

**Report 3  
Summary  
Environmental  
Management System**

**HAA MATERIALS  
RECYCLING FACILITY  
PORT TALBOT  
STEELWORKS**

*Report Number 1514r3v1d0216*

*Commissioned by*  
Tata Steel UK Limited  
PO Box 108  
Port Talbot Works  
Port Talbot  
SA13 2NG

*Prepared by*  
Geotechnology Ltd  
Ty Coed  
Cefn-yr-Allt  
Aberdulais  
SA10 8HE



**February 2016**

---

# Table of Contents

---

|          |                                           |           |
|----------|-------------------------------------------|-----------|
| <b>1</b> | <b>INTRODUCTION</b>                       | <b>1</b>  |
| 1.1      | Objectives                                | 1         |
| <b>2</b> | <b>THE SITE SETTING</b>                   | <b>2</b>  |
| 2.1      | Location                                  | 2         |
| 2.2      | Environmental Setting                     | 2         |
| 2.2.1    | Ground Conditions                         | 2         |
| 2.2.2    | Groundwater                               | 2         |
| 2.2.3    | Surface Water                             | 3         |
| 2.2.4    | Air Quality                               | 3         |
| 2.2.5    | Protected Sites                           | 3         |
| 2.2.6    | Human Receptors                           | 3         |
| <b>3</b> | <b>OVERVIEW OF WASTE OPERATIONS</b>       | <b>4</b>  |
| 3.1      | Overview                                  | 4         |
| 3.2      | Acceptable Wastes                         | 5         |
| 3.3      | Recovered Outputs                         | 6         |
| 3.3.1    | Production of Aggregate                   | 6         |
| 3.3.2    | Recycled into Steelmaking Process         | 6         |
| 3.4      | Permitted Activities                      | 6         |
| 3.5      | Factory Production Control                | 8         |
| <b>4</b> | <b>SITE INFRASTRUCTURE</b>                | <b>10</b> |
| 4.1      | Access and Security                       | 10        |
| 4.2      | Site Accommodation                        | 10        |
| 4.3      | Working Platform                          | 10        |
| 4.4      | Recovery Plant                            | 10        |
| <b>5</b> | <b>APPROACH TO EMS</b>                    | <b>11</b> |
| 5.1      | Environmental Policy                      | 11        |
| 5.2      | Awareness of Legal and Other Requirements | 12        |
| 5.3      | Environmental Objectives & Targets        | 12        |
| 5.4      | New Objectives                            | 13        |
| <b>6</b> | <b>SITE SPECIFIC EMS</b>                  | <b>14</b> |
| 6.1      | Scope of EMS                              | 14        |
| 6.2      | Exposure Pathways and Pollution Controls  | 14        |
| 6.3      | Compliance with Permit Conditions         | 15        |
| <b>7</b> | <b>TECHNICAL COMPETENCE</b>               | <b>16</b> |
| 7.1      | Operator Competence                       | 16        |
| 7.2      | Relevant Training                         | 16        |
| <b>8</b> | <b>WASTE MANAGEMENT</b>                   | <b>18</b> |
| 8.1      | Waste Acceptance                          | 18        |
| 8.1.1    | Wastes from Open Market                   | 18        |
| 8.1.2    | Tata Waste                                | 18        |
| 8.2      | Waste Inspection and Weighing             | 19        |
| 8.3      | Waste Input Recording                     | 19        |
| 8.4      | Waste Delivery to Working Area            | 19        |

---

|           |                                                            |           |
|-----------|------------------------------------------------------------|-----------|
| 8.5       | Identification and Management of Non-compliant Wastes      | 19        |
| <b>9</b>  | <b>FACTORY PRODUCTION CONTROL</b>                          | <b>21</b> |
| 9.1       | Method Statement of Production                             | 23        |
| 9.2       | Product Inspection and Testing                             | 23        |
| 9.3       | Product Handling and Storage                               | 23        |
| 9.4       | Product Non-Conformance                                    | 24        |
| <b>10</b> | <b>WASTE RECYCLING AND END OF WASTE</b>                    | <b>25</b> |
| 10.1      | End of Waste Assessment                                    | 25        |
| <b>11</b> | <b>POLLUTION CONTROL AND MONITORING</b>                    | <b>26</b> |
| 11.1      | Pollution Control Measures                                 | 26        |
| 11.1.1    | Controlled Water                                           | 26        |
| 11.1.2    | Flooding                                                   | 26        |
| 11.1.3    | Noise and Vibration                                        | 26        |
| 11.1.4    | Air Quality                                                | 27        |
| 11.1.5    | Litter                                                     | 27        |
| 11.1.6    | Vermin                                                     | 27        |
| 11.1.7    | Odours                                                     | 28        |
| 11.1.8    | Fire Prevention                                            | 28        |
| 11.1.9    | Leaks and Spills                                           | 28        |
| 11.1.10   | Other Fugitive Emissions                                   | 29        |
| 11.2      | Environmental Monitoring                                   | 29        |
| <b>12</b> | <b>PLANNED PREVENTATIVE MEASURES</b>                       | <b>30</b> |
| 12.1      | Maintenance                                                | 30        |
| 12.2      | Pollution Prevention                                       | 30        |
| <b>13</b> | <b>INCIDENTS &amp; EMERGENCIES</b>                         | <b>31</b> |
| 13.1      | Emergency Site Plans and Contact Details                   | 31        |
| 13.2      | Planning                                                   | 31        |
| 13.3      | Establishment of Contingency Actions                       | 32        |
| 13.4      | Testing of Emergency Preparedness                          | 32        |
| <b>14</b> | <b>COMMUNICATION AND COMPLAINTS</b>                        | <b>33</b> |
| 14.1      | Internal Communication                                     | 33        |
| 14.2      | External communications                                    | 33        |
| <b>15</b> | <b>MONITORING AND MEASUREMENT</b>                          | <b>34</b> |
| 15.1      | Proof of Control                                           | 34        |
| 15.2      | Monitor and Measure                                        | 34        |
| <b>16</b> | <b>INTERNAL AND EXTERNAL AUDITS</b>                        | <b>35</b> |
| 16.1      | Internal EMS Audits                                        | 35        |
| 16.2      | External Audits of EMS                                     | 35        |
| <b>17</b> | <b>NON-CONFORMANCE, CORRECTIVE &amp; PREVENTIVE ACTION</b> | <b>36</b> |
| 17.1      | Continual Improvement                                      | 36        |
| 17.2      | Investigation of Failings                                  | 36        |
| <b>18</b> | <b>RECORDS, REPORTING AND NOTIFICATIONS</b>                | <b>37</b> |
| 18.1      | Controlled documents                                       | 37        |
| 18.2      | Location of documents                                      | 37        |

---

---

|      |                                      |    |
|------|--------------------------------------|----|
| 18.3 | Review, Update and New Documentation | 37 |
| 18.4 | Document Issue and Removal           | 37 |
| 18.5 | Document and Record Retention        | 37 |
| 18.6 | Reporting to NRW                     | 37 |

## List of Tables

---

|            |                                                    |    |
|------------|----------------------------------------------------|----|
| Table 3-1  | Wastes to be Accepted at the HAA                   | 5  |
| Table 3-2  | Permitted Activities at the HAA                    | 7  |
| Table 6-1  | Some of the Procedures to be Documented in the EMS | 14 |
| Table 6-2  | Some of the Forms to be Included in the EMS        | 15 |
| Table 7-1  | Minimum expectations for Personnel                 | 16 |
| Table 13-1 | Emergencies to be Evaluated as part of full EMS    | 32 |

## List of Flowcharts

---

|                |                                                                                                              |
|----------------|--------------------------------------------------------------------------------------------------------------|
| Flowchart 18-1 | Proposed Operation of HAA                                                                                    |
| Flowchart 18-2 | Typical Processing of Slag Based Waste                                                                       |
| Flowchart 18-3 | Typical Processing of Concrete Based Waste                                                                   |
| Flowchart 5-1  | Links between Significant Aspects and Action Plans                                                           |
| Flowchart 8-1  | Generic Factory Production Control process for production of aggregates in accordance with Quality Protocols |

## List of Figures

---

1. Site Location Plan
2. Proposed Site Layout and Access

---

# **1 INTRODUCTION**

Tata Steel (UK) Ltd wishes to recycle waste at the HAA Facility at their Steel Works in Port Talbot (see Figure 1 and Figure 2). The operation will principally involve the production of aggregates from steel slag and construction and demolition wastes, and the recovery of materials for recycling back into the steelmaking process. Such waste operations require a Permit from Natural Resources Wales (NRW). One of the conditions of holding such a Permit is that a written environmental management system (EMS) must be in place once the site is operational.

An Environmental Management System (EMS) is a structured system which, once implemented, helps an organisation to identify the environmental impacts resulting from its business activities. It also helps manage and reduce those impacts, so that the environmental performance of the organisation is improved. An EMS should provide a methodical approach to planning, implementing and reviewing an organisation's environmental management.

Under the Environmental Permitting Regulations, Tata is required to have an appropriate EMS in place while it is holding a Permit. The EMS must set out in detail, how all the activities relating to the Permit, and specifically waste management and pollution control will be managed.

At this stage of the application process, NRW require a summary of the management system to be in place when the site is operational. By the time the Permit is issued, NRW will expect Tata to have the management systems in place as it will be part of the first NRW site inspection.

Central to the EMS will be a set of Procedures and Standard Forms which will need to be implemented when the site is operational. In this summary EMS, the range of procedures that will be required are detailed and the type of forms that will be implemented provided. As Tata will process waste to produce aggregates in accordance with Quality Protocols, a Factory Production Control system will also be in place when the site is operational.

## **1.1 Objectives**

Tata already successfully operates an integrated management system produced to achieve the benefits from management system standards ISO 9001:2008 and ISO 14001:2004.

