

Appendix 9c: Recycling Qualification Process



RECYCLING QUALIFICATION PROCESS

Objective:

The recycler qualification process has three main objectives:

- 1) To ensure all EOL electronics and its waste are handled, transported, processed, stored, and disposed in an environmentally sound manner.
- 2) To ensure that potentially hazardous components of EOL electronics are processed in such a manner that reduces negative impact on the environment and worker health and safety.
- 3) To track the downstream flow of materials through to the point of final processing¹ or disposition to ensure potentially hazardous components of EOL electronics are not sent to developing nations for the purpose of recycling and/or disposal.

Supporting Documentation

Electronics Recycling Standard (ERS): The ERS is the central document in the qualification process that defines the minimum criteria for managing EOL electronics that recyclers must demonstrate conformance to. The ERS outlines criteria for the primary recycler and downstream processors including occupational health & safety and processing requirements such as materials separation, mechanical processing, recovery of electronic scrap materials, and the recycling and/or disposal of hazardous materials.

Guidance Document: The Guidance Document supports the ERS by providing background information on environmental and health & safety concerns associated with processing EOL electronics. This document is intended to educate recyclers on how to develop environmentally sound recycling systems as well as providing ERS auditors with basic information.

Assessment

The assessment process will be completed by qualified² independent third-party auditors under contract with OES.

The assessment process is completed in five stages, listed below. The ultimate goal of the assessment process is to document the downstream flow of materials to the final processing point or disposition and to verify that downstream vendors are in compliance with the applicable requirements of the ERS.

Stage 1: Mapping the Downstream Flow of Materials

¹ "Point of Final Processing" means a point in the downstream flow of materials where the materials generated from the processing of EOLE have been physically or chemically altered into a new product or state. This includes metal, energy and other resources recovery; pelletization of plastics; and landfill and incineration disposal. This does not include bulk and blend materials that are sent to other vendors for additional processing; and shred and separate materials that are sent to other vendors for additional processing.

² "Qualified Auditor" is an individual trained and certified through an authoritative body to be an environmental auditor, and possesses a strong understanding of the ISO 19011 Standards, the regulatory requirements in the jurisdiction of the processor, the Electronics Recycling Standard, and the Electronics Recycling Standard Guidance Document.

In the initial stage of the assessment, all downstream vendors that handle EOL electronics originating from the primary recycler must be identified and their material handling volume documented. This materials flow can be presented in flow chart format to provide visual representation of the downstream flow of materials or in a manner that sufficiently documents all vendors and processes. Please refer to Appendix A for a sample mapping of downstream flow of materials.

The mapping process begins with the primary recycler³. The materials generated from the primary recycler are classified into three main categories; non-hazardous materials, electronic scrap, and hazardous materials. These materials are either sent directly to brokers for sell as commodities, to sub-vendors for further processing and materials recovery, or to disposal vendors. Materials categorized as electronic scrap and hazardous materials are of particular concern and the all downstream vendors associated with these materials are to be identified through to the point of final processing. The process flow outlined in Appendix B should be used to assist in mapping the downstream flow.

Stage 2: Vendor Information and Document Gathering

Once the downstream flow of materials has been mapped, the next stage is to obtain relevant document and other information that will be used in the assessment process to demonstrate conformance to the ERS. The primary recycler will provide this information for their site and assist in gathering the information for all the sub-vendors through to the point of final processing or disposition. This information includes:

- Site information (contacts, site description, organization structure, prior use, etc.)
- A thorough description of the processing method, including a description of controls to safeguard the environment and worker health & safety.
- Copies of regulatory permits, insurance coverage, worker compensation coverage, and ISO 9001/14001 certification.
- Copies of policies and procedures for safeguarding the environment and worker health & safety.
- Details on the downstream flow of materials and vendors used, including volumes of applicable materials processed and sent through to sub-vendors.
- Confirmation that the facility and operations comply with all applicable local and national regulations for handling, transporting, storing, and processing EOLE scrap and materials.
- Identification of any existing or potential environmental liabilities from contamination of ground water or air emissions.

Stage 3: Document Audit

All downstream vendors, including processors, brokers and bulkers, will undergo a document audit to determine if the vendor, on paper, is compliant to applicable requirements of the ERS, identify any potential regulatory non-compliance issues, verify commercial arrangements outlined in the mapping of the downstream flow of materials, and verify material volumes that each vendor was reported to handle.

