All Shredder Residue (ASR) Issue Paper

Stakeholder Consultation Findings

Prepared by Pinky Feria Mingo, Department of Ecology and David Stitzhal, Full Circle Environmental

July 2011

Disclaimer

This document replaces the draft document titled “All Shredder Residue (ASR) Issue Paper: Opportunities for Collaboration. This document is the amended, final version of that draft document.

If you need this document in a format for the visually impaired, call the Hazardous Waste and Toxics Reduction Program at 360-407-6700. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

Problem Statement and Purpose

All Shredder Residue (ASR) is the non-metallic remains from shredding automobiles and white goods for the purpose of separating them into marketable ferrous and non-ferrous metal. It is a high-volume waste stream. Across Washington, shredders generate over 500 tons of ASR daily. ASR contains bits of rubber, foam, plastic, and cloth contaminated with lead, cadmium, mercury, chrome, polychlorinated biphenyls (PCBs) and poly-brominated diphenyl ethers (PBDEs) phthalates, and other toxic constituents of concern.

Metal shredders generating ASR are responsible for the proper disposal of shredder residue. This includes sampling the material to determine if it is a hazardous waste. This requires a representative sample. Obtaining a representative sample of ASR is difficult due to:

- The variety of sizes and weights of the material in the ASR.
- The variety of feedstock that goes into the shredder.
- The volume of sample analyzed.

There is evidence indicating the current sampling method is insufficient[1]. A sample that is not representative cannot provide the information the Washington State Department of Ecology (Ecology) needs to make good regulatory decisions like using it as alternative daily cover or disposing at a hazardous waste facility. In this context, Ecology acknowledges that evaluating different sampling methodologies to determine if ASR is or is not a hazardous waste is not constructive at this time. It is equally important to acknowledge that because the current sampling approaches are not adequate, we need to work together in the absence of sufficient protocols to find a mutually agreeable solution to minimize toxic constituents in ASR.

To continue to spend industry and state resources on inadequate sampling is not in anyone's best interest. Ecology believes it is better to identify strategies for and overcome barriers to producing cleaner ASR and shredder sites. This approach also reduces the environmental risk to the metal shredders by providing a cleaner feedstock prior to shredding. Ultimately, this approach acknowledges the inherent difficulties of sampling ASR and examines actions that would lessen or eliminate the environmental concerns posed by ASR. Environmental concerns include:

- Contamination of stormwater by run off.
- Air deposition of contaminants.
- Fugitive emissions.
- Tracking contaminants off-site.

[1] See Sample Representativeness in ASR, *ASTM D 5956 Sampling Guide for Sampling Strategies for Heterogeneous Wastes* and *Representativeness in an automobile shredder residue sample for a verification analysis*

Ecology intends to work collaboratively with all stakeholders to achieve cleaner ASR and shred facilities.

Overview of the Metal Recycling Market

Metal recyclers provide a valuable service and are important to local and international commerce. Metal is a valuable commodity, bought and sold locally and abroad. Additionally, vehicle and appliance recycling play a valuable part in waste reduction and recycling. Without the auto dismantling and shredding industries, our communities would be knee deep in car and appliance hulks. These industries have also responded to environmental challenges by improving their practices, operations, and facilities.

The metal recycling industry comprises various industry sectors including:

- Vehicle dismantlers who disassemble vehicles for parts and then recycle the vehicle hulks.
- Shredders who accept vehicle hulks and other metals for metal shredding.
- Intermediate Recyclers/Scrap Metal Processors who recycle metal, but are not solely vehicle dismantlers or shredders.
- Hulk haulers who primarily take vehicle hulks to shredders and intermediate recyclers.

It is also worth mentioning that the industry is changing. Recent changes include:

- A reduction in the number of auto dismantlers across the state.
- Consolidation in the dismantler industry.
- A move toward larger and more environmentally protective dismantlers.
- Vertical integration whereby shredders are purchasing dismantling facilities.

Market and Regulatory Context

When Ecology shifted its focus from sampling ASR to identifying how to remove or minimize the toxic components in the shredder feedstock, significant market details became apparent and will require the attention of Ecology and its stakeholders.