The EMS that will ultimately be in place covering the proposed operations at the HAA will be aligned with these standards. This site specific EMS does not attempt to duplicate the procedures already documented in the integrated company EMS and which will also ultimately apply at the site. Rather, this summary EMS outlines the measures that will be adopted to ensure that the management of the waste is being controlled and risks to the environment managed.

---

## 2 THE SITE SETTING

### 2.1 Location

The Port Talbot site is known to have had a long and diversified industrial history with coke, iron and steel making processes being undertaken over a period extending hundreds of years and as such there is a diverse and complex contaminant history.

Specifically, the area occupied by the HAA was historically used as part of the former adjacent Grange Coke Ovens and comprises a vacant level platform of made ground, primarily constructed from granular slag and coal/coke residues. The site, therefore, currently benefits from a hardstanding that provides a compact solid surface capable of withstanding the proposed operation.

### 2.2 Environmental Setting

#### 2.2.1 Ground Conditions

Intrusive investigation of the surrounding areas has identified made ground extends to depths of approximately 7.0m and comprises loose to dense brownish grey clayey silty fine to coarse sand with much fine to medium angular gravel and rare cobble, consisting of both slag and coal residues. Below the made ground are aeolian sand deposits approximately 2m thick, beneath which are estuarine alluvium in the form of greenish grey silty sand, with some shell fragments encountered. In some areas a peat layer is encountered. In some areas, the made ground directly overlies the alluvium. Glacial drift deposits comprising over-consolidated boulder clay is typically encountered below the alluvium and comprises firm to stiff olive grey very silty clay with much fine to coarse sub-rounded to angular gravel and occasional cobble.

Sufficient archive information from investigations indicates that the geology would essentially comprise the following:

| <u>Stratum</u>                                                    | <u>Thickness(m)</u> |
|-------------------------------------------------------------------|---------------------|
| Made Ground (comprising of slag in many areas)                    | 0 – 7               |
| Aeolian Sands                                                     | 0 – 7               |
| Alluvium and Estuarine Alluvium (comprising of clays and gravels) | 3 – 10              |
| Glacial Drift                                                     | 4 - >10             |
| Coal Measures Bedrock                                             |                     |

#### 2.2.2 Groundwater

In many areas a silty clay layer is present at relatively shallow depth which acts as an aquitard to groundwater. This clay layer has therefore resulted in a perched upper aquifer together with an underlying deeper aquifer. Given the properties of the geological strata the site is not in Source Protection Zone and previous sampling of the groundwater has revealed a variable range of contaminants relating to the long site history. These contaminants include elevated pH, metals and hydrocarbons. Very shallow hydraulic gradients are observed in both and as a result there is limited contaminant mobility.

---

### **2.2.3 Surface Water**

At this stage, the key aspects that will need to be considered in the risk assessment are risks to controlled water and air quality.

In close proximity to the site are several surface water ditches, the course of which has been modified by development of the steel works. Currently, these shallow ditches drain to the BOS plant reservoir where the water provides a source of process water used only by the steel works.

### **2.2.4 Air Quality**

As part of the Permit an extensive air quality monitoring network is in place. The monitoring programme and results are evaluated in accordance with the steel works Air Quality Management Plan. The proposed operation will fall under the controls of the Plan.

### **2.2.5 Protected Sites**

Three sites of ecological importance lie in close proximity to the site:

- Margam Moors SSSI is 330m to the south
- Eglwys Nunydd Reservoir SSSI which is 660m to the southeast
- Kenfig National Nature Reserve (KNNR)(a designated SAC) is beyond Margam Moors and is over 1000m to the south in a different hydrological catchment

Livestock graze in Margam Moors and in the fields directly to the south of the HAA.

### **2.2.6 Human Receptors**

There are no residential properties within 500m of the HAA site boundary. Within this zone are offices, workshops and industrial units where personnel from Tata (and other companies) are located during working hours. The closest point members of the public would be is 330m to the southeast as Cefn Gwrgan is used to access the beach to the west and members of the public also access Margam Moors.

---

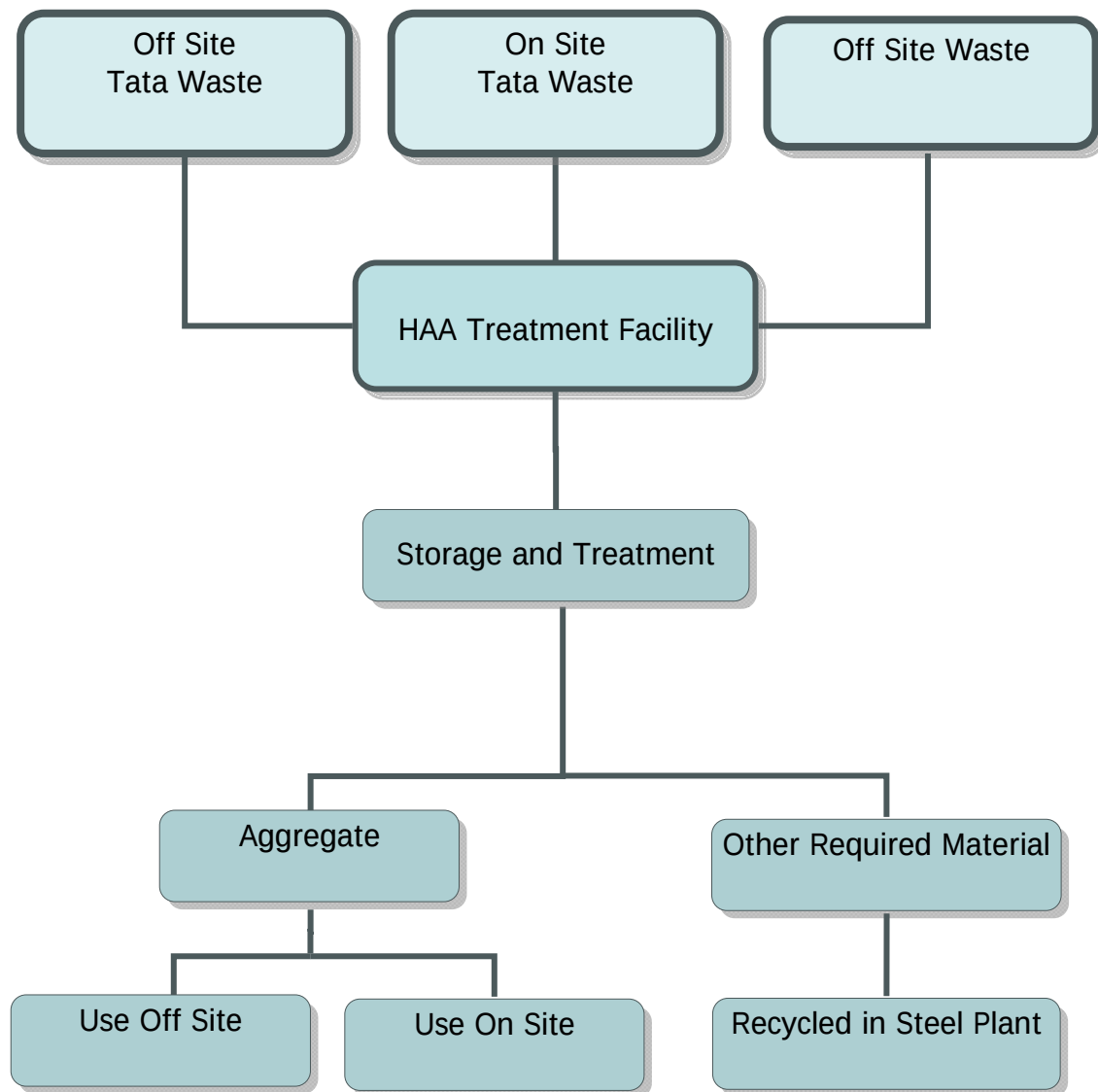
### 3 OVERVIEW OF WASTE OPERATIONS

#### 3.1 Overview

Tata require a Permit Variation to allow the storage of waste at the HAA and its subsequent treatment. The outputs from the facility will include recovered material that will either be recycled into the steelworks process or used as soil, soil substitutes and aggregate.

The total quantity of waste that will be stored and subsequently treated at the site shall be no more than 300,000 tonnes per year. A flowchart showing the overall process is provided in Flowchart 3-1.

**Flowchart 3-1 Proposed Operation of HAA**





## 3.2 Acceptable Wastes

Table 3-1 summarises the wastes Tata proposes to accept at the HAA and their corresponding intended outputs.

