

**Document reference: MECL Minor Tech 2018-10-01**

**Non-Technical Summary. Permit Reference VP3339PD**

**Background and overview of proposed changes at the installation**

Morganite Electrical Carbon Limited (a subsidiary of Morgan Advanced Materials PLC) operates a part A1 installation manufacturing carbon products for technically challenging electrical applications and is subject to regulation by NRW under EPR permit VP3339PD as varied (IPPC Application BU3787).

The site rationalisation program that will as part of a future partial surrender reduce the size of the site significantly, from its current boundary below (Figure 1 (Green line)) to the proposed boundary shown in Figure 2 (red line).

**Proposed permit changes:**

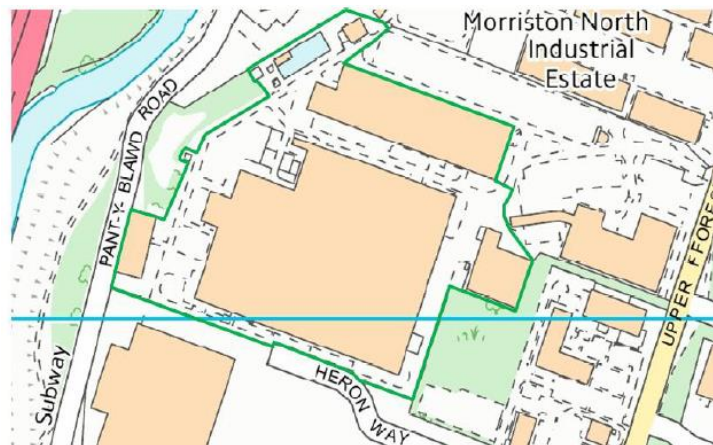
It is proposed a number of changes will be considered by the regulator as part of this request for a minor technical permit variation

1. Consolidation of site waste handling facilities within the proposed boundary
2. Review of permitted discharge to sewer

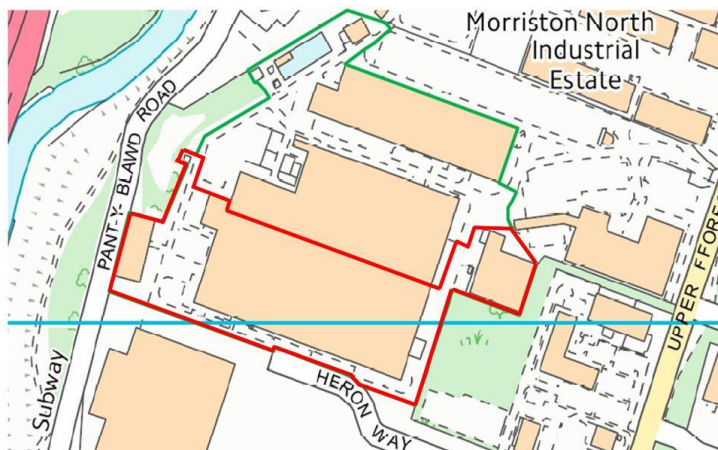
This Minor technical change to the permit is requested to allow the further consolidate of site activities i.e. waste handling/storage, within the proposed site boundary and to remove the monitoring of discharges to sewer, as a result of the significant reduction of cooling water emissions due to water conservation programmes, and cessation of certain activities resulting in discharges to trade effluent.