Feedstock Source and Inter-State Commerce Issues

Shredder feedstock includes vehicles, appliances, construction debris, ships, and industrial equipment. Feedstock sources can come from in and out of state. Shredders estimate that 80 percent of the feedstock into the shredder comes from vehicles and appliances. While Ecology may be able to affect change inside the state boundaries, Ecology will face challenges in how to affect out- of-state sources coming into the shredders from across the country and imported into the country.

For vehicles, AROW estimates that 60 percent of end-of-life vehicles come from out of state. Ecology has limited ability to influence out-of-state feedstock sources. Short of national legislation, acceptance requirements placed on in-state shredders, or regulations governing the proper dismantling of vehicles, appliances, and industrial equipment, improvements made only in Washington will have a limited affect on the quality of ASR.

Across the board, industry expressed concern that changes in one state could shift markets to out-of-state areas resulting in a loss of market share and jobs in Washington. To date the economics of this claim have not been tested in Washington, or in other jurisdictions with recently promulgated rules or programs, such as New Hampshire and New York and the province of British Columbia. A key question for those locations is, "Did the more stringent requirements result in market shifts or loss of jobs within those regions?"

Pressures and Constraints in the Metal Recycling Industry

The path to ASR represents a complex chain of commerce, from vehicle design to vehicle end-of-life, including numerous life-cycle phases such as:

- design and manufacturing
- use
- maintenance and repair
- dismantling
- recycling
- shredding
- smelting

For example, various sub-contractors supply different parts at the direction of the Original Equipment Manufacturers (OEMs). The OEMs may not know all of the hazardous constituents contained in each part supplied by the sub-contractor. This creates challenges for dismantlers and shredders who don't have an effective means for identifying toxic components. These components potentially contribute to the contaminants found in ASR.

The metal recycling industry is an interdependent system, where each sector depends on the other to meet supply and make a profit. For example, the steel industry needs the shredded metal supplied by metal shredders for use in their steel mills. The metal shredders need the vehicle dismantlers and intermediate recyclers to supply metal feedstock to the shredders. The dismantlers need the shredders to recycle the metal from the vehicle hulks they deliver.

Long-term solutions will require upstream design changes best undertaken by the automotive OEM sector. However, the most effective short-term, immediate actions will generally come from behavior change and Best Management Practices in the auto-recycling sector.

Downstream suppliers have little control over their upstream supply chain. For example, auto dismantlers and auto shredders alike have little control over the toxicity and non-recyclability of many car parts. The OEMs have the most influence on the toxic components

in vehicles and in their recyclability. Similarly, shredders also have little control over the quality of vehicle hulks coming to them from auto recyclers.

Each stakeholder group noted that all groups must take responsibility for their respective part of the chain of commerce. For example, shredders need to work with dismantlers to ensure they understand and meet metal acceptance criteria; and Ecology needs to raise the compliance bar at low-performing dismantling facilities. See attachment: Lifecycle of Vehicles and Appliances.

Most stakeholders expressed a need to take responsibility for what they are able to influence. Some went so far as to express an interest in engaging in dialogue with other stakeholders (upstream and downstream) in an effort to explore the complex system changes needed to improve economic and environmental performance for all parties.

Key Environmental Concerns

Setting aside the debate of whether or not ASR is hazardous waste, it still contains toxic constituents that if not managed appropriately may impact the environment and health of those living adjacent to shredding facilities. The following discussion outlines some of the pathways through which these materials may enter the environment.

Air Deposition and Air Emissions

Metal shredding, especially at mega-shredders creates fine particulates that can become airborne and deposit on the ground, roofs, and other structures. In the report commissioned by California's Department of Toxic Substance Control (DTSC), "Deposition of Coarse Particles in Wilimington, California," Cahill purports that the size and concentration of fugitive iron particles are capable of causing health impacts to lungs. Industry contested this report, citing a poor sample design and not controlling for other contributing sources.

In response, DTSC commissioned a second study, one which better controlled for other sources. Simultaneously and independent of the DTSC report, the facility installed additional pollution control devices. The second study showed a tremendous reduction in particulates that the author attributed to the newly installed pollution control devices. This illustrates that good pollution control devices may reduce potential risks due to air deposition.

In response to growing concern in this region about the risk of air deposition, the Environmental Protection Agency (EPA) conducted a limited study at Seattle Iron and Metals. At the time of this writing, the data is not available from EPA. While this study and the California study aren't definitive, they illustrate a concern about the environmental risks. Several stakeholders expressed a need for site specific air deposition studies.

