	X*	X*	Depends on what it is.	It depends on what it is – e.g., for use of shredder fluff as daily cover, we require at least one and sometimes repeated full TCLP, plus TPH and PCBs on a routine basis, increasing in frequency of they get a spike.
MA	X	X	X	X	X*	Asbestos; extensive list of parameters.
MI	X	X	X	X	Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, And Zinc	Depending on the material possibly PCBs, dioxins/furans
MN						Constituents that are reasonably expected to be present.

STATE	PARAMETERS					
	PRIMARY DRINKING WATER PARAMETERS	SECONDARY DRINKING WATER PARAMETERS	VOCS	SVOCS	SPECIFIC METALS (indicate which metals)	OTHERS
MS					RCRA Metals for all, and also 503 Metals for soil amendments uses.	State can require additional parameters to be tested on case-by-case basis.
MO					TCLP Metals	Constituents known to be found in the material in question; can vary significantly.
MT	X		X			
NH	X*	X*	X*	X*	RCRA Metals	
NJ			X	X	TAL	TCL +30
NY						Can be same as 13a. on a case-by-case basis.
NC	X	X				

STATE	PARAMETERS					
	PRIMARY DRINKING WATER PARAMETERS	**SECONDARY DRINKING WATER PARAMETERS**	**VOCS**	**SVOCS**	**SPECIFIC METALS (indicate which metals)**	**OTHERS**
ND	X	X	X	X	(10) Antimony (11)Beryllium (12)Cobalt (13)Copper (14)Nickel (15)Thallium (16)Vanadium (17) Zinc For Fly As waste analysis, naturally occurring radionuclides: (1) Gross Alpha Particle Radioactivity (pCi/1) (2) Radium 226 and 228 (pCi/1) (3) Uranium	Surface water quality standards
OH					Arsenic, Barium, Cadmium, Zinc, Chromium, Lead, Mercury, Selenium, Aluminum, Copper, Iron, Manganese, Vanadium. [Some apply only for land application for agronomic benefit].	Acidity, Alkalinity, Chlorides, Cyanide, Fluoride, pH, Phenol, Specific Conductance, Sulfates, TDS
PA	X	X	X	X	Typically, Al, As, Ba, Be, Bo, Cd, Cr, Cu, Fe, Hg, Mo, Ni, Se, Th, Zn	
OK*						
RI						Parameter list will depend on the type of solid waste being proposed for reuse.

STATE	PARAMETERS					
	PRIMARY DRINKING WATER PARAMETERS	SECONDARY DRINKING WATER PARAMETERS	VOCS	SVOCS	SPECIFIC METALS (indicate which metals)	OTHERS
SD						Determined on a case-by-case basis depending upon the waste characteristics.
TN	X	X	X	X	TCLP, Zn, Al, Fe, etc.	Varies, dependent on the source of materials.
TX						Case specific. May use one or all of the tests listed. Must be non-hazardous.
VA					TCLP and total metals for those metals in TCLP.	
WA	X				As, Cd, Co, Hg, Mo, Ni, Pb, Se, Zn	Typically determined after initial discussion with applicant.
WV	X					
WI	X	X	X	X		PAH's
WY	X	X	X	X		The waste involved determines the constituents analyzed.

NOTES:

HI: No specific metals noted.

MD: It depends on what it is, but these are commonly requested.

MA: It is dependent upon the BUD material.

NH: Case-by-case use. Usually on soils and other solids.

OK: The analytical determination is always made depending on a knowledge of the process and what contaminants are known to exist; it is a waste of money to test for something you know is not present. If metals are possible in the waste, test for total metals and TCLP if warranted; etc.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

14a. What is the acceptable risk level for human and ecological receptors that comes closest to your State/Territory rules or policy applied to BUDs? Check all that apply

Key:

A: no adverse risk accepted
B: case by case acceptable risk determination
C: 1 in 10,000 excess cancer risk (1X10-4)
D: 1 in 100,000 excess cancer risk (1X10-5)
E: 1 in 1,000,000 excess cancer risk (1X10-6)
F: other human health risk level or range:
G: ecological effects levels (circle those that apply: i.e., No-Effects Levels, Low-Effects, Moderate-Effects Levels, LD50; Other:
H: risk level is not used as an element of the decision or approval process, however, we use the following:

STATE	ACCEPTABLE RISK LEVEL FOR HUMAN AND ECOLOGICAL RECEPTORS							
	A	B	C	D	E	F	G	H
CT		X						
FL					X		X*	
HI		X			X	Hazard Index <1		
ID								X
IL*	--	--	--	--	--	--	--	--
IN		X						
IA			X					
KS			X					
KY					X			
ME						5×10^{-6} and a Hazard Index of ½.		
MD		X						
MA		X				X		
MI					X			
MN		X						
MS								MDEQ has flexibility to require risk-based assessment on case-by-case basis or as part of a demonstration effort.

STATE	ACCEPTABLE RISK LEVEL FOR HUMAN AND ECOLOGICAL RECEPTORS							
	A	B	C	D	E	F	G	H
MO*								
MT		X						
NH						X*		
NJ					X	X	X	
NY								Comparison of analytical results with background levels and other environmental and health based standards.
NC								Must be > drinking water standard.
ND		X					Low Effects	
OH								Numeric threshold (multiple of DWS), agronomic benefit.
OK					X			
PA		X			X			
RI								No formal risk assessment method required; however the proposed re-use shall not adversely impact human health or the State's groundwater, surface water, air or

STATE	ACCEPTABLE RISK LEVEL FOR HUMAN AND ECOLOGICAL RECEPTORS							
	A	B	C	D	E	F	G	H
								other applicable environmental resources.
SD		X						
TN		X						
TX		X						
VA		X						
WA								Regulatory language states that an exemption holder must "*Conduct the beneficial use in a manner that does not present a threat to human health or the environment*". This is evaluated on a case-by-case basis.
WV	X							
WI				X	X			
WY	X						X*	

NOTES:

FL: Threshold Effects Level and Probable Effects Level.

IL: We have not developed formal criteria, so we cannot specify at this time.

MO: None used at this time.

NH: Not greater than non-waste-derived product.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WY: No Effects Levels.

14b. Is risk based evaluation used consistently for all BUDs?

STATE	RISK-BASED EVALUATION USED CONSISTENTLY		
	YES	NO	NOT USED
CT	X		
FL	X		
HI	X		
ID			X
IL*	--	--	--
IN	X		
IA	X		
KS		X	
KY		X	
ME	X*		
MD		X	
MA		X	
MI	X		
MN		X	
MS		X	
MO			X
MT		X	
NH	X*		
NJ	X		
NY			X
NC			X
ND		X	
OH	X		
OK	X		
PA	X		
RI	X		
SD		X	
TN		X	
TX		X	
VA		X	
WA			X
WV			X
WI		X	
WY			X

NOTES:

IL: We have not developed formal criteria, so we cannot specify at this time.

ME: Used consistently, which may mean no formal risk assessment for low risk material.

NH: By rule the risk of a BUD must no greater than the use of a non-waste-derived product.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

15. How does your State/Territory address "toxics along for the ride" in a BUD material? (indicate methods used to deal with the undesirable constituents present, also, see Q&A in Attachment I for explanation)

STATE	HOW "TOXICS ALONG FOR THE RIDE" ADDRESSED				
	LINKING BENEFICIAL USE DECISIONS TO TOXICITY BENCHMARKS	SPECIFIC STANDARDS THAT LIMIT CONCENTRATIONS	CASE-BY-CASE EVALUATION OF RISK (RISK FOR EACH CONTAMINANT / CUMULATIVE FOR ALL CONTAMINANTS)	CLEANUP RULES OR A RISK EVALUATION PROCESS ARE ADEQUATE TO ADDRESS THIS CONCERN	OTHER (PLEASE SPECIFY):
CT			X		
FL		X	X		
HI	X	X		X	
ID			X		
IL			X		
IN	X	X	X	X	
IA			X		
KS			X		
KY				X	
ME					Don't know what this means. Maine considers all chemical, physical constituents anticipated to be associated with the waste in question.
MD		X	X	X	
MA		X	X		Upper Concentration Limits (UCL)
MI		X		X	
MN	X	X	X		
MS	X	X			
MO*					
MT		X	X		

STATE	HOW "TOXICS ALONG FOR THE RIDE" ADDRESSED				
	LINKING BENEFICIAL USE DECISIONS TO TOXICITY BENCHMARKS	SPECIFIC STANDARDS THAT LIMIT CONCENTRATIONS	CASE-BY-CASE EVALUATION OF RISK (RISK FOR EACH CONTAMINANT / CUMULATIVE FOR ALL CONTAMINANTS)	CLEANUP RULES OR A RISK EVALUATION PROCESS ARE ADEQUATE TO ADDRESS THIS CONCERN	OTHER (PLEASE SPECIFY):
NH				X	By rule, if the BUD meets a national or market standard or specification it is a BUD by rule regardless of toxic content.
NJ	X	X	X	X	
NY		X			Comparison of waste material constituents with those found in raw material.
NC		X			
ND	X		X		
OH	X				
OK			X		
PA		X			
RI		X		X	
SD			X		
TN		*	*		
TX		X	X		
VA	X				
WA					Some standards apply such as dangerous waste and commercial fertilizer limits. Generally however, the onus is on the applicant to demonstrate that use of the material in the manner proposed "…*does not present a threat to human health or the environment*". This demonstration must consider any tag-along pollutants such as pesticides, dioxin/furan TEQs, etc.

STATE	HOW "TOXICS ALONG FOR THE RIDE" ADDRESSED				
	LINKING BENEFICIAL USE DECISIONS TO TOXICITY BENCHMARKS	SPECIFIC STANDARDS THAT LIMIT CONCENTRATIONS	CASE-BY-CASE EVALUATION OF RISK (RISK FOR EACH CONTAMINANT / CUMULATIVE FOR ALL CONTAMINANTS)	CLEANUP RULES OR A RISK EVALUATION PROCESS ARE ADEQUATE TO ADDRESS THIS CONCERN	OTHER (PLEASE SPECIFY):
WV*					
WI		X		X	
WY	X				

NOTES:

MO: Have not specifically addressed; requests to date have not shown this to be an issue (so far).

