DTSC Metal Shredder Residues Work Plan

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MSR Background

- The shredding of automobiles and major household appliances for purposes of recycling results in mixtures consisting of:
  - Ferrous metals
  - Non-ferrous metals
  - Metal Shredder Residue (MSR)
  - Also known as Auto Shredder Waste (ASW)

MSR Background

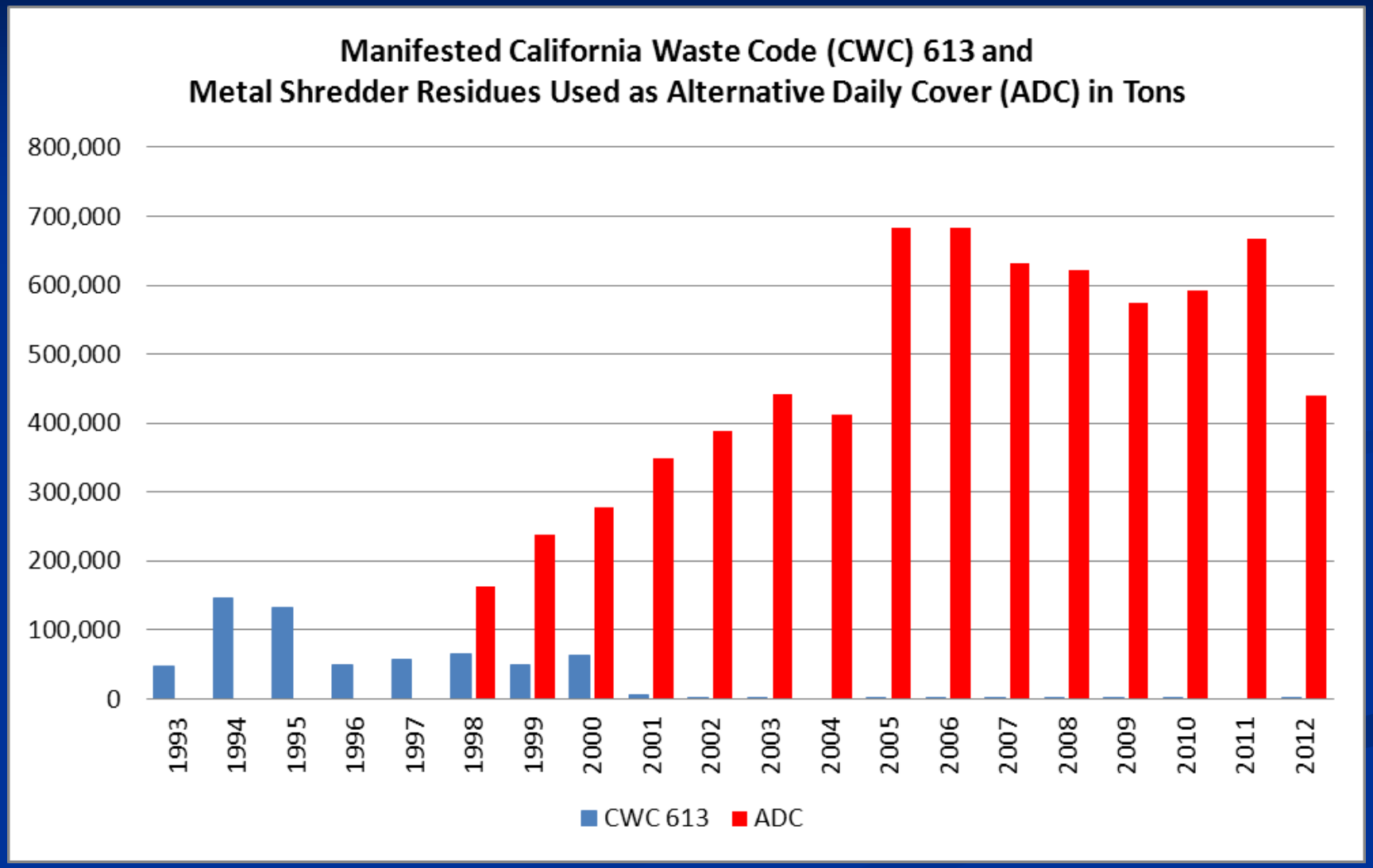
- MSR is the final byproduct of metal shredding operations that recover most of the recyclable metals from automobiles, appliances, and other scrap materials
- MSR consists of fiber, glass, plastics, rubber, and fine metals such as pieces of small wire.