**Table 3-1 Wastes to be Accepted at the HAA**

| EWC Code | Description of Wastes to be Accepted                                                                                                                                                | Anticipated Outputs from HAA following processing | Waste Type |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------|
| 01 04 08 | Waste gravel and crushed rocks other than those mentioned in 01 04 07<br>May include excavation from mineral workings                                                               | Recovered as Aggregate                            | MN         |
| 01 04 09 | Waste sand only                                                                                                                                                                     | Recovered as Aggregate                            | AN         |
| 10 11 03 | Waste glass-based fibrous materials<br>Allowed only if: Wastes without organic binders                                                                                              | Recovered as Aggregate                            | AN         |
| 15 01 07 | Glass packaging                                                                                                                                                                     | Recovered as Aggregate                            | AN         |
| 17 01 01 | Concrete (excluding concrete slurry)                                                                                                                                                | Recovered as Aggregate                            | MN         |
| 17 01 02 | Bricks                                                                                                                                                                              | Recovered as Aggregate                            | MN         |
| 17 01 03 | Tiles and ceramics                                                                                                                                                                  | Recovered as aggregate                            | MN         |
| 17 01 07 | Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06                                                                                             | Recovered as Aggregate                            | MN         |
| 17 02 02 | Glass (Must not include fibreglass or glass fibre)                                                                                                                                  | Recovered as Aggregate                            | MN         |
| 17 03 02 | Bituminous mixtures                                                                                                                                                                 | Recovered as Aggregate                            | MN         |
| 17 05 04 | Soil and stones other than those mentioned in 17 05 03<br>Must not contain any contaminated soil or stone from contaminated sites.                                                  | Recovered as Aggregate                            | MN         |
| 17 05 06 | Dredging spoil other than those mentioned in 17 05 05<br>Allowed only if:<br>Inert aggregate from dredgings.<br>Must not contain contaminated dredgings.<br>Must not contain fines. | Recovered as Aggregate                            | MN         |
| 17 05 08 | Track ballast other than those mentioned in 17 05 07                                                                                                                                | Recovered as Aggregate                            | MN         |
| 17 09 04 | Mixed construction and demolition waste comprising granular material                                                                                                                | Recovered as Aggregate                            | MN         |
| 19 12 05 | Glass - Does not include glass from cathode ray tubes.                                                                                                                              | Recovered as Aggregate                            | AN         |
| 19 12 09 | Minerals (for example sand, stones)                                                                                                                                                 | Recovered as Aggregate                            | AN         |
| 20 01 02 | Glass<br>Must not include fibreglass.                                                                                                                                               | Recovered as Aggregate                            | AN         |
| 20 02 02 | Garden and park wastes (including cemetery waste) – soil and stones<br>Must not contain contaminated stones from garden and parks waste.                                            | Recovered as Aggregate                            | AN         |
| 16 11 04 | Refractory                                                                                                                                                                          |                                                   | MN         |
| 10 02 01 | Waste from the processing of blast furnace slag / steel slag                                                                                                                        | QP Steel slag                                     | AN         |
| 10 02 02 | Unprocessed blast furnace slag / steel slag                                                                                                                                         | QP Steel slag                                     | AN         |
| 10 02 99 | Slab yard refuse                                                                                                                                                                    | Recycled back into process                        | AN         |
|          | Iron ore refuse                                                                                                                                                                     | Recycled back into process                        | AN         |
| 19 03 05 | stabilised wastes other than those mentioned in 19 03 04                                                                                                                            | Recycled back into process                        | AN         |
| 19 03 07 | solidified wastes other than those mentioned in 19 03 06                                                                                                                            | Recycled back into process                        | AN         |

**Wastes having any of the following characteristics shall not be accepted;**

- Consisting solely or mainly of dusts, powders or loose fibres; and
- Wastes that are in a form which is either sludge or liquid.
- AN – Absolute Non-Hazardous
- MN – Mirror Non-Hazardous

The wastes highlighted grey are the typical wastes Tata would receive on a day-to-day basis. The other wastes will be accepted on an ad-hoc basis and are included in the Permit application to ensure Tata is provided with flexibility in the future and to avoid further Permit variations. On this basis, the wastes listed include all those listed in the WRAP Quality Protocol for the Production of Aggregate from Inert Wastes and the Quality Protocol for Steel Wastes.

---

### 3.3 Recovered Outputs

The third column of Table 3-1 identifies the intended outputs for each of the different accepted wastes. Two outputs are identified:

- Production of aggregate – either in accordance with WRAP Protocol or Quality Protocol for Steel Slag
- Production of a recovered waste that is taken into the steelmaking process – each of these wastes will be subject to an End of Waste test by Tata

The production of aggregates will be the principle operation at the HAA.

#### 3.3.1 Production of Aggregate

Several of the wastes identified in Table 3-1 are listed as inert wastes in the WRAP Quality Protocol (WRAP QP) for the *Production of Aggregates from Inert Waste* (October 2013). Provided these wastes are not contaminated, this means that they can be used as feedstocks to produce aggregates. If the requirements of the WRAP QP are satisfied during their production, the aggregates will have ceased to be waste and no longer subject to waste controls.

More recently, the Environment Agency has published a series of Quality Protocols (QPs) which outline when a waste derived material can be regarded as a non-waste product and no longer subject to waste controls. One of these QPs is titled *Aggregate from waste steel slag (Steel QP)*. If an operator can demonstrate that their production of aggregates meets the standard set out in the Steel QP, and the rules for all QPs, then the aggregates may be regarded as fully recovered and no longer subject to waste controls.

Many of the wastes listed in Table 3-1 are therefore recognised feedstocks for the production of aggregates. In addition to the requirements of a Waste Treatment Environmental Permit, their production will therefore also be subject to Factory Production Control.

#### 3.3.2 Recycled into Steelmaking Process

In accordance with the principles of the waste hierarchy, Tata is continually seeking to identify wastes that can be diverted from landfill and, where suitable, recycled back into the steelmaking process. In addition to the recovery of scrap metal during processing at the HAA, these materials will likely be wastes that are not suitable for aggregate production or wastes that have specific characteristics considered useful by the chemists involved with the steelmaking process.

### 3.4 Permitted Activities

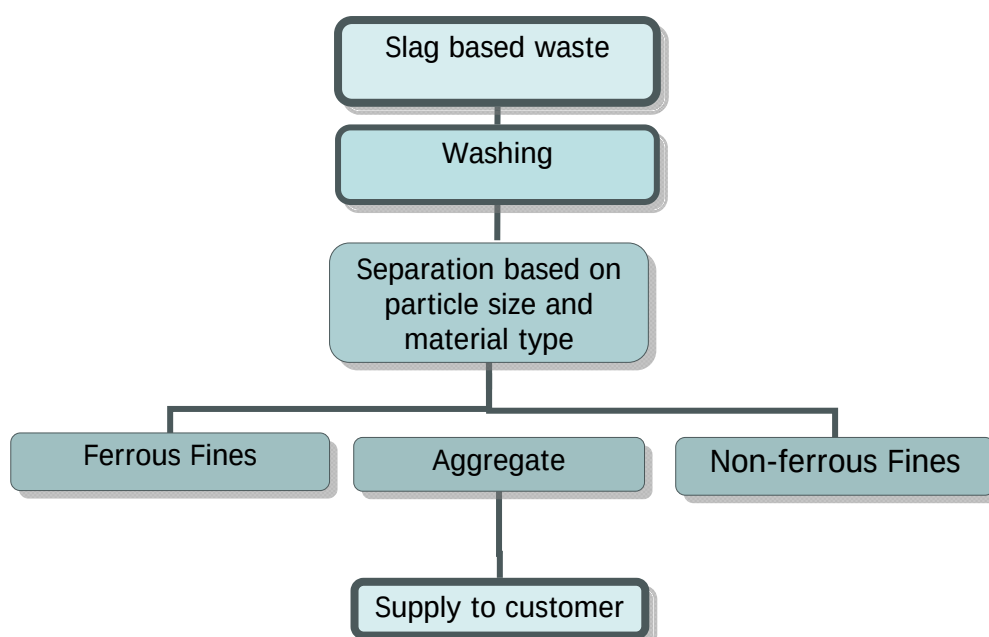
Table 3-2 summarises the activities Tata proposes to undertake at the HAA.

**Table 3-2 Permitted Activities at the HAA**

| Description of activities                                                                                                                                                                                                                                                                                    | Limits of activities (DRAFT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>R13:</b> Storage of wastes pending the operations numbered R3 and R5.<br><b>R3:</b> Recycling or reclamation of organic substances which are not used as solvents.<br><b>R4:</b> Recycling/reclamation of metals and metal compounds<br><b>R5:</b> Recycling or reclamation of other inorganic materials. | Treatment of listed wastes consisting only of sorting, separation, screening, crushing and blending of waste for recycling internally or recovery as a soil, soil substitute or aggregate.<br>Secure storage of listed wastes pending treatment.<br>Storage of wastes shall not exceed 100,000 tonnes in total at any one time.<br>No more than 300,000 tonnes of waste shall be treated per year.<br>Where disposal is required, this will be undertaken in accordance with Duty of Care and legal requirements. |

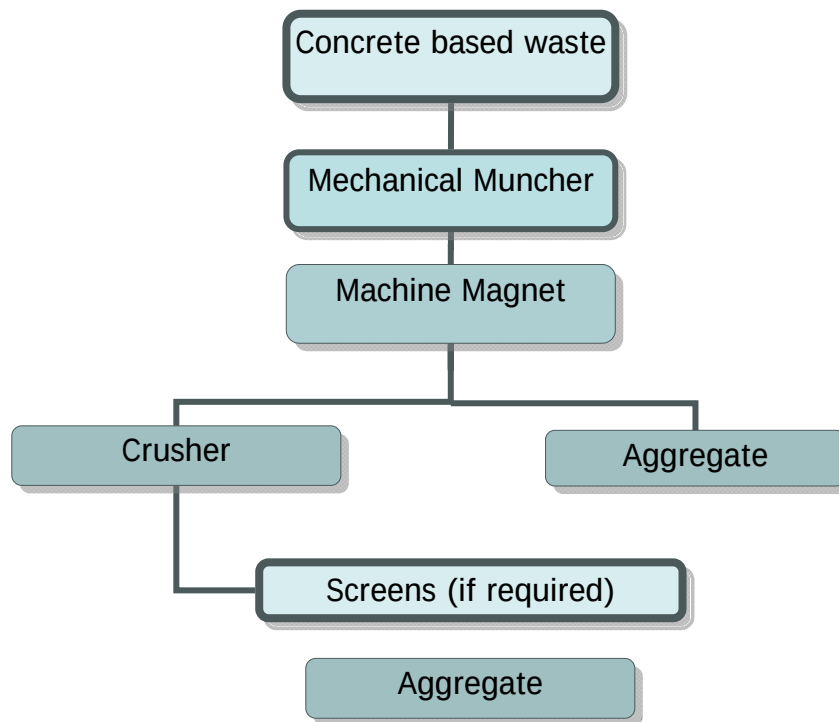
The treatment processes at the HAA will utilise conventional plant to separate, screen and crush the wastes, where required, to produce aggregates comprising different particle sizes. The overall process for slag based wastes and concrete/mixed demolition based wastes is provided in the two process flow diagrams 3-2 and 3-3. Some materials may simply need to be screened.

**Flowchart 3-2 Typical Processing of Slag Based Waste**



---

**Flowchart 3-3 Typical Processing of Concrete Based Waste**



Screening and crushing will involve the use of proprietary mobile plant supported by front loading shovels and 20T excavators.