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

TN: Either specific standards that limit concentrations or case-by-case evaluation of risk (risk for each contaminant / cumulative for all contaminants).

WV: N/A – don't have authority to address.

16. How does your State/Territory address the potential for "sham recycling" as opposed to legitimate beneficial use?

STATE	HOW POTENTIAL FOR "SHAM RECYCLING" ADDRESSED							
	STOCKPILE TIME OR VOLUME LIMITATIONS	MINIMALLY IDENTIFY OR FULLY DOCUMENT END MARKETS	MANDATORY TURNOVER OF A CERTAIN VOLUME OF BUD MATERIAL INTO A PROCESS	PERFORMANCE CRITERIA OR TECHNICAL SPECIFICATIONS	COMPARISON AGAINST AN ANALOGOUS RAW MATERIAL	EVALUATION OF THE ROLE OR PURPOSE OF THE BUD MATERIAL IN A GIVEN APPLICATION	PROVIDE MARKET INFORMATION	OTHERS (EXPLAIN)
CT	X	X					X	Quarterly reports.
FL	X		X		X			
HI	X	X	X	X	X	X		
ID	X				X			
IL	X	X		X	X	X		
IN		X		X	X	X	X	
IA	X	X					X	
KS	X		X					
KY								For permit-by-rules, we respond to site-specific complaints.
ME	X	X		X	X	X	X	
MD	X	X		X	X	X	X	
MA	X	X	X	X	X	X	X	
MI	X	X	X		X	X	X	
MN	X	X						
MS	X	X		X	X	X		
MO	--	--	--	--	--	--	--	--
MT	X	X		X		X		
NH		X			X	X	X	

STATE	HOW POTENTIAL FOR "SHAM RECYCLING" ADDRESSED							
	STOCKPILE TIME OR VOLUME LIMITATIONS	MINIMALLY IDENTIFY OR FULLY DOCUMENT END MARKETS	MANDATORY TURNOVER OF A CERTAIN VOLUME OF BUD MATERIAL INTO A PROCESS	PERFORMANCE CRITERIA OR TECHNICAL SPECIFICATIONS	COMPARISON AGAINST AN ANALOGOUS RAW MATERIAL	EVALUATION OF THE ROLE OR PURPOSE OF THE BUD MATERIAL IN A GIVEN APPLICATION	PROVIDE MARKET INFORMATION	OTHERS (EXPLAIN)
NJ	X	X	X	X	X	X		
NY	X	X	X	X	X	X	X	
NC	X							
ND	X	X		X	X	X	X	
OH	--	--	--	--	--	--	--	--
OK						X		
PA	X	X	X	X	X	X		
RI		X		X			X	
SD	X				X	X		
TN	X			X		X		
TX	X		X			X		
VA	X	X	X	X	X	X	X	
WA	X	X						
WV*								
WI	X	X		X		X	X	Check with other States.
WY	X	X	X	X	X	X		

NOTE:

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WV: N/A – don't have authority to address.

17a. Are generators required to report on or evaluate if their material is being used in accordance with the BUD? If Yes, are these reports or evaluations submitted to the State/Territory?

STATE	GENERATOR REPORT/EVALUATION		IF YES, ARE THE REPORTS/EVALUATIONS SUBMITTED TO STATE	
	YES	NO	YES	NO
CT	X		X	
FL	X*		X*	
HI	X		X	
ID		X		
IL		X		
IN		X		
IA		X		
KS		X		
KY		X		
ME	X		X	
MD	*	*	*	*
MA	X		X	
MI	X		X	
MN	X		X	
MS	X		X	
MO		X		
MT		X		
NH	X*			X
NJ	X		X	
NY	X		X	
NC		X		
ND	X		X	
OH	X		X	
OK		X		
PA	X		X	
RI		X		
SD		X		
TN	X			X
TX		X		
VA		X		
WA	X		X	
WV		X		
WI	X			X
WY		X		

NOTES:

FL: Generator Report/Evaluation: Yes, unless it is a preapproved use.
Reports/Evaluations Submitted to State: Depends on the material; for some materials, the reports need to be available during inspections or at the request of the Department.

MD: It depends on the individual case.

NH: Case-by-case.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

17b. Does your State/Territory occasionally require groundwater or other environmental monitoring at beneficial use sites to ensure protection of human health and the environment?

STATE	GROUNDWATER/OTHER ENVIRONMENTAL MONITORING AT BENEFICIAL USE SITES	
	YES	NO
CT	X	
FL	X*	
HI	X	
ID		X
IL		X
IN		X
IA		X
KS		X
KY		X
ME	X	
MD	X	
MA	X	
MI		X
MN		X
MS		X
MO		X
MT		X*
NH		X
NJ	X	
NY		X
NC	X	
ND	X	
OH		X
OK		X
PA	X	
RI		X
SD	X	
TN	X	
TX		X
VA	X	
WA		X
WV		X
WI		X*
WY		X

NOTES:

FL: Depends on the material and the proposed reuse.

MT: Should in certain cases.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WI: In some transportation projects.

17c. What type(s) of compliance issues has your State/Territory experienced with use of BUD? Check all that apply

STATE	COMPLIANCE ISSUES					
	ADVERSE IMPACT TO SURFACE OR GROUNDWATER QUALITY	ADVERSE IMPACT TO AIR QUALITY	MIS-USE OF WASTE FOR SOMETHING OTHER THAN APPROVED USE	WASTE/PRODUCT ACCUMULATED SPECULATIVELY	CONDITIONS OR REQUIREMENTS OF BUD NOT MET	OTHER (EXPLAIN)
CT						Too new.
FL	X			X		
HI				X		
ID					X	
IL	--	--	--	--	--	--
IN	X	X	X	X	X	
IA		X	X		X	
KS				X		
KY			X		X	
ME					X	Poor storage/stockpiling
MD	X	X	X	X	X	
MA		X	X	X	X	"Product Creep" which is when the specifications of the product used no longer match the specifications of the product as identified/described in the BUD application.
MI	X	X	X	X	X	

STATE	COMPLIANCE ISSUES					
	ADVERSE IMPACT TO SURFACE OR GROUNDWATER QUALITY	ADVERSE IMPACT TO AIR QUALITY	MIS-USE OF WASTE FOR SOMETHING OTHER THAN APPROVED USE	WASTE/PRODUCT ACCUMULATED SPECULATIVELY	CONDITIONS OR REQUIREMENTS OF BUD NOT MET	OTHER (EXPLAIN)
MN						Not using material in accordance with conditions of BUD.
MS					X	
MO	X*			X	X	
MT				X		
NH						Ban on C&D fines for landfill daily cover due to sulphur contribution to H2S and odor problems.
NJ	--	--	--	--	--	--
NY			X	X	X	
NC	X	X	X	X	X	
ND	X	X	X		X	
OH	X				X	
OK			X	X		
PA	X	X	X	X	X	
RI					X	
SD				X		
TN			X			
TX			X	X	X	
VA	X		X	X	X	
WA						None have been identified and no complaints received.

STATE	COMPLIANCE ISSUES					
	ADVERSE IMPACT TO SURFACE OR GROUNDWATER QUALITY	ADVERSE IMPACT TO AIR QUALITY	MIS-USE OF WASTE FOR SOMETHING OTHER THAN APPROVED USE	WASTE/PRODUCT ACCUMULATED SPECULATIVELY	CONDITIONS OR REQUIREMENTS OF BUD NOT MET	OTHER (EXPLAIN)
WV*						
WI					X	
WY			X	X	X	

NOTES:

MO: Adverse impact to surface water quality.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WV: N/A

17d. Does your State/Territory have an inspection/enforcement process which is used to maintain compliance with BUD? If Yes, please explain

STATE	YES	NO	IF YES, PLEASE EXPLAIN INSPECTION/ENFORCEMENT PROCESS	IF NO, DOES YOUR STATE/TERRITORY:	
				RESPOND TO COMPLAINTS/NOTIFICATIONS OR WHEN MADE AWARE OF IMPROPER USE	NO FURTHER ACTIONS TAKEN AFTER APPROVALS GIVEN
CT		X*		--	--
FL	X	X	Sometimes. It depends on the material and the proposed reuse. For example, if generated as part of a Remedial Action Plan to ensure they comply with the RAP.	X	
HI	X		Facility is subject to compliance with solid waste permits.		
ID		X			
IL		X		X	
IN		X		X	
IA	X		Respond to complaints/notifications or when made aware of improper use. Inspectors inspect trouble sites annually.		
KS		X		X	
KY	X		Usually a citizen complains, our field staff investigates, and a NOV issued, if warranted, and the case referred to enforcement.	X	
ME	X		No different than for any other solid waste activity.		

STATE	YES	NO	IF YES, PLEASE EXPLAIN INSPECTION/ENFORCEMENT PROCESS	IF NO, DOES YOUR STATE/TERRITORY:	
				RESPOND TO COMPLAINTS/NOTIFICATIONS OR WHEN MADE AWARE OF IMPROPER USE	NO FURTHER ACTIONS TAKEN AFTER APPROVALS GIVEN
MD	X		Some materials such as sewage sludge and scrap tires are subject to a rigorous inspection regime. With others, such as natural wood waste, the generators are regulated but not the end users, unless the materials are misused and it causes complaints. Other materials are effectively de-regulated, and are just treated like any other product – they only become regulated if they are misused, a complaint is generated, and investigation finds evidence of a nuisance or pollution.	X	
MA		X	It is not any different than other inspections.	X	
MI		X		X	
MN	--	--	Solid Waste Program compliance and enforcement staff conduct inspections.		
MS		X		X	
MO		X		X	
MT		X		X	
NH	X		Permit-related BUDs only.		
NJ	X		Inspections of BUD use sites.		
NY		X		X	

STATE	YES	NO	IF YES, PLEASE EXPLAIN INSPECTION/ENFORCEMENT PROCESS	IF NO, DOES YOUR STATE/TERRITORY:	
				RESPOND TO COMPLAINTS/NOTIFICATIONS OR WHEN MADE AWARE OF IMPROPER USE	NO FURTHER ACTIONS TAKEN AFTER APPROVALS GIVEN
NC	X		Coal combustion byproduct beneficial use sites are inspected by staff periodically; "as built" must match construction plans; land application sites are inspected with soil testing.		
ND	X		Solid waste staff evaluate beneficial use applications as deemed necessary.	X	
OH		X		X	
OK		X		X	
PA	X		One inspection per year or more, if needed based on complaints or non-compliance.		
RI	X		Periodic unannounced inspections of the site where BUD approved solid waste is being processed into a reusable product.		
SD	X		Inspections to evaluate approved beneficial uses.		
TN	X		Routine site visit and records review.		

