Schedule 1 - Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the PPC Regulations.

Part A

Permit Number	PP3834CB
Name of Operator	Morgan Technical Ceramics Limited
Location of Installation	Vauxhall Industrial Estate, Ruabon, Wrexham, LL14 6HY
Location of the emission	S1 – To Sewer
Time and date of the emission	15/05/2013 @ 10:55

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place
Lead	Water	Water sample taken showing a result of 2.7mg/l against limit of 2mg/l	15/05/13 @ 10:55

Description of the failure or accident	We have just received our latest water analysis report from Welsh Water, re: trade effluent consent. The breakdown analysis has detected a breach of lead content. We are currently employing a third party supplier to manage the system on a daily basis (Hydro Industries), to optimise process settings for our relatively new ETP in order to confirm its safe and correct operation. They record key parameters on a daily basis Monday to Friday. Looking at the date of the sample this hasn't highlighted any concern attributed to a high reading. Hydro have been monitoring the ETP along with investigating the recent breach for 2/3 months & have reported the following; 1.Variable nature of the discharge to the effluent plant in accordance with plant production, wash downs, cleaning etc., 2. Observations that some more highly coloured feed effluent requires more intensive treatment than the more normal grey colour waste stream; 3. From recent records there appears to be an increase in COD mg/l concentrations - this may be genuine or due to apparent increase in strength due to reduced water volumes; 4. From bench investigations - using GAC to reduce COD there was an associated reduction in lead concentration. granulated activated carbon
Measures taken, or intended to be	Met with Hydro Industries to discuss result, possible causes &

taken, to stop the emission	generate action plan to address issue & feedback to the Environmental Agency by 21st June 2013 as specified below; 1. Most likely cause of lead failure - is related to an increase in COD in the effluent. The waste stream appears to become frothy on some occasions suggesting a soapy complex. This may/ may not be a result of a soap type product being used in the formulation or saponification occurring between an oil and the alkaline waste stream. However, the net affect appears to the production of a chelating chemical which complexes the heavy metal (lead) allowing no / only partial precipitation of the lead within the treatment process. Chelating agents (such as EDTA) and their effects on solubilising heavy metals are well documented and described. 2. How to reduce chelating agent and lead - Bench tests undertaken by Hydro since the first increase in COD were noted showed that GAC (granular activated carbon) provided a good media to adsorb COD. An increase in COD adsorption resulted in a significant decrease in lead concentration. 3. Response action plan - 1. A process control laboratory is being set up on the Morgan site and will included site testing for COD and lead (Hach-Langer) tests. The investigation will try to pinpoint waste streams, plants conditions etc responsible for high COD inputs; 2. Site design trials will be undertaken to correctly design, size GAC adsorption rates for a proprietary GAC plant to be installed post effluent treatment plant for effluent polishing (reduction of COD and lead). 4. Time Scales - 1. Site testing facilities to be complete w/b 1st July 2013 2. GAC design trials to be complete w/b 22nd July 2013 3. GAC polishing process to be installed early August 2013

Name*	Craig Boyes
Post	Engineering Manager
Signature	C&Boyes
Date	05/06/2013

* authorised to sign on behalf of Morgan Technical Ceramics Limited