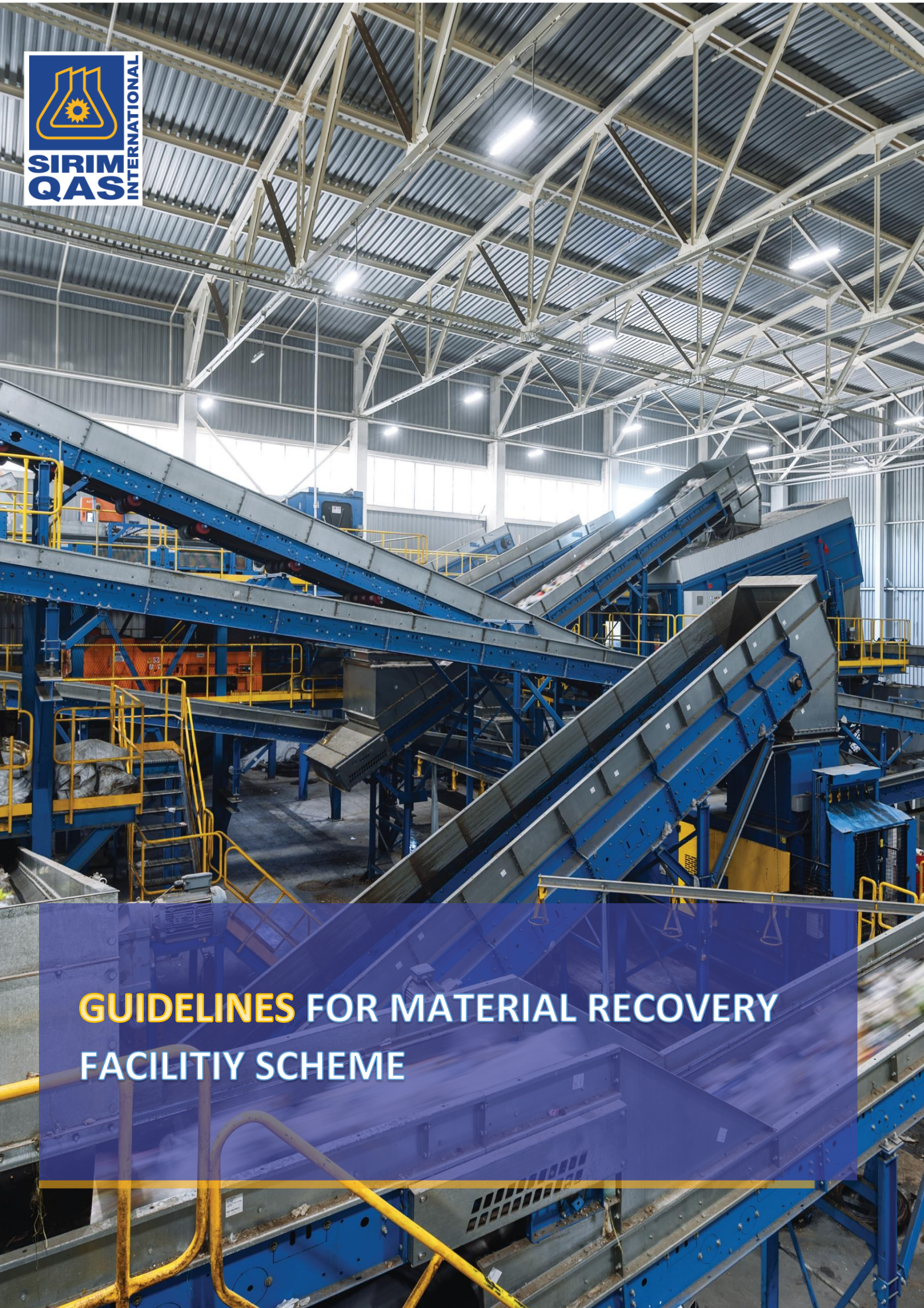


SIRIM QAS INTERNATIONAL

GUIDELINES FOR MATERIAL RECOVERY FACILITIY SCHEME

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1. INTRODUCTION

1.1 The ***Guidelines for SIRIM Material Recovery Facility Scheme*** ("Guideline") provide explanation and guidance on the processes and requirements for all Material Recovery Facility (MRF) operators intending to qualify as a SIRIM Approved MRF.

