Management of industrial and commercial liquid wastes is a very open-ended topic due to huge variety in types of liquid waste – from the wash water at a fast food outlet to the waste water at a uranium mine.

Guest speakers and class presentations will cover this topic, to give you some idea of how wastes are managed in different industries. The contents of this chapter are not included in the written test for this subject.

You should be aware of the NSW government guideline: *Assessment Classification and Management of Liquid and Non-liquid Wastes*, from your Solid Waste Management subject. This guideline contains information on how liquid wastes in NSW are assessed and classified.

In Chapters 3 and 4 we looked at how to manage liquid wastes produced at home. In general terms, when an industry or commercial premises produces a liquid waste (other than basic toilet and kitchen waste water), there are a range of ways that that waste may need to be treated and disposed of. For example:

- The business may be able to discharge the waste to the sewer. This means that the business is located in a sewered area and has been given permission to discharge from the water/sewer authority in the area (Sydney Water, Hunter Water or the local council authority). Permission to discharge to the sewer is generally known as a “Trade Waste Agreement” and usually requires that some pre-treatment of the liquid occurs before it is discharged to the sewer. It is important that sewer authorities regulate what goes into the sewerage system from industries in order to protect their assets – for example, sewage pumping stations can easily become clogged with oil and grease, pumps and pipes can be worn away by sediment, toxic substance can cause problems with the biological processes at the sewage treatment plant and very high BOD wastes may overload the plant.

- The business may need to store the waste and have it removed by a liquid waste contractor. This might be necessary because there is no sewer connection or because the waste is not suitable for discharge to the sewer. Hazardous liquids need to be collected by a specially licensed waste removal contractor. The waste contractor will take the waste to a treatment plant for further processing and possible recovery for reuse. Some wastes are subject to waste tracking requirements. You can find the current details of this by looking up “Waste Tracking” at [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

- Some industries have their own treatment processes and treat their wastes to a standard high enough to discharge into the local environment. This is regulated by the provisions of the Protection of the Environment Operations Act 1997, as you will be aware from your Environmental Law subject.

Liquid waste treatment processes will vary for each waste. However, for aqueous wastes, or wastes which are based on water, there are some general principles that do apply and which relate to the treatment processes that you have studied so far in this subject:

- Wastes containing solids (such as sediment) will generally be treated with a physical process such as settling (similar to preliminary or primary treatment of sewage) to remove solids.

- Waste with high carbon loads (high BOD / COD) will often be treated with a biological process – either aerobic or anaerobic, depending on the waste.

- Once solids and carbon load are reduced, the treatment process can focus on other contaminants – dissolved metals, nutrients, pathogens etc by using of physical, chemical and/or biological processes.
Non-aqueous waste (that is, wastes that primarily contain a liquid other than water such as: oils, coolants, sludges, chemical mixtures) are treated, recovered for re-use or destroyed, depending on the type of waste.

Guest speakers and fellow students will provide you with examples of types of industrial liquid waste and the way in which it is treated.