The set-up of the screen and crusher creates a number of processing options with respect to the process flowcharts. This is because the screen and crusher allow variable sized material to be produced depending upon the jaw dimension and screen sizes used. This process is partly dependent on the input oversize materials but also on customer requirements. Materials such as heavily reinforced concrete may also sometimes require reprocessing to achieve the final aggregate grading.

In some instances, aggregates produced at the HAA, such as washed and screened mineral sand, will be taken directly back into the steelmaking process for use in the sinter plant. In this context, the sand must satisfy the input requirements of the steelmaking process rather than aggregate standards.

### **3.5 Factory Production Control**

For operators to benefit from WRAP and Steel QPs operators must:

- use only the correct waste as feedstocks
- make only the permitted products
- comply with the relevant European standard, specification and quality controls for the product being manufactured with all required tests being met and the aggregate needing no further treatment, weathering or size reduction before use
- have a manual of Factory Production Control (FPC)

- 
- have marked the product to the CE requirements of the Construction Products Regulations
  - transport, store, handle and process the wastes and the final product following good practice guidelines
  - supply the customer with delivery documents confirming the product meets the quality protocol

Tata will ensure that the aggregates produced at the HAA are done so in accordance with a FPC that provides a record of all policies and methods for managing the waste material - from waste arriving at the HAA, through to storage, processing, transport, and delivery of quality protocol approved products. The FPC will essentially be a management system focussed on the production process which aims to ensure that product quality is consistently maintained to the required specifications. Evidence of its adoption and implementation will be achieved through scheduled controls and tests on measuring equipment, raw materials and constituents, processes, machines and manufacturing equipment and finished products, including material properties in products. Most importantly, the system will provide evidence for conformity assessment and for the management of non-conforming products.

---

## **4 SITE INFRASTRUCTURE**

### **4.1 Access and Security**

The operation of the HAA will benefit from the 24 hr manned security provided for the main steel works. During operating hours a further level of security is provided by ensuring that all vehicles have to pass over a manned weighbridge.

All deliveries to the HAA will be scheduled under normal operating conditions and any deliveries from off-site will only be made by drivers who have been inducted to the site rules.

### **4.2 Site Accommodation**

A single office will be provided at the weighbridge to provide welfare accommodation for the operatives involved with the operation of the HAA.

### **4.3 Working Platform**

The HAA benefits from a stable level hardstanding platform previously created for use by the Grange Coke Ovens. The platform principally comprises granular slag.

### **4.4 Recovery Plant**

The recovery process will utilise conventional mobile screens and crushers assisted by front loading shovels and tracked excavators.

---

## **5 APPROACH TO EMS**

### **5.1 Environmental Policy**

Tata Steel Strip Products UK is committed to: meeting the requirements of relevant legislation, the efficient use of natural resources & energy, and preventing pollution by continuously reducing the environmental impact of its operations & products through the adoption of sustainable practices. These commitments are in line with the way Tata Steel Europe Group does business and they contribute to the vision of Tata Steel Group to be the world steel industry benchmark for value creation and corporate citizenship.

In implementing the Policy the following key principles will be demonstrated:

#### **Management Systems**

Effective environmental and energy management systems will be implemented and maintained, and these will ensure the environmental awareness of the workforce, encouraging every employee to act in an environmentally responsible manner.

#### **Continuous Improvement**

The environmental impact of processes and products will be assessed and continuous improvement objectives and targets will be established. These will be achieved through process optimisation and through research, development and deployment of new technologies where opportunities present themselves.

#### **Climate Change**

Tata Steel Strip Products UK will contribute to Tata Steel Europe Groups vision of 'being part of the solution to climate change and achieving a leading position within the steel industry by minimising its greenhouse gas emissions, researching breakthrough technologies and developing products that help to reduce emissions from the rest of society'.

#### **Responsible Use of Resources**

Efficient use will be made of energy, raw materials and water through adoption and sharing of good practice

#### **Product Stewardship**

The reuse and recycling of Tata Steel Strip Products UK products will be promoted and the environmental effects of products throughout their life-cycle will be communicated to customers.

#### **Monitoring and Reporting**

Environmental and energy performance will be monitored and audited and progress in meeting high-level Policy objectives and improvement targets will be reported publicly.

---

## **Responsible Procurement**

Key suppliers and contractors will be encouraged to behave in an environmentally responsible manner and to abide by principles similar to those set out within this Policy.

## **Local Communities**

Local Communities will be actively engaged by Tata Steel Strip Products UK so that it can understand and seek to address their concerns in relation to environmental issues.

## **Biodiversity**

Wildlife habitats in and around Tata Steel Strip Products UK sites will be respected and, where opportunities arise to do so in a way that is conducive to business operations, they will be progressively enhanced for the benefit of nature.

## **5.2 Awareness of Legal and Other Requirements**

Tata shall establish and maintain a procedure to identify and have access to current legal and other requirements that are applicable to the environmental aspects of its activities.

The environmental management representative will consider all legislative requirements that have been identified as being applicable to the sites environmental aspects, and will ensure that all relevant aspects of the business are aware of the legislative responsibilities and requirements. A log of all currently applicable legislation will be maintained.

## **5.3 Environmental Objectives & Targets**

Tata is committed to continual environmental improvement. To achieve this goal, Tata will set key environmental objectives and targets that are directly linked to its environmental aspects and environmental policy and that are achievable, and where practicable, may be quantified. Tata shall establish and maintain documented environmental objectives and targets.

Objectives will be identified and defined as part of the ongoing evaluation of the sites environmental performance, legal requirements and Permit requirements. Implementation of the objectives and targets will be monitored by the environmental management representative, ideally on a monthly basis initially, to ensure acceptable progress and to help identify any additional resources or inputs that may be required.

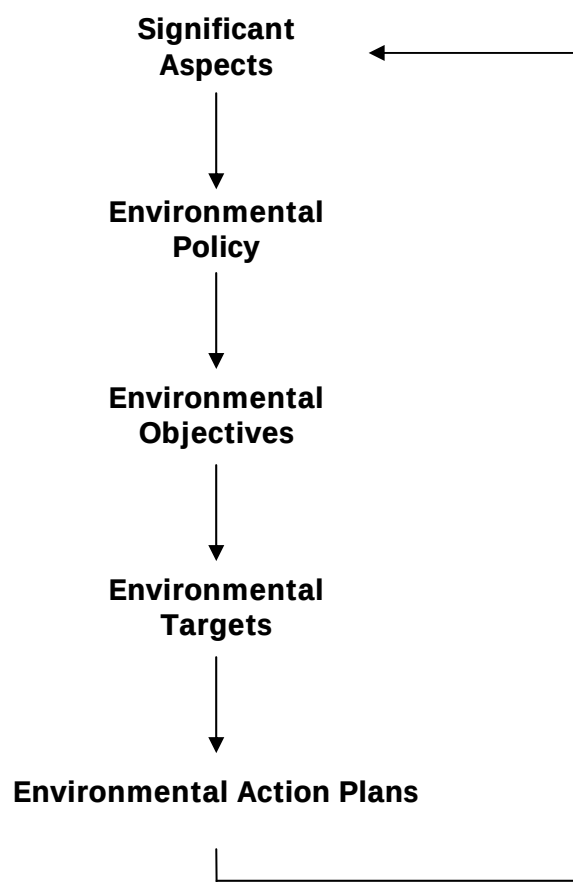
Tata recognises that the main way in which environmental improvements will be achieved and implemented is if their progress is planned and sufficient and timely resources are committed. Every environmental objective will have a documented programme behind it.

Each action plan will be assigned to designated personnel and clearly documented. The overall process to identify action plans is summarised overleaf



---

**Flowchart 5-1 Links between Significant Aspects and Action Plans**



Action plans may be documented in different ways depending upon the type of objective, the range of personnel involved and its complexity. The environmental management representative will track the performance of the implementation of the objectives.

#### **5.4 New Objectives**

Tata recognises that the processes used to treat waste at the site could change over time as the business develops and in response to external drivers. Should new waste types, new plant, equipment, processes and buildings be required the environmental management representative will undertake a review of the planned changes and identify the environmental aspects that will require management during all phases of development and implementation. Such changes will likely result in new action plans being developed and possibly also Variations to the Permit. Tata recognises that early consultation with NRW is critical to ensuring that the correct outcomes are achieved.

---

## 6 SITE SPECIFIC EMS

### 6.1 Scope of EMS

The management system will need to reflect the environmental risks the waste operations pose to the environment and controls that will need to be in place. For this reason, the scope of the EMS will be directly linked to the Environmental Risk Assessment (see 1514 Report 2 Environmental Risk Assessment) for the site.

### 6.2 Exposure Pathways and Pollution Controls

The environmental risk assessment indicates that the proposed operations will not significantly adversely impact the environment provided the site is operated in accordance with a documented EMS. Some of the activities which will be need to be documented in the EMS are listed in Table 6-1 with the associated recording forms in Table 6-2. As each of these activities has the potential to impact the environment, each of these will be provided with a procedure and associated standard form.