1.2 As a SIRIM Approved MRF, the MRFs involved in the processing of recovered materials may issue inspection reports as stated in this Guideline together with their supplied scraps, wastes or recovered materials to the importers. The inspection report shall be submitted to SIRIM as a pre-requisite for the issuance of a Certificate of Approval (COA) as per the Customs (Prohibition of Imports) (Amendment) Order 2021.

1.3 This allows importers to import the scraps, waste or recovered materials to Malaysia subject only to inspection by SIRIM at their factory storage yard as to ensure compliance of the relevant requirements.

1.4 Therefore, the Guideline shall be read together with all other applicable guidelines, policies, laws, or regulations with regards to importation of scraps, wastes and recovered materials into Malaysia as may be in force from time to time including but not limited to:

a) SIRIM Guidelines for Importation and Inspection of Metal Scrap; and

b) SIRIM Guidelines for Importation and Inspection of Waste Paper.

1.5 This Guideline shall be reviewed from time to time to accommodate changes in policies, law or regulations involving the importation of scraps, wastes and recovered materials.

2. SCOPE

2.1 This Guideline is applicable to all MRFs which are required to become a SIRIM Approved MRF to supply scraps, wastes and recovered materials to importers for importation into Malaysia without going through pre-shipment and post-shipment inspection by SIRIM via Importation and Inspection of Method Type 2, as defined under SIRIM Guidelines for Importation and Inspection of Metal Scrap; and SIRIM Guidelines for Importation and Inspection of Waste Paper.

Refer **Flow Chart 1** on the Overview of the Procedure for Importation and Inspection of Waste Paper into Malaysia

2.2 This Guideline specifies the requirements to become a SIRIM Approved MRF

3. APPLICATIONS

3.1 Applications to become a SIRIM Approved MRF can be made by:

a) **Foreign MRF** who have a valid license or permit from relevant local authorities; or

b) **Importers** on behalf of their preferred MRF.

3.2 Refer to **Flow Chart 2** on the Process Flow to be a SIRIM Approved MRF.

4. REQUIREMENTS TO BECOME A SIRIM APPROVED MRF

4.1 General requirements

The MRF shall comply with regulatory requirements and have a license or permit from the relevant local authorities.

4.2 Equipment

The MRF shall have a list of all major equipment used in the facility and ensure the list is updated and readily available. The list shall be divided into two (2) categories as follows:

a) Test Equipment
b) Process Equipment

4.2.1 Test Equipment

a) This includes all relevant test equipment used for inspection, measurement and testing of the scraps, wastes and recovered materials such as platform scale, weighing balance, moisture meter, radiation meter etc.

b) The test equipment shall be:

i. Calibrated and/or verified against measurement standards traceable to international or national measurement standards at specified intervals or prior to use. If no such standards exist, MRF shall record the basis used for such calibration and/or verification. All calibration and/or verification shall be properly recorded and maintained;

ii. Adjusted or re-adjusted as necessary;

iii. Safeguarded from adjustments that would invalidate the measurement result; and

iv. Protected from damage and deterioration during handling, maintenance and storage.

4.2.2 Process Equipment

a) This includes all process equipment such as trucks, loaders, conveyors, separation equipment, etc.

b) The MRF shall establish scheduled maintenance service for all process equipment based on the equipment manufacturer's recommended maintenance schedule. If the maintenance service schedule is not adequate for the operation needs, the schedule shall be adjusted accordingly to reflect the equipment wear and tear rate.

4.3 Relevant training and instructions

The MRF shall provide appropriate training and instructions to relevant personnel. Records of training and instructions shall be provided upon inspection. The trainings and instructions shall cover the following minimum requirements:

a) Use of equipment and its maintenance;

b) Quality control process;

c) Sorting process; and

d) The relevant guidelines for importation and inspection of metal scrap and waste paper into Malaysia or any other applicable guidelines or regulations for importation of scraps, wastes and recovered materials into Malaysia as may be in force from time to time.

4.4 Storage for recovered materials

The MRF should ensure that:

a) All recovered materials are properly stored in a storage area that is:

i. secured and safe to prevent any occurrence of contamination; and

ii. of adequate storage capacity to maintain the quality and quantity of recovered materials.

b) All recovered materials should be delivered from the storage area to its intended destination as soon as possible within a short period of time to avoid degradation and contamination.

