



CALIFORNIA CEMENT MANUFACTURERS ENVIRONMENTAL COALITION (CCMEC)



July 22, 2021

Meredith Williams, Ph.D., Director
Department of Toxic Substances Control
1001 I Street
Sacramento, CA 95814

Subject: Recycling of Spent Abrasive Blast Material (ABM) into Portland Cement.

Dear Dr. Williams:

The undersigned organizations are writing to appeal to the Department of Toxic Substance Control (DTSC) to preserve a highly successful 25-year-old program allowing spent Abrasive Blast Material (ABM) that would otherwise be regulated as a California-only hazardous waste to qualify as Excluded Recyclable Material (ERM). ERM status, in turn, allows for beneficial reuse of the spent ABM as an ingredient in new construction materials. However, DTSC is currently pursuing enforcement actions that would change its long-standing interpretations about the applicability of the ERM statute and regulations (California Health & Safety Code Sections 25143.2 and 25143.9, and California Code of Regulations Title 22 Sections 66266.20 and 66266.21) in a manner that would prevent third-party contractors from conducting any activity related to recycling ABM, including:

1. Sampling and analysis to characterize spent ABM in accordance with California-only hazardous waste criteria;
2. Screening/sieving of spent ABM to remove debris that cannot be recycled;
3. Accumulating spent ABM following characterization and screening/sieving;
4. Packaging spent ABM in suitable containers for transport;
5. Contracting licensed transporters and coordinating directly with recycling facilities;
6. Maintaining complete and accurate records of all ERM shipments, including characterization data, storage methods, shipping documents, and recycling certifications; and
7. Preparing reports every two years to document compliance with all regulatory requirements.

Shifting these responsibilities to individual generators of spent ABM is infeasible because of the complex logistics and economics of performing these tasks on-site and the inability of individual generators to guarantee a regular supply of spent ABM to end users. Thus, DTSC's change of interpretation would effectively eliminate recycling of spent ABM, including its most common reuse

as a critical ingredient in the manufacturing of Portland cement, with many negative consequences for generators, contractors and end users. In addition, since the only practical alternative to recycling is for individual generators to ship the spent ABM to a DTSC-permitted hazardous waste Treatment, Storage and Disposal Facility (TSDF), DTSC's change of interpretation would also conflict with its mandate to protect public health and the environment.

Potential Impacts on Public Health and Environment

US EPA's hierarchy of hazardous waste management (1995) describes reuse or recycling off-site as the *preferred* option before considering any treatment and disposal of any hazardous waste generated from industrial operations. DTSC issued a similar Hazardous Waste Management Memorandum in 1995 (EO-95-010-MM) to *encourage* recycling of suitable secondary materials as beneficial ingredients in new construction materials and to establish conditions to ensure recycling is conducted in a manner that protects human health and the environment. DTSC's ERM regulations were designed to guide the reuse or recycling of industrial secondary materials and help improve the life cycle environmental sustainability of the materials and the processes in which they are used.

If not recycled, hundreds of thousands of tons of spent ABM generated in California must be transported to the few permitted TSDFs still operating in California, or to solid waste landfills in other states. The off-site transportation and disposal of spent ABM would result in many unacceptable environmental outcomes, including:

- **Disposal of valuable minerals essential to the production of Portland cement.** Spent ABM contains varying amounts of silica, alumina, and iron, which are building blocks for Portland cement. Portland cement will be an increasingly critical commodity in California as the state invests in new construction to reduce the severity of California's housing crisis. Disposal of recyclable secondary materials is contrary to USEPA and Cal-EPA recycling policies and the Newsom administration's commitment to establish circular economies for products manufactured, sold and used in California.
- **Increasing the volume of material disposed in Class 1 hazardous waste landfills.** DTSC's proposed interpretation would conflict with its standing commitment to achieve a 50% reduction in the volume of hazardous waste disposed in California by 2025.
- **Increased mining of virgin ore.** Mining and processing virgin ore is much more energy intensive than recycling secondary materials. A DTSC policy that encourages more mining to replace use of secondary materials would conflict with Cal-EPA policies to aggressively reduce greenhouse gas (GHG) emissions and minimize leakage of GHG emissions to other jurisdictions.
- **Increasing toxic air contaminant, criteria pollutant and GHG emissions.** A policy that encourages disposal over recycling will force shipment of large volumes of heavy materials over longer distances and will add to the cumulative emissions burden already facing disadvantaged communities living along transportation corridors.
- **Increasing greenhouse gas emissions in the cement manufacturing process.** Use of spent ABM in cement kilns requires less heat (approximately 200° F) which reduces fuel