STATE	YES	NO	IF YES, PLEASE EXPLAIN INSPECTION/ENFORCEMENT PROCESS	IF NO, DOES YOUR STATE/TERRITORY:	
				RESPOND TO COMPLAINTS/NOTIFICATIONS OR WHEN MADE AWARE OF IMPROPER USE	NO FURTHER ACTIONS TAKEN AFTER APPROVALS GIVEN
TX	X		Facilities inspected by regional field offices. For facilities requiring agency notification, approval with held until field office inspects site and reviews compliance history.		
VA		X		X	
WA	X		A condition of approval for any BUD, Ecology staff or local health department staff have are authorized to conduct inspections at sites where waste is used.	X	
WV	X		West Virginia Department of Environmental Protection Inspectors		
WI	--	--	Generators and contractors are required to comply with the NR 538 code and case-by-case permits. Projects are inspected randomly. The Department has a formal enforcement procedure for all environmental violations.	X	
WY	X		Beneficial use sites may be inspected, especially if a complaint is received.	X	

NOTES:

CT: Possibly in future.

NH: Permit-related BUDs only.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

18a. How many BUDs has your State/Territory revoked during the life of your program?

18b. What is the most common reason for revocation?

STATE	# OF BUDS REVOKED	MOST COMMON REASON FOR REVOCATION
CT	0	
FL	0	
HI	Unable to provide a definitive number, as multiple uses may be tied to a specific permit or approval letter, and we have not tracked this information.	1. Nuisance and vector control considerations. 2. Inability to obtain a solid waste permit for beneficial use operations.
ID	--	--
IL	0	
IN	0	
IA	1	Not following the special provisions put in the Beneficial Use Determination.
KS	2	Excessive application rate.
KY	"?"	Using more material than necessary: for example, construction of a 50 foot-wide road base for a subdivision.
ME	0	
MD	Perhaps 2-5?*	Using the material in an inappropriate location or for an inappropriate use.
MA	0	
MI	0	
MN	0	
MS	0	
MO	2	Failure to follow through with actual reuse, resulting in piles of material -- addressed as illegal dumping.
MT	Unknown	

STATE	# OF BUDS REVOKED	MOST COMMON REASON FOR REVOCATION
NH	0	
NJ	Several	Exceedances of criteria.
NY	7	Failure to comply with BUD conditions; improper storage; air permit revoked; accepting material from unapproved facilities; falsifying records; unauthorized use of material.
NC	5	Not building according to plan.
ND	0	
OH	*	Failure to follow conditions of approval.
PA	6	Non-compliance or by request of permittee.
RI	1	Revocation due to change in State law, whereby existing BUD processing facility was not sited in an appropriate city/town per terms of the revised State law.
SD	None known	
TN	1	Misuse of material for something other than approved use.
TX	5?*	Improper re-use, speculative accumulation without re-use. Material fails testing criteria.
VA	0	
WA	0	
WV	N/A	
WI	2	Didn't meet beneficial use code or conditions of the permit.
WY	Unknown	Beneficial use conditions not met.

NOTES:

MD: But we have taken action to correct misuse and its side-effects more frequently. We do not closely track this.

OH: 2 in the scrap tire program; don't know how many from the Division of Surface Water.

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

TX: Within last year.

19a. Do you charge a fee for reviewing a beneficial use request / application?

19b. If Yes, what is the fee? $_____ flat fee; _____prorated fee based on volume -- range $_____ to $_____; _____ other fee criteria?:_____

STATE	FEE		IF YES, WHAT IS THE FEE		
	Yes	No	Flat Fee	Prorated fee based on volume; range: $ - $	Other fee criteria
CT	X			$500 to $5,000	
FL		X			
HI	X		$50		
ID		X			
IL		X			
IN		X			
IA		X			
KS		X			
KY		X			
ME	X				Activity/application type and complexity. $240-$2,238.
MD		X			
MA	X				MassDEP's BUD program has 4 categories of BUD applications, each with a specific fee amount: Category 1: $2000; Category 2: $2000; Category 3: $3750; Category 4: individual rule
MI		X			
MN		X			
MS		X			
MO		X			
MT		X			
NH		X			

STATE	FEE		IF YES, WHAT IS THE FEE		
	Yes	No	Flat Fee	Prorated fee based on volume; range: $ - $	Other fee criteria
NJ	X				Beneficial Use Review i. In-State (no sampling results) $534.00 ii. In-State (sampling results) $962.00 iii. Out-of-State (no sampling results) $321.00 iv. Out-of-State (sampling results) $962.00
NY		X			
NC		X			
ND		X			
OH		X			
OK		X			
PA	X		$2,000		DOAs: $500 Registrations: $250
RI		X			
SD		X			
TN		X			
TX		X			
VA		X			
WA		X			
WV		X			
WI	X		$550*		
WY		X			

NOTES:

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WI: If used under NR 538 administrative code no fee is charged. The uses under the beneficial use code are self-implementing.

20a. Are there other State/Territorial agencies involved in BUD approvals? Check all that apply

STATE	STATE/TERRITORIAL AGENCIES INVOLVED IN BUD APPROVALS					
	AGRICULTURE	HEALTH	COMMERCE	NATURAL RESOURCE	STATE/TERRITORY DOT	OTHER(S) (please specify)
CT	X	X			X	
FL	X	X			X	As appropriate depending on the proposed reuse scenario.
HI						Toxicologists in Hazard Evaluation and Emergency Response Office
ID	--	--	--	--	--	--
IL	--	--	--	--	--	--
IN		X	X	X	X	
IA	X	X		X	X	
KS	--	--	--	--	--	--
KY	--	--	--	--	--	--
ME	--	--	--	--	--	--
MD	X					
MA						MassDEP may consult with others as necessary, particularly food and agriculture.
MI	X				X	
MN	X				X	
MS	X*				X*	U.S. Office of Surface Mining and MS Office of Geology for uses in a mine.
MO	--	--	--	--	--	--
MT	--	--	--	--	--	--
NH	X*	X*			X*	
NJ	--	--	--	--	--	--
NY	X	X	X		X	

STATE	STATE/TERRITORIAL AGENCIES INVOLVED IN BUD APPROVALS					
	AGRICULTURE	HEALTH	COMMERCE	NATURAL RESOURCE	STATE/TERRITORY DOT	OTHER(S) (please specify)
NC	X	X			X	Land Quality and Water Quality
ND		X			X	Division of Water Quality; Division of Air Quality; and local planning, zoning and building officials.
OH	--	--	--	--	--	--
OK	X					
PA	X				X	
RI	*	*	*	*	*	
SD	X					
TN	--	--	--	--	--	--
TX	--	--	--	--	--	--
VA	X				X	
WA						Local Jurisdictional Health Departments (JHDs) are given a 45 day comment opportunity as part of the BUD public review process. It may be helpful to clarify the relationship of JHDs to solid waste management in Washington. Statute delegates direct permitting, oversight and enforcement to JHDs. Ecology provides minimum standard for solid waste handling activities in State rule. These must be adopted locally. Because a BUD is a Statewide exemption and potentially affects activities that would otherwise be permitted by a JHD, the statute ensured protection of the ability of the JHDs to be involved with the review process for a proposed BUD.
WV						These agencies may have jurisdiction, however, we have no knowledge as to what part they play.

STATE	STATE/TERRITORIAL AGENCIES INVOLVED IN BUD APPROVALS					
	AGRICULTURE	HEALTH	COMMERCE	NATURAL RESOURCE	STATE/TERRITORY DOT	OTHER(S) (please specify)
WI*	--	--	--	--	--	--
WY	--	--	--	--	--	--

NOTES:

MS: Agriculture: For Soil Amendment Uses
State/Territory DOT: For Highway Construction Uses

NH: Agriculture: Wood Ash
Health: Risk Assessments
State/Territory DOT: Advisory Committee with DOT. The University of New Hampshire has a federal center for waste in transportation construction.

RI: No other State/Territorial agencies are involved in BUD approvals.
The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

WI: Wisconsin-DNR is the authority.

20b. Are individual BUD approval / permits issued by different program areas within your agency? If Yes, how does your agency maintain consistency in BUD decisions?