4.5 Housekeeping

The MRF shall:

a) Plan and establish cleaning schedules for the following area (where applicable):
   - Reception floor
   - Loading bucket
   - Bag splitter
   - Conveyors and picking area
   - Machinery
   - Overband magnets
   - Storage area

b) Implement the cleaning schedules as planned.
c) Ensure all machinery and equipment are kept clean and free from oil leaks.
d) Ensure trucks/containers used for shipment are inspected and kept clean from any potential contaminants.

4.6 Input materials

The MRF shall maintain a list of register of the input materials source and suppliers.

4.7 Processes

4.7.1 Production process

a) The MRF shall establish a Process Flow Chart and Quality Control Plan for major processing activities which include:

   i. Pre-sorting
   ii. Segregation/sorting
   iii. Inspection/measurement and reporting
   iv. Bailing/packing

b) The MRF shall enclose necessary documents including procedures, specifications, work instructions, regulations, etc.

c) The MRF shall ensure all activities are implemented according to the Process Flow Chart, the Quality Control Plan and other necessary documents as stated in clause 4.7.1 (b) above.

4.7.2 Process record

The MRF shall establish and maintain all records of recovery process parameters and the detailed of any of its changes pursuant to clause 4.9.

4.8 **Residual waste**

Residual waste shall be handled according to regulations from relevant local authorities.

4.9 **Records**

The MRF shall establish and maintain proper records as evidence of conformity to the requirements of this Guideline, and of the effective operation of its quality control system. Records shall be legible, identifiable, stored, protected, readily retrievable and retained for a minimum period of three (3) years.

5 RESPONSIBILITIES AS A SIRIM APPROVED MRF

5.1 **Issuance of MRF Inspection Report**

5.1.1 The SIRIM Approved MRF shall conduct an inspection and provide an inspection report for each delivery or shipment of recovered materials to the importers who require to import scraps, wastes or recovered materials into Malaysia without going through pre-shipment and post-shipment inspection by SIRIM.

5.1.2 The SIRIM Approved MRF shall ensure the supply of scraps, wastes or recovered materials to the importers complies with the relevant guidelines, policies, law or regulations with regards to importation of scraps, wastes and recovered materials into Malaysia as may be in force from time to time.

5.1.3 The SIRIM Approved MRF shall not supply any scraps, waste or recovered materials to the importers in the event that the requirements in this Guideline are not met.

5.1.4 The MRF Inspection Report shall contain the following items:

a) Method of Inspection on:
   i. Sampling (method /standards used)

b) List of equipment used and the calibration details

c) Photos of:
   i. Loading process
   ii. Sampling and weighing process
   iii. Seal (for container) with visibly clear seal number
   iv. Container with visibly clear container number

d) Inspection result summary for:

i) Recovered metals;
- Solid Non-Ferrous
- Solid Ferrous
- Other recoverable materials including plastic
- Scheduled waste including electrical and electronic
- Radiation level

ii) Recovered paper;
- Non-Paper components
- Total unwanted materials
- Radiation level

Iii Other recovered materials:

- As per respective Guidelines requirements

e) SIRIM Approved MRF Certificate Number and location.

f) Relevant supporting documents including:

- Purchase order
- Invoice
- Packing list

5.2 **Marking on Bale (Recovered Paper only)**

a) The MRF shall provide clear markings on each bale; and

b) The MRF shall ensure the grade identification as per clause 4 of MS EN 643, shall be visibly marked on each individual bale.

6 SCHEDULE OF FEES

a. SIRIM Approved MRF

No.	Description	Fee (RM)
1.	Application & Document Evaluation	2,500/ application (One-off)
2.	Initial Inspection Fee	3,000 /site (One-off)
3.	SIRIM Approved MRF Certificate (Validity: 3 years)	1,800
5.	Annual Surveillance Inspection	3,000
6.	Renewal of SIRIM Approved MRF Certificate (Validity: 3 years)	1,800
7.	Flight ticket & Accommodation	As per charged
8.	Other incidental charges	As per SIRIM standard rate

7 CLIENT CHARTER

a. The Client Charter to become a SIRIM Approved MRF

Document evaluation by SIRIM	1-2 working days
Issuing of quotation	3-5 working days
Scheduling for inspection	Upon discussion with applicant
MRF inspection	1-2 working days
Issuance of inspection report	1-2 working days
Issuance of certificate	1-2 working days
Total	7 – 13 working days

8 GLOSSARY OF TERMS

For the purposes of this document, the following terms and definitions apply.