## 1. Consolidation of site waste handling facilities within the proposed boundary

Current Boundary shown below: Figure 1



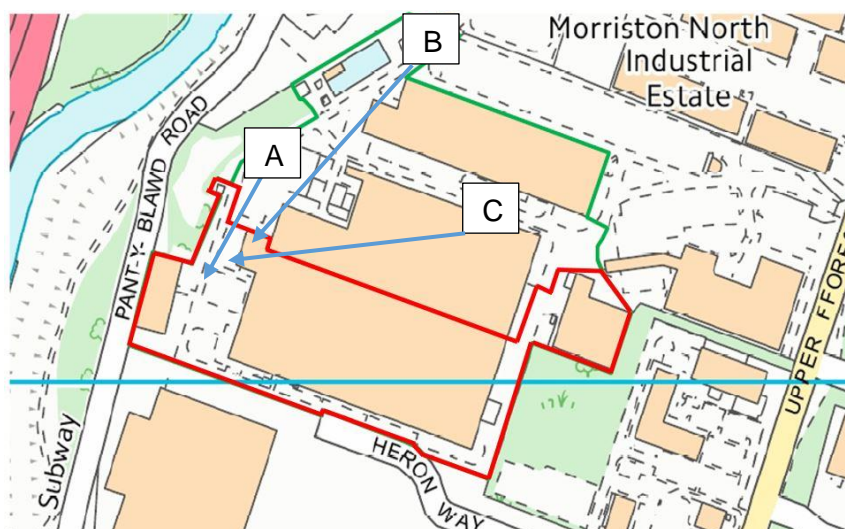
Proposed Boundary shown below figure 2



### Waste Handling:

Relocation of waste handling areas within the proposed boundary, as shown below

Figure 3 – showing relocation of waste handling area and waste storage areas.



## **Consolidation of site waste handling facilities within the proposed boundary**

The waste handling area (A) and storage locations (B&C) will be consolidated and relocated within the proposed boundary, at locations to the west of the facility.

All proposed areas will be to hard standing and hidden as far as practicable from public view by tree-lines, fences and buildings. Collection operations of waste will be within designated hours i.e. 6am to 6pm, typically Monday to Friday.

The consolidation will be as follows:

### **Waste handling area (A)**

Non hazardous Wastes: Wood, Plastic, Scrap Metal, Paper, Cardboard, Pantos\* and General (domestic/office) wastes, will relocate in 2 phases: firstly to an area within the existing tarmac car-park (at the South west corner of the site – Figure 4) and subsequently the to areas of hardstanding at the rear (west) of the manufacturing facility, either adjacent to the dust bag-filtration plants, (when the current theta process ceases and associated dust plants are removed) or to an area adjacent to the Electrical distribution substation (when a fire sprinkler water tank is removed) (Figure 5).

This waste will be contained in circa 14cu yd skips, general waste will utilise a “portapacker” type skip, paper, cardboard and plastic will be closed skips, whilst other skips will be open.

Pantos\* are carbon collector strips held in a metal carrier/sheath – typically, Aluminium, copper or steel – this is non-hazardous scrap product – that is sent for reclamation of the metal parts.

**(C) Bulk (non-hazardous) by-product:** As per BREF guidance, carbon dust/lump and silicon carbide is supplied, to a third party, as feed-stock for the manufacture of granulated carbon powder or silicon carbide based materials. The materials are stored in big-bags. The storage will relocate to a hardstanding areas to be constructed at a location to the north of the current sprinkler tank (Figure 5) – the bags will be covered by tarpauline to reduce the potential for diffuse emission of carbon dust through blown dust or surface water run-off.

**(B) Hazardous waste:** solid/powdered waste is in the form of “Green” carbon powder/lump (carbon scrap etc. containing Coal Tar Pitch (CTP)), RCF (from furnace lining) WEEE, Contaminated packaging (e.g. powdered copper drum liners-plastic), oily rags waste metallic powders including theta dross and liquid wastes e.g. hydraulic oils.

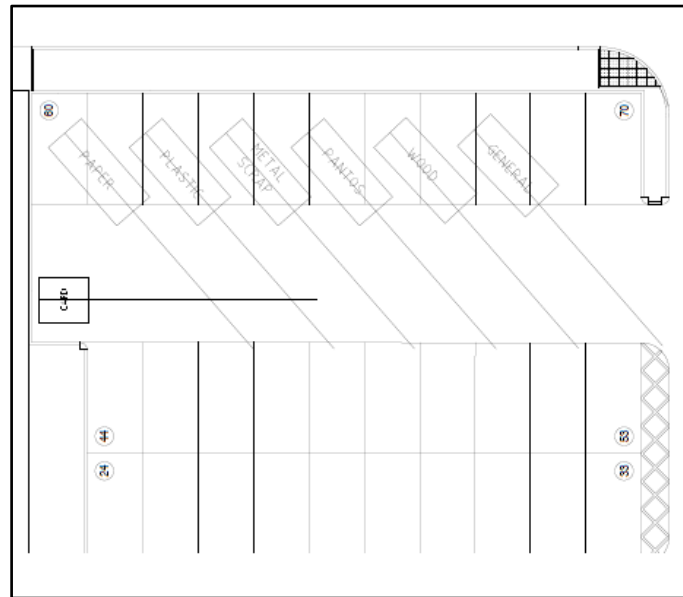
These wastes will be held in one of 2 locations:

