



Process Description

for

EV Recycling Ltd.

Site Location:

**EV Recycling
Unit 12, Llanelli Gate
Dafen, Llanelli
Carmarthenshire
United Kingdom
SA14 8LQ**

Overview

This document is a written description of the process for EV Recycling, in support of the flowchart in the document “*EV Recycling Process Flowchart*”.

The process details the specific actions that must be taken by EV Recycling during the businesses activities; from initial customer communication through to the end product. The end product/waste varies depending on customer requirements and the physical condition of the consignment. The waste hierarchy pyramid is referred to in order to assist the decisions taken during the flow of activities (re-use / re-purpose, recycle, other materials recovery, or disposal).

Document Revision History			
Date	Author	Version	Notes
12/06/2019	Sam Joseph	1	Report
04/09/2019	Sam Joseph	2	Page numbers added, address amended, detail review and amendments
05/02/2020	Sam Joseph	3	Address updated; “Confidential” added to header
16/03/2020	Sam Joseph	4	Confidentiality Justification Review
18/08/2020	George Chamberlain	5	Schedule 5 Response

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Section 1: Initial Customer Communication

Date: 04/09/2019

1.	Initial Customer Communication
1.1.	Customer communication (via Email, Quote, Telephone, Verbal)
1.2.	Request information. This includes: Quantity, Manufacturer and EV, MSDS if available, Nominal Voltage, Transfer Note, other requirements (E.g. Coolant drained prior to delivery)
1.3.	Special requirements? Sensitive information? Certification of destruction needed?
1.4.	IF there are any special requirements, confirm extra steps with the customer and adjust the process accordingly (without breaching the Environmental Permit)
1.5.	Product or Waste? This is an assessment during the initial customer communication. Further evaluation may be required to determine which one it is

Section 2: Product Process

Date: 03/09/2019

2.	Product IF "Waste", go to Section 3
2.1.	Confirm product quantity and a date with the customer
2.2.	Accept or Decline
2.3.	IF "Decline", inform the customer
2.4.	IF "Accept", take delivery. Unload from the delivery truck (Forklift Operator Certificate)
2.5.	Is the consignment 'High Voltage'? IF it is, follow internal High Voltage Process prior to the next step
2.6.	If NOT High Voltage, evaluate/examine the consignment
2.7.	IF consignment contains unexpected waste items, communicate with the customer to have it removed from the site as soon as possible. Contain and isolate it. Inform Natural Resources Wales if required
2.8.	Log book entry
2.9.	Further evaluate consignment using the 'Waste Hierarchy' IF preparation for re-use is required, proceed to section 4

2.10.	IF recycling is required, proceed to section 5
2.11.	IF Prevention is required, the product can be re-used in its current form without any preparation work required. In this case, the product is stored and logged in the log book noting the usage intention, prior to being sent to a customer

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Section 3: Waste Process

Date: 04/09/2019

3.	Waste
3.1.	Waste item evaluation (Fire damaged? Severely damaged? Sensitive? Prototype? Etc.). Evaluate possibility of storing it and it being safe (i.e. "prove dead"). DO NOT accept or store on-site unless the Environmental Risk Assessment is adhered to
3.2.	Accept or Decline
3.3.	IF "Decline", inform the customer
3.4.	IF "Accept", take delivery. Unload from the delivery truck (Forklift Operator Certificate)
3.5.	Is the consignment 'High Voltage'? IF it is, follow internal High Voltage Process prior to the next step
3.6.	If NOT High Voltage, evaluate/examine the consignment
3.7.	IF consignment contains unexpected waste items, communicate with the customer to have it removed from the site as soon as possible. Contain and isolate it. Inform Natural Resources Wales if required
3.8.	Log book entry and storage
3.9.	For Recyclable materials, proceed to Section 5