Air emissions refer to the particulates and emissions coming from a particular source without respect to the particles depositing onto the land or water. An engineer from the Southern California Air Quality District conducted petroleum hydrocarbon emissions testing at two metal shredding facilities and found they each emitted 500 pounds of volatile organic compounds a day. If such a facility were located in a non-attainment area, this number could trigger additional requirements. While this may seem like a lot, from the Air Quality Pollution Control perspective, the number isn't surprising, because three or four gas stations emit the equivalent to this number. What this does illustrate however, is that as population and industrial activities increase in the future, shredders may become more of a priority for local air pollution control districts.

Stormwater Run-Off

In 2009 and 2010, the City of Seattle Public Utilities investigated city-owned stormwater structures within the vicinity of one of the shredders and the rooftops of one facility. Data from this investigation showed elevated levels of copper, zinc, lead, mercury, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PBCs). The City of Tacoma and the environmental community expressed concerns about stormwater run-off but do not have extensive site-specific data as Seattle Public Utilities.

Contaminant Track-out

Contaminant track out refers to off-site contamination from shredder sites to adjacent roadways from vehicles and equipment entering and then exiting shredder sites. Seattle Public Utilities and City of Tacoma, Environmental Services both expressed concerns regarding the ability to meet their Municipal Stormwater permit limits in the absence of stronger regulatory controls such as removal of key components (mercury switches, PCB capacitors etc…) and additional best management practices such as:

- Installing wheel wash stations.
- Installing roof drain filter socks where appropriate.
- Vacuuming sweeping on and off-site.
- Covering ASR piles.
- Wetting ASR piles.
- Limiting the size of ASR piles.
- Limiting the amount of time ASR accumulates on site.

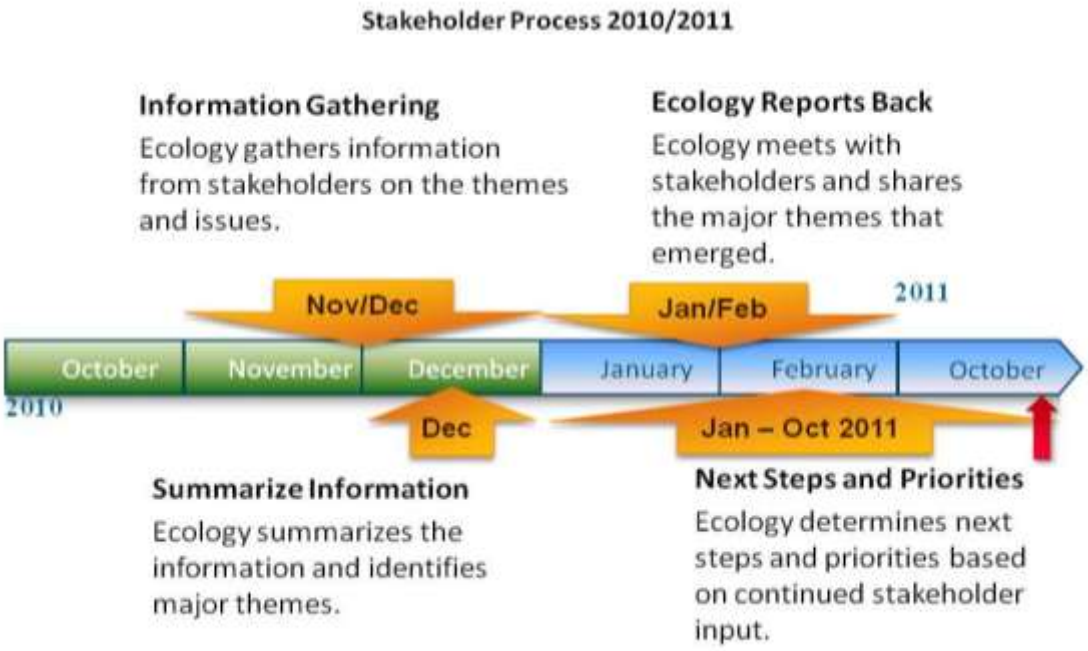
The Role of Product Stewardship

Product Stewardship or Extended Producer Responsibility is a policy and economic approach in which the product manufacturer has a key role in the design and end-of-life management of the product it produces. While this system has been in place in the European Union, Canada, and Japan for decades, it has only recently gained support in the United States.