8.1 **Input material**

Mixed dry recovered waste received at the facility for sorting and/or separately collected dry recovered waste received at the facility for sorting (e.g. to remove contamination).

8.2 **Importer**

Manufacturer or trading arm company who applies for the importation of metal scrap into Malaysia.

8.3 **Materials Recovery Facility (MRF)**

A facility where dry recovered waste is treated in order to separate them into dry waste streams to be sold or sourced to end buyers .

8.4 **Recovered material**

Materials that would have otherwise been disposed of as waste or used for energy recovery but have instead been collected and recovered as material input, in lieu of new primary material, for recycling or manufacturing process.

8.5 **Residual waste**

Waste materials with no commercial value that are left out after the segregation process by the MRF. These include broken glass, textile, rubber, ceramics, worn-out plastics, concrete fragments, and soil among others.

8.6 **Scheduled waste**

Any waste within the categories of waste listed in the First Schedule of Malaysian Environmental Quality (Scheduled Wastes) Regulations 2005. Refer to **Annex A.**

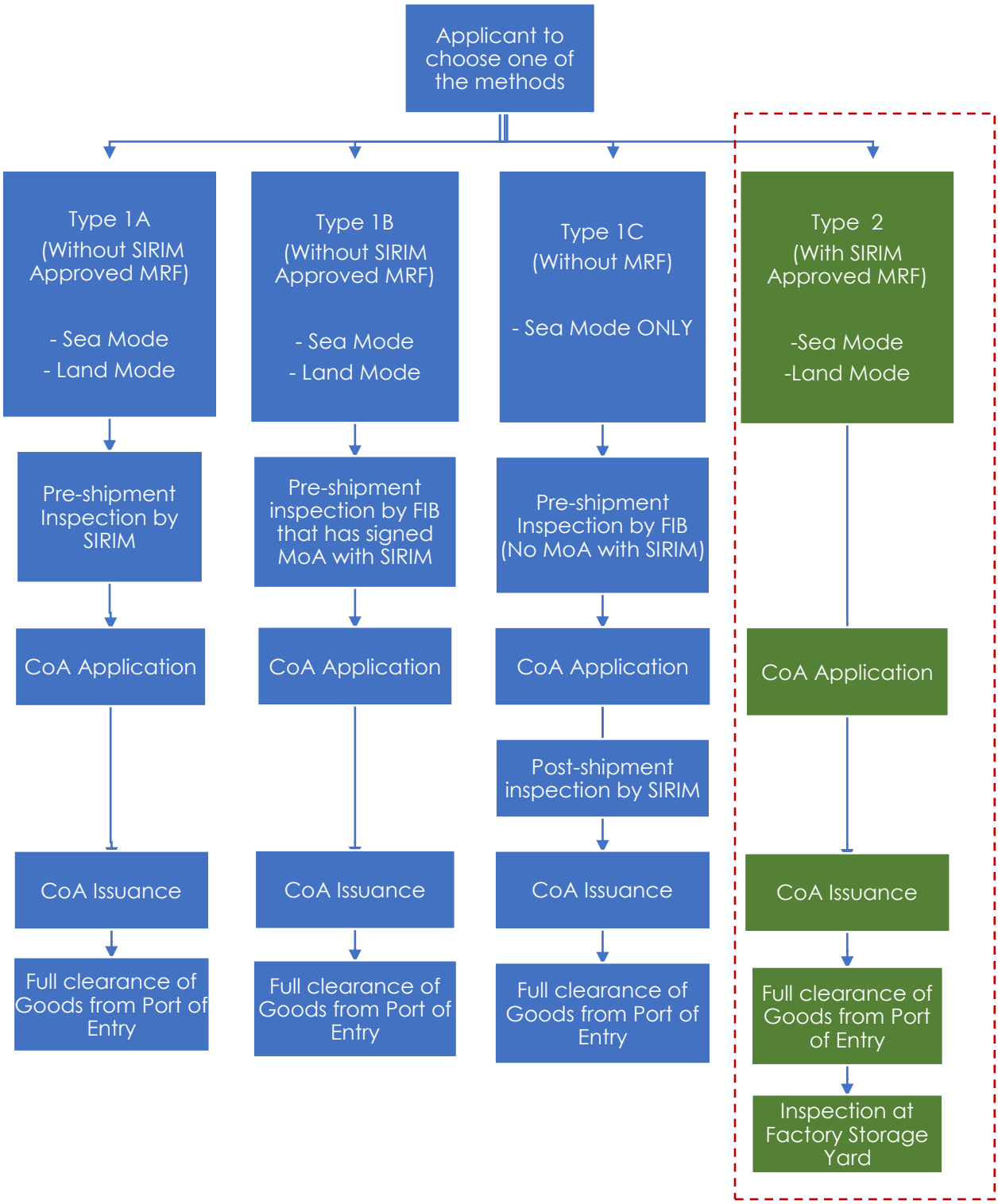
8.6 **SIRIM**

SIRIM QAS International Sdn Bhd who is acting on behalf of SIRIM Berhad pursuant to the Customs (Prohibition of Imports) (Amendment) Order 2021.