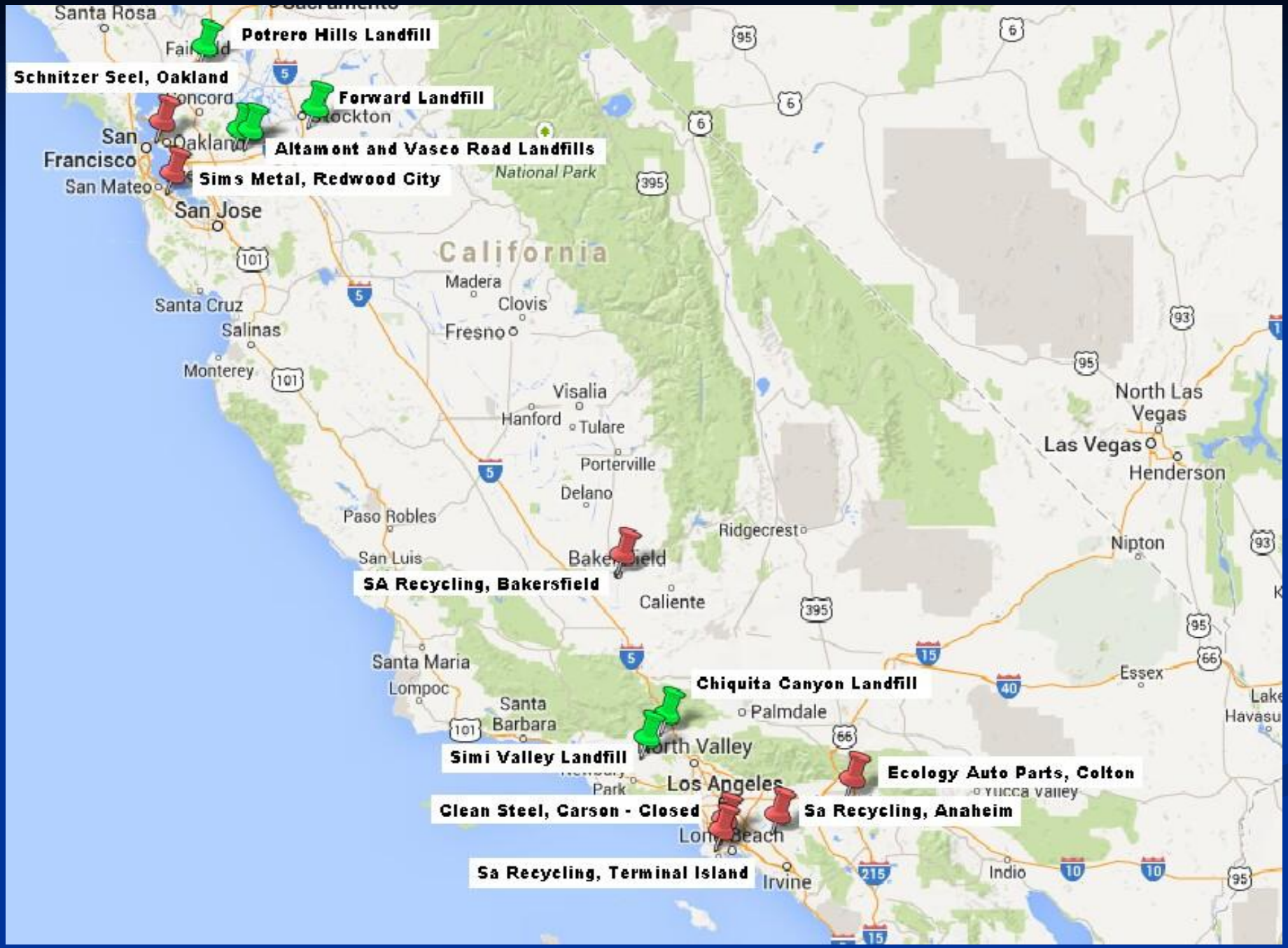
- MSR waste is also referred to as:
  - auto shredder fluff
  - auto shredder residue
  - auto shredder waste (ASW)

MSR Background

- MSR contains inorganic contaminants (i.e. lead, cadmium, copper, nickel and zinc), which are present from the shredding activities
- MSR is treated using metals-fixation technologies to reduce the hazards of the material
- Treated MSR is mostly disposed in Class III landfills
- Treated MSR is used as "Alternative Daily Cover" (ADC) for vector control
- 440,000 tons of MSR was used as ADC at municipal landfills in 2012

440,000 Tons of MSR generated in 2012




Potrero Hills Landfill
Schnitzer Seel, Oakland
Forward Landfill
Altamont and Vasco Road Landfills
Sims Metal, Redwood City
SA Recycling, Bakersfield
Chiquita Canyon Landfill
Simi Valley Landfill
Ecology Auto Parts, Colton
Clean Steel, Carson - Closed
Sa Recycling, Anaheim
Sa Recycling, Terminal Island
Santa Rosa
San Francisco
Oakland
San Mateo
San Jose
Santa Cruz
Salinas
Monterey
Madera
Clovis
Fresno
Visalia
Hanford
Tulare
Porterville
Delano
Paso Robles
Ridgecrest
Caliente
Santa Maria
Lompoc
Santa Barbara
Palmdale
Los Angeles
Irvine
Indio
Yucca Valley
Essex
Nipton
Las Vegas
North Las Vegas
Henderson
California
National Park

MSR History

- In 1984 the California Department of Health Services (DHS), predecessor to the DTSC, determined that auto shredder waste (ASW) was a California-only (non-RCRA) hazardous waste because it exceeded regulatory thresholds for several inorganic constituents

- The California waste extraction test (WET) revealed that ASW generally exceeded the soluble threshold limit concentrations (STLCs) for lead, cadmium, and zinc; and the total threshold limit concentrations (TTLCs) for copper, lead, and zinc