Stakeholders contacted by Ecology generally supported reducing the use of toxic substances by the Original Equipment Manufacturers (OEMs) who design and manufacture vehicles and appliances. Stakeholders commented that OEMs need to play a role in reducing the toxic components used, and in sharing the burden of recycling and waste disposal. Washington has already seen successful, legislated Product Stewardship initiatives covering Electronics Take Back and Compact Fluorescent Lamps Collection.

Ecology's Hazardous Waste and Toxics Reduction Program (HWTR) recognizes the role Product Stewardship plays in minimizing the use of toxics, designing products with recyclability in mind, and in the product's end of life. We support these efforts by engaging the Environmental Protection Agency and the Northwest Product Stewardship Council. For the short term and this project, Ecology is not pursuing a Product Stewardship Initiative for vehicles or appliances.

Ecology's Stakeholder Process



In November 2010, Ecology invited comment from:

- Metal shredding facilities that generate ASR.
- Vehicle dismantlers that supply the shredding facilities.
- Steel manufactures that buy metal from the shredders.
- Local regulatory agencies.
- Environmental and community groups with concerns about the environmental effects of ASR.

A complete list of participants is available in the Attachments.

What Were the Goals of this Process?

The goals of this process include:

- Understanding the barriers to producing cleaner shred.
- Developing an issue paper with stakeholders.
- Creating and establishing positive communication among all stakeholders.

The statements below reflect views of the participants. Some of these issues lay out necessary components of successful solutions, some describe key challenges, and yet others simply clarify some of the detailed, complicated nuances of this topic. We grouped comments into categories, but acknowledge not all fit neatly into one category.

- Level Playing Field/Economic Realties
- Regulatory
- Environmental
- Incentives

Level Playing Field/Economic Realities

- There are slim margins within the metal recycling industry.
- Stiff competition exists among metal recyclers.
- There are hundreds of metal recyclers in Washington State that do not shred or dismantle. These intermediate recyclers receive less regulatory scrutiny than shredders or vehicle recyclers.
- Hulk haulers and crushers do not receive a lot of regulatory scrutiny.
- The bulk of metal supply comes from Oregon, Idaho, Alaska, Canada, and Washington. To prevent cross-border flight, changes must be made throughout the Northwest region.

- Customers will go down the street if acceptance protocols at shredders are too stringent.
- There are contributors to the shred waste stream other than the auto recycling industry, such as white goods and appliances. Policy or rule changes cannot overlook these contributions.

Regulatory

- Intermediate and small dismantling facilities have an inconsistent track record in removing materials of concern and properly preparing car hulks.
- There is a need for clear requirements for removing known toxic components (Mercury (Hg) switches, lead wheel weights, and fluids), and enforcement of those requirements.
- Ecology must clearly define success and compliance. Industry needs to know what materials are of concern, at what level, and as determined by what tests. Without such clarification, it will be hard to demonstrate improvement or success against a certain baseline.
- If laws prohibit shredders from handling certain materials, (parts, etc.) then rules must be established for the proper processing of those materials; otherwise, there is a risk of illegal dumping.
- If there is a requirement to remove something, the material of concern must have a disposal route.
- If there is no market value for an item, then it is difficult to remove the item without added expense.

Environmental

- Washington shredders generate over 400 tons of ASR daily; landfills use nearly all of this as alternative daily cover.
- Appliances contribute to the toxic loading but there has been less attention on appliances and appliance de-manufacturing.
- Shredding facilities have a limited understanding of the complexity of sampling issues.
- There is concern that metal shredders are a source of air deposition of toxic metals.
- There is concern of off-site contamination through track out from shredding facilities.

Incentives

- Most stakeholders believed incentives would facilitate removal of additional items.
- Two stakeholders commented that the mercury switch program had little or no effect on the incoming feedstock.
- Stakeholders supported the mercury switch removal program.
- Stakeholders commented that the three-dollar rebate did not account for all of the labor costs of removal.