**Table 6-1 Some of the Procedures to be Documented in the EMS**

|                                                                  |
|------------------------------------------------------------------|
| Operation of processing plant                                    |
| Operation of vehicles and materials handling plant               |
| Storage of chemicals (COSHH)                                     |
| Noise from site activities                                       |
| Fire                                                             |
| Flooding                                                         |
| Vehicle movements                                                |
| Materials handling                                               |
| Maintenance of plant, infrastructure and drainage                |
| Storage of liquids e.g. diesel                                   |
| Fuel Delivery and offloading                                     |
| Maintenance of vehicles and plant                                |
| Management of surface water run-off                              |
| Waste acceptance, placement and inspection                       |
| Non-compliant waste management                                   |
| Management of Quarantine Area                                    |
| Management of site drainage                                      |
| Preventative Maintenance Programme – vehicles                    |
| Preventative Maintenance Programme – plant                       |
| Complaints Management                                            |
| Product Management                                               |
| Waste Transportation                                             |
| Coordinating Site Visitors                                       |
| Manual Sorting                                                   |
| Loading and Unloading Processing Plant                           |
| Stockpiling Waste                                                |
| Stockpiling Products                                             |
| Collecting Samples for Testing                                   |
| Working around plant and vehicles                                |
| Personal Protective Equipment (PPE and RPE)                      |
| Refuelling Plant and Vehicles                                    |
| Site Security                                                    |
| Method Statement of Production                                   |
| Product Inspection and Testing                                   |
| Product Handling and Storage                                     |
| Product Non-Conformance                                          |
| Evaluation of Environmental Aspects                              |
| Procedure for Ensuring Compliance with Environmental Legislation |

---

**Table 6-2 Some of the Forms to be Included in the EMS**

|                                                                             |
|-----------------------------------------------------------------------------|
| Register of Environmental Aspects                                           |
| Evaluation of Environmental Aspects under Normal Conditions                 |
| Evaluation of Environmental Aspects under Abnormal and Emergency Conditions |
| Register of Significant Environmental Aspects                               |
| Log of Environmental Legislation                                            |
| Environmental Action Plan                                                   |
| Personnel Skills Matrix                                                     |
| Personal Training Record                                                    |
| Customer Complaint Form                                                     |
| Customer Complaint Log                                                      |
| Obsolete Document Register                                                  |
| Accident and Incident Record                                                |
| Delegation of Responsibilities                                              |
| Non-conformance corrective action                                           |
| Job Specific Method Statements                                              |
| Maintenance Checklist                                                       |
| Maintenance Record                                                          |
| Environmental Monitoring Records                                            |
| Calibration Log                                                             |
| Audit Programme                                                             |
| Audit Report                                                                |
| Management Meeting Agenda                                                   |
| Management Meeting Minutes                                                  |
| Non-Compliant Waste Form                                                    |
| Register of Waste Deliveries Form                                           |
| Daily Process Control Record Form                                           |
| Product Non-Conformance Form                                                |
| Register of Waste Deliveries                                                |
| Record of Non-Compliant Wastes                                              |
| Emergency Plan                                                              |
| Maintenance, Service, Calibration Schedule                                  |
| Site Inspection Form                                                        |
| Emergency Drills                                                            |

### **6.3 Compliance with Permit Conditions**

In the full EMS, the requirements of the Permit will be clearly set out against the relevant sections of the EMS to ensure that all requirements of the Permit are effectively implemented.

---

## 7 TECHNICAL COMPETENCE

Tata recognises that an EMS should not be viewed in isolation as many aspects of the business can impact on the successful implementation of the EMS. Tata also recognises that the role of the management representative is not to undertake all of the work required to implement the EMS. For this reason, Tata will document the roles and responsibilities for all personnel. Key authorities and responsibilities will be defined, documented and communicated to all employees.

All employees will be made aware of their responsibility in achieving conformance with the environmental policy and the requirements of the EMS. Table 4-1 summarises the basic requirements for different levels of employees.

**Table 7-1 Minimum expectations for Personnel**

| <b>Title</b>              | <b>Responsibility</b>                                                                                                                          |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Top Management            | Define and approve issue of the environmental policy<br>Nominate an environmental management representative<br>Review the EMS at set intervals |
| Management                | Provide sufficient resources essential to the implementation and control of the EMS                                                            |
| Management Representative | Ensure establishment of EMS and reporting on performance to the top management                                                                 |
| Site personnel            | Responsibilities are dependent upon their role                                                                                                 |

### 7.1 Operator Competence

Tata recognises that to operate under a Permit, trained and competent staff are required.

Although Tata will hold the Permit as operator and be the legal organisation with control over the operation of the HAA Tata will appoint a contractor to undertake the activities via clear contractual arrangements. Tata will employ a contractor who, on behalf of Tata, will be contracted to operate the HAA in accordance with the Permit. Tata will ensure that a written management system is in place that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints. This system will be subject to regular audit.

The TCP will not be the sole individual responsible for ensuring compliance with the Permit or implementing the EMS as this requires input from all relevant personnel involved with the permitted activities.

### 7.2 Relevant Training

All relevant staff working on the permitted activities will be trained on the requirement of the Permit and the EMS. To assist with management of training records and needs, Tata will regularly undertake analysis to identify skill gaps and record all training on the relevant forms. Tata will ensure that all relevant staff are:

- trained in aspects that can lead to pollution and the measures to be taken to prevent that pollution.

- 
- trained to deal with accidents.
  - aware of responsibilities under the Permit.
  - aware of the importance of equipment and plant maintenance.
  - competent to operate machinery and provided with safe operating instructions for that equipment or activity.
  - appropriately inducted, including contractors.

Records of training will be maintained by Tata.

The management of Tata is fully committed to protecting the environment and demonstrating continual environmental improvement. Through effective training, communication and delegation, Tata will encourage all relevant employees to be committed to the full implementation of the EMS.

---

## **8 WASTE MANAGEMENT**

Ensuring that the waste accepted at the site is in accordance with the Permit is fundamental to its sustainable operation. As part of the full EMS, Tata will document each step to be taken and these actions will be embedded into the staff training programme. The principles of the methodology are outlined below.

### **8.1 Waste Acceptance**

#### **8.1.1 Wastes from Open Market**

When opportunities arise on the open market, a relevant Tata representative will handle the enquiry and visit the potential waste source to ensure it would meet the terms of the Permit and that the waste producer is aware of limitations and Duty of Care.

Once all contractual arrangements are in place plans would be put in place for the waste to be transported to the HAA. This would include ensuring that all relevant personnel are inducted in the site rules for the steel works. The waste would then be subject to the same controls as the Tata waste.

#### **8.1.2 Tata Waste**

1. Generally, a minimum of 24 hours notification (or less by arrangement) of waste being delivered to site shall be implemented, particularly if the waste is arising from a new site where Tata or the contractor appointed to run the HAA does not have control over the waste or its transportation. Prior to any waste leaving for delivery to the site, Tata will ensure that the Waste Producer is aware of their Duty of Care requirements and the limitations of the site Permit.
2. Prior to the waste being brought to the site the waste must be classified by the Waste Producer. The producer must provide information with respect to the waste's relevant EWC code, appearance and process applied to create the waste.
3. On delivery and, if necessary, the waste carrier shall present a Duty of Care certificate/ Waste Transfer Note (WTN) at the weighbridge. This is to be compared against the initial enquiry and the Waste Producers waste classification. If they are unable to produce valid certification, the waste shall be rejected and the incident recorded in the site diary.
4. If the waste is NOT as described or is not accepted within the terms of the Permit it shall be deemed to be NON-COMPLIANT. All non-compliant wastes shall be rejected and the incident recorded in the NON-COMPLIANT WASTE FORMS.
5. If valid certificates are produced and have been reviewed, a visual inspection of the waste should be undertaken. This is to ensure the waste is in compliance with the WTN, the Permit and the driver's description.
6. All NEW waste carrier drivers are to undergo site induction and also sign the safe working procedure form provided at the site office.
7. If the waste IS acceptable, the following information shall be recorded on the RECORD OF WASTE DELIVERIES RECORD FORM held at the site office:
  - a) Estimate of the volume/weight of waste in the vehicle
  - b) Category/EWC Code of the waste
  - c) Time of delivery
  - d) Vehicle Registration

- 
- e) Site address of waste
  - f) Name of waste carrier

## **8.2 Waste Inspection and Weighing**

On acceptance of the waste at the HAA weighbridge the waste shall be weighed at the weighbridge by the operator (gross weight) and the value recorded. The empty waste vehicle shall be re-weighed on exit (net weight) and the value recorded. The weight of the waste will be GROSS minus NET weights. The weight of the waste delivered is to be recorded on the REGISTER OF WASTE DELIVERIES FORM.

## **8.3 Waste Input Recording**

1. Collate and submit waste data to the NRW in accordance with Permit requirements.
2. All records of received and removed waste are to be stored for a minimum period of 2 years.
3. All records of non-compliant wastes rejected from site are to be stored for a minimum period of 2 years.
4. All records of product from site are to be stored for a minimum period of 2 years.

## **8.4 Waste Delivery to Working Area**

1. Following correct classification and acceptance of the waste, the driver shall be given directions including, if necessary, a plan of the route to the relevant site area.
2. If any new drivers are unsure of the correct location, contact (radio/telephone) between the Site Manager and the operating staff will take place to ensure the waste lorry arrives at its correct destination.
3. The operational staff will guide the waste lorry driver to the correct area for controlled discharge.
4. The waste receiving areas will be clearly marked with a sign to ensure no cross-contamination of waste streams or product stockpiles.

## **8.5 Identification and Management of Non-compliant Wastes**

1. Non-compliant wastes will be rejected and sent back to the waste producer they originated from. The occurrence of such wastes will be recorded on the NON-COMPLIANT WASTE FORM. A comment may also be made in the Site Diary. The information to be recorded will include:
  - a) Date and Time
  - b) Description of Waste
  - c) Details of Non-compliant waste
  - d) Details of action taken
  - e) Name and address of Waste producer
  - f) Vehicle Type
  - g) Vehicle Registration
  - h) Waste Carrier Details
  - i) Waste Transfer Note Number
  - j) Details of final waste destination

- 
2. If it is safe to do so after discharge, the noncompliant waste will be re-loaded onto the lorry and the driver will be instructed to take the waste back to the site office.
  3. At the site office, establish and record where the waste will be taken if it leaves the site.
  4. If, in the interests of the environment, it would be best served by allowing the load to be stored on site, then the waste shall be retained on site in the quarantine area.
  5. If necessary, NRW shall be informed by telephone immediately and a record kept of the conversation and with whom.
  6. Steps taken to safely dispose of the waste (after liaison with NRW) should be documented– typically this will involve returning it to the waste producer.