STATE	INDIVIDUAL BUD APPROVAL/PERMITS ISSUED BY DIFFERENT PROGRAM AREAS WITHIN AGENCY		
	YES	NO	HOW CONSISTENCY IN BUD DECISION-MAKING MAINTAINED
CT		X	
FL	X		Interagency coordination.
HI		X	
ID	--	--	--
IL		X	
IN		X	
IA		X	
KS	X		Communication between the Bureau of Water and the Bureau of Waste Management.
KY		X	
ME		X	
MD	X		Decisions are typically made along program lines, e.g., decisions concerning oil contaminated soil are made by the Oil Control Program; sewage sludge and many other materials are under the Solid Waste Program; these agencies communicate when required, and are all under the MDE command structure. However, soil amendments are typically reviewed by the Maryland Dept. of Agriculture, which has regulations concerning soil amendments.
MA		X	Within the Bureau of Waste Prevention, BUDs may be issued by one of four regional offices or by the Boston office. BUD applications are often discussed during weekly conference calls and monthly meetings with the regional office staff to get

STATE	INDIVIDUAL BUD APPROVAL/PERMITS ISSUED BY DIFFERENT PROGRAM AREAS WITHIN AGENCY		
	YES	NO	HOW CONSISTENCY IN BUD DECISION-MAKING MAINTAINED
			concurrence on decisions and maintain consistency.
MI		X	
MN	X		Minnesota has a permit for the land application of food and beverage by-products, which predates the beneficial use program and is still used.
MS		X	
MO		X	
MT		X	
NH		X	
NJ	X		All use same basic criteria.
NY		X	
NC		X	
ND		X	
OH	X		Within scope of each division, consistency is maintained through central office oversight. For projects which have need of expertise in the other division (e.g., land application of a solid waste, or using a liquid waste in an engineering application), expertise is sought, thus maintaining technical consistency.
OK	X		Each division implements its own criteria; Water Quality may issue permits instead of approval letters for beneficial reuse of wastewater treatment plant sludges, etc.
PA	X		Bureau of Water Quality issues general permits for use of biosolids, however, they use our (i.e., Bureau of Waste

STATE	INDIVIDUAL BUD APPROVAL/PERMITS ISSUED BY DIFFERENT PROGRAM AREAS WITHIN AGENCY		
	YES	NO	HOW CONSISTENCY IN BUD DECISION-MAKING MAINTAINED
			Management) regulatory requirements.
RI		X	
SD		X	
TN		X	
TX	X		Consistency in adopted rules.
VA		X	
WA		X	
WV		X	
WI	X		Mostly approved by Waste and Materials Management section for high volume industrial wastes. Recycling section and Wastewater approve other wastes.
WY		X	

NOTE:

RI: The answers below refer to details of our previous BUD program and may change somewhat, when the new BUD program becomes operable.

Appendix D

State Definitions and Supplemental Information

STATE DEFINITIONS OF BENEFICIAL USE

The below table contains definitions of beneficial use that the following States provided with their 2006 survey responses to Question 2: CT, FL, IA, KY, ME, MA, MN, MS, NJ, NY, NC, PA, RI, TX, VA, WA, WY

(Note: Due to their length, the KY and NC definitions follow this table).

STATE	DEFINITION
CT	Beneficial Use means using a solid waste in a manufacturing process to make a product or as an effective substitute for materials used in a commercial product.
FL	Florida's definition of "industrial byproducts": Florida Statute: 403.7045 Application of act and integration with other acts.— (1) The following wastes or activities shall not be regulated pursuant to this act: (f) Industrial byproducts, if: 1. A majority of the industrial byproducts are demonstrated to be sold, used, or reused within 1 year. 2. The industrial byproducts are not discharged, deposited, injected, dumped, spilled, leaked, or placed upon any land or water so that such industrial byproducts, or any constituent thereof, may enter other lands or be emitted into the air or discharged into any waters, including groundwaters, or otherwise enter the environment such that a threat of contamination in excess of applicable department standards and criteria is caused. 3. The industrial byproducts are not hazardous wastes as defined under s. 403.703 and rules adopted under this section. Rule 62-701.220(2), Florida Administrative Code: (2) This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions: (d) Industrial byproducts, if 1. A majority of the industrial byproducts are demonstrated to be sold, used, or reused within one year; 2. The industrial byproducts are not discharged, deposited, injected, dumped, spilled, leaked, or placed into or upon any land or water so that such industrial byproducts or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground water, or otherwise enter the environment such that a threat of contamination in excess of water quality standards and criteria or air quality standards is caused; and 3. The industrial byproducts are not hazardous wastes;

STATE	DEFINITION
IA	**"***Beneficial use"* means a specific utilization of a solid by-product as a resource, that constitutes reuse rather than disposal, does not adversely affect human health or the environment, and is approved by the department. *"Beneficial use determination"* means a written formal decision or rule issued by the department as approval for a solid by-product to be utilized in a specific manner as a beneficial use.
ME	"Beneficial use" means to use or reuse a solid waste or waste derived product: (1) As a raw material substitute in manufacturing, (2) As construction material or construction fill, (3) As fuel, or (4) In agronomic utilization.
MA	Beneficial Use means the use of a material as an effective substitute for a commercial product or commodity.
MN	Subp. 2. Beneficial use standards. To constitute a beneficial use under this part, the following standards must be met: A. the solid waste must not be stored in anticipation of speculative future markets; B. the solid waste must be adequately characterized in accordance with part 7035.2861; C. the solid waste must be an effective substitute for an analogous material or a necessary ingredient in a new product; D. the use of the solid waste does not adversely impact human health or the environment; and E. the solid waste must not be used in quantities that exceed accepted engineering or commercial standards. Excess use of solid waste is not authorized by this part and is considered disposal.
MS	See Beneficial Use Regulations; web site for the regulations: http://www.deq.state.ms.us/MDEQ.nsf/pdf/SW_BeneficialUseRegulations/$File/Beneficial%20Use%20Regs%20Final.pdf?OpenElement

STATE	DEFINITION
NJ	"Beneficial use" means the use or reuse of a material, which would otherwise become solid waste, as landfill cover, aggregate substitute, fuel substitute or fill material or the use or reuse in a manufacturing process to make a product or as an effective substitute for a commercial product. Beneficial use of a material shall not constitute recycling or disposal.
NY	Definition of beneficial use: The department will determine in writing, on a case-by-case basis, whether the proposal constitutes a beneficial use based on a showing that all of the following criteria have been met: (i) the essential nature of the proposed use of the material constitutes a reuse rather than disposal; (ii) the proposal is consistent with the solid waste management policy contained in section 27-0106 of the ECL; (iii) the material under review must be intended to function or serve as an effective substitute for an analogous raw material or fuel. When used as a fuel, the material must meet the requirements of paragraph 360-3.1(c)(4) of this Part and the facility combusting the material must comply with the registration requirements in subdivision 360-3.1(c) of this Part, if appropriate; (iv) for a material which is proposed for incorporation into a manufacturing process, the material must not be required to be decontaminated or otherwise specially handled or processed before such incorporation, in order to minimize loss of material or to provide adequate protection, as needed, of public health, safety or welfare, the environment or natural resources; (v) whether a market is existing or is reasonably certain to be developed for the proposed use of the material under review or the product into which the solid waste under review is proposed to be incorporated; and (vi) other criteria as the department shall determine in its discretion to be appropriate.
PA	*Beneficial use* - Use or reuse of residual waste or residual material derived from residual waste for commercial, industrial or governmental purposes, if the use does not harm or threaten public health, safety, welfare or the environment, or the use or reuse of processed municipal waste for any purpose, if the use does not harm or threaten public health, safety, welfare or the environment.

STATE	DEFINITION
RI	"Beneficial reuse material" means a processed, nonhazardous, solid waste not already defined as recyclable material by this chapter and by regulations of the Rhode Island Department of Environmental Management that the Director has determined can be reused in an environmentally beneficial manner without creating potential threats to public health, safety, welfare or the environment or creating potential nuisance conditions. "Beneficial use determination" (BUD) means the case-by-case process by which the Director evaluates a proposal to use a specific solid waste as a beneficial reuse material for a specific purpose at a specific location within the host municipality.
TX	Definitions from State solid waste rules: (122) Recyclable material--A material that has been recovered or diverted from the nonhazardous waste stream for purposes of reuse, recycling, or reclamation, a substantial portion of which is consistently used in the manufacture of products that may otherwise be produced using raw or virgin materials. Recyclable material is not solid waste. However, recyclable material may become solid waste at such time, if any, as it is abandoned or disposed of rather than recycled, whereupon it will be solid waste with respect only to the party actually abandoning or disposing of the material. (4) Processed for recycling or processing for beneficial use--Material has been or is processed for recycling, or undergoes processing for beneficial reuse, if it has been subjected to activities including extraction or separation of component materials (such as the separation of commingled recyclable materials), cleaning, grinding, or other preparation at a recycling facility to make it amenable for subsequent recycling or beneficial reuse. (8) Beneficial reuse--Any agricultural, horticultural, reclamation, or similar use of compost as a soil amendment, mulch, or component of a medium for plant growth, when used in accordance with generally accepted practice and where applicable is in compliance with the final product standards established by this chapter. Simply offering a product for use does not constitute beneficial reuse. Beneficial reuse does not include placement in a disposal facility, use as daily cover in a disposal facility, or utilization for energy recovery. (48) Recyclable material--For purposes of this chapter, a recyclable material is a material that has been recovered or diverted from the solid waste stream for purposes of reuse, recycling, or reclamation, a substantial portion of which is consistently used in the manufacture of products which may otherwise be produced from raw or virgin materials. Recyclable material is not solid waste unless the material is deemed to be hazardous solid waste by the administrator of the United States Environmental Protection Agency, whereupon it shall be regulated accordingly unless it is otherwise exempted in whole or in part from regulation under the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Protection Act. If, however, recyclable materials may become solid waste at such time, if any, as it is abandoned or disposed of rather than recycled, whereupon it will be solid waste with respect only to the party actually abandoning or disposing of the material.

STATE	DEFINITION
VA	"Beneficial use" means a use which is of benefit as a substitute for natural or commercial products and does not contribute to adverse effects on health or environment.
WA	"Beneficial use" means the use of solid waste as an ingredient in a manufacturing process, or as an effective substitute for natural or commercial products, in a manner that does not pose a threat to human health or the environment. Avoidance of processing or disposal cost alone does not constitute beneficial use. (Chapter 173-350-100, Washington Administrative Code)
WY	Exemptions: The administrator may exempt the following from a permit or any requirement to obtain a waste management authorization under these regulations, provided that persons engaged in activities which are otherwise exempted may be required to supply information to the administrator which demonstrates that the act, practice, or facility is exempt, and shall allow entry of department inspectors for purposes of verification of such information: The reuse of wastes in a manner which is both beneficial and protective of human health and the environment, as approved by the administrator.