**Solid hazardous waste:** will be stored within a building (designated “Dry Waste” in figure 5) at the north/west boundary of the site. Green carbon will be stored in big-bags, powdered metal waste in drums, WEEE in wooden boxes and RCF in appropriately sized bags. Contaminated packaging – sacks and liners and oil contaminated rags etc. will be held in drums.

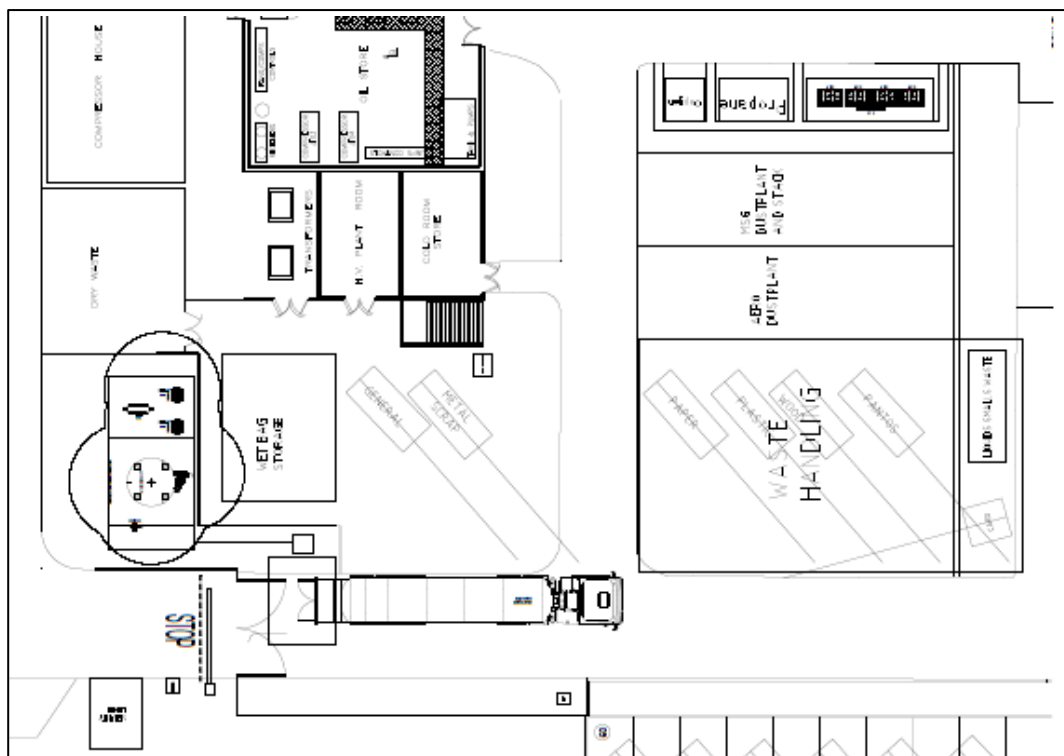
Note: theta dross will be bagged (in Big-bags) and stored on pallets, held adjacent to the new processing area to hardstanding. The bags will be covered by tarpaulin or a shelter to reduce potential for diffuse emissions through blown dust or surface water run-off.

**Liquid hazardous waste** – i.e. waste oil – will be held in sealed drums within a bunded metal storage container, situated adjacent to the current dust plant area.

### Transitional – Figure 4.



## Final – Figure 5



**Waste Management and control:** The site maintains an environmental management system that includes waste management.

Housekeeping: The site has a “housekeeping” – 6S system which will include assessment of waste handling areas, this will be supplemented by daily inspections by an appointed person

Spillages: Spill kits will be positioned at suitable locations to prevent entry of material into drainage systems. Training in their use is provided.

