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### INCREASED USE OF RECOVERED MINERALS IN CEMENT OR CONCRETE

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NOVEMBER 17, 2003.—Ordered to be printed

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Mr. INHOFE, from the Committee on Environment and Public  
Works, submitted the following

### REPORT

[to accompany S. 793]

[Including cost estimate of the Congressional Budget Office]

The Committee on Environment and Public Works, to which was referred a bill (S. 793) to provide for increased energy savings and environmental benefits through the increased use of recovered mineral component in federally funded projects involving procurement of cement or concrete, having considered the same, reports favorably thereon with an amendment and recommends that the bill, as amended, do pass.

#### BACKGROUND

The cement making process is energy intensive. Cement is made by mining and crushing limestone, cooking the limestone with other materials in a kiln at 3000F and then crushing the resulting cement rocks, known as clinker, into fine cement powder. An enormous amount of energy is required to maintain the kiln temperature necessary to produce the chemical reaction that turns limestone into cement.

#### *RCRA Procurement Requirements*

Section 6002 of the Resource Conservation and Recovery Act (RCRA) requires the Federal Government to promote recycling through the purchase of products containing recovered materials. RCRA requires the Environmental Protection Agency (EPA) to designate products that can be made with recovered materials and to

recommend practices for Federal agencies to buy these products. These RCRA requirements apply to all procuring Federal, State and local agencies that spend more than \$10,000 a year in Federal funds on an item designated by EPA. A procuring agency can decide not to purchase a designated item if the item is: 1) not available within a reasonable period of time, 2) only available at an unreasonable price, and 3) fails to meet required performance standards.

Between 1983 and 1989, EPA issued five procurement guidelines for products containing recovered materials one of which was cement and concrete containing coal fly ash. In 1994, EPA issued additional guidelines including cement and concrete products made with ground-granulated blast furnace (GGBF) slag.

#### *Executive Order 13101*

Executive Order 13101 (EO), which was issued in 1998, requires the head of each executive department and agency to incorporate waste prevention and recycling into the organization's daily operations. Specifically, the EO calls for the department and agency heads to ". . . work to increase and expand markets for recovered materials through greater Federal Government preference and demand for such products." Additionally, the EO states that Federal agencies ". . . shall comply with executive branch policies for the acquisition and use of environmentally preferable products and services and implement cost-effective procurement preference programs favoring the purchase of these products and services."

Despite RCRA section 6002 and EO 1310, the Federal executive departments and agencies are not fully implementing these recycling procurement programs. For example, the Department of Transportation reports for fiscal year 1997, only 1-2 percent of all cement sales from Portland cement producer and only about 50 percent of concrete mixed at batch plants contain some fly ash or GGBF slag. Assuming material availability across all regions, 100 percent of cement sales could contain GGBF slag or fly ash, and 100 percent of concrete mixes from batch plants could contain GGBF slag or fly ash to the maximum level permitted by the mix design.

#### OBJECTIVES OF THE LEGISLATION

The bill as reported is intended to increase the use of recovered mineral component, such as fly ash, GGBF slag in cement or concrete projects, and the use of granular mine tailings in cement or concrete projects and transportation construction projects (including the transportation construction projects involving the use of asphalt), that are carried in whole or in part using Federal funds. Once the requirements of RCRA 6002 and the EO are fully implemented, the Committee believes substantial energy savings and associated environmental benefits will result. Also, in many applications, the resulting concrete is stronger and more durable with the addition of these mineral components.

## SECTION-BY-SECTION ANALYSIS

*Section 1. Increased Use of Recovered Mineral Component in Federally Funded Projects Involving Procurement of Cement or Concrete*

This section amends Subtitle F of the Solid Waste Disposal Act by adding two sub-sections: 1) Section 6005 is titled 'Increased Use of Recovered Mineral Component in federally Funded Projects Involving Procurement of Cement or Concrete'; and 2) Section 6006 is titled: 'Use of Granular Mine Tailings.'