Potential Next Steps

The following section moves beyond the issues and themes identified above, and begins to lay out actions stakeholders suggested for moving toward the goals of minimizing toxicity of shred and shredder sites. We broke out the potential solutions into three broad categories:

1. Policy & Legislative
2. Research
3. On-site Operations

Some identified approaches will likely require long-term upstream actions, such as taking toxics out of vehicles through design. Other actions will require downstream or on-site-specific actions, such as removing toxic components. Stakeholders offered the following suggestions and concepts to meet the goal of cleaner shred and cleaner shred sites:

Policy or Legislative Changes

(These could be done in concert with work being undertaken by the Environmental Protection Agency (EPA) Automobile Product Stewardship Road Map process.)

- Evaluate opportunities for a more comprehensive and effective end-of-life vehicle regulatory system.
- Identify U.S. regulations that address automobiles, and evaluate differences between states.
- Undertake a Gap Analysis comparing the U.S. Regulatory Landscape with the European and Japanese End of Life Vehicle (ELV) legislation. Identify trends in vehicle design, materials, and new technologies. Evaluate how such trends could interface with Washington regulations and programs (including safety vs. environment issues).
- Identify opportunities for tax incentives, particularly around transportation, as well as incentives through changes in the insurance industry with respect to end of life vehicles.

- Expand the use of incentives: e.g., bounties, buy-back, core charges, deposits, tax/fee structures, small business loans.
- Leverage and use the International Dismantling Information System (IDIS) in a manner identified by vehicle recyclers.
- Develop a vehicle recycler certification and enforcement system that establishes industry best management practices and assures compliance through government oversight and industry requirements. (For example, shredders could be required to accept only metal from certified vehicle recyclers.)

Research

- Conduct investigative sampling to determine the most appropriate sample size and/ or to establish a baseline allowing measurement of reductions in toxics over time.
- Identify additional data needs and gaps with regard to air deposition, storm water run-off, toxic loading, and landfill cover. Prioritize the research needs. Develop approaches to gather prioritized data.
- Careful documentation of the amount of targeted materials removed per vehicle to establish metrics (e.g., gallons of specific fluids, pounds of CFC's, number of Hg switches, air bag detonators, etc.).

On-site Operations

- Expand the practice of vacuum sweeping on- and off-site at shredding facilities.
- Expand the practice and extent of covering shred piles.
- Install filters on downspouts.
- Establish more protective acceptance policies and verification programs at both dismantler and shredders sites. (Note, this has illegal dumping implications.)
- Increase downstream separation process to remove more metals.
- Identify the top ten items Ecology wants removed.
- Expand use of enviro-racks to remove additional parts and materials of concern from vehicle hulks.
- Develop a pilot project to target a specific issue whose resolution could facilitate both cleaner shred and market development of additional recyclable materials (e.g., increased recycling and local processing of bumper skins, or window glass).
- Leverage and use the International Dismantling Information System (IDIS) in a manner identified by vehicle recyclers.

Where Do We Go From Here?

Having completed this Issue Paper, Ecology will use what we learned, in concert with continued Stakeholder Discussions, to develop specific, targeted actions to achieve cleaner ASR and shredder sites. Such actions will be agreed to by key stakeholders, and a detailed implementation plan will be developed to define next steps.

Attachments

- Participant list
- Invitation letters (4) and brief sheet
- Lifecycle of Vehicles and Appliances