## 2: Permitted discharge to sewer

The discharge to sewer is currently monitored for metals, lead, zinc and copper by NRW, the maximum annual volumetric discharge consent is set at 82855m<sup>3</sup>/annum.

It is requested to remove the requirement to monitor discharges to sewer, due to

1: A significant reduction in volumetric discharge to sewer.

2: Consistent monitoring levels below concentration limits

Reduction in discharges are due to a number of factors, water conservation programmes by the installation of closed cooling systems, improved monitoring of water meters and discharge volumes and a reducing processes discharges to sewer i.e. carbon metal plating and Glucose carbon impregnation .

Therefore the impact of the facilities activities to the environment are insignificant.

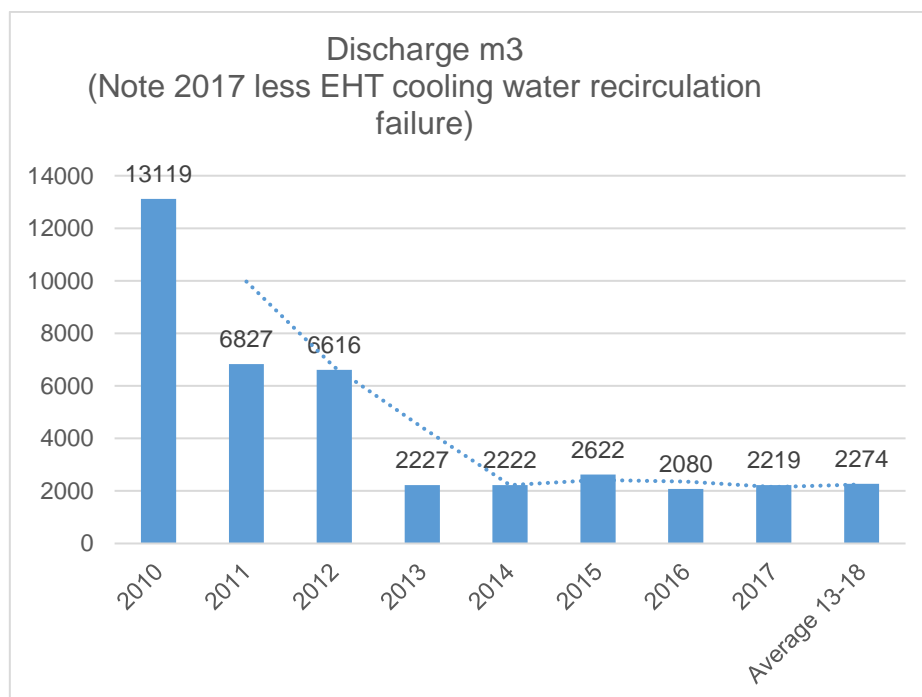
The emission point S1 will remain within the permit and will continue to be monitored by Welsh Water, they monitor the site for a number of pollutants including lead and copper.

It is intended current discharge points within buildings to be vacated will be sealed to prevent discharge from these buildings into the trade effluent drainage system.

### 1: Volumetric Flow reduction:

Figure 1 shows a reduction from 13,000m<sup>3</sup> in 2010 to an average of 2274m<sup>3</sup>, in the last 5 years, resulting in a daily discharge of only 6m<sup>3</sup>/day, which includes rain-water entering the system via settling tanks, that were historically designed for a significantly higher volumetric flow rate (227m<sup>3</sup>/day)

Figure 1:



