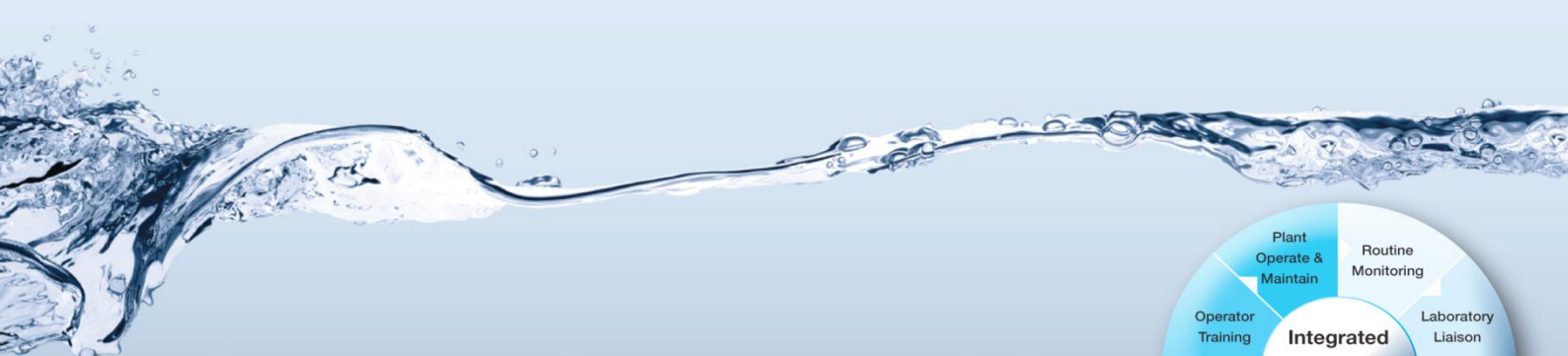
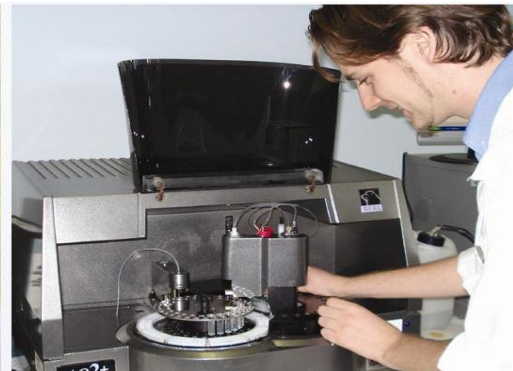
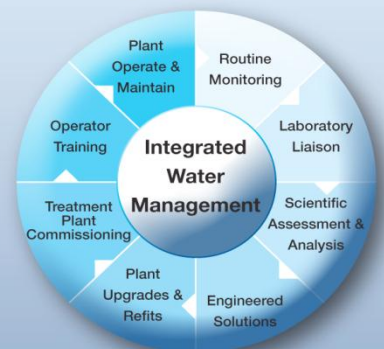


Terminology Guide



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Water

Acronyms/Abbreviations

ADWG	Australian Drinking Water Guidelines	ND	Not Detectable
ANZECC	Australia and New Zealand Environment and Conservation Council	NTU	Nephelometric Turbid Units
APHA	American Public Health Association	PAC	Poly Aluminium Chloride or Powdered Activated Carbon
AWA	Australian Water Association	PAR	Photosynthetically Available Radiation]
AWRC	Australian Water Resources Council	RO	Reverse Osmosis
BWEP	Business Water Efficiency Program	SAR	Sodium Adsorption Ratio
DOC	Dissolved Organic Carbon	SI	Langelier Saturation Index
EC	Electrical Conductivity (measured in uS/cm)	Spp	Species (plural)
GAC	Granular Activated Carbon	TAC	Trichloroethane
NH&MRC	National Health and Medical Research Council	TDS	Total Dissolved Salts (measured in mg/L)
MF	Membrane Filtration (method for enumeration of bacteria in clean water)	THM	Trihalomethane
MPN	Most Probable Number (method for enumeration of bacteria in dirty/turbid water)	USEPA	United States Environment Protection Agency
NATA	National Association of Testing Authorities	WEA	Water Efficiency Assessor
		WEMP	Water Efficiency Management Plan
		WHO	World Health Organisation

