



Beneficial Use of Solid Waste Determination Evaluation Form

Contact: Heather Kuoppamaki
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Applicant: Columbia Steel Casting Co., Inc.	
BUD#: 20170717.1	
Solid Waste: Spent foundry sand fines from dust collectors	
Summary of proposed beneficial use: Use as a solidification agent at landfills	
Reviewer: Heather Kuoppamaki	Date: January 25, 2019
Tier: <input type="checkbox"/> One <input checked="" type="checkbox"/> Two <input type="checkbox"/> Three	

Beneficial use of solid waste

Beneficial use of solid waste is a sustainability practice that may involve using an industrial waste in a manufacturing process to make another product or using a waste as a substitute for construction materials.

The environmental benefits of substituting industrial waste materials for virgin materials includes conserving energy, reducing the need to extract natural resources and reducing demand for disposal facilities.

Oregon Administrative Rules (OAR) 340-093-0280 - 0290 establish standing beneficial uses and a process for DEQ review of case-specific beneficial use proposals. Under these rules, DEQ may issue a beneficial use determination as an alternative to a disposal permit for proposals that meet the rule criteria. If approved, once a beneficial use determination is issued, DEQ no longer regulates the waste as a solid waste as long as the waste is used in accordance with the approved beneficial use determination.

Beneficial use determination evaluation summary

- Yes, the beneficial use of this solid waste meets all the case-specific performance criteria listed below and is approved.
- No, the beneficial use of this solid waste does not meet all the case-specific performance criteria listed below and is not approved.

Notes: Based on the information provided in the application and subsequent testing, DEQ has determined that the use of the foundry sand fines from dust collectors as a solidification agent at landfills meets the criteria required for a Tier II beneficial use.

Case-specific beneficial use performance criteria:

DEQ may approve an application for a case-specific beneficial use of solid waste only if all the following performance criteria are addressed:

1. Characterization of the Solid Waste;
2. Productive Beneficial Use of the Solid Waste; and,
3. The affect of the Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment.

Beneficial Use of Solid Waste Determination Evaluation Form

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BUD#: 20170717.1

Solid waste: Fines

Date: 1/25/2019

1. Characterization of the solid waste

Did the applicant characterize the solid waste and proposed beneficial use sufficiently to demonstrate compliance with the rules for case-specific beneficial use determinations (OAR 340-093-0280) by submitting required information for the appropriate tier? (See tier sections below for detailed characterization information.)

 Yes No

Was the following information submitted for DEQ review and how adequate was it?

Tier 1: **Applicable** **Not applicable**

- Did the applicant provide an adequate description of the material proposed for beneficial use, the manner of generation and the estimated quantity to be used beneficially each year?

 Yes No

Notes:

The material is foundry sand fines collected from baghouses. The estimated quantity to be used beneficially is at least 720 tons per year (60 tons per month).

- Did the applicant provide an adequate description of the proposed beneficial use and justify how the proposed use is beneficial?

 Yes No

Notes:

The proposed use is a substitute for manufactured fine perlite. The applicant incorrectly states that the fine material is a useful raw material, not a waste product.

- Did the applicant provide a sufficient comparison of the chemical and physical characteristics of the material proposed for beneficial use with the material it will replace?

 Yes No

Notes:

Applicant provided test result showing that the material sufficiently absorbs liquids to work as a solidification agent.

- Did the applicant successfully demonstrate compliance of the proposed beneficial use with the performance criteria in OAR 340-093-0280 based on knowledge of the process that generated the material, properties of the finished product, or testing?

 Yes No

Notes:

Applicant provided test result showing that the material sufficiently absorbs liquids to work as a solidification agent.

- If required, did the applicant provide any other DEQ required information to evaluate the proposal?

 Yes No

Beneficial Use of Solid Waste Determination Evaluation Form

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Notes:

Applicant provided the solidification test results referenced above.

Tier 2: Applicable Not applicable

- Did the applicant submit all the information required for a Tier 1 application?

Yes No

Notes:

- Did the applicant submit adequate sampling and analysis to make a determination of suitability for beneficial use? (Note: The analysis must provide chemical, physical, and biological characterization of the material proposed for beneficial use and identify potential contaminants in the material or the end product, as applicable.)

Yes No

Notes:

The material, after being used as a solidification agent, will be ultimately going into a landfill and meets the acceptance criteria for the landfill.

- When applicable, did the applicant provide a risk screening comparing the concentration of hazardous substances in the material to existing, DEQ approved, risk-based screening level values, and demonstrate compliance with acceptable risk levels?