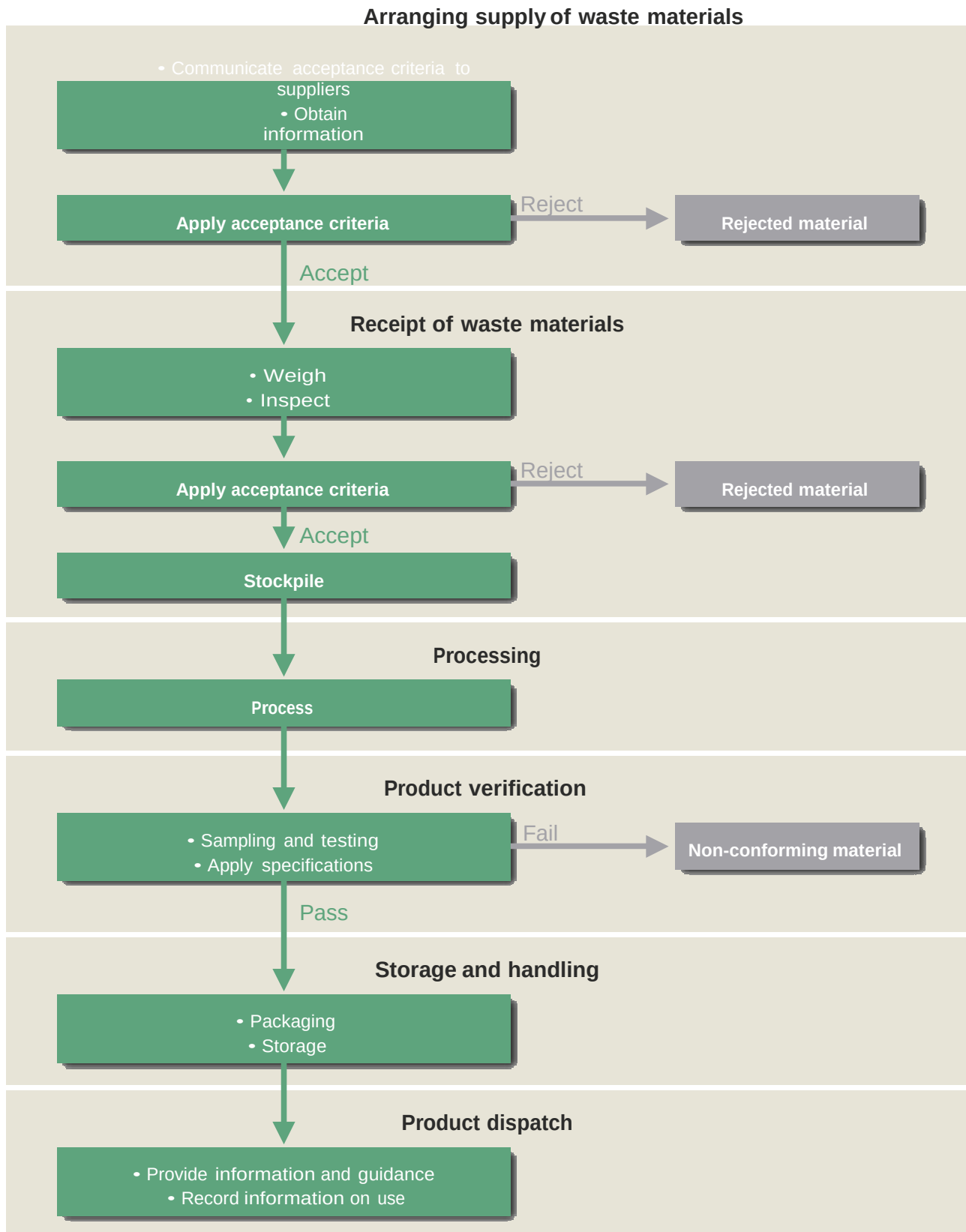
---

## **9 FACTORY PRODUCTION CONTROL**

In addition to the procedures to be set out in the EMS for waste acceptance, Factory Production Control (FPC) systems will also be established for the production of aggregates under Quality Protocols, one for the production of aggregates from inert waste (the WRAP Quality Protocol) and one for the production of aggregates from steel slag (Steel Slag Quality Protocol). The FPCs will extend beyond the requirements of the EMS to demonstrate that the waste has ceased to be waste and that a product has been manufactured or waste recovered. However, there will be significant overlap with the EMS to ensure risks to the environment are managed and documented.

The overall process of Factory Production Control is summarised in the flow chart below with further detail provided in the following sections.

**Flowchart 8-1 Generic Factory Production Control process for production of aggregates in accordance with Quality Protocols**



---

## **9.1 Method Statement of Production**

1. All operational staff are to be fully trained in the waste recovery operations including:
  - a) Location of different waste
  - b) Types of waste
  - c) Location of finished products
  - d) Types of finished Products
  - e) Manufacture of different finished products

The areas of waste and finished products will be clearly signposted.

2. Operational staff will be informed and trained in the production requirements of each product and the plant to be used to produce the products.
3. The recycling process will involve the operation of dedicated equipment. Records of maintenance of these pieces of equipment will be kept in accordance with MAINTENANCE RECORDS. All Plant will be subject to a Preventative Maintenance Programme.
4. Relevant operational staff will be trained in the operation of the plant and a record of this training kept at the site office in accordance with TRAINING RECORDS.

## **9.2 Product Inspection and Testing**

1. The manufacture of finished product will be recorded by operational staff on the DAILY PROCESS CONTROL RECORD. During the process the operational staff will visually inspect the material produced to assess if it complies with the required specification. Comments about process difficulties should be recorded on this form.
2. Where necessary, each of the products will be routinely sampled and tested to assess the quality of the product. The assessment criteria will be based on customer required and published standards.
3. A schedule of testing shall be forwarded to the laboratory.
4. The testing records received from the laboratory will state whether the material conforms with the requirement of the end product as manufactured, or specified by the client. The testing records shall be examined by the Operation manager.
5. Non-conforming products will be identified. The cause will be investigated and recorded on NON CONFORMING PRODUCTS FORM in accordance with the relevant procedures.

## **9.3 Product Handling and Storage**

1. The manufactured finished product will either be:
  - a) Moved to a stockpile/3 sided concrete silo away from the processing area for later sale after process manufacturing
  - b) Left in-situ immediately after processing ready for sale
2. Product stockpiles will be kept separate and away from waste stockpiles to avoid cross contamination.
3. The finished products will be clearly marked with signs.
4. The finished products will be handled/moved/loaded using a front end shovel or if necessary using an excavator.

- 
5. The operational staff will be responsible for the cleanliness of the machinery used in the handling of the finished product in order to avoid cross contamination. If necessary, cleaning will involve washing out the buckets of either shovel or excavator.
  6. If cross contamination occurs, the product stockpile will be cleaned of any contaminated material. The contaminated material removed will be placed into the appropriate waste stockpile to await re-processing.

#### **9.4 Product Non-Conformance**

1. On receiving a complaint or non-conforming laboratory test result, an investigation to determine the root cause will be undertaken. The DAILY PROCESS CONTROL RECORD FORMS will be evaluated to see if any indication is provided. The issue would be discussed with the relevant operating/processing staff to try and establish the cause of the problem.
2. The non-conforming material shall be either:
  - a) Reprocessed
  - b) Used for another end use for which it is suitable
  - c) Rejected and marked as being non-conforming
3. If the material has already been sent to a client, then an agreement will be made as to the course of action taken.
4. If the causes of the non-conformance can be established then a series of corrective actions will be implemented and documented. These could include:
  - a) Examination of the testing procedure, which may result in adjustments
  - b) Analyse the processes, operations, quality records sampling reports and customer complaints to see if any causes can be established
  - c) Initiate preventive actions to deal with the problems to a level corresponding to the risks encountered
  - d) Apply additional controls to ensure effective corrective actions are taken
  - e) Implement and record changes to the management system procedures involved in any corrective action
5. The PRODUCT NON-CONFORMANCE FORM is to be filled in during and after the non-conformance event has occurred.

---

## **10 WASTE RECYCLING AND END OF WASTE**

In accordance with the waste hierarchy principles, Tata is continually seeking to identify wastes that can be diverted from landfill and, where suitable, recycled for use in the steelmaking process.

In addition to the recovery of scrap metal during processing at the HAA, such materials will likely be wastes that are not suitable for aggregate production or wastes that have characteristics considered useful by the chemists involved with the steelmaking process. Such wastes will be subjected to end of waste assessment.

### **10.1 End of Waste Assessment**

End-of-waste criteria specify when certain waste ceases to be waste and obtain a status of a product (or a secondary raw material).

According to Article 6 (1) and (2) of the Waste Framework Directive 2008/98/EC, certain specified waste shall cease to be waste when it has undergone a recovery (including recycling) operation and complies with specific criteria to be developed in line with certain legal conditions, in particular:

- the substance or object is commonly used for specific purposes;
- there is an existing market or demand for the substance or object;
- the use is lawful (substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products);
- the use will not lead to overall adverse environmental or human health impacts.

Each of the wastes identified as potential candidates for recycling into the steelmaking process will be subject to an End of Waste assessment prepared by Tata and presented to NRW. As both parties strongly support genuine waste recovery and encourage recovery of waste rather than its disposal, the assessment will aim to clearly distinguish between recovery and disposal operations to ensure they are properly permitted and subject to the right legal and environmental controls.

Tata understands that the current position is based upon a legal test derived from the Waste Framework Directive and European case law. This test is best carried out by answering a series of questions which are set out in guidance:

- Is there a clear benefit from the activity?
- Is the recovered waste material suitable for its intended use?
- Is the minimum amount of waste being used to achieve the intended benefit?
- Is the waste being used as a substitute for a non-waste material?
- Will the proposal be completed to an appropriate standard?

These criteria will be evaluated on a case-by-case basis by Tata for candidate materials.

---

## **11 POLLUTION CONTROL AND MONITORING**

### **11.1 Pollution Control Measures**

Tata will ensure that a current Environmental Risk Assessment has been completed and is reviewed annually. This is to ensure that the documented management system is directly linked to the potential environmental impacts of the activities.