KENTUCKY
Beneficial Reuse Definitions

Solid Waste:
Law:

KRS 224.01-010 Definitions:
(31) "Waste" means:
(a) "Solid waste" means any garbage, refuse, sludge, and other discarded material,including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining (excluding coal mining wastes, coal mining by-products, refuse, and overburden), agricultural operations, and from community activities, ***but does not include those materials including***, but not limited to, sand, soil, rock, gravel, or bridge debris extracted as part of a public road construction project funded wholly or in part with state funds, ***recovered material***, special wastes as designated by KRS 224.50-760, solid or dissolved material in domestic sewage, manure, crops, crop residue, or a combination thereof which are placed on the soil for return to the soil as fertilizers or soil conditioners, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923):

1. "Household solid waste" means solid waste, including garbage and trash generated by single and multiple family residences, hotels, motels, bunkhouses, ranger stations, crew quarters, and recreational areas such as picnic areas, parks, and campgrounds;
2. "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other service and nonmanufacturing activities, excluding household and industrial solid waste;
3. "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste or a special waste as designated by KRS 224.50-760, including, but not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer or agricultural chemicals; food and related products or by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment; and
4. "Municipal solid waste" means household solid waste and commercial solid waste;...

224.01-010 (Continued):

(20) "Recovered material" means those materials, including but not limited to compost, which have known current use, reuse, or recycling potential, which can be feasibly used, reused, or recycled, and which have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing, but does not include materials diverted or removed for purposes of energy recovery or combustion except refuse-derived fuel (RDF), which shall be credited as a recovered material in an amount equal to that percentage of the municipal solid waste received on a daily basis at the processing facility and processed into RDF; but not to exceed fifteen percent (15%) of the total amount of the municipal solid waste received at the processing facility on a daily basis;

(21) "Recovered material processing facility" means a facility engaged solely in the storage, processing, and resale or reuse of recovered material, but does not mean a solid waste management facility if solid waste generated by a recovered material processing facility is managed pursuant to this chapter and administrative regulations adopted by the cabinet;

(22) "Recycling" means any process by which materials which would otherwise become solid waste are collected, separated, or processed and reused or returned to use in

KENTUCKY (cont.)

the form of raw materials or products, including refuse-derived fuel when processed in accordance with administrative regulations established by the cabinet, but does not include the incineration or combustion of materials for the recovery of energy;

Regulations:

401 KAR 47:150. Special types of permits.

Section 1. Permit-by-rule. Notwithstanding any other provision of this chapter, the following Disposal of certain solid wastes by a practice common to the industry shall be deemed to have a permit-by-rule provided the operation is not in violation of the applicable environmental performance standards of 401 KAR 47:030, does not present a threat of imminent hazard to human health or substantial environmental impact and the following applicable conditions are met:

(11) Beneficial reuse of solid waste.

Special Waste:
Law:

224.50-760 Special wastes.
(1) (a) For purposes of this section and KRS 224.46-580(7), special wastes are those wastes of high volume and low hazard which include but are not limited to mining wastes, utility wastes (fly ash, bottom ash, scrubber sludge), sludge from water treatment facilities and wastewater treatment facilities, cement kiln dust, gas and oil drilling muds, and oil production brines. Other wastes may be designated special wastes by the cabinet;

Regulations:

401 KAR 45:010. Definitions for 401 KAR Chapter 45.

Section 1. Definitions. (1) "Beneficial reuse" means the use or reuse of special wastes, other than solids, residues and precipitate separated from or created in sewage from humans, households, or commercial establishments by the processes of a wastewater treatment plant which are subject to the provisions of 401 KAR 45:100, in a manner that complies with the environmental performance standards of 401 KAR 30:031 and all other applicable requirements of 401 KAR Chapter 45.

401 KAR 45:060. Special waste permit-by-rule.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.46, 224.50, 224.99
STATUTORY AUTHORITY: KRS 224.10-100, 224.40-305, 224.50-760
NECESSITY, FUNCTION, AND CONFORMITY: KRS Chapter 224 requires the cabinet to adopt administrative regulations for the management, processing, and disposal of wastes. KRS 224.40-305 requires persons who establish, conduct, operate, maintain or permit the use of a waste site or facility to obtain a permit. This chapter establishes the permitting standards for special waste sites or facilities, and the standards applicable to all special waste sites or facilities. This administrative regulation sets forth the requirements for a special waste permit-by-rule.

Section 1. Permit-by-rule. Notwithstanding any other provision of this chapter, the following special waste sites or facilities shall be deemed to have a permit without the owner or operator having made application or registration with the cabinet, provided the operation is a practice common to the industry, is not in violation of 401 KAR 30:031, and does not present a threat or potential threat to human health or the environment:

KENTUCKY (cont.)

(7) Beneficial reuse of coal combustion by-products as an ingredient or substitute ingredient in the manufacturing of products, including but not limited to, cement, concrete, paint, and plastics; antiskid material; highway base course; structural fill; blasting grit; roofing granules; and mine stabilization and reclamation material; provided that:

(a) The utilization of coal combustion by-products does not result in the creation of a nuisance condition;

(b) Erosion and sediment control measures consistent with sound engineering practices are undertaken;

(c) The use is not within 100 feet of existing streams, 300 feet of existing drinking water wells, or floodplains or wetlands, unless permission has been obtained from the appropriate regulatory agency;

(d) The generator characterizes the nonhazardous nature of the coal combustion by-products; and

(e) The generator submits to the cabinet an annual report that identifies the type and amount of waste released for reuse; the name and address of each recipient of waste; and the specific use, if known, each recipient made of the waste.

Section 2. Noncompliances. (1) The cabinet may take any appropriate enforcement actions, including corrective action or revocation, if a special waste permit-by-rule site or facility is not operating in substantial compliance with Section 1 of this administrative regulation.

(2) The cabinet may, at its discretion, require the owner or operator of a special waste permit-by-rule site or facility to upgrade the permit to a registered permit-by-rule to ensure that the requirements of this chapter and the environmental performance standards of 401 KAR 30:031 are met. (18 Ky.R. 3089; Am. 3437; eff. 6-24-92.)

401 KAR 45:070. Special waste registered permit-by-rule.

RELATES TO: KRS 224.01-010, 224.50-760

STATUTORY AUTHORITY: KRS 224.10-100(30), 224.10-100, 224.40-305, 224.50-760(1)(d)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) authorizes the cabinet to promulgate administrative regulations not inconsistent with the provisions of law administered by the cabinet. KRS 224.50-760(1)(d) authorizes the cabinet to promulgate administrative regulations for the management of special wastes. KRS 224.40-305 requires persons who establish, construct, operate, maintain or permit the use of a waste site or facility to obtain a permit, pursuant to administrative regulations adopted by the cabinet. This administrative regulation establishes requirements for a special waste registered permit-by-rule.

Section 1. Registered Permit-by-rule. (1) A person engaged in the following activities shall be required to register with the cabinet:

(b) Beneficial reuse of special waste not specified in Section 1(7) of 401 KAR 45:060; and

(2) Special waste registered permit-by-rule sites or facilities shall not store, treat, reuse, or dispose of special waste without first submitting a registration to the cabinet and receiving acknowledgement, in writing, by the cabinet of acceptance of the registration in accordance with Section 2 of this administrative regulation.

Section 2. Registration Procedure for Registered Permit-by-rule. (1) Persons required to obtain a registered permit-by-rule shall complete and submit the following information:...

(b) "Registered Permit-by-rule for Beneficial Reuse" DEP 7059F (November 2005);...

(2) The owner or operator shall submit any additional information necessary to ensure compliance with this administrative regulation to the cabinet upon request.

(3) After submission of the appropriate registration form, the cabinet shall review the registration form. If the cabinet determines upon examination of the registration form that it fails to include all of the required information or that the registration form fails to provide the engineering, geological, or scientific information necessary to determine that the registered permit-by-rule site or facility will comply with 401 KAR 30:031, the cabinet shall notify the owner or operator that the registration form is deficient and the owner or operator shall submit the information requested by the cabinet.

KENTUCKY (cont.)

(4) Owners or operators of a registered permit-by-rule site or facility may begin operation of the site or facility when the cabinet acknowledges in writing receipt of a complete registration and the cabinet determines the operation complies with the environmental performance standards of 401 KAR 30:031.

Section 3. Operation During a Registered Permit-by-rule. (1) A site or facility operating under a registered permit-by-rule, except as provided in Section 4 of this administrative regulation, shall not:

(a) Store, treat, reuse, or dispose of special waste not specified in the registration form; or

(b) Exceed the design capacities specified in the administrative registration form.

(2) The owner or operator of a registered permit-by-rule site or facility shall comply at all times with 401 KAR 30:031, 401 KAR 45:140, and this administrative regulation.

(3) The owner or operator of a registered permit-by-rule site or facility shall comply with the applicable provisions of 401 KAR 45:100.

Section 4. Changes To a Registered Permit-by-rule. (1) The owner or operator of a registered permit-by-rule site or facility shall submit a revised registration form identifying new types of special waste to be stored, treated, reused, or disposed at the registered permit-by-rule site or facility if the special waste type was not previously identified in the registration form.

(2) The owner or operator shall submit a revised registration form prior to increases in the design capacity of processes used at a site or facility.

(3) The owner or operator shall submit a revised registration form prior to changes in the processes for the storage, treatment, reuse, or disposal of special waste or use of additional processes.

(4) The owner or operator shall submit a revised registration form prior to changes in owners or operators of the site or facility.

(5) Changes listed in subsections (1) to (4) of this section shall not be implemented until the cabinet acknowledges in writing receipt of a complete revised registration form.

(6) If the revised registration form fails to provide the engineering, geological, or scientific information necessary to determine that the registered permit-by-rule site or facility will comply with 401 KAR 30:031, the cabinet shall notify the owner or operator that the revised registration form is deficient, and the owner or operator shall submit the information requested by the cabinet.