All identified deficiencies must be addressed prior to the vendor being approved.

Stage 4: Onsite Audit

In addition to document audits, all primary recyclers will have an onsite audit conducted of its operations. Selected processors of electronic scrap and hazardous materials will receive onsite audits based upon the assessment factor as described below.

³ "Primary Recycler" means an entity at the first point of processing EOLE products that accomplishes any of the following upon receipt of EOLE from a point of collection: receiving, sorting, brokering, transporting, arranging transport, dismantling, disassembly, shredding or any other material processing activity, and disposition.

Only processors of materials classified as either electronic scrap or hazardous materials will be assessed for an onsite audit. If some of the materials resulting from processing electronic scrap or hazardous materials are classified as non-hazardous, the downstream processors of those materials will not be assessed for an onsite audit.

For example, if the primary recycler uses a downstream processor for CRT tubes, that processor would be assessed for an onsite audit. If CRT processing results in hazardous materials (leaded glass, phosphors), electronic components (low-grade circuit boards, cables) and non-hazardous materials (non-leaded glass, ferrous/non-ferrous metals, plastic), downstream processors of non hazardous material that can meet documentation requirements will not require an on site audit.

Selecting downstream processors for an onsite audit will be done through an audit assessment process, as outlined in Table 1. Those processors that score an audit assessment factor of 15 or more will receive an onsite audit. Also, ANY downstream processor receiving a score of 5 for assessment factors #6 or #7 will receive an onsite audit.

Table 1: Audit assessment factors for downstream processors of electronic scrap and hazardous materials.

Assessment Factor	High (5)	Moderate (3)	Low (1)
Processing Operation Factors			
1. Regulatory Oversight	Little Monitoring or Gov't Reporting	Partial Monitoring or Gov't Reporting	Regular Monitoring or Gov't Reporting
2. Environmental Sensitivity of Materials Processed	High Sensitivity (PCBs, Mercury, Batteries)	Moderate Sensitivity (CRTs, leaded-glass, circuit boards)	Low Sensitivity (cables, wires, other components)
3. Processing Method Used	Heat treatment	Mechanical	Manual
4. Years in Operation (company, not just EOLE processing)	Less than 2 years	2 years to 5 years	More than 5 years
5. Processing Volume (by weight)	More than 50% of the material generated from the Primary Recycler	15% to 50% of the material generated from the Primary Recycler	Less than 15% of the material generated from the Primary Recycler
Results from Document Audit			
6. Regulatory Compliance	Regulatory non-compliance issues identified	Potential regulatory non-compliance issues identified	No compliance issues identified
7. ERS Compliance	Identified deficiencies with no plan for closure	Identified deficiencies with acceptable plan for closure	Identified potential or no deficiencies

The stewardship organization reserves the right to audit any downstream processor at any time or when issues arise justifying an on-site audit.

All identified deficiencies must be addressed prior to the processor being approved.

Stage 5: Final Assessment

The auditor will compile and evaluate all the collected data and prepare a final report that will be presented to OES. The final report will include:

- Mapping of the downstream flow of materials, including a mass balance of the materials;
- The results of document audits, including any identified deficiencies and the actions taken to address them;

- The results of on-site audits, including any identified deficiencies and the actions taken to address them, and;
- Confirmation of the compliance status of the primary recycler and sub-vendor to the ERS at the time of the assessment.

OES will then review the final report and make a final decision on whether the recycler is qualified for processing EOL electronics collected under the provincial stewardship program. OES may request the auditor follow-up on additional issues once the final report has been issued in order to make a final decision.

Approval Validity and Term

The approval of a primary recycler and downstream vendors is valid for a period of three years. After three years, the primary recycler and downstream vendors require a re-assessment. OES will determine if a full assessment process is required or if targeted document and/or on-site audits are required. This determination is at the sole discretion of OES and will take into consideration any process changes, changing market condition, relationship and history with the primary recycler and downstream vendors, or any other condition OES deems relevant.