3.10.	If Disposal of any part of the consignment is required (not recoverable through any of the other options higher up on the waste hierarchy), proceed to section 6
3.11.	For non-recyclable waste, determine if it is hazardous or not
3.12.	IF YES – it is hazardous - store it safely and determine the cause of the hazard. (Ashes from fire damage?)
3.13.	IF NO – it is NOT hazardous – proceed to section 5
3.14.	Add to Waste log book and monitor Waste Tonnage Trend
3.15.	Concern of breaching the permit?
3.16.	IF YES – there is a concern of breaching the permit - notify Natural Resources Wales. Consider increasing the Tonnage or consider not accepting as much waste
3.17.	IF NO – there is no concern of breaching the permit – contractor to pick up the Non-Recyclable materials
3.18.	To comply with Duty of Care, confirm with the contractor how the waste is being disposed of – certification may be required. This is to be done at least once for every new waste contractor

CONFIDENTIAL**Section 4: Non Hazardous Separation/Sorting Process****Date: 04/09/2019**

4.	Non-Hazardous Separation/Sorting Process
4.1.	Separate what can be recycled and stored for selling to customers for further recycling. (Metal, Plastic, Wires etc.). This is a manual task – no machinery required. (i.e. employee will disassemble or take apart the different materials)
4.2.	Other items including (but not limited to) polystyrene, adhesive tape, thin plastics from bags etc. may be collected by a contractor (non-recyclable materials)
4.3.	Using weighing scales, weigh, enter log book entries and store the following recyclable materials:
4.4.	Lithium Ion Batteries
4.5.	Aluminium, Copper - Potential to be processed in-house or sold as it is for further processing)
4.6.	Wires, WEEE (Waste Electrical & Electronic Equipment), other mixed recycling
4.7.	Sell items to customers. If shipping to customer, follow the correct process and enter log book entry
4.8.	IF there is a concern of breaching the limit, notify Natural Resources Wales. Consider increasing the tonnage or consider not accepting as much waste
4.9.	IF there is no concern of breaching the limit, no action is required

CONFIDENTIAL**Section 5: Recycling Process****Date: 04/09/2019**

1.	Recycling Process
1.1.	Separate out materials that can be reused from those which can be recycled
1.2.	IF it can be re-used, refer to waste hierarchy pyramid
1.3.	IF the material is to be recycled, confirm whether it is only the battery or not
1.4.	IF the material to be recycled is not only the battery, refer to section 4
1.5.	IF it is battery only, discharge using a resistor pack prior to continuing
1.6.	Once the discharging is complete, the battery enters the crushing and separating process. This is an automatic 'dry' process using mechanical machinery
1.7.	IF during this process 'other waste' is produced (For example, adhesive tape with battery mixture/electrolyte on it) then this must be weighed and entered in the log book entry prior to storage. A contractor will pick up non-recyclable materials
1.8.	Recyclable materials other than Lithium Ion (Aluminium, Copper, Plastic, etc.) must be weighed and entered in the log book entry. Post processing may be required here (sorting and packaging), prior to storing the product and selling to customers
1.9.	Battery graded mix (depending on customer needs) must be weighed and entered in the log book entry. Consideration should be given to whether it is hazardous prior to storing the product and selling to customers. This will be done by checking the logs for temperature and humidity prior to shipping and also take the measurements again before it is shipped. In order to prevent humidity increase during shipping, vermiculite can be added in the container if needed. If the temperature logs and humidity monitoring shows a gradient increase in values then the battery needs to be quarantine, check for signs of oxidisation in the mix and remove it if possible, remix the material and store for 48hrs before attempting shipping again.

Section 6: Disposal Process

Date: 04/09/2019

1.	Disposal Process
1.1.	IF a consignment does not meet the criteria for any other option on the waste hierarchy pyramid (due to safety and/or environmental concerns), it may need to be disposed of.
1.2.	Liaise with Natural Resources Wales for technical guidance. Also Liaise with the customer to determine the circumstances.
1.3.	Ensure that all permits and risk assessments are satisfied prior to disposing of the waste.

This is highly unlikely as the items accepted onsite are well known. In the event of receiving such an items, the "Unexpected waste procedure needs to be followed" part 4.6.2 of the EMS.

Section 4.6.2 of the EMS V9

For whatever reason, if unexpected waste has entered the site, they will be put onto the quarantine area inside a plastic container 5L/10L/25L/50L and later in one of the 2 x 40 ft containers. The waste will be kept after assessed, an authorised contractor will be called onsite to remove the unexpected waste. Typically (depending what waste they are) unexpected waste should not stay on site for more than 1 week.

Document Details:	
Author:	Sam Joseph
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