

GARY SLENDERS

PRINCIPAL PROCESS ENGINEER



POSITION/TITLE: Principal Process Engineer - Wastewater

PROFESSION: Chemical Engineer

NATIONALITY: Australian

YEARS EXPERIENCE: 35 years

EDUCATION: Bachelor of Engineering in Chemical Engineering - Royal Melbourne Institute of Technology, 1985.
ADMS 4 Dispersion Model Training Course 2013
Cambridge Environmental Research Consultants

PROFESSIONAL AFFILIATIONS: Chartered Chemical Engineer

SPECIALISATION

Chemical Engineer. Chemical Process Design, Design Draftsman, Project Manager, Construction Supervisor, and Commissioning of Chemical Process Plant, Odour Control, Water and Wastewater Treatment Plants.

- Sewer Odour and Corrosion Assessment. Upgrade of Software for the dynamic modelling of Sulphur Generation, and Transport in Sewers
- Project Management and Team Leader
- Design and specification of Sedimentation, Screening and Filtration Equipment. Specification of Chemical Processes for the coagulation and flocculation of potable water.
- Design, documentation, supervision of construction, and commissioning of Heat Exchanger Equipment for Sludge Digester Applications
- Design, Construction, Installation and Commissioning of Biological Odour Treatment Systems for Odour Control in Process Industry and Wastewater Treatment.
- Design, documentation, supervision of construction of Secondary Treatment Systems (Biological Processing including Activated Sludge, Biological Nutrient Removal and Anaerobic Digestion)
- Air Ducting Layout, and Design. Duct Sizing, and air balancing. Fan selection, installation and commissioning.
- Drafting and Computer Aided Drawing P&IDs, General Arrangement Drawings, Detail Design Drawings 2D
- Project Manage Installation of Water and Wastewater Treatment Systems
- Piping Layout, and Design. Process Piping material selection. Economic Pipeline Sizing. Pumping system design, installation and commissioning.
- Development of Models and Application programs for BioTrickling Filters and BioFilters, Packed Bed Air Humidifiers, Chemical Packed Bed Scrubbers, Chemical Fluid Bed Scrubbers, and Activated Carbon systems
- Research and Development into areas including Instrumentation for corrosive gas streams, moisture control systems for BioFilters, Development of Biological Media for Biofilters
- Design, documentation, construction, and commissioning of Chemical Dosing Systems
- Microsoft Office (Excel, Word, Powerpoint, Projects) AutoCad 2D, Licenced User of Intellicad (Autocad Compatible) and Pascal Programming Language.

EMPLOYMENT**AOMC Pty Ltd****2014 - Present**

Principal Process Engineer and co-director. Process Design development for Odour Control.

- Yarra Valley Water Sewer Asset Management Vent Stack Assessment
- BioTrickling Filter Systems Design Review and Commissioning Logan Water, SA Water
- Barangaroo Odour Control System - Enviropacific
- HunterH2O water authority ductwork design
- Aljoaib Consulting Engineering Saudi Arabia – Royal Commission of Jubail and Yanbu, Lead Process Engineer and Task Manager for Stage 4 development of Industrial Wastewater Treatment Plant No. 8

MWH Global (UK)**2012 to 2014**

Principal Process Engineer Level 7 – Secondment to United Utilities AMP5 alliance. Process Design Specification development for Advanced Digestion Systems, Biosolids Handling and Odour Control.

- Leigh Biosolids Handling process upgrade. Odour Control and CHP Biogas desulphurisation and Siloxane removal specification Process Investigation and design specification.
- Carlisle Biosolids Lime Sludge Plant odour control system tender technical assessment and detailed design of Raw Sludge odour control BioTrickling Filter
- Workington WwTW Odour Control System. Construction supervision and commissioning assistance for Wet Chemical Scrubber (Caustic / Hypochlorite) odour control system
- Ellesmere Port WwTW Biosolids Handling and Refinery Waste Inlet Works stream odour control systems. Process Investigation and design specification.