consumption relative to using natural sources of silicon, aluminum, and iron. A policy that effectively forces cement manufacturers to use less energy efficient virgin materials would undermine the ability of in-state companies to achieve the GHG emissions reductions required under California’s declining carbon cap and is likely to force more cement production out of state, leading to a net increase in GHG emissions from this sector.

Example of Potential Impacts on an ABM Generator

Tables 1, 2, and 3 below provide rough order of magnitude examples of the amount of spent ABM that qualifies as ERM from a single large source - the US Navy facilities in San Diego. They also illustrate the potential additional cost if this spent ABM is required to be disposed at a DTSC-permitted TSDF. These estimates do not include the spent ABM generated at other US Navy facilities in Port Hueneme or the San Francisco Bay Area (e.g., Bay Ship and Yacht and Mare Island Dry Dock).

Table 1. Estimated Cost for Excluded Recyclable Material Beneficial Reuse and Recycling per CH&S Code 25143.2				
Year	Shipyard Cal Haz Tons	ERM Cost \$86/ton	Trans	Total ERM Cost
2018	2,500	\$215,000	Included	\$215,000
2019	10,000	\$860,000	Included	\$860,000
2020	9,000	\$774,000	Included	\$774,000

Table 2. Estimated Cost for TSDF Disposal as California Hazardous Waste (likely outcome based on new DTSC regulatory interpretation)					
Year	Shipyard Cal Haz	Haz Disposal \$150/ton	Haz Trans \$120/ton	Haz Generator Fees	Total Haz cost
2018	2,500	\$375,000	\$300,000	\$92,080	\$767,080
2019	10,000	\$1,500,000	\$1,200,000	\$95,660	\$2,795,660
2020	9,000	\$1,350,000	\$1,080,000	\$98,640	\$2,528,640

Table 3. Estimated Cost Increase to the San Diego Shipyards and US Navy			
Year	Total ERM Cost	Total Haz cost	Total Cost INCREASE
2018	\$215,000	\$767,080	\$552,080
2019	\$860,000	\$2,795,660	\$1,935,660
2020	\$774,000	\$2,528,640	\$1,754,640

The Navy has performed comprehensive field pilot studies to validate the concept of reusing ABM in various beneficial recycling alternatives. California’s ERM regulations are a result of DTSC and the Navy working together to find beneficial reuses for the hundreds of thousands of tons of spent ABM

generated each year in California. While the spent ABM used in the Portland cement manufacturing process is not classified as a California hazardous waste, it must be handled and managed in accordance with ERM regulations designed to protect human health and the environment. The ERM regulations allow generators to work with third-party contractors, such as Kleen Industrial Services, to cost-effectively handle, manage, and transport the spent ABM to cement kilns. DTSC is now attempting to eliminate such third-party activities without providing a technical, regulatory or policy rationale that supports such an extreme response.

Because shipyards rely on third-party contractors to recycle spent ABM, DTSC's proposed interpretation would have significant negative economic and operational impacts on these facilities. As noted in table 1, between 2018 and 2020, over 21,000 tons of spent ABM that qualifies as ERM was generated from US Navy vessels and facilities in San Diego. The estimated cost to dispose of this spent ABM at a TSDf would have been approximately \$6,091,380.

Our Request

The undersigned organizations ask that DTSC work with us to formally recognize that ERM regulations allow third-party contractors to conduct the activities necessary to facilitate recycling of spent ABM.

Sincerely,



Jack Monger
Chief Executive Officer
San Diego Industrial Environmental Association



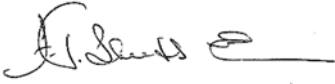
Matt Eggle
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Mark Hjerpe
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Vice President
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cc: Jared Blumenfeld, Secretary, Cal-EPA
Liane Randolph, Chair, California Air Resources Board
Christine Hironaka, Governor's Office