Glossary of Terms

Activated Carbon	Adsorptive carbon particles or granules which have a high capacity to remove trace and soluble components from solution	Langelier	Actual pH less the pH at which the water is saturated with calcium carbonate (ie pH – pHs)
Algae	Microscopic aquatic chlorophyll bearing plants/blooms	Microfiltration	Process of passing water through porous membranes in the form of sheets or tubes to remove suspended and particulate material down to 0.2um in diameter
Algal Contingency	A plan to monitor and control algal growth/bloom	Pathogen	A disease causing organism
Alkalinity	The capacity of a solution to neutralise acid	pH	A measure of the acidity or alkaline nature of a solution
Bloom	An unusually large number of organisms per unit of water, usually algae, made up of one or a few species	Potable Water	Water fit for human consumption
Buffer	A solution containing a weak acid and its conjugate weak base, the pH of which changes only slightly when acid or alkali is added	Precipitation	The formation of solid particles in a solution (The settling out of small particles)
Carcinogen	A substance that induces cancer in a living organism	Raw Water	Surface or groundwater available as a source of drinking water which has not received any treatment
Coagulation	The process of destabilisation by charge neutralisation (the precursor to flocculation)	Reporting Limit	The lowest concentration which can be Measure and reported, the reporting limit is always greater than the detection limit
Colloid	Particles which are between 0.1um and 1nm in diameter, and cannot settle out of solution by the force of gravity	Scale	A calcareous deposit in water tubes or steam boilers resulting from deposition of mineral compounds present in the water
Detection Limit	The lowest concentration which can be detected but not quantitated	Suspension	A liquid containing very small particles which are evenly distributed throughout the liquid
Enteropathogenic	Capable of producing disease in the intestines	Thermotolerant Coliforms (Faecal coliforms)	A subset of coliforms found in the intestinal tract of humans and other warmblooded animals. Used as an indication of faecal pollution
Epilimnion	Uppermost layer of water in a lake	Total Coliforms	Indicator of faecal contamination of water
Euphotic zone	The region in a water body which extends from the surface to a level at which photosynthesis fails to occur because of reduced light penetration	Total Metal	The concentration of a metal in an unfiltered sample that is digested in strong acid
Flocculation	The process of bringing together the destabilised particles from coagulation process to form a large agglomeration or floc	Toxicity Test	Used to measure the degree of response produced by exposure to a specific concentration of chemical
Hardness	A measure of the concentration of calcium and magnesium ions in water (expressed as mg/L calcium carbonate equivalent)	True Colour	Colour of water resulting from substances that are in solution
Hypolimnion	Region of a water body extending from below the thermocline to the bottom of the water body	Turbidity	Visual haze or cloudiness of water caused by the presence of suspended matter, resulting in the scattering and adsorption of light

Wastewater

Acronyms/Abbreviations

ADWF	Average dry weather flow	NO3-N	Nitrate Nitrogen
BNR	Biological nutrient removal (normally both nitrogen and phosphorus)	NOx	Oxidised Nitrogen (nitrate + nitrite)
BOD5	Biochemical oxygen demand	PDWF	Peak dry weather flow (3 x ADWF)
COD	Chemical oxygen demand	PWWF	Peak wet weather flow (5 x ADWF)
DAF	Dissolved air floatation	RAS	Return activated sludge – sludge recycled back to the aeration tank
DAFF	Dissolved air floatation filter	SSV	Settle sludge volume (after 30 minutes), or Stirred Specific volume
DO	Dissolved Oxygen	SS or TSS	(Total) suspended solids
EQ	Equivalent Person	SVI	Sludge volume index
FM Ratio	Ratio of food to microorganisms	TKN	Total Kjeldahl nitrogen
MBR	Membrane bio-reactor	TOC	Total organic carbon
MBBR	Moving bed bio-reactor	TP	Total phosphorus
MLSS	Mixed liquor suspended solids concentration	TOG	Total oil and grease
MLVSS	Mixed liquor volatile suspended solids concentration (active biomass)	TN	Total nitrogen
MCRT	Mean cell residence time, <i>refer to sludge age</i>	UASB	Upflow anaerobic sludge bed reactor
NFR	Non-filterable residue, <i>refer to SS</i>	VFAs	Volatile fatty acids
NH3-N	Ammonia Nitrogen	VSS	Volatile suspended solids (expressed as %SS)
NO2-N	Nitrite Nitrogen		