Section 6005 adds the definitions for "agency head," "cement or concrete project" and "recovered mineral component." Agency head is defined as the Secretary of Transportation and the head of each other Federal agency that procures or provides Federal funds for the procurement of material for cement or concrete projects. "Cement or concrete project" is defined as a project for a transportation facility or public facility that involves the procurement of cement or concrete and is carried out using Federal funds. "Recovered mineral component" is defined as ground-granulated blast furnace slag; coal combustion fly ash; and any other waste material or byproduct recovered or diverted from solid waste that the Administrator determines should be treated as recovered mineral component under this Act.

This section requires the Administrator and each agency head to take necessary actions to implement fully all procurement requirements and incentives that provide for the use of cement and concrete incorporating recovered mineral component in cement or concrete projects. An agency head is required to give priority to achieving greater use of recovered mineral component for which it has not been historically used or used minimally.

This section requires the Administrator, in cooperation with the Secretaries of Transportation and Energy, to conduct a study to determine the extent to which current procurement requirements may realize energy savings and environmental benefits attainable with the substitution of recovered mineral component in cement used in cement or concrete projects. The legislation outlines several matters that must be addressed in the study.

This section requires the Administrator to take additional actions to establish procurement requirements and incentives for the use of cement and concrete with increased substitution of recovered mineral component in order to realize more fully the energy savings and environmental benefits associated with the increased substitution and eliminate barriers identified in the study.

Section 6006, requires the Administrator, in consultation with other agency heads, to establish criteria for the safe and environmentally protective use of granular mine tailings from the Tar Creek, Oklahoma Mining District, known as 'chat', for cement or concrete projects, and transportation projects, including those that use asphalt, that are carried out using Federal funds. In establishing the criteria, the Administrator is required to consider current and previous uses of 'chat,' and any environmental and public health risks and benefits derived from removal, transportation and use of 'chat.' In establishing the criteria, the Administrator shall solicit and consider comments from the public. The criteria shall be effective upon establishment by the Administrator.

## LEGISLATIVE HISTORY

On April 7, 2003, Senator Byrd introduced S. 793. Senators Jeffords and Hatch are cosponsors. The bill was then referred to the Senate Committee on Environment and Public Works. A full Committee business meeting was held on July 30, 2003, and the Committee ordered S. 793, as amended, to be reported to the full Senate.

## HEARINGS

There were no hearings held on S. 793 during the 108th Congress.

## ROLLCALL VOTES

The Committee on Environment and Public Works met to consider S. 793 on July 30, 2003. The Committee voted favorably to report S. 793 by voice vote.

## REGULATORY IMPACT STATEMENT

In compliance with section 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes evaluation of the regulatory impact of the reported bill.

The bill does not create any additional regulatory burdens, nor will it cause any adverse impact on the personal privacy of individuals.

## MANDATES ASSESSMENT

In compliance with the Unfunded Mandates Reform Act of 1995 (Public Law 104-4), the Committee finds that S. 793 would not impose any Federal intergovernmental unfunded mandates on State, local, or tribal governments.

## COST OF LEGISLATION

Section 403 of the Congressional Budget and Impoundment Control Act requires that a statement of the cost of the reported bill, prepared by the Congressional Budget Office, be included in the report. That statement follows:

U.S. CONGRESS,  
CONGRESSIONAL BUDGET OFFICE,  
*Washington, DC, August 22, 2003.*

Hon. JAMES M. INHOFE, *Chairman,*  
*Committee on Environment and Public Works,*  
*U.S. Senate, Washington, DC.*

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 793, a bill to provide for increased energy savings and environmental benefits through the increased use of recovered mineral component in federally funded projects involving procurement of cement or concrete.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff is Rachel Milberg, who can be reached at 226-2860.