At this stage, the risk assessment indicates that the proposed activities pose a low risk to the identified environmental and human receptors provided a series of controls are implemented during operations. These controls are outlined in the following sections.

#### **11.1.1 Controlled Water**

The storage and processing areas will be checked daily as part of the daily site inspection. The control measures to be checked will include:

- Containers and bunds will be inspected and maintained.
- Written management system is in place for the identification and minimisation of risks of pollution.

#### **11.1.2 Flooding**

In the event of flooding, the following steps would be taken (only where safe to do so):

- Wastes, liquids and other materials with potential to be washed from the site shall be removed from site (or relocated within the site) to areas less likely to be affected by floodwater

#### **11.1.3 Noise and Vibration**

Site noise is only likely to occur as a result of the movement of plant and vehicles on site or during use of recycling equipment.

All vehicles and plant used at the facility will be modern and fitted with exhaust silencers. They will be subject to a preventative maintenance programme as recommended by the manufacturer.

An auditory inspection shall be carried out by the site manager at least twice per day. Noise levels which are considered higher than usual shall be investigated and recorded in the site diary.

The following measures will be taken to minimise the risk of noise and vibration:

- Access roads will be kept in a reasonable condition such that potential noise from vehicles is minimised;
- All plant machinery will be subject to regular inspection and preventative maintenance;
- Equipment shall be switched off when not in use; and

- 
- Treatment operations shall be arranged in such a way as to minimise noise production as far as possible.

If notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, the Operator will submit a noise and vibration management plan to NRW.

#### **11.1.4 Air Quality**

Operations potentially giving rise to dust generation include:

- Waste receipt and stockpiling;
- On-site transfer of materials between stockpiles and processing areas;
- Processing operations such as screening and crushing;
- The loading of processed materials onto vehicles;

The following measures will be taken to minimise dust release:

- Loads shall be checked for dust generating materials during acceptance and upon tipping;
- Vehicle speeds shall be limited;
- The use of dust suppression comprising of a hose spray within the processing area; and
- Deployment of a mobile water bowser to all areas as required.

#### **11.1.5 Litter**

Due to the nature of the waste and waste acceptance and inspection procedures, the likelihood of windblown litter from the waste is low.

The following measures will be taken to minimise the risk of litter:

In the event of litter being detected, the following measures will be taken:

- Any litter that is blown outside of the site boundary will be collected.
- The litter collected will be deposited in the relevant container, either for recycling or disposal.

#### **11.1.6 Vermin**

Due to the nature of the waste and waste acceptance and inspection procedures in place, there is very low likelihood of wastes being present that attract pests.

The following measures will be taken to minimise the risk of pests:

- Waste inspected before tipping to identify potential contaminants;
- Quarantine non-conforming wastes and arrange for removal off site;
- Daily visual monitoring for pests and vermin.

Good housekeeping and regular inspection of accommodation facilities.

---

Details of any pest control activities implemented will be recorded.

#### **11.1.7 Odours**

Due to the nature of the waste acceptance inspection procedures in place, there is a very low likelihood of odorous waste being received at the facility. There are also few receptors.

The following measures will be adopted to minimise the risk of odour release:

- Rigorous site waste acceptance procedures;
- Rejection (and recording) of problematic wastes;
- Provision of dedicated quarantine area.

If notified by NRW that the activities are giving rise to pollution outside the site due to odour, an Odour Management Plan will be provided to NRW for review and approval.

#### **11.1.8 Fire Prevention**

The wastes to be accepted at the HAA are not explosive or flammable. The main risk of fire at the site will therefore be associated with vehicles and plant.

In the event of a fire occurring on site, the procedures described within the Steel Works Site Emergency Plan should be followed.

The site of the fire will be immediately evacuated of non-essential personnel and in the case of a minor incident, fire extinguishers or water spray will be applied.

The following measures will be taken with respect to fire prevention and control:

- Smoking only permitted in designated areas.
- Suitable and adequate firefighting materials and equipment will be maintained and kept at appropriate locations on the site as advised by the on-site fire wardens.

#### **11.1.9 Leaks and Spills**

In the event of a major spill, the Tata Emergency Response Plan will be implemented.

Spill equipment will be available at the site weighbridge and processing areas. To minimise the risk of leaks and spills, the following procedures will be implemented:

- All fuels and oils will be stored in double-lined bunded tanks.
- Delivery of fuels and oils will be supervised.
- The quantity of fuel in storage will be checked, prior to the fuel delivery. The maximum residual capacity of the tank will be determined prior to the commencement of re-filling to prevent overtopping.
- All hydraulic, lubricating and waste oils will be stored in accordance with PPG.
- All containers stored at the facility will have their contents and capacity clearly marked.
- Operational staff will receive pollution prevention and spill response training.



---

#### **11.1.10 Other Fugitive Emissions**

The following procedures will be taken to control fugitive emissions:

- All plant and vehicles will be subject to regular inspection and preventative maintenance;
- Vehicles shall be compliant with relevant exhaust emissions standards;

#### **11.2 Environmental Monitoring**

Despite the environmental risk assessment indicating that the proposed activities pose a low risk to the environment Tata will:

- Ensure that daily inspection are made by the site supervisor and that observations are recorded
- Utilise the existing air quality monitoring network
- Record the production of recovered materials

---

## **12 PLANNED PREVENTATIVE MEASURES**

### **12.1 Maintenance**

Tata recognises that many pollution incidents are a consequence of a maintenance failure. To avoid such incidents, a Planned Preventative Maintenance programme will be in place. The Plan will include routine checks of plant, machinery, infrastructure and drainage systems that could influence the environment. The Plan will be directly linked to the Environmental Risk Assessment.

Tata will investigate malfunctions, breakdown or failure of plant and equipment, techniques and near misses, releases to the environment, or impacts on the local amenity. The Plan will be documented.

Most vehicular maintenance will be undertaken in dedicated areas not at the HAA.

### **12.2 Pollution Prevention**

Tata will ensure that all aspects of site development are undertaken in accordance with the current Pollution Prevention Guidance issued by NRW/EA.

---

## **13 INCIDENTS & EMERGENCIES**

Tata recognises that accidents can cause pollution. For this reason a detailed incident management plan will be developed and will be reviewed as site works progress.

### **13.1 Emergency Site Plans and Contact Details**

As part of the incident management plan a clear diagram of the site layout and access details, along with a schematic representation of the site systems will be produced. Features that will be included on the plan will be:

- access routes and meeting points for emergency services.
- the location of process areas.
- areas or facilities used to store raw materials, products and wastes (include details of tank sizes and products stored).
- bunded areas, with details of products stored and estimated retention capacity.
- controlled water receptors.
- site drainage including direction of flow.
- inspection points to detect pollution.
- interceptors and shut-off valves.

Alongside the detailed site plans, the response plan will detail the key contact details who may need to be informed in response to an emergency.

### **13.2 Planning**

Tata will assess the potential for negative environmental impacts to arise out of abnormal operating and emergency conditions using a systematic process underpinned by risk assessment. From this assessment, Tata will identify and document significant aspects to enable environmental action plans to be developed. This assessment will be typically annually reviewed.

Reviews will also be undertaken following any accidents and emergencies and in response to any employee reporting a hazard.

Tata recognises that causes of environmental incidents are varied but could include:

- delivery and use of materials.
- overfilling containment vessels.
- plant or equipment failure.
- containment failure.
- fires, explosions or failure to contain firefighting water.
- wrong connections of sewers and pipes.
- incompatible materials coming in contact.
- uncontrolled reactions.
- Vandalism.
- flooding.

Any of these incidents could affect:

- surface waters, aquatic ecosystems, groundwater and soil.
- air quality by producing toxic fumes and airborne pollutants which may damage human health, wild and domestic animals and ecosystems.
- thermal radiation which can harm people and the environment.

An overview of the aspects to be included and adopted in the plan are provided in Table 13-1.

**Table 13-1 Emergencies to be Evaluated as part of full EMS**

| Possible Accident / Incident                                    | What Would The Harm Be?                                                                                                               | How will Tata Reduce Likelihood of Accident Occurring?                                                                                                                                                                   | What To Do If It Happens?                |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| <b>Spillage from Vehicle e.g. diesel delivery</b>               | Contamination of land/water/air, injury to individuals.                                                                               | Ensure all materials are secured before transport; containers are suitable to hold the material and are not damaged. Also follow risk assessment procedures to minimise risk of incident occurring.                      | Procedure to be listed in emergency plan |
| <b>Spillage from liquid storage on site e.g. diesel and oil</b> | Contamination of land/water, injury to individuals.                                                                                   | Ensure all containers are suitable to hold the material and are not damaged. Also follow risk assessment procedures and pollution prevention guidance for the holding of liquids to minimise risk of incident occurring. | Procedure to be listed in emergency plan |
| <b>Fire on-site</b>                                             | Damage to equipment/vehicles/ plant/buildings, contamination to land/water/air, injury to individuals and inconvenience to community. | Maintain good housekeeping, follow fire safety precautions on-site, particularly stack heights and stack separation distances.                                                                                           | Procedure to be listed in emergency plan |
| <b>Vehicle Fire</b>                                             | Damage to equipment/vehicle/plant/ buildings, contamination to land/ water/air, injury to individuals and inconvenience to community. | Ensure preventative maintenance programme is implemented including daily checks by drivers.                                                                                                                              | Procedure to be listed in emergency plan |
| <b>Vehicle Breakdown</b>                                        | Damage to vehicle, injury to individuals.                                                                                             | Ensure preventative maintenance programme is implemented including daily checks by drivers.                                                                                                                              | Procedure to be listed in emergency plan |
| <b>Vehicle Accident</b>                                         | Damage to vehicle, injury to individuals.                                                                                             | Ensure preventative maintenance programme is implemented including daily checks by drivers. Ensure staff are trained in use of vehicles and plant.                                                                       | Procedure to be listed in emergency plan |
| <b>Injury (Minor / Major)</b>                                   | Injury to individuals, damage to equipment.                                                                                           | Ensure all employees follow the procedures outlined in risk assessments when carrying out specific tasks.                                                                                                                | Procedure to be listed in emergency plan |
| <b>Plant &amp; Property Damage</b>                              | Injury to individuals, damage to equipment.                                                                                           | Ensure all employees follow correct procedure when operating equipment.                                                                                                                                                  | Procedure to be listed in emergency plan |
| <b>Flooding</b>                                                 | Injury to individuals, damage to infrastructure and off-site mobilisation of waste and potential contaminants.                        | Layout of site to accommodate predicted flood extent. Ensure emergency plan is in place and staff and visitors are aware of emergency responses and access / egress routes.                                              | Procedure to be listed in emergency plan |

### 13.3 Establishment of Contingency Actions

Based on the assessment of abnormal and emergency conditions Tata will develop relevant emergency response procedures. Where necessary, additional training will be organised and documented. The procedures will also detail the internal/external communication procedure during and after the occurrence of abnormal and emergency conditions.

