

Concentration Limit Table

Penrith Wastewater Treatment Plant

EPL 1409

Sydney Water's treatment plants operate under environmental protection licences issued by the NSW Environmental Protection Authority (EPA). For each monitoring/discharge point the concentration of a pollutant must not exceed the concentration limits specified for that pollutant in the table.

pollutant	unit of measure	3DGM limit	50 percentile limit	80 percentile limit	90 percentile limit	average limit
aluminium	µg/L	-	-	-	270	200
arsenic	µg/L	-	-	-	-	-
cadmium	µg/L	-	-	-	0.2	0.2
biochemical oxygen demand	mg/L	30	10	-	15	-
<i>Ceriodaphnia dubia</i> immobilisation (EC50)	% effluent by volume	-	50	-	-	-
chlorine (total residual)	mg/L	-	-	-	0.1	-
cobalt	µg/L	-	-	-	-	-
copper	µg/L	-	-	-	9	8
faecal coliforms	cfu/100ml	-	-	200	-	-
hydrogen sulphide (un-ionised)	µg/L	-	-	-	60	30
iron	µg/L	-	-	-	350	330
nickel	µg/L	-	-	-	-	-
nitrogen (ammonia)	mg/L	-	0.9	-	1.4	-
nitrogen (total)	mg/L	-	10	-	15	-
phosphorus (total)	mg/L	-	0.2	-	0.4	-
total suspended solids	mg/L	10	5	-	10	-
zinc	µg/L	-	-	-	180	60

Licence limits for *Ceriodaphnia dubia* immobilisation (EC50) and sea urchin sperm fertilisation (EC50) are breached if the result is below the EPA specified limit value.

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

A licence condition with a 100 Percentile Limit means that 100% of samples (or all samples) taken must not exceed the limit for that pollutant. This can be extrapolated for other percentiles, for example an 80 Percentile Limit means that 80% of samples taken must not exceed the limit for that pollutant within the annual licence period.