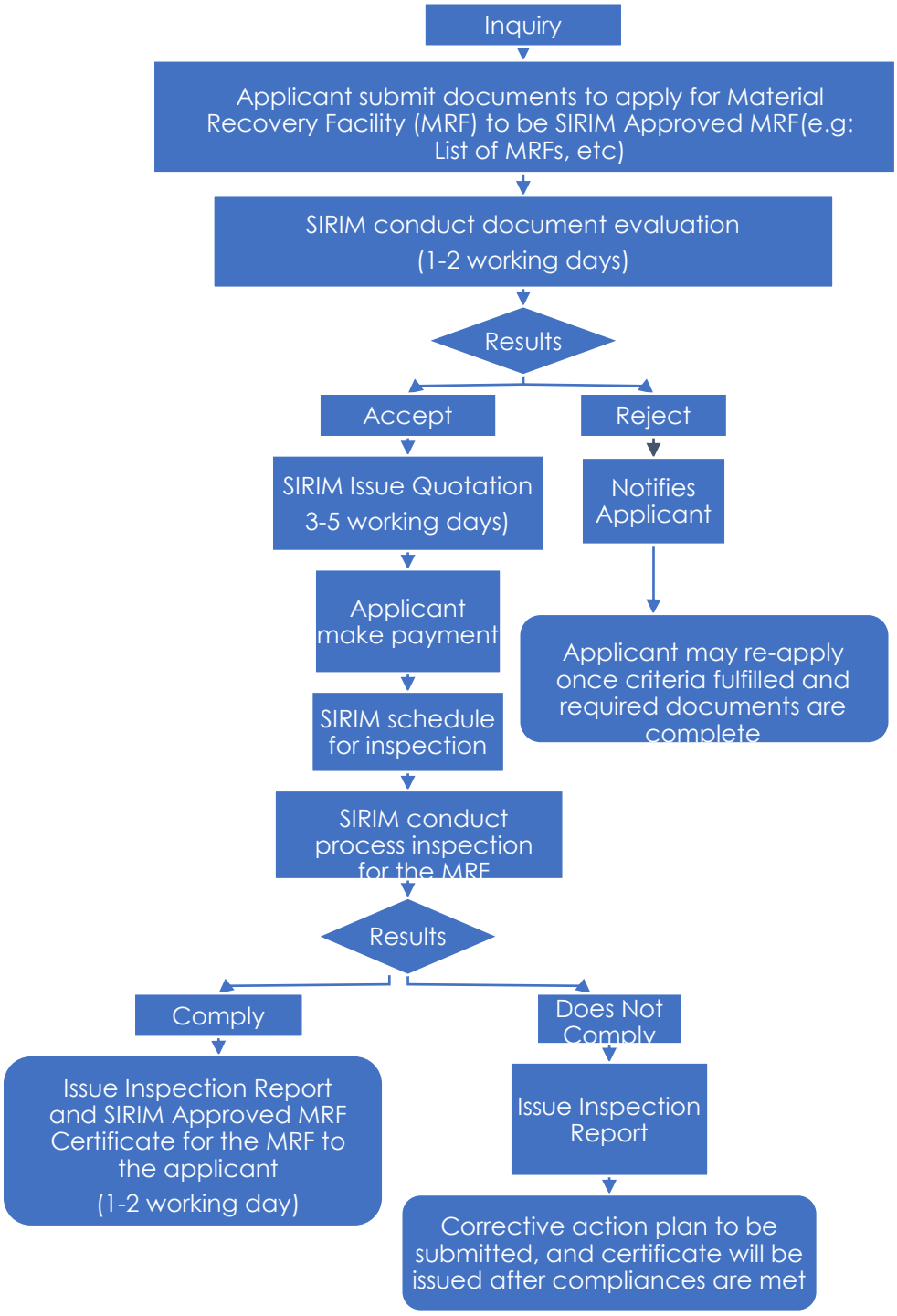
9 REFERENCES

1. *Best Operational Practices Manual for Materials Recovery Facilities and Recycling Drop-off Facilities* - Illinois Recycling Association, November 2010
2. *Environmental Quality (Scheduled Wastes) Regulations 2005.*
3. ISO 14021 : 2016, *Environmental labels and declaration – Self-declared environmental claims (Type II environmental labelling)*
4. ISO 9001 : 2015, *Quality management systems — Requirements*
5. *Materials Recovery Facilities - Testing and reporting guidance* - Scottish Environment Protection Agency, August 2015
6. *Materials Recovery Facility Tool Kit* - Asian Development Bank, 2020
7. NR 544.16, *Materials recovery facilities used as part of an effective recycling program* - Wisconsin State legislature
8. PAS 105:2007, *Recovered paper sourcing and quality for UK end markets*
9. SIRIM Guidelines for Importation and Inspection of Metal Scrap
10. SIRIM Guidelines for Importation and Inspection of Waste Paper

FLOWCHART 1- OVERVIEW OF THE PROCEDURE FOR IMPORTATION AND INSPECTION OF METAL SCRAP AND WASTE PAPER INTO MALAYSIA



FLOWCHART 2: PROCESS FLOW TO BE A SIRIM APPROVED MRF



ANNEX A (Normative)

FIRST SCHEDULE
(REGULATION 2)

CODE	DESCRIPTION
SW 1	**Metal and metal-bearing wastes**
SW 101	Waste containing arsenic or its compound
SW 102	Waste of lead acid batteries in whole or crushed form
SW 103	Waste of batteries containing cadmium and nickel or mercury or lithium
SW 104	Dust, slag, dross or ash containing arsenic, mercury, lead, cadmium, chromium, nickel, copper, vanadium, beryllium, antimony, tellurium, thallium or selenium excluding slag from iron and steel factory
SW 105	Galvanic sludges