Sincerely,

DOUGLAS HOLTZ-EAKIN

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*S. 793, A bill to provide for increased energy savings and environmental benefits through the increased use of recovered mineral component in federally funded projects involving procurement of cement or concrete, as ordered reported by the Senate Committee on Environment and Public Works on July 30, 2003*

S. 793 would require the Administrator of the Environmental Protection Agency (EPA) to study the benefits of using recycled materials in cement or concrete projects that are paid with Federal funds. The bill also would require the Administrator to establish criteria for using certain granular mine tailings in such projects. Based on information from EPA, CBO estimates that implementing S. 793 would cost less than \$500,000 in each year over the 2004-2006 period, subject to the availability of appropriated funds. Enacting S. 793 would not affect direct spending or receipts.

S. 793 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act. The bill might impose some costs on recipients of federal grants by encouraging the increased use of certain recycled materials in federally funded construction projects, including highway projects, that use cement or concrete. Since this provision would apply only to projects that receive federal funding, it would be a condition of federal aid rather than a mandate.

On April 7, 2003, CBO transmitted a cost estimate for H.R. 1346, the Federal Government Energy Management Improvement Act, as ordered reported by the House Committee on Government Reform on March 20, 2003. H.R. 1346 would require the same study as S. 793, and our cost estimate of the House bill did not include any significant cost for that requirement.

The CBO staff contacts for this estimate are Rachel Milberg (for Federal costs) and Gregory Waring (for the impact on State and local governments). The estimate was approved by Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

#### CHANGES IN EXISTING LAW

In compliance with section 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill as reported are shown as follows: Existing law proposed to be omitted is enclosed in [black brackets], new matter is printed in italic, existing law in which no change is proposed is shown in roman:

**SOLID WASTE DISPOSAL ACT****TITLE II—SOLID WASTE DISPOSAL****Subtitle A—General Provisions****SHORT TITLE AND TABLE OF CONTENTS****SEC. 1001. \* \* \***

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**Subtitle A—General Provisions**

Sec. 1001. Short title and table of contents.

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**Subtitle F—Federal Responsibilities**

Sec. 6001. Application of Federal, State, and local law to Federal facilities.

Sec. 6002. Federal procurement.

Sec. 6003. Cooperation with Environmental Protection Agency.

Sec. 6004. Applicability of solid waste disposal guidelines to executive agencies.

Sec. 6005. *Increased use of recovered mineral component in federally funded projects involving procurement of cement or concrete.*Sec. 6006. *Use of granular mine tailings.*

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**Subtitle F—Federal Responsibilities****APPLICATION OF FEDERAL, STATE, AND LOCAL LAW TO FEDERAL FACILITIES****SEC. 6001. (a) \* \* \***

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**SEC. 6005. INCREASED USE OF RECOVERED MINERAL COMPONENT IN FEDERALLY FUNDED PROJECTS INVOLVING PROCUREMENT OF CEMENT OR CONCRETE.**(a) *DEFINITIONS.—In this section:*(1) *AGENCY HEAD.—The term ‘agency head’ means—*(A) *the Secretary of Transportation; and*(B) *the head of each other Federal agency that, on a regular basis, procures, or provides Federal funds to pay or assist in paying the cost of procuring, material for cement or concrete projects.*(2) *CEMENT OR CONCRETE PROJECT.—The term ‘cement or concrete project’ means a project for the construction or maintenance of a highway or other transportation facility or a Federal, State, or local government building or other public facility that—*(A) *involves the procurement of cement or concrete; and*(B) *is carried out, in whole or in part, using Federal funds.*(3) *RECOVERED MINERAL COMPONENT.—The term ‘recovered mineral component’ means—*(A) *ground-granulated blast furnace slag;*(B) *coal combustion fly ash; and*

(C) any other waste material or byproduct recovered or diverted from solid waste that the Administrator, in consultation with an agency head, determines should be treated as recovered mineral component under this section for use in cement or concrete projects paid for, in whole or in part, by the agency head.

(b) **IMPLEMENTATION OF REQUIREMENTS.**—

(1) **IN GENERAL.**—Not later than 1 year after the date of enactment of this section, the Administrator and each agency head shall take such actions as are necessary to implement fully all procurement requirements and incentives in effect as of the date of enactment of this section (including guidelines under section 6002) that provide for the use of cement and concrete incorporating recovered mineral component in cement or concrete projects.