Changing Downstream Vendors Handling Electronic Scrap and Hazardous Materials

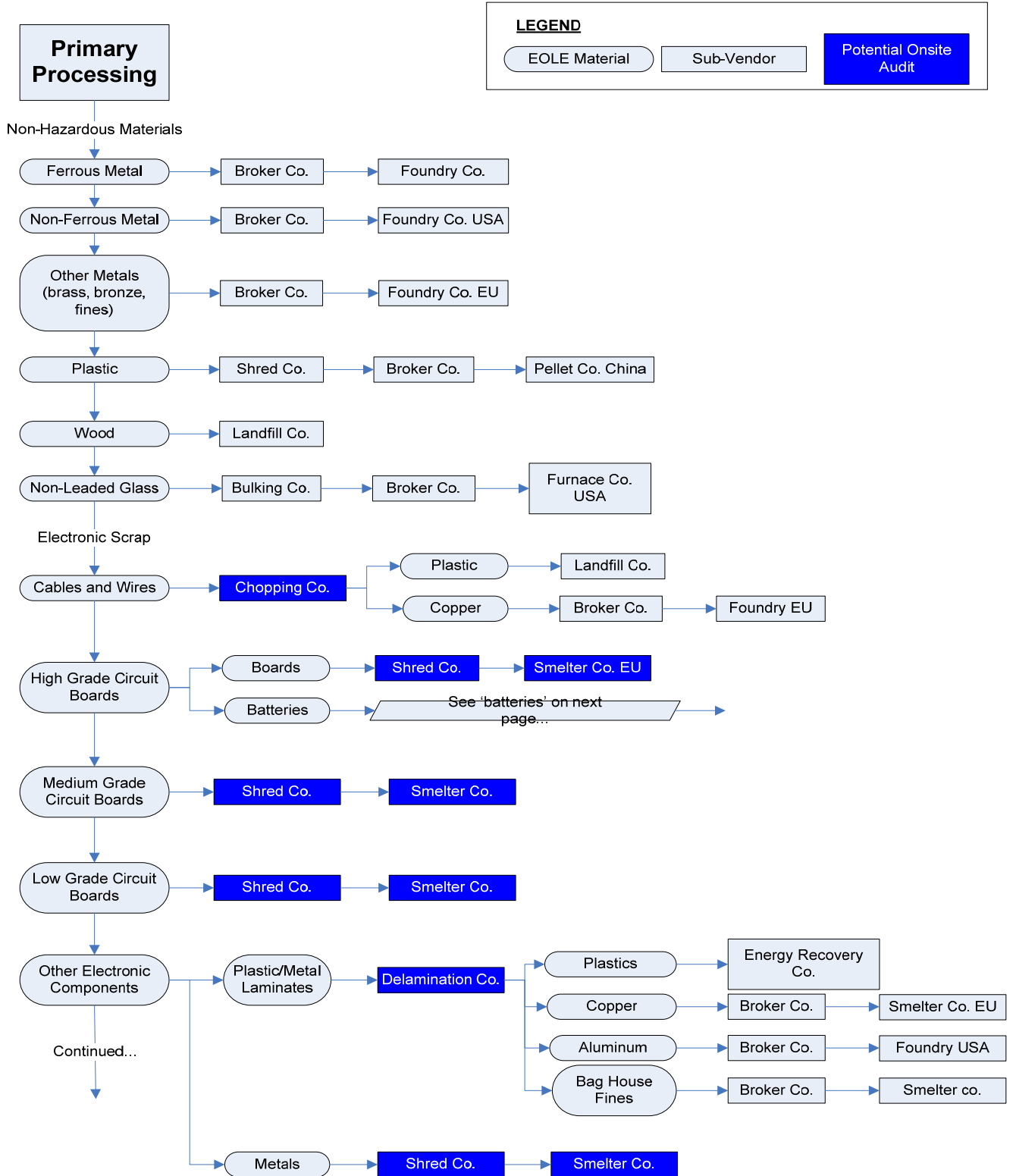
Primary recyclers must continue to use the qualified vendors handling electronics scrap and hazardous materials for the term of the contract with the provincial stewardship organization. If a change in a downstream vendor is required, the primary recycler must submit a written request to the provincial stewardship organization including the justification (e.g., reduced cost, increased recycling efficiency, improved environmental solution for problematic waste) for this requested change and receive written approval from the provincial stewardship organization. OES will conduct a document audit and determine if the proposed change requires an onsite audit, and the proposed vendor cannot be used until OES has determined them to be qualified. Any costs incurred with the assessment of new vendors will be covered by the primary recycler.

