The HSP has reviewed the "Auto Shredder Residue Treatability Study Workplan" which was developed by the California Chapter of the Institute of Scrap Recycling Industries. The document was dated September 26, 2013.

The comments listed below are broken into "Specific Comments", generated from the HSP review of the above-referenced Workplan, and "General Comments", generated as a result of issues not specifically addressed within the referenced Workplan, and from field observations made from visiting multiple metal recyclers and shredder operations over the past several years.

No index or page-numbering was provided in the Workplan.

SPECIFIC COMMENTS

1) Section 1.1, Description of Auto Shredder Residue. This section contains the following statement; "In contrast, ASR consists primarily of foam, fabric, plastics, rubber, tires, glass, wood, and debris materials, along with minute amounts of remaining metallic material that is too small to be economically separated and removed from the aggregate". The use of the term "minute" is misleading as DTSC sampling data indicates that this material frequently fails California Hazardous Waste Criteria.
2) Section 1.1, Description of Auto Shredder Residue. This section contains the following statement; "Other state toxicity characteristics (e.g., aquatic toxicity) are not exhibited by treated or untreated ASR". How often, and under what conditions has this statement been validated?
3) Section 1.2, Regulatory Framework. This section contains the following statement; "Following adoption of the state hazardous waste management program in the early 1980s, the companies that generated ASR developed a means of treating shredder residue through a chemical fixation process that reduces the solubility of residual metals in the waste, rendering it essentially non-leachable under typical solid waste landfill scenarios". This statement does not appear to be consistent with sampling data collected by DTSC of TASR.
4) Section 1.2, Regulatory Framework. This section contains the following statement; "A standard of 50 mg/L for lead was established as sufficient for declassification of TASR, given the common occurrence of lead in roadside dirt at an extractable concentration greater than the STLC (5 mg/L) and the fact that under the conditions found in most solid waste landfills, the solubility of lead would be less than 5 mg/L, as demonstrated by modified WET testing using landfill leachate or deionized water". How is the term "common" defined here? Regarding the issue that "the solubility of lead would be less than5 mg/L, as demonstrated by modified WET testing using landfill leachate or deionized water", why then do samples collected by DTSC fail the lead STLC?
5) Section 1.4, Unique Characteristics Affecting Auto Shredder Industry. This section contains the following statement; "Shredder facilities do not add any hazardous substances to the materials they process, and the companies participating in this study each implement rigorous scrap acceptance policies to ensure that hazardous materials are not inadvertently accepted into the yard". Polysilicates (depending on form) might be considered to be a hazardous material. Silica, (see T8 5155 Table AC-1, Cal-OSHA PEL's: http://www.dir.ca.gov/Title8/5155table_ac1.html, list

a number of PEL's for silica and silicates), might also have a potential to be an occupational and non-occupational hazard to workers and non-occupational receptors impacted by shredder and landfill activities. DTSC has noted multiple events where hazardous materials have been accepted by shredders and recyclers (e.g., physically damaged batteries, compressed gas cylinders, etc.).

6) Section 1.6.5., Curing. Does DTSC have access to the sample data referenced within this section? Is a protocol in place by which the samples are collected in a consistent manner and timeframe and can be readily replicated?
7) Section 2., Goals of Treatability Study. Text within this section indicates that historical data shall not be used as part of the study. However, the same section indicates that "recent data will be limited to the timeframe January 2011 to the present". Clarification of this statement would be helpful.
8) Section 3.5, Solubility/Extractability of Metals in TASR under Landfill Conditions. Does DTSC have access to leachate data from landfills which receive ASR? If so, has that data been reviewed to determine if uncontained leachate might pose a threat to groundwater?
9) Section 4., Boundaries of the Study. Why is the study limited to five facilities? Who determined this sample size?
10) Section 4.3. While text within this section indicates "The treatment process is inapplicable to other constituents (e.g., PCBs) that may be contained in ASR". However, I would suggest analysis for other constituents (e.g., PCBs, phthalates, etc.) are conducted.
11) Section 5.1, Sample Collection Method. DTSC should oversee the sample collection and concurrently collect our own samples.

GENERAL COMMENTS

1) Facility track-in and track-out. This has a potential impact to surface water, groundwater, and community air concerns surrounding the shredder/recycling facilities.
2) Air Emissions. Fugitive emissions (pH, silica(tes), heavy metals, etc. may present health concerns to:
    a. Workers at the shredder/recycling facilities.
    b. Non-Occupational receptors living in proximity to shredder/recycling facilities.
    c. Transporter personnel.
    d. Workers at landfills.
    e. Non-Occupational receptors living in proximity to landfills.

    Consequently, it would be prudent for DTSC to work closely with ARB and local air districts to quantify potential fugitive emissions to non-occupational receptors living in close proximity to shredder/recycling facilities and landfills. Furthermore, it would be prudent to also work with Cal-OSHA to determine the nature of occupational exposure to relevant COC's (see worker-classifications above).

3) DTSC should consider working closely with DPH Rad Health in reviewing ionizing radiation screening protocols at these Sites. Attention should be paid to how such concerns are quantified, sensitivity of screening protocols, operational parameters, maintenance schedules and whether screening for potential ionizing radiation is performed beyond the entry/egress points at each Site.
4) The issue of compressed gas cylinders needs to be addressed. These items not only present a quandary from a waste classification storage perspective, but perhaps more importantly, may present significant life safety issues to individuals who work in close proximity to them.