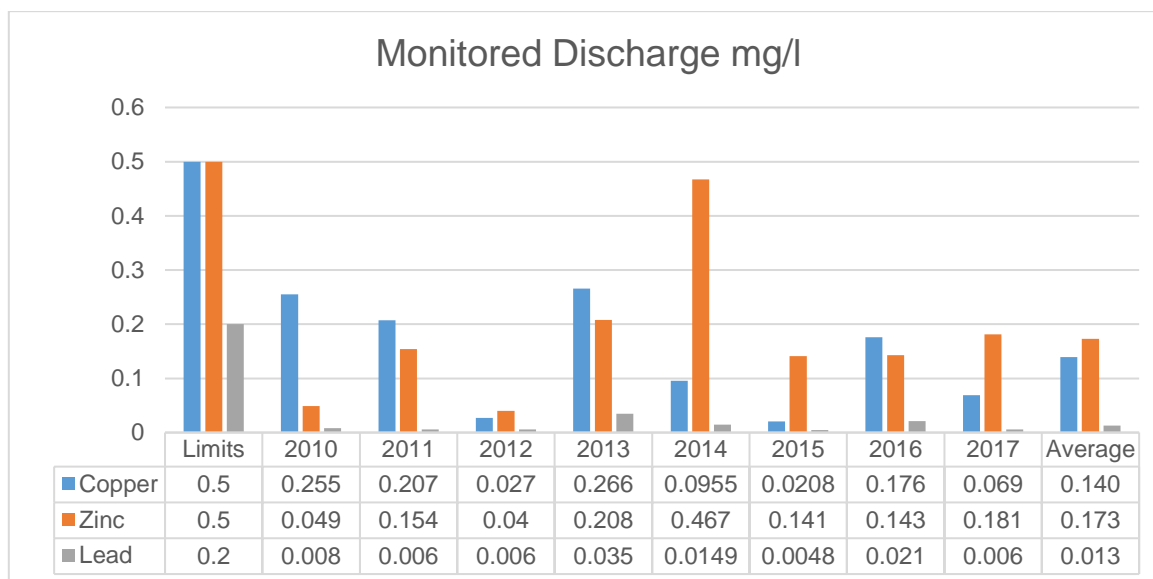
Note: The 2017 figure excludes a discharge of 800m<sup>3</sup> as the result of a the water system in the EHT department tripping (process now relocated and cooled by a closed water system).

## 2: Monitored concentration of metals:

The process that originally contributed the majority of metallic emissions was the metal plating plant, the majority of work for this plant has been outsourced or relocated to Hungary.

The site retains a number of small desk-sized plating baths for the intermittent processing of parts for product development purposes, there is no discharge to sewer. The plant has been designed to discharge any waste liquid to one of 2 IBC's, this provides the opportunity, if practicable, to send waste for recycling or alternatively via a permitted waste handling facility. Typically the waste is sent off site once a year, equating to 1m<sup>3</sup>/annum

Figure 2 below shows the monitored discharge



Note: it is understood from internal investigation that the spike in zinc was as a result of the installation of galvanised pipes on a water cooling system.

Currently the discharged average is shown below:

Monitored Discharge mg/l			
Year	Copper	Zinc	Lead
Limits	0.5	0.5	0.2
Average	0.14	0.17	0.01
Percentage of limit	28%	35%	6%

These low concentration levels coupled with the reduction of volumetric flow to 2274m<sup>3</sup>/annum, gives a mass discharge shown below.

Monitored Discharge mg/l			
Substance	Copper	Zinc	Lead
Volumetric flow m <sup>3</sup> /annum	2274	2274	2274
Concentration mg/l	0.14	0.17	0.01
Mass kg/annum	3.20	3.90	0.29

Therefore, it is suggested the actual risk to the environment from discharges to sewer from the facility are insignificant, and therefore NRW are requested to consider the applicability including discharges to sewer within the scope of the permit.

Discharge to sewer management: Management system: the site maintains an environmental management system certificated to ISO14001:2015.

Monitoring: this will be maintained under the Welsh water discharge consent for both copper and lead which are set at 2mg/l, retaining the requirement to assure conformity to monitoring and maintenance standards.

Monitoring: current monitoring regimes internally, visual daily check (Mon-Friday) plus monthly in-house sampling laboratory analysis. Welsh water typically monitor the site discharge monthly.

Maintenance: Historically the removal of residues from within the sumps was done manually and infrequently, upper tanks only. However since 2015 sumps have been emptied using pumped tankers, allowing emptying of the main chamber and resultant in improvements in settlement of solids. This practice is to be retained to assure compliance with Welsh water discharge consents. The v-notch flow measurement system is calibrated 6 monthly.