Hong Kong Green Electroplating Company

Environmental Instruction
Water Pollution Control
(EIF-05)

Revision No. : 1
Date : 01 – 01 – 2006

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(EMR)

Approved by : PH Lau
(General Manager)

Revision History

<table>
<thead>
<tr>
<th>Revision Date</th>
<th>Description</th>
<th>Sections Affected</th>
<th>Revised By</th>
<th>Approved By</th>
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<tr>
<td>01-01-2006</td>
<td>First issue</td>
<td>- -</td>
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<td>PH Lau</td>
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1.0 Purpose

This instruction outlines the practices to be adopted for water pollution control and to comply with legal and other requirements.

2.0 Scope

This environmental instruction is applicable to the activities and operations which gives rise to water pollution and includes best practice procedures for the following:

- Production lines, and
- Wastewater treatment plant;

Since rinsing is an important part of the electroplating process, large volumes of wastewater are produced throughout the production. The production processes in which wastewaters are produced in large quantities include the rinsing procedure after each of the following processes:

- Degreasing,
- Electro-degreasing,
- Acid dipping,
- Copper Plating,
- Nickel Plating, and
- Gold, Silver and Palladium-nickel Plating.

These wastewaters are directed to the in-house wastewater treatment plant for treatment before discharging to the public sewer of the Victoria Harbor Water Control Zone.

3.0 Procedure

3.1 Application for permits/licences

The EMR shall ensure that:

- A wastewater discharge licence is obtained from EPD and updated, HKGEC is registered under the Water Pollution Control Ordinance, Victoria Harbour Water Control Zone in compliance with the regulations of wastewater discharge.
- The treatment facilities specified in the licence are provided and operated in satisfactory conditions; and
- The discharge limits and monitoring requirement specified in the discharge licence are complied.

3.2 Best Practices for Water Pollution Control

3.2.1 Production lines

- Wastewater arising from electroplating processes is segregated and directed to the in-house wastewater treatment plant;
- provide drip trays / secondary containment and roofing for liquid chemical storage
areas;

- dispose concentrated chemical solutions (such as spent degreasing baths, acid dipping baths, plating bath sludge) as chemical waste in accordance to EI-03 for Waste Management;
- for emergency spillage and leakage follow measures described in EP-05, chemical spills should be disposed as chemical waste unless it can be properly directed and treated by the wastewater treatment plant.

3.2.2 Wastewater Treatment Plant

- For operating instructions of wastewater treatment plant, EI-10 can be referred for details.
- Engineer has to ensure contractor to perform cleaning and maintenance of wastewater treatment plant regularly and maintain records.
- For emergency situation, resulting in shutdown of plant, actions taken in accordance with the operation manual of Wastewater Treatment Plant and contact the contractor for further actions.

4.0 Monitoring and Checking

The EMR shall ensure that:

- facilities specified in this EI are provided adequately;
- practices specified in this or other relevant EI are followed by staff and relevant contractors; and
- the discharge limits and monitoring requirement specified in the discharge licence are complied.

The Plant Manager or his / her delegate shall:

- ensure that sufficient measures are carried out to control water pollution from company operations and activities.
- employ HOKLAS laboratory on a monthly basis to sample effluent from each of the external discharge points of the plant and perform analysis for parameters specified on the discharge licence. This is to confirm compliance and assessment of the effectiveness of the mitigation measures.
- where nonconformity are identified corrective action measures are defined and implemented in accordance with EP-07 Enquiry / Complaint / Nonconformity Handling.

5.0 Records

<table>
<thead>
<tr>
<th>Record Description</th>
<th>Record Location/Retention Responsibility</th>
<th>Minimum Retention Time</th>
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</thead>
<tbody>
<tr>
<td>Effluent Monitoring records (Refer to individual effluent point monitoring record)</td>
<td>EMR</td>
<td>3 years</td>
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6.0 Appendix

Nil.