Section 5. Noncompliances. The cabinet may take any appropriate enforcement actions, including corrective action or revocation, if a special waste registered permit-by-rule site or facility is not operating in compliance with this administrative regulation.

Section 6. Incorporation by Reference. (1) The following material is incorporated by reference:

(a) "Registered Permit-by-rule for Sludge Giveaway" DEP 7059D (November 2005);

(b) "Registered Permit-by-rule for Beneficial Reuse" DEP 7059F (November 2005); or

(c) "Registered Permit-by-rule for Storage and Treatment of Processed Special Waste" DEP 7059G (November 2005).

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-6716, Monday through Friday, 8 a.m. to 4:30 p.m., eastern time, excluding state holidays. (18 Ky.R. 3090; Am. 3438; 19 Ky.R. 23; eff. 6-24-92; 32 Ky.R. 1474; 1886; eff. 5-5-2006.)

NORTH CAROLINA

http://www.wastenotnc.org/SWHOME/17RUL.htm

SECTION .1700 – REQUIREMENTS FOR BENEFICIAL USE OF COAL COMBUSTION BY-PRODUCTS

.1701 DEFINITIONS

The following definitions shall apply throughout this Section:

(1) "Beneficial and beneficial use" means projects promoting public health and environmental protection, offering equivalent success relative to other alternatives, and preserving natural resources.

(2) "Coal combustion by-products" means residuals, including fly ash, bottom ash, boiler slag and flue gas desulfurization reside produced by coal fired electrical or steam generation units.

(3) "Jurisdictional wetland" means those areas that meet the criteria established by the United States Environmental Protection Agency for delineating wetlands and are considered by the Division to be waters of the United States.

(4) "Structural fill" means an engineered fill with a projected beneficial end use constructed using coal combustion by-products properly placed and compacted.

(5) "Use or reuse of coal combustion by-products" means the procedure whereby coal combustion by-products are directly used as follows:

(a) As an ingredient in an industrial process to make a product, unless distinct components of the coal combustion by-products are recovered as separate end products; or

(b) In a function or application as an effective substitute for a commercial product or natural resource.

History Note: Statutory Authority G.S. 130A-294; Eff. January 4, 1994

.1702 GENERAL PROVISIONS FOR STRUCTURAL FILL FACILITIES

The provisions of this Section shall apply to the siting, design, construction, operation, closure and recordation of projects which utilize coal combustion by-products as structural fill material or as specified in Item (4) of Rule .1708 of this Section and shall apply to structural fills other than those which received written approval from the Division prior to the effective date of this Section. A solid waste management permit is not required for coal combustion by-products structural fills which meet the requirements listed in this Section.

History Note: Statutory Authority G.S. 130A-294; Eff. January 4, 1994

.1703 NOTIFICATION FOR STRUCTURAL FILL FACILITIES

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NORTH CAROLINA (cont.)

15A NCAC 13B http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environm...

15A NCAC 13B .0562 BENEFICIAL FILL

A permit is not required for beneficial fill activity that meets all of the following conditions:

(1) The fill material consists only of inert debris strictly limited to concrete, brick, concrete block, uncontaminated soil, rock and gravel.
(2) The fill activity involves no excavation.
(3) The purpose of the fill activity is to improve land use potential or other approved beneficial reuses.
(4) The fill activity is not exempt from, and must comply with, all other applicable Federal, State, and Local laws, ordinances, rules, and regulations, including but not limited to zoning restrictions, flood plain restrictions, wetland restrictions, mining regulations, sedimentation and erosion control regulations. Fill activity shall not contravene groundwater standards.

History Note: Authority G.S. 130A-294;
Eff. January 4, 1993

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GS_130A-290 http://www.ncleg.net/EnactedLegislation/Statutes/HTML/BySectio...

NCGS130A-290(a)

(24) "Recovered material" means a material that has known recycling potential, can be feasibly recycled, and has been diverted or removed from the solid waste stream for sale, use, or reuse. In order to qualify as a recovered material, a material must meet the requirements of G.S. 130A-309.05(c).

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GS_130A-309.05 http://www.ncleg.net/EnactedLegislation/Statutes/HTML/BySectio...

§ 130A-309.05. Regulated wastes; certain exclusions.

(a) Notwithstanding other provisions of this Article, the following waste shall be regulated pursuant to this Part:
  (1) Medical waste; and
  (2) Ash generated by a solid waste management facility from the burning of solid waste.
(b) Ash generated by a solid waste management facility from the burning of solid waste shall be disposed of in a properly designed solid waste disposal area that complies with standards developed by the Department for the disposal of ash. The Department shall work with solid waste management facilities that burn solid waste to identify and develop methods for recycling and reusing incinerator ash or treated ash.
(c) Recovered material is not subject to regulation as solid waste under this Article. In order for a material that would otherwise be regulated as solid waste to qualify as a recovered material, the Department may require any person who owns or has control over the material

NORTH CAROLINA (cont.)

to demonstrate that the material meets the requirements of this subsection. In order to protect public health and the environment, the Commission may adopt rules to implement this subsection. In order to qualify as a recovered material:

(1) A majority of the recovered material at a facility shall be sold, used, or reused within one year;
(2) The recovered material or the products or by-products of operations that process recovered material shall not be discharged, deposited, injected, dumped, spilled, leaked, or placed into or upon any land or water so that the products or by-products or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters including groundwaters, or otherwise enter the environment or pose a threat to public health and safety; and
(3) The recovered material shall not be a hazardous waste or have been recovered from a hazardous waste. (1989, c. 784, s. 2; 1995 (Reg. Sess., 1996), c. 594, s. 9.)

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SUPPLEMENTAL INFORMATION

Question 1c. – Tennessee Attachment

Tennessee Department of Environment and Conservation

Division of Solid Waste Management

BENEFICIAL USE OF NONTOXIC SPENT FOUNDRY SAND

POLICY

I. Purpose

This policy was developed by the Tennessee Division of Solid Waste Management (the Division) to facilitate the beneficial use of nontoxic spent foundry sand in a manner that is protective of the public health and environment.

Generators of spent foundry sand are encouraged to actively explore and implement economically feasible alternatives to reduce the volume and toxicity of foundry sand produced, as well as on-site recycling, or recovery, before evaluating potential beneficial uses.

II. Scope

This policy sets forth beneficial uses of nontoxic spent foundry sand from iron and aluminum foundries. It describes notification requirements, lists uses which do not require Division review or approval, lists examples of uses which require project specific Division review, and outlines record keeping requirements.

III. Applicability

This policy applies to nontoxic spent sand from iron and aluminum foundries used or proposed to be used for a particular beneficial purpose in lieu of a competing raw material or finished product. This policy does not apply to waste disposal or indiscriminate dumping/filling.

IV. Initial Documentation Required

For a beneficial reuse of foundry sand to be covered by this policy, the foundry which generates the sand must provide documentation to the division that the sand is “nontoxic” and has been “processed for reuse” For the purposes of this policy, “nontoxic” means that the foundry sand is non-hazardous and contains chemical constituents in concentrations equal to or less than those outlined in Table I. Also, for the purposes of this policy, “processed for reuse” means that the sand has been subjected to a process by which metal and trash are removed. Metal or trash removal is not required provided the foundry can demonstrate that these materials are not present in their sand in significant quantities.

For uses outlined in Part V, items A through E of this policy, initial documentation is not required. However, if the foundry wishes to be covered by this policy, demonstration must be submitted to the appropriate field office. Initial documentation is required for the small construction projects in part V, item F.

TENNESSEE (cont.)

V. Uses Not Requiring Division Review

The following uses do not require prior Division review or approval:

A. *Manufacturing another product:* The use as a raw material in manufacturing another final product, including, but not limited to, grout, cement, flowable fill, lightweight aggregate, concrete block, bricks, asphalt, roofing materials, plastics, paint, glass, fiberglass, ornamental ceramics and other non-land applications, or as a substitute for a product (e.g. blasting grit), excluding soil products.

B. Stabiliz*ation/solidification of other waste (for disposal)*: The use as a stabilization/solidification agent, singly or in combination with other additives or agents, for other wastes which will be disposed of at an approved disposal facility.

C. *Use in a composting process*: The use in a composting process when the process is performed in accordance with applicable composting regulations. This term does not include the use as a post-composting additive, or land application.

D. *Daily cover/final cover at landfill*: Uses as daily cover/final cover at a solid waste landfill, meeting all technical requirements for daily cover/final cover and approved by a permit. The amount of daily cover/final cover shall not exceed the amount under an approved permit.

E. *Landfill liner protective layer*: Use as a protective layer for landfill liners as part of an approved permit for the landfill.

F. *Small construction projects*: Uses outlined in Part VI of this policy when the amount used for any single project does not exceed 200 tons and is stabilized. The project must not impact streams, wetlands, or other waters of the State. For small construction projects to be covered under this policy, the generator must provide the "initial documentation" to the Division.

VI. Uses Requiring Division Review To Participate Under This Policy

The following uses require prior Division project review for concurrence. Notification shall be by the attached form.

A. *Structural fill*: An engineered use of nontoxic spent foundry sand structural fills for the following: building or equipment supportive base or foundation, foundation backfill, construction material for road bases and subbase, overpasses, embankments, parking lots, dams, retaining walls, dikes, levees; as a construction fill material for planned commercial and residential projects including office parks, commercial plans, malls, industrial parks, institutions, subdivisions, apartments, duplexes, condominiums; as bedding and backfill material for sanitary sewer lines and other utility lines. Note that all above applications will be below final surface grade of the project when completed unless otherwise specifically approved by the Division.

B. *Mines/Strip mine projects*: Uses as fill in abandoned or closed mines or strip mine areas where the plans for which are approved by the Federal Office of Surface Mines and the TN Division of Water Pollution control as appropriate.

C. *Other uses*: The Director may approve other uses on an individual basis if they are consistent with this policy and protective of human health and the environment.

TENNESSEE (cont.)