SW 106	Residues from recovery of acid pickling liquor
SW 107	Slags from copper processing for further processing or refining containing arsenic, lead or cadmium
SW 108	Leaching residues from zinc processing in dust and sludges form
SW 109	Waste containing mercury or its compound
SW 110	Waste from electrical and electronic assemblies containing components such as accumulators, mercury-switches, glass from cathode-ray tubes and other activated glass polychlorinated biphenyl-capacitors, or contaminated with cadmium, mercury, lead, nickel, chromium, copper, lithium, silver, manganese or polychlorinated biphenyl

SW 2	**Wastes containing principally inorganic constituents which may contain metals and organic materials**
SW 201	Asbestos wastes in sludges, dust or fibre forms
SW 202	Waste catalysts
SW 203	Immobilized scheduled wastes including chemically fixed, encapsulated, solidified or stabilized sludges
SW 204	Sludges containing one or several metals including chromium, copper, nickel, zinc, lead, cadmium, aluminium, tin, vanadium and beryllium
SW 205	Waste gypsum arising from chemical industry or power plant
SW 206	Spent inorganic acids
SW 207	Sludges containing fluoride
SW 3	**Wastes containing principally organic constituents which may contain metals and inorganic materials**
SW 301	Spent organic acids with pH less or equal to 2 which are corrosive or hazardous
SW 302	Flux waste containing mixture of organic acids, solvents or compounds of ammonium chloride
SW 303	Adhesive or glue waste containing organic solvents excluding solid polymeric materials
SW 304	Press cake from pretreatment of glycerol soap lye
SW 305	Spent lubricating oil
SW 306	Spent hydraulic oil