Glossary of Terms

Actionmycetes	Filamentous bacteria commonly associated with scum formation	Hydraulic Detention Time	Time for which liquid is held in the aeration tank
Activated sludge	Microbial biomass used to treat sewage	Inhibitor	Usually a chemical compound which retards bacterial growth
Aeration tank	Tank used for aerobic sewage treatment	Mixed Liquor	Mixture of raw sewage with return activated sludge, <i>refer to Activated sludge</i>
Aerobes	Bacteria which require aerobic conditions to survive	Nitrification	Process of biological conversion of ammonia to nitrate
Aerobic	When free dissolved oxygen is present	Nitrifiers	bacteria which obtain their growth energy by the process of nitrification
Alkalinity	A measure of the pH buffering capacity of a solution	Nitrogenous	Referring to nitrogen
Anaerobic	When no free dissolved oxygen or bound oxygen is present	Organic	Referring to a compound which consists primarily of carbon
Anoxic	When oxygen is present but is bound in compound form (nitrates, sulphates etc)	pH	Measure of hydrogen ion concentration in the solution
Bacteria	Single-cell microorganisms of the order of 2um in size	Protozoa	Single-cell microorganisms, present in activated sludge, which feed on bacteria
Bio-degradation	Breakdown of contaminants by microbial action	Quiescence	Period in which no aeration occurs
Carbonaceous	Referring to organic carbon	Recycle ratio	ratio of feed flow to recycle flow rate
Denitrification	Process of biochemical conversion of nitrate to nitrogen gas	Rotifers	multi-celled micro-organisms that feed on bacteria and protozoa
Filtration	Process to remove particles of various sizes using a screen or filter	Sludge age	time period the sludge is held in the aeration tank
Fixed Film	Process whereby bacteria are fixed to media over which wastewater flows	Stabilisation	Process by which volatile matter is converted to non-volatile matter
Flocculation	Coalescence of finely divided particles into larger particles (flocs)	Suspended Growth	An activated sludge treatment process whereby bacteria are suspended within the water column

Training

Acronyms/Abbreviations

ANTA	Australian national training Authority	NUEITAB	National Utilities & Electrotechnology ITAB
ACTRAC	Australian Committee for Training Curriculum	QUSITAB	Qld Utilities ITAB
AQF	Australian Qualifications Framework	RCC	Recognition of Current Competency
AQTF	Australian Quality Training Framework	RPL	Recognition of Prior Learning
CBT	Competency Based Training	RTO	Registered Training Organisation
DTIR	Qld Department of Training and Industrial Relations	VETEC	Vocational education, Training and Employment Commission (Qld Accreditation Authority)
ITAB	Industry Training & Advisory Body (State and National)	VET	Vocational and educational Training Sector
NFROT	National Framework for the Recognition of Training	WITA	Water Industry Training Association (State based)