Audit Fee Payment

The provincial stewardship organization will pay for the cost associated with initial qualification process and qualified audits. If a primary recycler wishes to change downstream processors within the three year term and the new downstream processor has not yet been qualified through the assessment process, the primary recycler is responsible for paying the qualification costs.

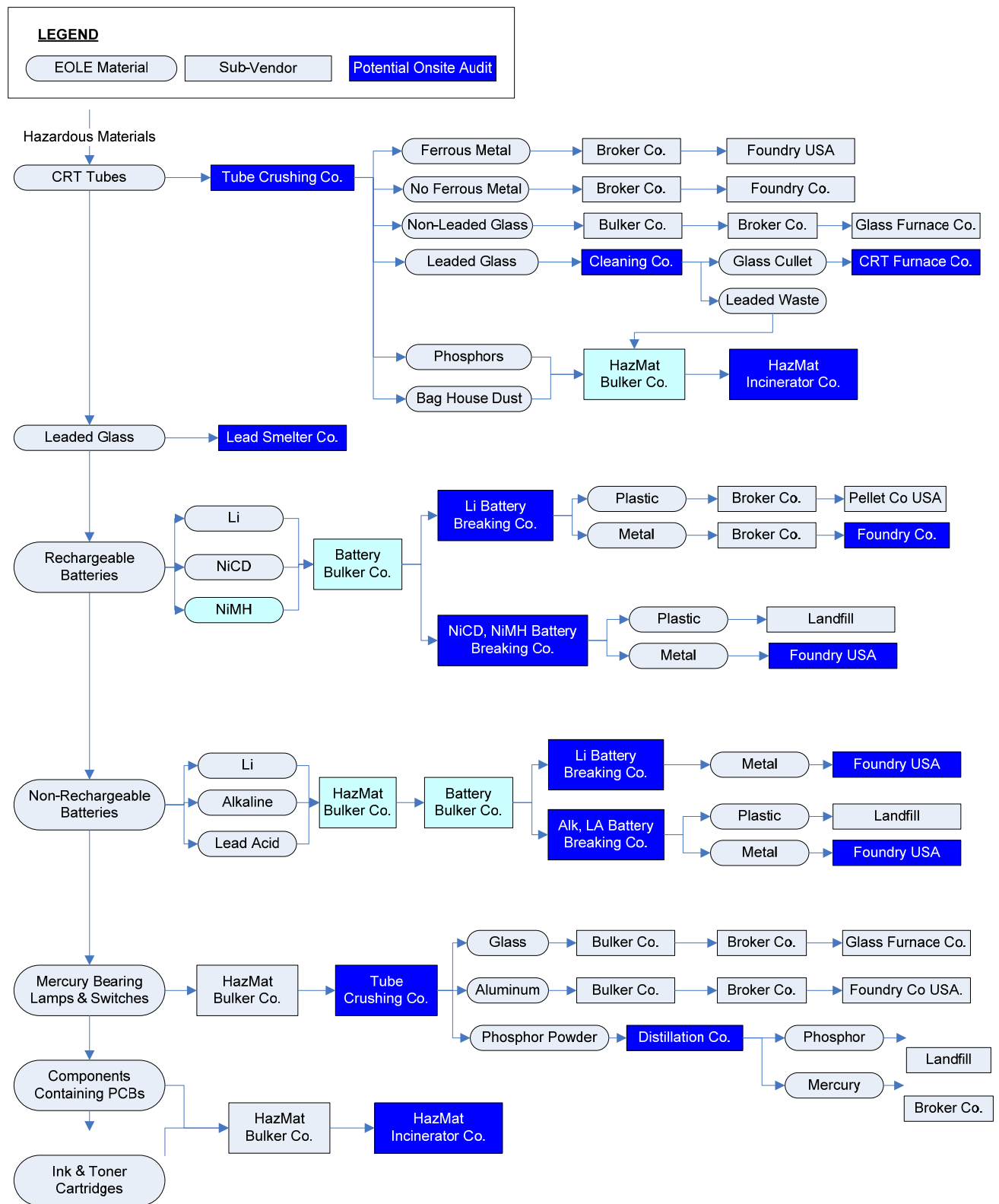
Appendix A

Sample mapping of downstream flow of materials



Appendix A

Sample mapping of downstream flow of materials



Appendix B

Process flow to identify all downstream vendors