Attachments

All Shredder Residue Particpants			
Last Name	**First**	**Title**	**Company**
Smith	Gary	Executive Director	Automotive Recyclers of Washington (AROW)
Rose	Leslie Ann	Senior Policy Analyst	Citizens for a Healthy Bay
Oberlander	Jim	Stormwater, Source Control Supervisor	City of Tacoma, Environmental Services
Rasmussen	James	Coordinator	Duwamish River Cleanup Coalition
Burrell	Kevin	Executive Director	Environmental Coalition of South Seattle
Brewer	Larry	Operations Manager	Independent Metals
Hileman	Frank	Environmental Liaison	AROW, LKQ
Person	Matt	Government Affairs Representative	AROW, LKQ
Balogh	Kathy	Environmental Specialist	MetroMetals/Pacific Coast Shredding
Vail	Mike	Vice President	MetroMetals/Pacific Coast Shredding
Adams	Jeremy	Environmental Engineer	NUCOR
Kale	Bart	Environmental Health & Safety	NUCOR
Trim	Heather	Urban Bays & Toxics Program Manager	People for Puget Sound
Kinn	Katelyn	Pollution Prevention & Legal Affairs Coordinator	Puget Sound Keeper Alliance
Thompson	Bruce	Environmental Liaison AROW, owner/operator	AROW, Pull-a-Part
Coope	Jason	National Director R&D	Schnitzer Steel
Enquist	Eric	General Manager	Schnitzer Steel
Grimm	Brian	NW Facility Manager	Schnitzer Steel
Marcelynas	Andy	Plant Manager	Schnitzer Steel
Parker	Matt	Regional Director	Schnitzer Steel
Sloan	Scott	NW Regional Environmental Manager	Schnitzer Steel
Goodell	Jack	AROW, Treasurer	Schulls Towing & Parts
Armstrong	Ed	Maintenance Manager	Seattle Iron & Metals
Franklin	John	Stormwater & Environmental Manager	Seattle Iron & Metals
Priest	Brett	Operations Manager	Seattle Iron & Metals
Sidell	Alan	President	Seattle Iron & Metals
Sidell	Marc	Vice President	Seattle Iron & Metals
Schmoyer	Beth	Supervisor, Stormwater	Seattle Public Utilities
Comstock	Andy	Environmental Health Specialist	Tacoma-Pierce County Health Department
Sherman	John	Environmental Health Liaison	Tacoma-Pierce County Health Department
Plotkin	Norm	Consultant	Plotkin and Zin, Consultant to LKQ

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

November 3, 2010

Mr. Larry Brewer
Independent Metals
747 South Monroe Street
Seattle, Washington 98108

RE: Materials Management Partnership

Dear Mr. Brewer

The Washington State Department of Ecology (Ecology) is forming a Materials Management Partnership (Partnership). The purpose of the Partnership is to discuss the best way to manage All Shredder Residue (ASR). The residue from auto and white goods shredding is neither inexpensive nor easy to characterize. The variation of the waste means that any batch could have hazardous waste characteristics. The lack of certainty regarding how it is regulated poses a challenge for both the industry and the regulators. Ecology would like to partner with the industry to reduce the toxicity of shred residue and provide certainty of regulation to the industry.

In this regard, we would like to invite you to join the Partnership and hope that you are able to participate so that we can find solutions that provide economic opportunity, regulatory certainty and environmental protection. Your concerns, ideas and suggestions are vital as we proceed to collaborate in order to determine the best resolution possible concerning shredder residue management.

Therefore, within the next few weeks, Pinky Feria, Ecology's ASR Project Manager, or David Stitzhal, Full Circle Environmental's Consultant, will call you to arrange a meeting, which will last approximately 2 hours. Based on your input, key issues will be shared with Ecology's Hazardous Waste and Toxic Reduction Program Management Team. For your information, enclosed is a summary of Ecology's perspective on shredder residue.

Thank you for your consideration of this request. If you have questions or need additional information, please contact Pinky Feria at pinky.feria@ecy.wa.gov or (360) 407-6748.

Sincerely,

Ted Sturdevant,
Director

Enclosure

cc: Pinky Feria
David Stitzhal

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

November 3, 2010

Mr. Mike Vail
Pacific Coast Shredding
PO Box 1887
Vancouver, Washington 98660

RE: Materials Management Partnership

Dear Mr. Vail

The Washington State Department of Ecology (Ecology) is forming a Materials Management Partnership (Partnership). The purpose of the Partnership is to discuss the best way to manage All Shredder Residue (ASR). The residue from auto and white goods shredding is neither inexpensive nor easy to characterize. The variation of the waste means that any batch could have hazardous waste characteristics. The lack of certainty regarding how it is regulated poses a challenge for both the industry and the regulators. Ecology would like to partner with the industry to reduce the toxicity of shred residue and provide certainty of regulation to the industry.

In this regard, we would like to invite you to join the Partnership and hope that you are able to participate so that we can find solutions that provide economic opportunity, regulatory certainty and environmental protection. Your concerns, ideas and suggestions are vital as we proceed to collaborate in order to determine the best resolution possible concerning shredder residue management.