VII. Record Keeping Requirements

Each foundry subject to this policy must maintain the following records:

1. The amount of sand used;

2. The nature, purpose, and location of the projects;

3. Chemical analysis documenting the "nontoxic" nature of their sand (such analysis must be completed every two years or whenever process changes occur which may affect composition of the sand whichever is more frequent);

4. Any written approval/concurrence by DSWM where required for participation under this policy.

_____ _____

Tom Tiesler, Director (date)
Division of Solid Waste Management

TENNESSEE (cont.)

TABLE I
(Revision 2)

Maximum concentration Limits for Nontoxic Foundry Sand

CONSTITUENT	TCLP LIMITS (see footnote) PPM	TOTAL LIMITS PPM
Barium	20.00	NA
Cadmium	.05	NA
Chromium	1.00	NA
Copper	13.00**	NA
Cyanide	2.00*	NA
Formaldehyde	NA	300.00
Lead	.50	NA
Mercury	.02	NA
Nickel	1.00	NA
Phenol	15.00	NA
Selenium	.50	NA

TCLP limits are generally 10 times D.W.S.

*Use modified TCLP extraction test, refer to Ohio policy D3987-85

**Copper is an MCLG in federal D.W.S.

NA = Not Applicable

Footnote: For the purposes of this policy, “nontoxic” means that the foundry sand is non-hazardous and contains chemical constituents in concentrations equal to or less than those outlined in Table I. The toxic constituents leaching procedure (TCLP) refers to the leaching procedure test as provided at RCRA 40 CFR 261.24. These TCLP limits in this policy are generally 10 times the drinking water standard.

TENNESSEE - ATTACHMENT I
Foundry Sand Beneficial Use Notification Form

GENERAL INFORMATION::

1. Name of Project _____
2. Entity Requesting Review: _____
3. Proposed Generator: _____
4. Proposed Use As: _____
5. Proposed Use Location (Enclose topographical map showing material placement boundaries. Include lowest elevation of material placement): _____
6. Name and address of property owner: _____
7. Amount of Nontoxic Spent Foundry Sand to be Used: _____

ENVIRONMENTAL CONSIDERATIONS:

1. Is the proposed use location subject to flooding? YES NO
   (Attach map indicating 100-year flood plains.)
2. Distance from proposed location to nearest surface water: _____
   (On the map, show any nearby perennial {blue line} streams, ponds, wetlands, etc.)
3. Describe runoff/silt control: _____
4. Indicate on the map approximate location of monitoring and/or potable water supply wells in the area.
5. What are the adjacent land uses? _____
   _____
6. Are you aware of any potential (attributable to this project) or existing public water supply or groundwater quality degradation in the area: YES NO
   Explain: _____
   _____
7. Indicate the area USGS soil type classification:_____

This signature shall constitute personal affirmation that all statements or assertions of fact made in this proposal are true and complete and shall be subject to applicable state laws for false or misleading statements.

_____ _____
Signature of Project Manger Name of Property Owner

_____ _____
Company Signature

_____ _____
Title Date

_____
Date

POLICY/notebook/pn091

Question 3 – Tennessee Attachment

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF SOLID WASTE MANAGEMENT

DATE: March 4, 1996

TO: DSWM Staff

FROM: Doye Rowland, Division of Solid Waste Management

SUBJECT: Beneficial Use of a Solid Waste (Guidance)

Beneficial Use of Solid Waste

(a) This guidance will establish a procedure for determination of beneficial use of solid waste. A beneficial use determination by the DSWM will be a concurrence that such approved use or reuse of solid waste will not be construed by the DSWM to be a use which constitutes disposal when conducted in the manner approved by the Department. This guidance does not require a solid waste beneficial use determination. It establishes a procedure for persons desiring such determinations.

(b) A petition for beneficial use determination may be submitted to the DSWM. The DSWM may determine in writing whether the proposal constitutes a beneficial use of the solid waste. Such petitions should include:

1. Identification, name, address and phone number of the Solid Waste generator;

2. An adequate characterization of the subject waste stream. The characterization must include the quantity of solid waste generated, concentrations of all potential contaminates, and a flow chart which describes the process that generates the waste**;**

3. A well defined beneficial use project proposal described in adequate detail;

4. Locations and property owners that are involved in the beneficial use project;

5. A record keeping and reporting system which will account for actual solid waste quantities used in the project;

6. A description of how the waste will be handled and stored prior to beneficial use and any run-on/runoff control measures for surface waters;

TENNESSEE (cont.)

Beneficial Use of Solid Waste (Guidance)
March 4, 1996
page 2

7. A description of how release of solid waste into the environment will be prevented;

8. A schedule proposing the project initiation, major steps and completion; and

9. Other information requested by the DSWM to evaluate the petition.

(c) Solid wastes stored for beneficial reuse are subject to provisions at Rule 1200-1-7-.02(1)(b)2(xvi) which provides a conditional exemption from permitting for such storage prior to its reuse.

POLICY/notebook/28

Question 1e. – Virginia Attachment

CHANGES IN VIRGINIA'S BENEFICIAL USE DETERMINATION PROGRAM SINCE 1999

Virginia's Beneficial Use Determination Program is generally administered in the *Virginia Solid Waste Management Regulations, §9 VAC 20-80-10 et al*. Provided below are changes to this regulations that have been promulgated since 1999. The changes have been highlighted.

§9 VAC 20-80-60.E. Conditional exemptions. The following solid waste management practices are exempt from this chapter provided no open dump, hazard, or public nuisance is created:

1. Composting of sewage sludge at the sewage treatment plant of generation without addition of other types of solid wastes.

2. Composting of household waste generated at a single-family residence at the site of generation.

3. Composting activities performed for educational purposes as long as no more than five tons of materials are on site at any time. Greater quantities will be allowed with suitable justification presented to the department. For quantities greater than five tons approval from the director will be required prior to composting.

4. Management of wastes regulated by the State Board of Health, the State Water Control Board, or any other state agency with such authority.

5. On-site management of soil contaminated with petroleum products required as part of an ongoing corrective action by the department under Article 9 (§62.1-44.34:8 et seq.) or Article 11 (§62.1-44.34:14 et seq.) of Chapter 3.1 of Title 62.1 of the Code of Virginia. Management of the contaminated soils away from the site of generation is subject to this chapter unless specifically provided for in the approved corrective action plan.

6. Management of solid waste in appropriate containers at the site of its generation, provided that:

a. Putrescible waste is not stored more than seven days between time of collection and time of removal for disposal; and

b. All nonputrescible wastes that are on a system of regularly scheduled collection for disposal with collections occurring at intervals of less than 90 days.

7. Landfilling of solid waste which includes only rocks, brick, block, dirt, broken concrete and road pavement and which contains no paper, yard, or wood wastes.

8. On-site management of solid wastes generated by the wastewater treatment facilities provided such management is subject to a regulation promulgated by the State Water Control Board.

9. Placing of stumps and other land clearing debris from agricultural or forestal activities on site of the clearing where no debris is accepted from off-site. This does not include the burial of these materials.

10. Placing of solid wastes including large tires from mining equipment from mineral mining activities on a mineral mining site in compliance with a permit issued by the Department of Mines, Minerals and Energy where no such waste is accepted from off-site and does not contain any municipal solid wastes or other

VIRGINIA (cont.)

special wastes. Placement of such solid wastes shall be accomplished in an environmentally sound manner.

11. Storage of less than 100 waste tires at the site of generation provided that no waste tires are accepted from off-site and that the storage will not present a hazard or a nuisance.

12. The storage of land clearing debris including stumps and brush, clean wood wastes, log yard scrapings consisting of a mixture of soil and wood, cotton gin trash, peanut hulls and similar organic wastes that do not readily decompose, in piles are exempt from this chapter if they meet the following conditions at a minimum:

a. The wastes are managed in the following manner:

(1) They do not cause discharges of leachate, or attract vectors.

(2) They cannot be dispersed by wind and rain.

(3) Combustion and fire are prevented.

(4) They do not become putrescent.

b. Any facility storing waste materials under the provisions of this section obtains a storm water discharge permit if they are considered a significant source under the provisions of 9VAC25-31-120 A 1 e.

c. No more than an total of 1/3 acre of waste material is stored on-site and the waste pile does not exceed 15 feet in height above base grade.

d. Siting provisions.

(1) All waste materials are stored at the site of the industrial activity that produces them.

(2) A 50-foot fire break is maintained between the wastepile and any structure or treeline.

(3) The slope of the ground within the area of the pile and within 50 feet of the pile does not exceed 4:1.

(4) No waste material may be stored closer than 50 feet to any regularly flowing surface water body or river, floodplain, or wetland.

(5) No stored waste materials shall extend closer than 50 feet to any property line.

e. If the industrial activities at the site cease, any waste stored at the site must be properly disposed in a permitted solid waste management facility within 90 days. The director can approve longer time frames with appropriate justification. Justification must be provided in writing no more than 30 days after ceasing industrial activity at the site.

f. Waste piles that do not meet these provisions are required to obtain a permit in accordance with the provisions in 9VAC20-80-480 and meet all of the requirements in 9VAC20-80-400. Facilities that do not comply with the provisions of this subdivision and fail to obtain a permit are subject to the provisions of 9VAC20-80-90 for unpermitted facilities.

VIRGINIA (cont.)