Yes No

Notes:

The average arsenic concentrations in the fines are above DEQ's occupational worker RBC but below background concentrations. One sample result had an arsenic concentration above background concentrations; however, since the average is below the background DEQ considers this acceptable. The applicant incorrectly compared the arsenic concentration to background concentrations in the Cascade Range.

- When applicable, did the applicant supply the location or type of land use where the material will be applied, consistent with the risk scenarios used to evaluate risk?

Yes No

Notes:

The material will be beneficially reused at landfills.

- When applicable, did the applicant supply contact information of property owner(s) if this is a site-specific land application proposal, including name, address, phone number, email, site address and site coordinates (latitude and longitude)?

Yes No NA

Notes:

Not applicable

Beneficial Use of Solid Waste Determination Evaluation Form

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- Did the applicant supply an adequate description of how the material will be managed to minimize potential adverse impacts to public health, safety, welfare, or the environment?
 Yes No

Notes:

Material will be stored in covered roll off dumpsters with 50 mil liners. At the landfill, the material is transferred directly from the dumpsters to the solidification pit where it is mixed with liquid wastes. After use, it is buried in the landfill.

Tier 3: **Applicable** **Not applicable**

2. Productive beneficial use of the solid waste

Has the applicant demonstrated that the proposed beneficial use is a productive use of the material by providing information substantiating the criteria listed below?

- Yes No

Notes:

- Did the applicant successfully identify or demonstrate a reasonably likely proposed beneficial use for the material that is not speculative?
 Yes No
The Hillsboro Landfill has stated that they can and will use the material as a solidification agent.
- The applicant is a port district and has demonstrated the proposed use is upland placement of dredged material in accordance with Senate Bill 412.
 Yes No

This criterion consists of three parts.

1. Identified use:

Has the applicant clearly stated what the waste is going to be used for, that the waste is compatible with that use and the proposed quantity is necessary?

- Yes No

2. Reasonably likely use:

Has the applicant identified, with supporting documentation, the timeframe within which this use is likely to occur (e.g., zoning info, master plan for development, letters from local jurisdictions, etc)?

- Yes No

3. Not speculative:

Beneficial Use of Solid Waste Determination Evaluation Form

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For land application - has this material been used at other sites for the same purpose, is the material feasible for use at this site for this purpose, or has the applicant identified a known potential for this use at this site?

Yes No

For uses other than land application - has the material been used in a product before, is the material feasible for use in a product, or has the applicant identified a known potential for use in this product?

Yes No N/A

Notes:

- Is the use a valuable part of a manufacturing process, an effective substitute for a valuable raw material or commercial product, or otherwise authorized by the Department and does not constitute disposal?

Yes No

Notes:

The material will replace perlite.

- Is the use in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices?

Yes No

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Notes:

Testing showed that the material is a suitable solidification agent.

3. Effect of proposed beneficial use on public health, safety, welfare and/or the environment

Has the applicant demonstrated the proposed beneficial use will not create an adverse impact to public health, safety, welfare, or the environment, by providing information substantiating compliance with the criteria listed in the bullet list below?

Yes No

Notes:

Material will be stored in lined dumpsters until used at the landfill.

- Has the applicant demonstrated that the material is not a hazardous waste under ORS 466.00?

Yes No

Notes:

Applicant provided testing data.

- Has the applicant demonstrated that until the time this material is used according to a beneficial use determination, the material will be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions?

Yes No

Notes:

Material will be stored in lined covered dumpsters.

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- Has the applicant demonstrated that hazardous substances in the material, if any, meet one of the criteria in the bulleted list below?

Yes No NA

- Hazardous substances do not significantly exceed the concentration in a comparable raw material or commercial product;
- Hazardous substances do not exceed naturally occurring background concentrations; or
- Hazardous substances will not exceed acceptable risk levels, including persistence and potential bioaccumulation, when the material is managed according to a beneficial use determination.

Notes:

Average concentration of arsenic is below background concentrations in the Portland Basin.

- Has the applicant demonstrated that the proposed beneficial use will not result in the increase of a hazardous substance in a sensitive environment, such as a park, wildlife refuge or wetland?

Yes No

Notes:

Ultimately, the material will be disposed of in a landfill.

- Has the applicant demonstrated that the proposed beneficial use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions?

Yes No

Notes:

- Has the applicant indicated that the proposed beneficial use will comply with any other applicable federal, state, and local regulations?

- Yes No

Notes:

4. Public Involvement Evaluation (Note: this is not a beneficial use evaluation criterion)

Determine a public involvement recommendation using the current, Guidance to DEQ Solid Waste Program Staff and Managers on Public Notice and Participation.

- Is public notice and participation being recommended for this application?

Yes No

Notes:

The proposed beneficial use will occur at one or more landfills. DEQ does not anticipate a significant amount of public interest in for this use.