MSR History

- The amount of MSR generated by auto shredders prompted a search for solutions to the permitting and disposal issues

- Later, DHS's Alternative Technology Section (ATS) began working with auto shredders to determine if MSR could be treated so that it would qualify for a nonhazardous waste classification

MSR History

- Nonhazardous waste classification was allowed pursuant to California Administrative Code section 66305(e)
- The predecessor to Title 22, CCR section 66260.200(f)
- This is section "f" that "f" Letters refers to
- DHS classified treated MSR as non-hazardous waste, which allowed it to be managed as non-hazardous
- Subsequently, the Department of Toxic Substances Control (DTSC) was established and assumed DHS' waste classification responsibilities

MSR History

- Seven shredders received "f" Letters in the late 1980's and early 1990's under CCR Title 22, section 66260.200 (f)
- Section 66260.200(f), Title 22, California Code of Regulations reads, in part, as follows:
  - *"If a person wishes to classify and manage as nonhazardous a waste which would otherwise be a non-RCRA hazardous waste because it has mitigating physical or chemical characteristics which render it insignificant as a hazard to human health and safety, livestock and wildlife,…"*

MSR History

- Facilities receiving non-hazardous waste determinations from the DTSC had demonstrated that they could sufficiently reduce the hazards of their MSR by using metals-fixation treatment technologies
- Once these facilities received a non-hazardous waste classification from DTSC, the treated MSR was no longer regulated as a hazardous waste and could be stored, transported, and disposed without following the management procedures required for hazardous waste, including use of a manifest during transportation

DTSC Policy and Procedure #88-6

- Adopted in 1988 (still in effect today)
- Purpose: To ensure a consistent regulatory approach for the management of MSR
- Policy 88-6 states that treatment of shredder waste is not regulated by DTSC when treatment occurs inline
- Inline treatment is treatment to a material in an industrial process before that material is exhausted or otherwise rendered a waste

DTSC's Plan to Revisit the Regulation of MSR

- Why now?
- Changes to vehicle and appliance composition since 1980's
- Refinements to the treatment process; can the process be optimized to treat below regulatory thresholds?
- Is there a better regulatory approach for management of MSR than established 20 years ago?
- DTSC's primary goal is to ensure that the management of MSR waste is fully protective of public health and the environment

DTSC's Goals

- Conduct an evaluation process that is scientifically sound
- Identify options and alternatives that are viable, legally defensible and enforceable
- Conduct the process transparently
- Ensure that community members and stakeholders are part of the process
- Consolidate feedback and concerns from all stakeholders

MSR Treatability Study

- Prepared by the California Chapter of the Institute of Scrap Recycling Industries (ISRI)
- Study requested by DTSC to re-evaluate characteristics of MSR shredder waste before and after treatment
- Analysis for federal TCLP regulatory metals
- Analysis for state TTLC and STLC regulatory metals and other chemicals of concern
- All laboratories are CA certified, QA/QC includes split samples and verification by DTSC's ECL laboratory

MSR Treatability Study (cont.)

- Each shredder facility will conduct their own treatability study
- Industry will identify best treatment options available
- DTSC will assess MSR findings to determine whether control technologies meet regulatory requirements
- DTSC will consult with all stakeholders
- DTSC will develop recommendations by Nov 2014

MSR Review Timeline

- September 2013 - Industry submitted Draft Workplan for treatability study to DTSC for comments
- November 2013 - DTSC hosted workshops for state and local regulatory agencies (in Los Angeles and Bay Area) to solicit regulatory feedback on the industry's treatability study work plan.
- January 2014 - DTSC is hosting public workshops (Los Angeles and Oakland) to solicit public feedback on the industry's treatability study work plan

MSR Review Timeline Con't

- February 2014 - DTSC coordinates with other agencies and stakeholders to develop comments and finalize the work plan
- Industry begins their treatment and sampling events
- September 2014 - Metal shredders submit treatability study findings to DTSC
- October 2014 - DTSC, with other state and local agencies, hosts a second set of public workshops to present findings and recommendations
- November 2014 - DTSC finalizes recommendations and submits to Director (may include need for additional data)

What Else is DTSC Doing?

- Best Management Practices- DTSC is reviewing what other states are doing and evaluating their application here
- Control Technologies- DTSC is reviewing new technologies and current research
- Impacts at Receiving Facilities- DTSC is reviewing data from current and former landfills
- Enforcement Activities- DTSC continues to investigate related facilities, as required

Additional Regulatory Oversight of MSR Facilities

- Regional Water Quality Control Boards
  Los Angeles RWQCB
  Santa Ana RWQCB
- Local Air Quality Management Districts
  South Coast AQMD
  Ventura AQMD
- Local Enforcement Agencies
- Certified Uniform Program Agencies
  Los Angeles County Fire Department
  Anaheim Fire Department
  Ventura County Environmental Heath Division

Thank You

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MSR Webpage Portal Available at:

- http://www.dtsc.ca.gov/HazardousWaste/MetalShredderPortal.cfm