SW 307	Spent mineral oil-water emulsion
SW 308	Oil tanker sludges
SW 309	Oil-water mixture such as ballast water
SW 310	Sludge from mineral oil storage tank
SW 311	Waste oil or oily sludge
SW 312	Oily residue from automotive workshop, service station oil or grease interceptor
SW 313	Oil contaminated earth from re-refining of used lubricating oil
SW 314	Oil or sludge from oil refinery plant maintenance operation
SW 315	Tar or tarry residues from oil refinery or petrochemical plant
SW 316	Acid sludge
SW 317	Spent organometallic compounds including tetraethyl lead, tetramethyl lead and organotin compounds
SW 318	Waste, substances and articles containing or contaminated with polychlorinated biphenyls (PCB) or polychlorinated triphenyls (PCT)
SW 319	Waste of phenols or phenol compounds including chlorophenol in the form of liquids or sludges
SW 320	Waste containing formaldehyde
SW 321	Rubber or latex wastes or sludge containing organic solvents or heavy metals
SW 322	Waste of non-halogenated organic solvents

SW 307	Spent mineral oil-water emulsion
SW 308	Oil tanker sludges
SW 309	Oil-water mixture such as ballast water
SW 310	Sludge from mineral oil storage tank
SW 311	Waste oil or oily sludge
SW 312	Oily residue from automotive workshop, service station oil or grease interceptor
SW 313	Oil contaminated earth from re-refining of used lubricating oil
SW 314	Oil or sludge from oil refinery plant maintenance operation
SW 315	Tar or tarry residues from oil refinery or petrochemical plant
SW 316	Acid sludge
SW 317	Spent organometallic compounds including tetraethyl lead, tetramethyl lead and organotin compounds
SW 318	Waste, substances and articles containing or contaminated with polychlorinated biphenyls (PCB) or polychlorinated triphenyls (PCT)
SW 319	Waste of phenols or phenol compounds including chlorophenol in the form of liquids or sludges
SW 320	Waste containing formaldehyde
SW 321	Rubber or latex wastes or sludge containing organic solvents or heavy metals
SW 322	Waste of non-halogenated organic solvents

SW 410	Rags, plastics, papers or filters contaminated with scheduled wastes
SW 411	Spent activated carbon excluding carbon from the treatment of potable water and processes of the food industry and vitamin production
SW 412	Sludges containing cyanide
SW 413	Spent salt containing cyanide
SW 414	Spent aqueous alkaline solution containing cyanide
SW 415	Spent quenching oils containing cyanides
SW 416	Sludges of inks, paints, pigments, lacquer, dye or varnish
SW 417	Waste of inks, paints, pigments, lacquer, dye or varnish
SW 418	Discarded or off-specification inks, paints, pigments, lacquer, dye or varnish products containing organic solvent
SW 419	Spent di-isocyanates and residues of isocyanate compounds excluding solid polymeric material from foam manufacturing process
SW 420	Leachate from scheduled waste landfill
SW 421	A mixture of scheduled wastes
SW 422	A mixture of scheduled and non-scheduled wastes
SW 423	Spent processing solution, discarded photographic chemicals or discarded photographic wastes
SW 424	Spent oxidizing agent

SW 425	Wastes from the production, formulation, trade or use of pesticides, herbicides or biocides
SW 426	Off-specification products from the production, formulation, trade or use of pesticides, herbicides or biocides
SW 427	Mineral sludges including calcium hydroxide sludges, phosphating sludges, calcium sulphite sludges and carbonates sludges
SW 428	Wastes from wood preserving operation using inorganic salts containing copper, chromium or arsenic of fluoride compounds or using compound containing chlorinated phenol or creosote
SW 429	Chemicals that are discarded or off-specification
SW 430	Obsolete laboratory chemicals
SW 431	Waste from manufacturing or processing or use of explosives
SW 432	Waste containing, consisting of or contaminated with, peroxides
SW 5	**Other wastes**
SW 501	Any residues from treatment or recovery of scheduled wastes



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