Therefore, within the next few weeks, Pinky Feria, Ecology's ASR Project Manager, or David Stitzhal, Full Circle Environmental's Consultant, will call you to arrange a meeting, which will last approximately 2 hours. Based on your input, key issues will be shared with Ecology's Hazardous Waste and Toxic Reduction Program Management Team. For your information, enclosed is a summary of Ecology's perspective on shredder residue.

Thank you for your consideration of this request. If you have questions or need additional information, please contact Pinky Feria at pinky.feria@ecy.wa.gov or (360) 407-6748.

Sincerely,

Ted Sturdevant,
Director

Enclosure

cc: Pinky Feria
David Stitzhal

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

November 3, 2010

Mr. Alan Seidell
Seattle Iron and Metals
601 South Mrytle
Seattle, Washington 98108

RE: Materials Management Partnership

Dear Mr. Seidell

The Washington State Department of Ecology (Ecology) is forming a Materials Management Partnership (Partnership). The purpose of the Partnership is to discuss the best way to manage All Shredder Residue (ASR). The residue from auto and white goods shredding is neither inexpensive nor easy to characterize. The variation of the waste means that any batch could have hazardous waste characteristics. The lack of certainty regarding how it is regulated poses a challenge for both the industry and the regulators. Ecology would like to partner with the industry to reduce the toxicity of shred residue and provide certainty of regulation to the industry.

In this regard, we would like to invite you to join the Partnership and hope that you are able to participate so that we can find solutions that provide economic opportunity, regulatory certainty and environmental protection. Your concerns, ideas and suggestions are vital as we proceed to collaborate in order to determine the best resolution possible concerning shredder residue management.

Therefore, within the next few weeks, Pinky Feria, Ecology's ASR Project Manager, or David Stitzhal, Full Circle Environmental's Consultant, will call you to arrange a meeting, which will last approximately 2 hours. Based on your input, key issues will be shared with Ecology's Hazardous Waste and Toxic Reduction Program Management Team. For your information, enclosed is a summary of Ecology's perspective on shredder residue.

Thank you for your consideration of this request. If you have questions or need additional information, please contact Pinky Feria at pinky.feria@ecy.wa.gov or (360) 407-6748.

Sincerely,

Ted Sturdevant,
Director

Enclosure

cc: Pinky Feria
David Stitzhal

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

November 3, 2010

Mr. Bryan Graham
Schnitzer Steel
1902 Marine View Drive
Tacoma, Washington 98422

RE: Materials Management Partnership

Dear Mr. Graham

The Washington State Department of Ecology (Ecology) is forming a Materials Management Partnership (Partnership). The purpose of the Partnership is to discuss the best way to manage All Shredder Residue (ASR). The residue from auto and white goods shredding is neither inexpensive nor easy to characterize. The variation of the waste means that any batch could have hazardous waste characteristics. The lack of certainty regarding how it is regulated poses a challenge for both the industry and the regulators. Ecology would like to partner with the industry to reduce the toxicity of shred residue and provide certainty of regulation to the industry.

In this regard, we would like to invite you to join the Partnership and hope that you are able to participate so that we can find solutions that provide economic opportunity, regulatory certainty and environmental protection. Your concerns, ideas and suggestions are vital as we proceed to collaborate in order to determine the best resolution possible concerning shredder residue management.

Therefore, within the next few weeks, Pinky Feria, Ecology's ASR Project Manager, or David Stitzhal, Full Circle Environmental's Consultant, will call you to arrange a meeting, which will last approximately 2 hours. Based on your input, key issues will be shared with Ecology's Hazardous Waste and Toxic Reduction Program Management Team. For your information, enclosed is a summary of Ecology's perspective on shredder residue.