Glossary of Terms

Accredited Course	An accredited course is a sequence of vocational education and training which is consistent with the NFROT principles for accreditation and which leads to a qualification	Recognised Training	Refers to accredited courses, recognised training programs and short courses and skills acquisition, formal and informal. That are related to the attainment of competencies leading to a qualification or statement of attainment
Competence	A specified level of knowledge and skill required to perform one's job OR Specified standards of knowledge and skills and their standards application within an occupation or industry, described at various levels	Recognition of Prior Learning	Determination, on an individual basis, of the competencies obtained by a person through previous formal training, work experience and/or life experience and the advanced standing the learner is entitled to as a result of these competencies
Competency-Based	Focusing on the skills gained by an individual trainee rather than on the training process itself	Registered Provider	A public or non-government training provider for example TAFE, commercial college, industry or enterprise, registered to deliver recognised training
Competency Units	A group of competencies required to achieve a particular task	Short Course	A course that contains nationally accredited units but only leads to a partial completion of a nationally accredited course
Endorsed Components	Components of the package officially endorsed by ANTA (i.e. Competency units, assessment materials etc.). These must be complied with.	Unit of Competency	Specified learning outcomes which consist of the elements of competency and their performance criteria as identified in nationally endorsed competency standards
Modules	Learning segments, complete in themselves, used within VET and which incorporate one or more competencies	Workshop	A course (a) that does not contain a component of an accredited course; and (b) for which a person completing the course does not receive an award/qualification
National Training Package	Competency units required to achieve qualifications ranging from AQF2 to AQF6 in the Water Industry		
Non-Endorsed components	Components of the package not officially endorsed by ANTA (i.e. Curricula, training materials etc.). These components are guidelines only		

Environmental & Soils

Acronyms/Abbreviations

ARMCANZ	Agriculture & Resource Management Council Australia New Zealand	NEPC	National Environmental Protection Council (consisting of Australia's environment Ministers)
ASS	Acid Sulfate Soils	NEPM	National Environmental Protection Measure
BTEX	Refers to a suite of aromatic pollutants, specifically benzene, toluene, chlorobenzene, ethylbenzene, xylene	NOx	Gaseous pollutants consisting of oxides of nitrogen, i.e nitrogen monoxide, dioxide and trioxide
NRW	Department of Natural Resources and Water	NPI	National Pollutant Inventory
EA	Environmental Authority (licence or approval)	OC/OPs	Organochloride and Organophosphate pesticides
EIS	Environmental Impact Statement	PAH	Polycyclic aromatic hydrocarbon
EMP	Environmental Management Program	PCB	Polychlorinated biphenyl
EMR	Environmental Management Register	SBMP	Site Based Management Plan
EPA	Environmental Protection Agency	SBSMP	Site Based Stormwater Management Plan
EPA 1994	Qld Environment Protection Act (1994)	SECP	Soil Erosion Control Plan
EPP	Environmental Protection Policy, e.g. water, noise, air, waste	SPOCAS	Suspension peroxide oxidation combined acidity and sulphate method
ERA	Environmentally Relevant Activity	SOx	Gaseous pollutants consisting of oxides of sulphur, i.e. sulphur, monoxide, dioxide, trioxide
ESD	Ecologically sustainable development	TPH	Total petroleum hydrocarbons: ranging from hydrocarbons with six carbon atoms (C6) to those with thirty-six carbon atoms (C36)
IEMS	Integrated Environmental Management System		
MEDLI	Model for Effluent Disposal using Land Irrigation		
MUSIC	Model for Urban Stormwater Improvement Conceptualisation		

Glossary of Terms

Authorised person	Authorised officer of a local government or the Department of Environment	Eutrophication	Enrichment of surface waters with nutrients, primarily phosphorus, causing abundant aquatic growth
Ecologically Sustainable	Protecting the environment while allowing for the development that improves total quality of life, both now and in the future	Leachate	Water that has passed through soil or other solid and therefore contains soluble material from that soil
Environment	Includes ecosystems, people, communities, natural and physical resources, qualities and characteristics of locations	Program Notice	Prescribed form submitted to the Department of environment when there has been an act or omission that has caused or threatened environment harm
Environmental harm	Adverse or potential adverse effect on an environmental value	Risk	Likelihood x Consequence of a certain event occurring
Environmental value	Quality or physical characteristic of the environment		