(2) **PRIORITY.**—In carrying out paragraph (1), an agency head shall give priority to achieving greater use of recovered mineral component in cement or concrete projects for which recovered mineral components historically have not been used or have been used only minimally.

(3) **CONFORMANCE.**—The Administrator and each agency head shall carry out this subsection in accordance with section 6002.

(c) **FULL IMPLEMENTATION STUDY.**—

(1) **IN GENERAL.**—The Administrator, in cooperation with the Secretary of Transportation and the Secretary of Energy, shall conduct a study to determine the extent to which current procurement requirements, when fully implemented in accordance with subsection (b), may realize energy savings and environmental benefits attainable with substitution of recovered mineral component in cement used in cement or concrete projects.

(2) **MATTERS TO BE ADDRESSED.**—The study shall—

(A) quantify the extent to which recovered mineral components are being substituted for Portland cement, particularly as a result of current procurement requirements, and the energy savings and environmental benefits associated with that substitution;

(B) identify all barriers in procurement requirements to greater realization of energy savings and environmental benefits, including barriers resulting from exceptions from current law; and

(C)(i) identify potential mechanisms to achieve greater substitution of recovered mineral component in types of cement or concrete projects for which recovered mineral components historically have not been used or have been used only minimally;

(ii) evaluate the feasibility of establishing guidelines or standards for optimized substitution rates of recovered mineral component in those cement or concrete projects; and

(iii) identify any potential environmental or economic effects that may result from greater substitution of recovered mineral component in those cement or concrete projects.

(3) *REPORT.*—Not later than 30 months after the date of enactment of this section, the Administrator shall submit to the Committee on Appropriations and Committee on Environment and Public Works of the Senate and the Committee on Appropriations, Committee on Energy and Commerce, and Committee on Transportation and Infrastructure of the House of Representatives a report on the study.

(d) *ADDITIONAL PROCUREMENT REQUIREMENTS.*—Unless the study conducted under subsection (c) identifies any effects or other difficulties described in subsection (c)(2)(C)(iii) that warrant further review or delay, the Administrator and each agency head shall, not later than 1 year after the date of submission of the report under subsection (c)(3), take additional actions authorized under this Act to establish procurement requirements and incentives that provide for the use of cement and concrete with increased substitution of recovered mineral component in the construction and maintenance of cement or concrete projects, so as to—

- (1) realize more fully the energy savings and environmental benefits associated with increased substitution; and
- (2) eliminate barriers identified under subsection (c).

**SEC. 6006. USE OF GRANULAR MINE TAILINGS.**

(a) *MINE TAILINGS.*—

(1) *IN GENERAL.*—Not later than 180 days after the date of enactment of this section, the Administrator, in consultation with the Secretary of Transportation and heads of other Federal agencies, shall establish criteria (including an evaluation of whether to establish a numerical standard for concentration of lead and other hazardous substances) for the safe and environmentally protective use of granular mine tailings from the Tar Creek, Oklahoma Mining District, known as ‘chat’, for—

- (A) cement or concrete projects; and
- (B) transportation construction projects (including transportation construction projects involving the use of asphalt) that are carried out, in whole or in part, using Federal funds.

(2) *REQUIREMENTS.*—In establishing criteria under paragraph (1), the Administrator shall consider—

- (A) the current and previous uses of granular mine tailings as an aggregate for asphalt; and
- (B) any environmental and public health risks and benefits derived from the removal, transportation, and use in transportation projects of granular mine tailings.

(3) *PUBLIC PARTICIPATION.*—In establishing the criteria under paragraph (1), the Administrator shall solicit and consider comments from the public.

(4) *APPLICABILITY OF CRITERIA.*—On the establishment of the criteria under paragraph (1), any use of the granular mine tailings described in paragraph (1) in a transportation project that is carried out, in whole or in part, using Federal funds, shall meet the criteria established under paragraph (1).

(b) *EFFECT OF SECTIONS.*—Nothing in this section or section 6005 affects any requirement of any law (including a regulation) in effect on the date of enactment of this section.

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