MWH Global (Australia) Pty Ltd**2007 – 2012**

Senior Process Engineer Level 6 – Technical. Process Specialist for MWH Melbourne. Plant Design and Sewer Odour Assessment - Melbourne, Sydney, and Brisbane. Biological Odour Control system design.

- Water Resources Alliance – Melbourne Water Corporation East Drop Structure Project (\$ M 14) Sewer Septicity and Ventilation Modelling, Process Design and Selection. Project Costing, Process Design, Specification and Tender Assessment. Western Treatment Plant Biogas Audit and Flare Stack System.
- Melbourne Water Corporation DAF Plant Augmentation Commissioning (\$ M 2.5)
- Sydney Water Corporation – Wollongong Sewerage Treatment Works Biosolids Odour Control System. EPCM contract, two stage Biological and Activated Carbon Design. (\$ M 16)
- US Alliance South East Water – Flinders SPS and Shoreham SPS Pressure Balance Vessel Design, Dromana Odour Hotspots Investigation, Mt Martha Rotary Drum Thickener design report. Woollara Drive Odour Investigation
- Murrumba Downs Alliance Morten Bay Water (\$ M2.5) Design Options for Permanent Odour Control System and for Temporary Odour Control System
- Pimpama Coomera Waterfuture Alliance (\$ M1.50) Tender Assessment and HAZOP review for Biological Odour Control.
- Yarra Valley Water Lilydale Sewer Upgrade Odour and Corrosion Assessment Report.

ENVIRONMENTAL GROUP (OPERATIONS) Pty Ltd**2004 to 2006**

Biological Process Engineer Responsible for the Development of Processes and Procedures for the manufacture of BioTrickling Filters and BioFilters

- Wodonga West Wastewater Treatment Plant - BioFilter Media Changeover
- Redcliffe Wastewater Treatment Plant - Inlet Works Odour Control Augmentation. BioTrickling Filter Design, Manufacture, Installation and Commissioning

CLEAN TEQ Pty Ltd**1997 to 2004**

Process Manager responsible for:

The development of process design Software for Design of odour control systems.

Commissioning Engineer: Responsible for the Design, Equipment Specification and Selection, & Commissioning of Clean TeQ package Biological Odour Control System. Major Projects include:

- Bolivar High Salinity Project (\$M1.45) – BioTrickling Filters and Activated Carbon
- Woodman Point Odour Control System (\$600,000) - BioTrickling Filter and BioFilter
- Earth Power Technology (Camellia – NSW (\$800,000) – Ammonia Fluidbed Scrubber, BioFilter
- Maroochy Shire Council Yandina Pump Station (\$30,000) – BioTrickling Filter

Engineering Manager. Responsible for the Design, Construction, Installation, & Commissioning of Clean TeQ package Biological Odour Control System. Major Projects include:

- Yates (Wyee) Odour Control and Continuous Ion Exchange Process. (\$M 1.8) – Packed Bed Chemical Scrubber and BioFilters
- Spotswood Pump Station & Straining Well (\$M 2.3) – BioScrubber and BioFilters
- Maroochy WWTP inlet works (\$ 650,000.00) - BioFilters
- Shortlands WWTP (Newcastle) inlet works (\$ 380,000)- BioFilters

Merrimac, Coombabah, & Elenora WWTPs - Gold Coast City Council
(\$M 1.1) - BioFilters

Design Engineer for the development of Clean TeQ package water treatment systems based on:

- KOCH membrane filtration cartridges
- Resin Ion Exchange Resin & Continuous Ion Exchange Systems

**Professional
Affiliations****PROFESSIONAL MEMBERSHIP**

Chartered Member of the IChemE UK and Australia

PRESENTATIONS AND PUBLIC APPEARANCES

IChemE Victoria Chapter – Presentation on Odour Control and Odour Management Systems

Victoria EPA – Presentation to Staff and to Environmental Teams on site management of odour and maintenance of odour control systems.

Gold Coast Water – Presentation to Staff on proper operation and management of BioTrickling Filters.