### 13.4 Testing of Emergency Preparedness

Tata will periodically test all procedures where practicable. The results of the tests will be documented.

---

## **14 COMMUNICATION AND COMPLAINTS**

### **14.1 Internal Communication**

Tata is committed to ensuring that the requirements of the Permit and the EMS will be fully implemented. One of the key ways of achieving this is through clear communication with all employees to ensure that the requirements are understood, available and fully integrated to routine site work. This will be achieved by various means including signage, meetings, environmental awareness training sessions, tool-box talks, inductions, signage and posters. Particular attention will be paid to ensure that sub-contractors are aware of the relevant requirements.

### **14.2 External communications**

Dialogue with external parties may include submittal of information to external parties, receipt of requests for information, receipt of complaints and dialogue with NRW. In the majority of cases, the Technically Competent Person (TCP) or Site Manager will be the initial point of contact. All communication will be documented.

Tata takes complaints seriously and will take the necessary actions to investigate the complaint. If a complaint is valid Tata will:

- identify the cause.
- minimise the impact of the activity causing the problem.
- investigate the root cause of the problem.
- take steps to ensure the problem is not repeated.
- record the complaint and what actions were taken to investigate and resolve it.
- amend the EMS if necessary.

---

## **15 MONITORING AND MEASUREMENT**

### **15.1 Proof of Control**

Tata recognises that a key aspect of any EMS is to document the operation of the EMS so that its effectiveness can be scrutinised and any shortcomings identified. This will be achieved through thorough relevant training and routine assessment of working instructions and records for both employees, contractors and suppliers.

### **15.2 Monitor and Measure**

Tata will document implementation of the proposed waste operation and pollution control measures adopted. Records shall include waste acceptance, waste delivery, waste placement, preventative maintenance programmes, product production and environmental monitoring.

---

## **16 INTERNAL AND EXTERNAL AUDITS**

### **16.1 Internal EMS Audits**

The environmental management representative will establish a rolling audit programme that ensures each aspect of the EMS is audited at least annually. More frequent audits will be undertaken on the more sensitive procedures and aspects. The principle aim of the audit will be to determine whether or not the EMS conforms to planned expectations and is being effectively implemented and maintained. The environmental management representative will provide feedback regarding the audit process to management. The audit findings will be recorded.

### **16.2 External Audits of EMS**

As the EMS will be initially developed in-house there is no formal mechanism for external audit. Tata will, however audit the system against the full EMS manual. Ultimately, Tata plans on integrating the activities at the HAA into the existing ISO systems for the steelworks, which will involve external audit.

---

## **17 NON-CONFORMANCE, CORRECTIVE & PREVENTIVE ACTION**

### **17.1 Continual Improvement**

Through monitoring of performance, Tata will seek to identify non-conformance issues requiring action to ensure continued environmental performance and full implementation of the EMS. Tata will seek to identify non-conformance issues through a variety of means including outcomes of audits, incident reports, reviews of legislation requirements and complaints.

### **17.2 Investigation of Failings**

Following identification of non-conformance issues, the environmental management representative will lead an investigation into the root causes and identify ways in which the issues can be avoided in the future. The review will also aim to identify any ways in which the EMS may be improved. This may require specialist input from internal and external parties. This process will lead to corrective and preventative action plans being developed and tracked.



---

## **18 RECORDS, REPORTING AND NOTIFICATIONS**

The Permit will require records to demonstrate that the activities are in compliance with the EMS.

### **18.1 Controlled documents**

This summary EMS outlines some of the relevant procedures and forms that will be required to document the proposed waste activity. All documents will be controlled and issued by the Technically Competent Person (TCP). One of the responsibilities of the environmental management representative is the maintenance of this documentation.

### **18.2 Location of documents**

All relevant documents will be available on site and routinely backed up.

### **18.3 Review, Update and New Documentation**

Tata will periodically review the EMS. Only authorised personnel are able to make amendments to documentation in consultation with the TCP Environmental management. All employees will, however, be encouraged to provide feedback regarding the documentation to ensure it remains fit for purpose.

### **18.4 Document Issue and Removal**

Tata will ensure that all current versions of the documentation are reviewed, updated and issued to all the relevant parties. Any documentation not required will be clearly identified through the use of an obsolete records system.

### **18.5 Document and Record Retention**

Tata will ensure that all documentation will:

- be legible.
- be made as soon as reasonably practicable.
- if amended, be amended in such a way that the original and any subsequent amendments remain legible or are capable of retrieval.
- be retained for at least 6 years unless they relate to off-site environment effects or matters relating to the condition of the land, groundwater and surface water, in which case they will need to be retained until the Permit is surrendered.

### **18.6 Reporting to NRW**

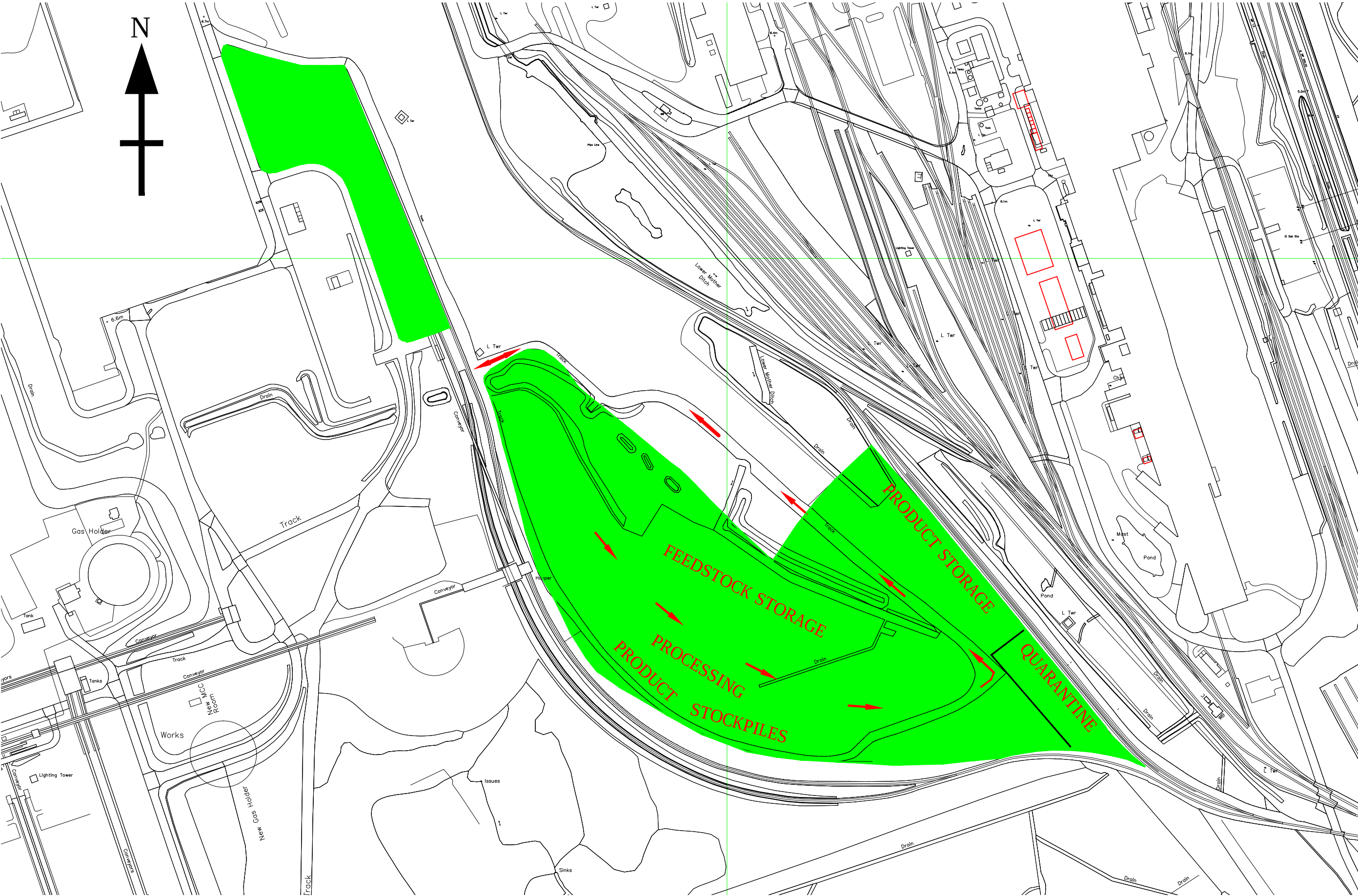
Tata will report relevant waste records to NRW at the required intervals set out in the Permit.

Figure 1 Site Plan





Figure 2 Proposed Site Layout and Access





Geotechnical &  
Environmental Services

Ty Coed  
Cefn-yr-Allt  
Aberdulais  
Neath SA10 8HE

T 01639 775293  
F 01639 779173

[enquiries@geotechnology.net](mailto:enquiries@geotechnology.net)  
[www.geotechnology.net](http://www.geotechnology.net)