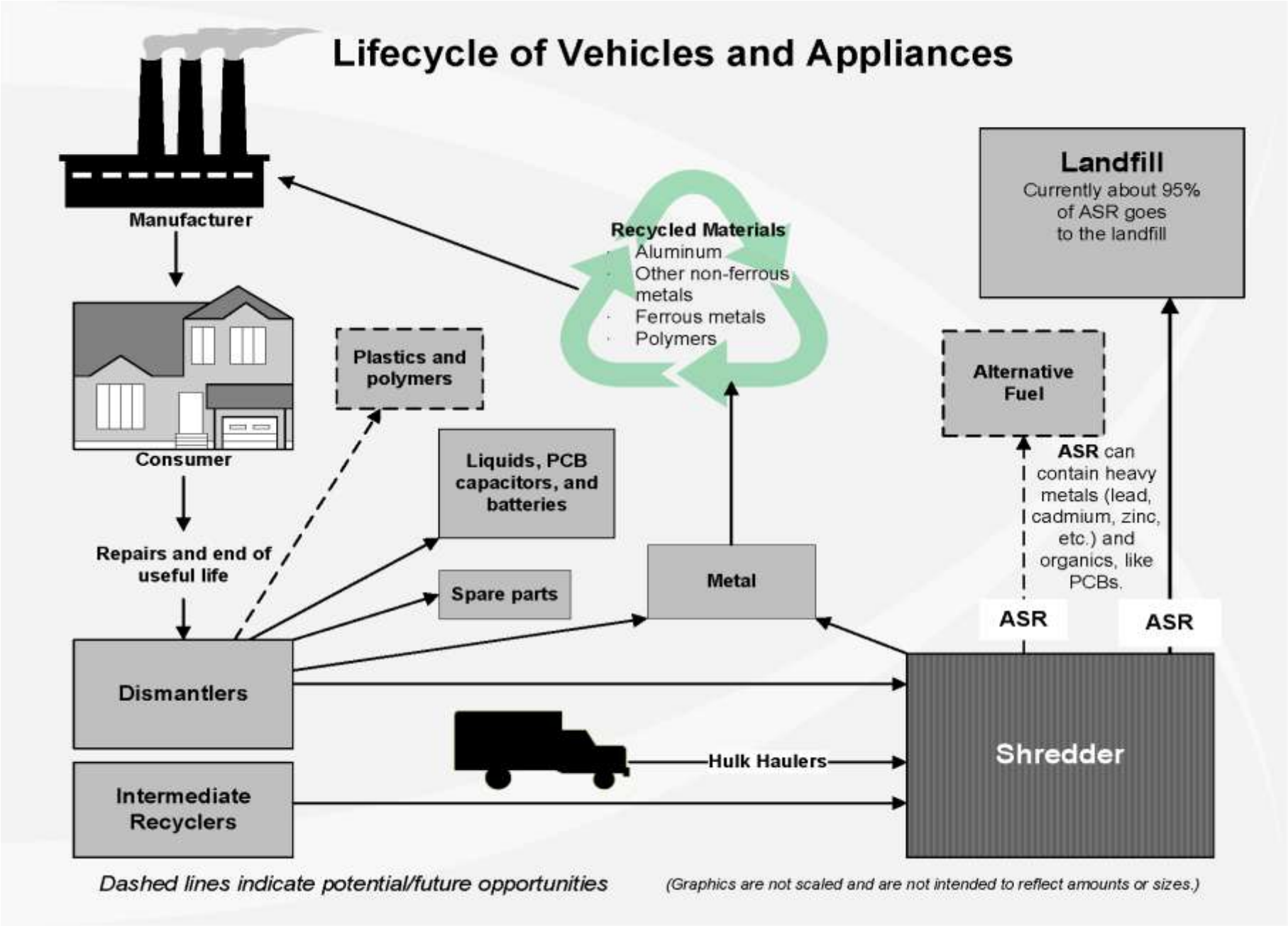
Thank you for your consideration of this request. If you have questions or need additional information, please contact Pinky Feria at pinky.feria@ecy.wa.gov or (360) 407-6748.

Sincerely,

Ted Sturdevant,
Director

Enclosure

cc: Pinky Feria
David Stitzhal


Lifecycle of Vehicles and Appliances
Manufacturer
Consumer
Repairs and end of useful life
Dismantlers
Intermediate Recyclers
Plastics and polymers
Liquids, PCB capacitors, and batteries
Spare parts
Recycled Materials
Aluminum
Other non-ferrous metals
Ferrous metals
Polymers
Metal
Hulk Haulers
Shredder
Landfill
Currently about 95% of ASR goes to the landfill
Alternative Fuel
ASR can contain heavy metals (lead, cadmium, zinc, etc.) and organics, like PCBs.
ASR
ASR
Dashed lines indicate potential/future opportunities
(Graphics are not scaled and are not intended to reflect amounts or sizes.)