CLIMATE CONTROL WASTE – PUB 19

What is Climate Control Waste?

Climate Control Waste is liquid waste from any heating, cooling, ventilation, air conditioning or refrigeration system consisting of:

- waste from cooling towers that are dedicated to and are an integral part of any of these systems, and/or
- waste from condensate, de-frost water or chiller water.

Can Climate Control Waste be Discharged to Sewer?

Customers may apply for a permit to discharge climate control waste to sewer. Residual sludge from membrane scraping and descaling must not be discharged to sewer. It must be disposed of off-site in accordance with the requirements of the relevant regulatory authority such as local government authority.

Cooling Tower Waste

Cooling tower water is usually dosed continuously with anti-corrosion chemicals and biocides while the system is operating. Some installations however have a drip feed which means that the chemical is being dosed 24 hours a day, whether the plant is operating or otherwise. Water is fed in automatically (make-up water) to compensate for losses and bleed-off (draining).

Effects of Water Conditioning

The chemical dosing reduces the risk of corrosion and diseases such as Legionaires Disease but increases the incidence of scaling, while the bleed-off reduces the scaling but enhances corrosion, disease risk and slime formation within the pipework.

The composition of the chemical formulations varies considerably. Four general groups of anti-corrosion chemical formulations can be identified. These groups are based on chromate, zinc, tannin and phosphate compounds. Among the biocides, some formulations are organochlorine compounds.

Maintaining System Water Quality

For maintenance purposes and to remove accumulated sludge, cooling tower waste is usually dumped at about three monthly intervals but sometimes as frequently as monthly. There is also a small continuous bleed-off to prevent the concentration of scaling materials.

Other Waste

Generally, all other waste from climate control systems including condensate, de-frost water and chiller water does not come in contact with chemicals, nor is it dosed with any chemical formulations. This must not be discharged to the sewerage system.

Under exceptional circumstances, providing the quantity is very minimal, approval may be given for the waste to discharge to the sewerage system. The applicant must clearly demonstrate that it is not economically viable to discharge this waste to the stormwater drainage system.

The main exception to this rule is liquid waste generated by scrubbers associated with fume hoods and industrial or laboratory air extraction systems, which may have become polluted by contact with chemical vapours. Sometimes scrubbers associated with fume hoods in industrial laboratories must have waste neutralised by pH dosing.

This waste is to be managed the same as cooling tower waste.

Permit Requirements

Premises wishing to discharge climate control waste to sewer must apply for an industrial waste permit. Application forms and supporting information are available from our website. The Application must be accompanied by:

- Material Safety Data Sheets (MSDS) for all the chemicals to be used, and
- Laboratory analysis of the waste to be discharged.

Customer charges are based on the metering of bleed water. Refer to typical drawing HX33-018-040 Cooling Towers which is available for download from our website.

Commercially confidential proprietary formulations will be processed in the strictest of confidence.

Pre-treatment to reduce chrome and zinc may be required and is determined with reference to the Corporation's Acceptance Criteria for Industrial Wastes. A separate information brochure outlining our Acceptance Criteria (PUB06).

The current version of this information sheet is shown on the Water Corporation Internet site at http://www.watercorporation.com.au/I/industrialwaste_index.cfm This version dated 10 September 2007. Further information on the issue detailed on this sheet can be obtained by phoning 13 13 95, or visit your nearest Water Corporation office