§9 VAC 20-80-150.E. Materials that are:

1. a. Used or reused, or prepared for use or reuse, as an ingredient in an industrial process to make a product, or as effective substitutes for commercial products or natural resources provided the materials are not being reclaimed or accumulated speculatively; or

b. Returned to the original process from which they are generated;

2. Beneficially used as determined by the department.

a. The following materials and uses listed in this part are exempt from this chapter as long as they are managed so they do not create an open dump, hazard, or public nuisance. These materials and the designated use are considered a beneficial use of waste materials:

(1) Unadulterated wood, wood chips, or bark from land clearing, logging operations, utility line clearing and maintenance operations, pulp and paper production, and wood products manufacturing, when these materials are placed in commerce for service as mulch, landscaping, animal bedding, erosion control, habitat mitigation, wetlands restoration, or bulking agent at a compost facility operated in compliance with 9VAC20-80-330;

(2) Unadulterated wood combustion residues when used as a soil amendment or fertilizer, provided the application rate of the wood ash is limited to the nutrient need of the crop grown on the land on which the wood combustion residues will be applied and provided that such application meets the requirements of the Virginia Department of Agriculture and Consumer Services (2VAC5-400 and 2VAC5-410);

(3) Compost that satisfies the applicable requirements of the Virginia Department of Agriculture and Consumer Services (2VAC5-400 and 2VAC5-410);

(4) Nonhazardous, contaminated soil which has been excavated as part of a construction project and which is used as backfill for the same excavation or excavations containing similar contaminants at the same site, at concentrations at the same level or higher. Excess materials from these projects are subject to the requirements of this chapter;

(5) Nonhazardous petroleum contaminated soil which has been treated to the satisfaction of the department in accordance with 9VAC20-80-700;

(6) Nonhazardous petroleum contaminated soil when incorporated into asphalt pavement products;

(7) Solid wastes which are approved in advance of the placement, in writing, by the department or which are specifically mentioned in the facility permit for use as daily cover material or other protective materials for landfill liner or final cover system components;

(8) Fossil fuel combustion products when used as a material in the manufacturing of another product (e.g., concrete, concrete products, lightweight aggregate, roofing materials, plastics, paint, flowable fill) or as a substitute for a product or material resource (e.g., blasting grit, roofing granules, filter cloth precoat for sludge dewatering, pipe bedding);

(9) Waste tire chips when used as a subbase fill for road base materials or asphalt pavements when approved by the Virginia Department of Transportation or by a local governing body;

VIRGINIA (cont.)

(10) Waste tires used in the production of commercial products such as mats, pavement sealers, playground surfaces, brake pads, blasting mats, and other rubberized commercial products;

(11) Waste tire chips when used as backfill in landfill gas or leachate collection pipes, recirculation lines, and drainage material in landfill liner and cover systems, and gas interception or remediation applications;

(12) Waste tires, tire chips or tire shred when burned for energy recovery or pyrolyzed to produce fuel;

(13) "Waste derived fuel product," as defined in 9VAC20-80-10, derived from nonhazardous solid waste; and

(14) Recognizable, uncontaminated concrete and concrete products, asphalt pavement, brick, glass, soil and rock placed in commerce for service as a substitute for conventional aggregate.

b. In addition to items specified in subdivision 2 a of this subsection, the department may consider other waste materials and uses to be beneficial. The generator or proposed user of such materials may request that the department make a case-specific determination that the solid waste may be beneficially used in a manufacturing process to make a product or as an effective substitute for a commercial product. In all such cases, the materials will be managed so they do not create an open dump, hazard, or public nuisance.

(1) The requestor shall provide the following information:

(a) A description of the solid waste under review and its proposed use;

(b) Chemical and physical characteristics of the solid waste under review and of each type of proposed product;

(c) A demonstration that there is a known or reasonably probable market for the intended use of the solid waste under review and of all proposed products by providing one or more of the following:

(i) A description of how the proposed product will be used;

(ii) A demonstration that the proposed product complies with industry standards and specifications for that product if any; or

(iii) Other documentation that a market for the proposed product or use exists; and

(d) A demonstration that the management of the solid waste under review will not adversely affect human health and safety, the environment, and natural resources by providing:

(i) A solid waste control plan that describes the following:

(A) The source of the solid waste under review;

(B) Procedures for periodic testing of the solid waste under review and the proposed product to ensure that the proposed product's composition has not changed significantly;

(C) The disposition of any solid waste which may result from the manufacture of the product into which the solid waste under review is intended to be incorporated;

VIRGINIA (cont.)

(D) A description of the type of storage (e.g., container, tank or pile) and the maximum anticipated inventory of the solid waste under review (not to exceed 90 days) before being used;

(E) Procedures for run-on and run-off control of the storage areas for the solid waste under review; and

(F) A program and implementation schedule of best management practices designed to minimize uncontrolled dispersion of the solid waste under review before and during all aspects of its storage as inventory and/or during beneficial use; and

(ii) A contingency plan that contains the following information:

(A) A description of arrangements between the applicant and local police departments, fire departments, hospitals, and emergency response teams to coordinate emergency services and familiarize them with the layout of the facility, properties of the solid waste handled and associated hazards, as appropriate;

(B) A list of names, addresses and telephone numbers of all individuals qualified to act as an emergency coordinator for the facility;

(C) A list of all relevant emergency equipment and the location of each item; and

(D) An evacuation plan for facility personnel.

(2) Upon receipt of complete information required under subdivision 2 b (1) of this subsection, the department will determine in writing within 90 days, on a case-by-case basis, whether the proposal constitutes a beneficial use based on a showing that all of the following criteria have been met:

(a) The proposed use of the material constitutes a reuse rather than disposal;

(b) For a material which is proposed for incorporation into a manufacturing process, the material is not required to be decontaminated or otherwise specially handled or processed before such incorporation, in order to minimize loss of material or to provide adequate protection, as needed, of public health, safety or welfare, the environment or natural resources; and

(c) Other criteria as the department shall determine in its discretion to be appropriate. Conversely, the department may determine that owing to the nature of the use, reuse, or reclamation process, some of the informational materials required under subdivision 2 b (1) of this subsection may not be required to make the determination.

(3) The department will either approve the request, disapprove it, or allow the proposed use of the solid waste under review subject to such conditions as the department may impose. When granting a beneficial use determination, the department shall determine, on a case-by-case basis, the precise point at which the solid waste under review ceases to be solid waste. Unless otherwise determined for the particular solid waste under review, that point occurs when it is used in a manufacturing process to make a product or used as an effective substitute for a commercial product or a fuel. As part of its request, the generator or the proposed user may request that such point occur elsewhere. In such a request, the proponent shall include a demonstration that there is little potential for improper disposal of the material or little potential for the handling, transportation, or storage of the solid waste under review to have an adverse impact upon the public health, safety or welfare, the environment or natural resources.

(4) The department may revoke any determination made if it finds that one or more of the items of information submitted serving as the basis for the department's determination was incorrect or is no

VIRGINIA (cont.)

longer valid, the department finds that there has been a violation of any condition that the department attached to such determination, or that the use, reuse or reclamation process has become a public nuisance.

c. Beneficial use determinations granted by the department before May 23, 2001, shall remain in effect, subject to all conditions contained therein, unless specifically addressed by subsequent department action.

F. Materials generated by any of the following, which are returned to the soil as fertilizers:

1. The growing and harvesting of agricultural crops.

2. The raising and husbanding of animals, including animal manures and used animal bedding;

G. Mining overburden returned to the mine site.

H. Scrap metal stored or being reclaimed for use, reuse or further reclamation.

I. Used, reused, or reclaimed commercial chemical products if they are applied to the land in their ordinary manner of use or if they are fuels.

J. Products produced for the general public's use that are used in the manner that constitutes disposal if they are applied to the land in their ordinary manner of use and that contain used, reused or reclaimed materials.

K. Wood wastes burned for energy recovery.

§9 VAC 20-80-160 Conditional Exemptions

A. The following solid wastes are exempt from this chapter provided that they are managed in accordance with the requirements promulgated by other applicable state agencies:

1. Drilling fluids, produced waters, and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal energy;

2. Solid waste from the extraction, beneficiation and processing of ores and minerals, including coal;

3. Fossil fuel combustion products used for mine reclamation, mine subsidence, or mine refuse disposal on a mine site permitted by the Virginia Department of Mines, Minerals and Energy when used in accordance with the standards developed by the Department of Environmental Quality;

4. Waste or by-product derived from an industrial process that meets the definition of fertilizer, soil amendment, soil conditioner or horticultural growing medium as defined in §3.1-106.2 of the Code of Virginia, or whose intended purpose is to neutralize soil acidity (see §3.1-126.2:1 of the Code of Virginia), and that is regulated under the authority of the Virginia Department of Agriculture and Consumer Services;

5. Fossil fuel combustion products bottom ash or boiler slag used as a traction control material or road surface material if the use is consistent with Virginia Department of Transportation practices;

VIRGINIA (cont.)

6. Waste tires generated by and stored at salvage yards licensed by the Department of Motor Vehicles provided that they do not pose a hazard or a nuisance; and

7. Chipped waste tires used as the drainage material in construction of septage drainfields regulated under the authority of the Virginia Department of Health.

B. Fossil fuel combustion products are exempt from this chapter provided they are used in one or more of the following applications or when handled, processed, transported, or stockpiled for such use:

1. Used as a base, sub-base or fill material under a paved road, the footprint of a structure, a paved parking lot, sidewalk, walkway or similar structure, or in the embankment of a road. In the case of roadway embankments, materials will be placed in accordance with VDOT specifications, and exposed slopes not directly under the surface of the pavement must have a minimum of 18" of soil cover over the fossil fuel combustion products, the top six inches of which must be capable of sustaining the growth of indigenous plant species or plant species adapted to the area;

2. Processed with a cementitious binder to produce a stabilized structural fill product which is spread and compacted with proper equipment for the construction of a project with a specified end use;

3. Used for the extraction or recovery of materials and compounds contained within the fossil fuel combustion products.

NOTE 1: Residuals from the processing operations remain solid wastes.

NOTE 2: The use of fossil fuel combustion products outlined in this regulation has been evaluated only with regard to the protection of human health and the environment. A qualified professional engineer should evaluate any structural application of fossil fuel combustion products.

C. The following solid wastes are exempt from this chapter provided that they are reclaimed or temporarily stored incidentally to reclamation, are not accumulated speculatively, and are managed without creating an open dump, hazard or a public nuisance:

1. Paper and paper products;

2. Unadulterated wood waste which is to undergo size reduction in order to produce mulch;

3. Cloth;

4. Glass;

5. Plastics;

6. Waste tire chips; and

7. Mixtures of above materials only. Such mixtures may include scrap metals excluded from regulation in accordance with the provisions of 9VAC20-80-150 H.